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1. Introduction

This document presents a list of the latest versions of software products and hardware with embedded software currently produced by Altus. The information is organized by product series and also highlights the main changes included in these versions.

Note: For traceability purposes, product revisions are updated whenever there is an improvement in functional characteristics or a change in the production process and/or raw materials. If the reason for a product revision is not listed in the tables below, it is implied that there has been a change in Altus's internal production process and/or hardware, without affecting the product's functionality or compatibility.

To update any Altus software, please contact Altus Support Services or one of its subsidiaries. Updated phone numbers and contact information are available at http://www.altusautomation.com/support.

2. Nexto System

2.1 Nexto XP

2.1.1 XP300 – COMPACT PLC 16DI 16DO

REV	Description	Version	Date
BU	▪ Included a new command on System Web Page to reset the controller. ▪ Included support for Automation Composer persistent variables. ▪ Improvements in the System Web Page regarding USB 3G/4G modem usability and configuration. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a minor issue which could prevent USB WiFi adapters from connecting to SSIDs containing spaces. ▪ Fixed an issue where the USB 3G/4G modem would fail to reconnect following a communication failure with the SIM card. ▪ Fixed a problem where modifying the controller's system time could cause an overflow error in the OpenVPN connection. ▪ Fixed an OpenVPN configuration issue where the "Client-to-Client communication" feature could remain permanently enabled internally. ▪ Fixed an issue where the OpenVPN section in the System Web Page could become inaccessible after removing a certificate and resetting the controller. ▪ Fixed a problem with gratuitous ARP which could prevent the Ethernet interface to communicate after a download changing Ethernet parameters and later connecting the cable. ▪ Fixed an issue where the System Web Page would time out during data transfers to USB mass storage devices. ▪ Fixed the validation of maximum number of characters for User and Password on System Web Page. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a problem where FTP Server communication with the client would not restore automatically after a network interruption. ▪ Fixed an issue which could incorrectly print a "Power failure" log message during a power down. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access.	1.14.106.0	03/08/2026

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
BS-BT	▪ Support for MT8500 3.77. ▪ Included commands to enable/disable the USB through the System Web Page and application. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed a problem where the “Execute” button of Network Sniffer could be blocked. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026
BQ-BR	▪ Included support for EtherNet/IP Adapter Remote Mode (configurable via the System Web Page). ▪ Included support for the new parameter of Modbus Server drivers introduced on MasterTool 3.75 which allows connections from other ethernet interfaces. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Included a new feature to not load the Firewall rules when starting the controller with "dontbootapp". ▪ Fixed an issue introduced in version 1.14.20.0 where the controller could stop due a software watchdog when operarting in CANopen Slave Remote Mode. ▪ Fixed wrong number of Mastertool Version in the Overview page when using Mastertool 3.31. ▪ Fixed the Firewall issue where the user must add a rule for the HTTP port. ▪ Fixed issue where the System Web Page could receive an error pop-up when accessing the Operation Mode or Network tabs. ▪ Fixed a problem where the Watch Variables tab in System Web Page could not update. ▪ Fixed a potential issue where the Management tab may keep loading until to be reloaded. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed a problem where “InvalidDutyCycle” status was not turning on when duty cycle set to 0%. ▪ Removed Mastertool Version number from the Overview page when configured as Remote Mode. ▪ General improvements in the Firewall web page usability. ▪ Improvements in the usability of import/export and configuration of Firewall feature. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.77.0	10/11/2025
BP	▪ Fixed an issue introduced on version 1.12.24.0 where the controller could suffer a retentivity loss (retain data initialized) when powered off within a time window of 5 seconds after the application goes to RUN. ▪ Included support for version 5.0 of TP-Link UE300 USB-Ethernet adapter. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.12	10/06/2025
BO	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025
BM-BN	▪ Fixed a problem where, in very rare occasions, the controller firmware could be corrupted after a power down, making it unable to boot again (bricked).	1.14.36.6	16/12/2024

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
BK-BL	▪ Support for MT8500 3.63 ▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem where the internal RS-485 termination was always turned on, independently of the setting selected on CPU configuration screen. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Fixed a problem on OpenVPN where it could incorrectly show a valid certificate as invalid. ▪ Fixed a problem on CAN interface which could cause communication errors with baudrate below 500kbit/s ▪ Fixed visual issues on Firewall section of System Web Page ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.4	30/09/2024

BH-BJ	▪ Support for MT8500 3.61
	▪ Included support for FTP
	▪ Improvements on System Web Page
	  ▪ Changed the timezone of the Clock Setting to match the user’s computer .
	  ▪ Fixed error that could make the firewall rules not to be applied when the selected interfaces was “any”
	▪ Improved firmware update time
	▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely.
	▪ Limited the maximum number of OPC UA Server sessions to 50
	▪ Fixed a problem introduced on version 1.12.5.3 where the controller could potentially fail to restore retain data if turned off in a very specific and short time window during the initialization process (while the application is still in STOP).
	▪ Fixed an issue that could make the current Application of the device not to be erased when transfering a new Application through the USB
	▪ Fixed a problem where the Ethernet port could stop to work on high traffic scenario
	▪ Fixed an incompatibility between USB Ethernet Adapter and VPN
	▪ Fixed an issue where it was not possible to create a user (User Management)
	▪ Fixed a problem introduced on version 1.12.24.0 which was making the CPU status on the treeview to become a red triangle when using MasterTool version lower than 3.40
	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.
		1.14.20.0	08/02/2024

BG	▪ New graphical design of System Web Page. ▪ Included support on System Web Page to set the PLC clock (time/date). ▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically). ▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway. ▪ Included support to identify the device through the "wink" command on programming tool.	1.12.29.0	05/09/2023

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		
BF	▪ Fixed a problem introduced on the previous version, where the CAN Remote Mode stopped to work. ▪ Improvement on the MQTT to support multi-level topics wildcard ('#'). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.24.3	04/08/2023

BE	▪ Support for MT8500 3.51.
	▪ Included support to OpenVPN, Firewall and USB-Ethernet Adapter.
	▪ Improvements on System Web Page:
	  ▪ Included configuration for OpenVPN, Firewall and USB-Ethernet Adapter.
	  ▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
	  ▪ Optimization in the time required to perform the firmware update process.
	▪ Fixed USB modem problem where the controller could suffer a memory leak when the modem reconnect multiple times.
	▪ Fixed interoperability problem where the Ethernet/IP stop to communicate after inserting/configuring an USB modem.
	▪ Fixed OPC UA interoperability with Kepware.
	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.
		1.12.24.0	21/06/2023

BC-BD	▪ Fixed a problem where the Ethernet port could eventually fail to communicate when connecting the controller directly to a computer (point-to-point). ▪ Fixed CANopen Slave problem where the controller could not resume the communication after a failure in the CAN bus. ▪ Info: This version was built with CODESYS Control 3.5.17.40.	1.12.5.5	16/01/2023
BB	▪ Support for MT8500 3.40. ▪ Fixed a problem where 3G/4G Modem could fail to reconnect after a communication failure. ▪ Increased the storage capability for the source code, stored now on a 64MB space that is shared with application and Webvisu files. It is necessary to reboot the controller without application to make this new space available. The source code size verification (warning message) was updated accordingly on MT8500 3.40. ▪ Fixed possible issue where the Web Page turns unaccesible after using it for a very long time. ▪ Fixed the retain system to keep the values after a reboot caused by an internal software error. ▪ Fixed potential exception when an application is removed (reset origin). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.3	15/12/2022
AW-BA	▪ Changes in the source code shared with other products that doesn't affect this product behavior. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.11.10.0	18/01/2022
AU-AV	▪ New format of firmware update file. This update requires the controller running on firmware version 1.9.29.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface.	1.11.2.0	26/07/2021

	▪ Included login mechanism for operation mode page in web interface. ▪ Included a new reset mechanism to solve connection failures of USB modem. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Included support for PROFINET Controller. ▪ Included support for CAN J1939. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.29.0	26/07/2021
AT	▪ Included support for *"number of connected clients"* diagnostic in status bar. To see this diagnostic, MT8500 version 3.31 or greater is required. ▪ Removed the hidden page "*getlogs"* from the system web page to improve cyber security. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.25.0	13/01/2021
AR-AS	▪ Included support for USB WiFi adapters. ▪ Included support for additional USB modem devices: Huawei E3276 and E8372. ▪ Fixed a problem on the PTO fast output that could potentially turn on the next normal digital output. ▪ Fixed a problem where the digital input value was not updated on the execution of external interrupt task. ▪ Fixed a problem related to the system webpage cache. This eliminates the need of clearing the cache on browser side, which was previously required under some circumstances to show the page correctly. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.17.0	18/08/2020
AQ	▪ Increased performance (CPU clock increased by 85% through bootloader version 1.0.0.15 included in this release). ▪ USB modem support included. ▪ Included TLS version 1.2 support and client certificate in the MQTT Client Function Block (the latter requires Master Tool 3.23 or higher). ▪ Update of the Altus logo on the system website. ▪ Fixed an issue that could cause corruption of the operating system if the power was interrupted during a specific time of startup, leading the controller to a permanent inoperative state. ▪ Fixed issue in CANopen Remote I/O mode that could eventually prevent the controller from booting. ▪ Fixed issue that could cause the DG LED to blink 4x for no reason. ▪ Improvements to CANopen Remote I/O mode. ▪ Improvements in serial communication. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.9.0	01/06/2020
AP	▪ Included USB Serial RS-232 converter support ▪ Added support for the latest version of the LibSQLClient library. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.11.0	09/01/2020
AO	▪ Included CANopen Manager support (requires MasterTool 3.19 or higher). ▪ Included MQTT Client Function Block support (requires MasterTool 3.19 or higher). ▪ Fixed the operation of the tDetailed.Serial.COM1.wRXPendingBytes diagnostic that had	1.8.5.0	12/11/2019

	stopped working in the previous version, affecting the Serial Communication Function Block. ▪ Fixed a situation that could cause a slippage of the RTC time greater than specified. ▪ Included support for CAN termination configuration, introduced starting with MasterTool version 3.19. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
AN	▪ Included bootloader version 1.0.0.11, which increases the product's immunity level to external electromagnetic interference. The bootloader is now included within the firmware image file, and will be automatically updated during the firmware update process **ONLY** if the controller is running with version 1.7.49.0 or higher). If the firmware update is performed on a controller that has installed a version lower than 1.7.49.0, it will be necessary to perform the procedure **AGAIN** (i.e., twice, for the same version) for the bootloader to be updated. ▪ Included Ethernet/IP Scanner support. ▪ Included support for I/O expansion via CANopen (CANopen Slave mode). ▪ Included support for 2400 and 4800 bit/s baudrates for serial communication. ▪ Improvements to the timing of the Modbus RTU Slave, where sporadic communication errors could occur on an RS-485 network with multiple slaves. ▪ Changed the maximum source code size from 16MB to 26MB (requires reboot without application to make this increase; updated warning message in MasterTool 3.18). ▪ Fixed the operation of EasyConnection, where the application was not deleted after applying the new IP address, causing it to return to the address configured in the application. ▪ Improved mounting of USB mass storage devices, increasing compatibility with certain USB stick models. ▪ Fixed maximum number of ARTI/OPC DA connections from 4 to 8. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.49.0	27/09/2019
AM	▪ Fixed the generation of the comparison interrupt of the counters. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.40.0	09/07/2019
AK-AL	▪ Included support for new approved memories. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.35.0	21/05/2019
AJ	▪ Fixed the operation of the external interrupt I02, which had stopped working in the previous version. ▪ Improvements in the operation of fast entrances and exits. ▪ Improvements to the USB mass storage device mounting system. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.32.0	09/05/2019
AI	▪ Included OPC UA protocol support ▪ Added MSSQL_CLIENT functional block support for access to Microsoft databases ▪ Included fixed DNS server configuration (8.8.8.8 and 8.8.4.4) ▪ Includes support for fast I/O (counters, external interrupt, PTO/PWM output) ▪ Included support for the FAT32 LBA file system, used in high-capacity mass storage devices. ▪ Fixed issue in the GetTimeZone function that could cause exception by taking the CPU to STOP. ▪ Improvements to the GetDateAndTime and GetDayOfWeek functions, which could cause spikes in runtime.	1.7.17.0	15/03/2019

	▪ Fixed problem in the RS-485 serial driver, which could cause sporadic errors in MODBUS RTU communication. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.		
AG-AH	▪ Changed to indicate status LEDs digital inputs even without application ▪ Changed to flash DG 1x when not applied ▪ Removed log message that was generated when the system time is updated on SNTP (to avoid overloading the log with this message) ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.7.0	05/12/2018
AF	▪ Improved indication of diagnostics via LED ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.5.0	12/11/2018
AE	▪ Included support for USB mass storage devices ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.3.0	26/10/2018
AA – AD	▪ Initial Review ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.40.	1.7.0.12	10/10/2018

2.1.2 XP315 – COMPACT PLC 16DI 16DO 5AI 2RTD

REV	Description	Version	Date
BV	▪ Included a new command on System Web Page to reset the controller. ▪ Included support for Automation Composer persistent variables. ▪ Improvements in the System Web Page regarding USB 3G/4G modem usability and configuration. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a minor issue which could prevent USB WiFi adapters from connecting to SSIDs containing spaces. ▪ Fixed an issue where the USB 3G/4G modem would fail to reconnect following a communication failure with the SIM card. ▪ Fixed a problem where modifying the controller's system time could cause an overflow error in the OpenVPN connection. ▪ Fixed an OpenVPN configuration issue where the "Client-to-Client communication" feature could remain permanently enabled internally. ▪ Fixed an issue where the OpenVPN section in the System Web Page could become inaccessible after removing a certificate and resetting the controller. ▪ Fixed a problem with gratuitous ARP which could prevent the Ethernet interface to communicate after a download changing Ethernet parameters and later connecting the cable. ▪ Fixed an issue where the System Web Page would time out during data transfers to USB mass storage devices. ▪ Fixed the validation of maximum number of characters for User and Password on System Web Page. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a problem where FTP Server communication with the client would not restore automatically after a network interruption. ▪ Fixed an issue which could incorrectly print a "Power failure" log message during a power down. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access.	1.14.106.0	03/08/2026

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
BT-BU	▪ Support for MT8500 3.77. ▪ Included commands to enable/disable the USB through the System Web Page and application. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed a problem where the “Execute” button of Network Sniffer could be blocked. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026
BR-BS	▪ Included support for EtherNet/IP Adapter Remote Mode (configurable via the System Web Page). ▪ Included support for the new parameter of Modbus Server drivers introduced on MasterTool 3.75 which allows connections from other ethernet interfaces. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Included a new feature to not load the Firewall rules when starting the controller with "dontbootapp". ▪ Fixed an issue introduced in version 1.14.20.0 where the controller could stop due a software watchdog when operarting in CANopen Slave Remote Mode. ▪ Fixed wrong number of Mastertool Version in the Overview page when using Mastertool 3.31. ▪ Fixed the Firewall issue where the user must add a rule for the HTTP port. ▪ Fixed issue where the System Web Page could receive an error pop-up when accessing the Operation Mode or Network tabs. ▪ Fixed a problem where the Watch Variables tab in System Web Page could not update. ▪ Fixed a potential issue where the Management tab may keep loading until to be reloaded. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed a problem where “InvalidDutyCycle” status was not turning on when duty cycle set to 0%. ▪ Removed Mastertool Version number from the Overview page when configured as Remote Mode. ▪ General improvements in the Firewall web page usability. ▪ Improvements in the usability of import/export and configuration of Firewall feature. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.77.0	10/11/2025
BQ	▪ Fixed an issue introduced on version 1.12.24.0 where the controller could suffer a retentivity loss (retain data initialized) when powered off within a time window of 5 seconds after the application goes to RUN. ▪ Included support for version 5.0 of TP-Link UE300 USB-Ethernet adapter. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.12	10/06/2025
BP	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025
BN-BO	▪ Fixed a problem where, in very rare occasions, the controller firmware could be corrupted after a power down, making it unable to boot again (bricked).	1.14.36.6	16/12/2024

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
BL-BM	▪ Change made to the electrical circuit (00.701.333-6) used in the overlay of the XP315 product (66.016.101-9), which now has a fixing label at the end of the flat cable. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.4	07/10/2024
BK	▪ Support for MT8500 3.63 ▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem where the internal RS-485 termination was always turned on, independently of the setting selected on CPU configuration screen. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Fixed a problem on OpenVPN where it could incorrectly show a valid certificate as invalid. ▪ Fixed a problem on CAN interface which could cause communication errors with baudrate below 500kbit/s ▪ Fixed visual issues on Firewall section of System Web Page ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.4	30/09/2024
BH-BJ	▪ Support for MT8500 3.61 ▪ Included support for FTP ▪ Improvements on System Web Page • Changed the timezone of the Clock Setting to match the user’s computer . • Fixed error that could make the firewall rules not to be applied when the selected interfaces was “any” ▪ Improved firmware update time ▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely. ▪ Limited the maximum number of OPC UA Server sessions to 50 ▪ Fixed a problem introduced on version 1.12.5.3 where the controller could potentially fail to restore retain data if turned off in a very specific and short time window during the initialization process (while the application is still in STOP). ▪ Fixed an issue that could make the current Application of the device not to be erased when transfering a new Application through the USB ▪ Fixed a problem where the Ethernet port could stop to work on high traffic scenario ▪ Fixed an incompatibility between USB Ethernet Adapter and VPN ▪ Fixed an issue where it was not possible to create a user (User Management) ▪ Fixed a problem introduced on version 1.12.24.0 which was making the CPU status on the treeview to become a red triangle when using MasterTool version lower than 3.40 ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.20.0	08/02/2024
BG	▪ New graphical design of System Web Page. ▪ Included support on System Web Page to set the PLC clock (time/date). ▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically).	1.12.29.0	05/09/2023

	▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway. ▪ Included support to identify the device through the "wink" command on programming tool. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		
BF	▪ Fixed a problem introduced on the previous version, where the CAN Remote Mode stopped to work. ▪ Improvement on the MQTT to support multi-level topics wildcard (‘#’). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.24.3	04/08/2023

BE	▪ Support for MT8500 3.51.
	▪ Included support to OpenVPN, Firewall and USB-Ethernet Adapter.
	▪ Improvements on System Web Page:
	  ▪ Included configuration for OpenVPN, Firewall and USB-Ethernet Adapter.
	  ▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
	  ▪ Optimization in the time required to perform the firmware update process.
	▪ Fixed USB modem problem where the controller could suffer a memory leak when the modem reconnect multiple times.
	▪ Fixed interoperability problem where the Ethernet/IP stop to communicate after inserting/configuring an USB modem.
	▪ Fixed OPC UA interoperability with Kepware.
	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.
		1.12.24.0	21/06/2023

BC-BD	▪ Fixed a problem where the Ethernet port could eventually fail to communicate when connecting the controller directly to a computer (point-to-point). ▪ Fixed CANopen Slave problem where the controller could not resume the communication after a failure in the CAN bus. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.5	16/01/2023
BB	▪ Support for MT8500 3.40. ▪ Fixed a problem where 3G/4G Modem could fail to reconnect after a communication failure. ▪ Increased the storage capability for the source code, stored now on a 64MB space that is shared with application and Webvisu files. It is necessary to reboot the controller without application to make this new space available. The source code size verification (warning message) was updated accordingly on MT8500 3.40. ▪ Fixed possible issue where the Web Page turns unaccesible after using it for a very long time. ▪ Fixed the retain system to keep the values after a reboot caused by an internal software error. ▪ Fixed potential exception when an application is removed (reset origin). ▪ Included support for additional analog inputs using LibIntegratedIoExt introduced on MT8500 3.40. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.3	15/12/2022
AW-BA	▪ Changes in the source code shared with other products that doesn't affect this product behavior.	1.11.10.0	18/01/2022

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
AU-AV	▪ New format of firmware update file. This update requires the controller running on firmware version 1.9.29.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface. ▪ Included login mechanism for operation mode page in web interface. ▪ Included a new reset mechanism to solve connection failures of USB modem. ▪ Info: This version was built with CODESYS Control 3.5.15.0.	1.11.2.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Included support for PROFINET Controller. ▪ Included support to CAN J1939. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.29.0	26/07/2021
AT	▪ Included support for *"number of connected clients"* diagnostic in status bar. To see this diagnostic, MT8500 version 3.31 or greater is required. ▪ Removed the hidden page "*getlogs"* from the system web page to improve cyber security. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.25.0	13/01/2021
AR-AS	▪ Included support for USB WiFi adapters. ▪ Included suppport for additional USB modem devices: Huawei E3276 and E8372. ▪ Fixed a problem on the PTO fast output that could potentially turn on the next normal digital output. ▪ Fixed a problem that could lead to a negative offset on RTD reading. ▪ Fixed a problem where the digital input value was not updated on the execution of external interrupt task. ▪ Fixed a problem related to the system webpage cache. This eliminates the need of clearing the cache on browser side, which was previously required under some circumstances to show the page correctly. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.17.0	18/08/2020
AQ	▪ Increased performance (CPU clock increased by 85% through bootloader version 1.0.0.15 included in this release). ▪ USB modem support included. ▪ Included TLS version 1.2 support and client certificate in the MQTT Client Function Block (the latter requires Master Tool 3.23 or higher). ▪ Update of the Altus logo on the system website. ▪ Fixed an issue that could cause corruption of the operating system if the power was interrupted during a specific time of startup, leading the controller to a permanent inoperative state. ▪ Fixed issue in CANopen Remote I/O mode that could eventually prevent the controller from booting. ▪ Improvements to CANopen Remote I/O mode. ▪ Improvements in serial communication. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.9.0	01/06/2020
AP	▪ Included USB Serial RS-232 converter support ▪ Added support for the latest version of the LibSQLClient library. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.11.0	09/01/2020
AO	▪ Included CANopen Manager support (requires MasterTool 3.19 or higher).	1.8.5.0	12/11/2019

	▪ Included MQTT Client Function Block support (requires MasterTool 3.19 or higher). ▪ Fixed the operation of the tDetailed.Serial.COM1.wRXPendingBytes diagnostic that had stopped working in the previous version, affecting the Serial Communication Function Block. ▪ Fixed a situation that could cause a slippage of the RTC time greater than specified. ▪ Included support for CAN termination configuration, introduced starting with MasterTool version 3.19. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
AN	▪ Included bootloader version 1.0.0.11, which increases the product's immunity level to external electromagnetic interference. The bootloader is now included within the firmware image file, and will be automatically updated during the firmware update process **ONLY** if the controller is running with version 1.7.49.0 or higher). If the firmware update is performed on a controller that has installed a version lower than 1.7.49.0, it will be necessary to perform the procedure **AGAIN** (i.e., twice, for the same version) for the bootloader to be updated. ▪ Included Ethernet/IP Scanner support. ▪ Included support for I/O expansion via CANopen (CANopen Slave mode). ▪ Included support for 2400 and 4800 bit/s baudrates for serial communication. ▪ Improvements to the timing of the Modbus RTU Slave, where sporadic communication errors could occur on an RS-485 network with multiple slaves. ▪ Changed the maximum source code size from 16MB to 26MB (requires reboot without application to make this increase; updated warning message in MasterTool 3.18). ▪ Fixed the operation of EasyConnection, where the application was not deleted after applying the new IP address, causing it to return to the address configured in the application. ▪ Improved mounting of USB mass storage devices, increasing compatibility with certain USB stick models. ▪ Fixed maximum number of ARTI/OPC DA connections from 4 to 8. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.49.0	27/09/2019
AM	▪ Fixed the generation of the comparison interrupt of the counters. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.40.0	09/07/2019
AK-AL	▪ Included support for new approved memories. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.35.0	21/05/2019
AJ	▪ Fixed the operation of the external interrupt I02, which had stopped working in the previous version. ▪ Improvements in the operation of fast entrances and exits. ▪ Improvements to the USB mass storage device mounting system. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.32.0	09/05/2019
AI	▪ Included OPC UA protocol support ▪ Added MSSQL_CLIENT functional block support for access to Microsoft databases ▪ Included fixed DNS server configuration (8.8.8.8 and 8.8.4.4) ▪ Includes support for fast I/O (counters, external interrupt, PTO/PWM output) ▪ Included support for the FAT32 LBA file system, used in high-capacity mass storage devices.	1.7.17.0	15/03/2019

	▪ Fixed issue in the GetTimeZone function that could cause exception by taking the CPU to STOP. ▪ Improvements to the GetDateAndTime and GetDayOfWeek functions, which could cause spikes in runtime. ▪ Fixed problem in the RS-485 serial driver, which could cause sporadic errors in MODBUS RTU communication. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.		
AG-AH	▪ Changed to indicate status LEDs digital inputs even without application ▪ Changed to flash DG 1x when not applied ▪ Removed log message that was generated when the system time is updated on SNTP (to avoid overloading the log with this message) ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.7.0	05/12/2018
AF	▪ Improved indication of diagnostics via LED ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.5.0	12/11/2018
AE	▪ Included support for USB mass storage devices ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.3.0	26/10/2018
AA – AD	▪ Initial Review ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.40.	1.7.0.12	10/10/2018

2.1.3 XP325 – COMPACT PLC 16DI 16DO 5AI 4AO 2RTD

REV	Description	Version	Date
BZ	▪ Included a new command on System Web Page to reset the controller. ▪ Included support for Automation Composer persistent variables. ▪ Improvements in the System Web Page regarding USB 3G/4G modem usability and configuration. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a minor issue which could prevent USB WiFi adapters from connecting to SSIDs containing spaces. ▪ Fixed an issue where the USB 3G/4G modem would fail to reconnect following a communication failure with the SIM card. ▪ Fixed a problem where modifying the controller's system time could cause an overflow error in the OpenVPN connection. ▪ Fixed an OpenVPN configuration issue where the "Client-to-Client communication" feature could remain permanently enabled internally. ▪ Fixed an issue where the OpenVPN section in the System Web Page could become inaccessible after removing a certificate and resetting the controller. ▪ Fixed a problem with gratuitous ARP which could prevent the Ethernet interface to communicate after a download changing Ethernet parameters and later connecting the cable. ▪ Fixed an issue where the System Web Page would time out during data transfers to USB mass storage devices. ▪ Fixed the validation of maximum number of characters for User and Password on System Web Page. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a problem where FTP Server communication with the client would not restore automatically after a network interruption.	1.14.106.0	03/08/2026

	▪ Fixed an issue which could incorrectly print a "Power failure" log message during a power down. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
BX-BY	▪ Support for MT8500 3.77. ▪ Included commands to enable/disable the USB through the System Web Page and application. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed a problem where the “Execute” button of Network Sniffer could be blocked. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026
BV-BW	▪ Included support for EtherNet/IP Adapter Remote Mode (configurable via the System Web Page). ▪ Included support for the new parameter of Modbus Server drivers introduced on MasterTool 3.75 which allows connections from other ethernet interfaces. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Included a new feature to not load the Firewall rules when starting the controller with "dontbootapp". ▪ Fixed an issue introduced in version 1.14.20.0 where the controller could stop due a software watchdog when operarting in CANopen Slave Remote Mode. ▪ Fixed wrong number of Mastertool Version in the Overview page when using Mastertool 3.31. ▪ Fixed the Firewall issue where the user must add a rule for the HTTP port. ▪ Fixed issue where the System Web Page could receive an error pop-up when accessing the Operation Mode or Network tabs. ▪ Fixed a problem where the Watch Variables tab in System Web Page could not update. ▪ Fixed a potential issue where the Management tab may keep loading until to be reloaded. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed a problem where “InvalidDutyCycle” status was not turning on when duty cycle set to 0%. ▪ Removed Mastertool Version number from the Overview page when configured as Remote Mode. ▪ General improvements in the Firewall web page usability. ▪ Improvements in the usability of import/export and configuration of Firewall feature. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.77.0	10/11/2025
BU	▪ Fixed an issue introduced on version 1.12.24.0 where the controller could suffer a retentivity loss (retain data initialized) when powered off within a time window of 5 seconds after the application goes to RUN. ▪ Included support for version 5.0 of TP-Link UE300 USB-Ethernet adapter. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.12	10/06/2025
BT	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application.	1.14.36.7	03/04/2025

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
BR-BS	▪ Fixed a problem where, in very rare occasions, the controller firmware could be corrupted after a power down, making it unable to boot again (bricked). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.6	16/12/2024
BO-BQ	▪ Support for MT8500 3.63 ▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem where the internal RS-485 termination was always turned on, independently of the setting selected on CPU configuration screen. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Fixed a problem on OpenVPN where it could incorrectly show a valid certificate as invalid. ▪ Fixed a problem on CAN interface which could cause communication errors with baudrate below 500kbit/s ▪ Fixed visual issues on Firewall section of System Web Page ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.4	30/09/2024

BL-BN	▪ Support for MT8500 3.61
	▪ Included support for FTP
	▪ Improvements on System Web Page
	  ▪ Changed the timezone of the Clock Setting to match the user’s computer .
	  ▪ Fixed error that could make the firewall rules not to be applied when the selected interfaces was “any”
	▪ Improved firmware update time
	▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely.
	▪ Limited the maximum number of OPC UA Server sessions to 50
	▪ Fixed a problem introduced on version 1.12.5.3 where the controller could potentially fail to restore retain data if turned off in a very specific and short time window during the initialization process (while the application is still in STOP).
	▪ Fixed an issue that could make the current Application of the device not to be erased when transfering a new Application through the USB
	▪ Fixed a problem where the Ethernet port could stop to work on high traffic scenario
	▪ Fixed an incompatibility between USB Ethernet Adapter and VPN
	▪ Fixed an issue where it was not possible to create a user (User Management)
	▪ Fixed a problem introduced on version 1.12.24.0 which was making the CPU status on the treeview to become a red triangle when using MasterTool version lower than 3.40
	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.
		1.14.20.0	08/02/2024

BK	▪ New graphical design of System Web Page. ▪ Included support on System Web Page to set the PLC clock (time/date). ▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically).	1.12.29.0	05/09/2023

	▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway. ▪ Included support to identify the device through the "wink" command on programming tool. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		
BJ	▪ Fixed a problem introduced on the previous version, where the CAN Remote Mode stopped to work. ▪ Improvement on the MQTT to support multi-level topics wildcard (‘#’). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.24.3	04/08/2023

BI	▪ Support for MT8500 3.51.
	▪ Included support to OpenVPN, Firewall and USB-Ethernet Adapter.
	▪ Improvements on System Web Page:
	  ▪ Included configuration for OpenVPN, Firewall and USB-Ethernet Adapter.
	  ▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
	  ▪ Optimization in the time required to perform the firmware update process.
	▪ Fixed USB modem problem where the controller could suffer a memory leak when the modem reconnect multiple times.
	▪ Fixed interoperability problem where the Ethernet/IP stop to communicate after inserting/configuring an USB modem.
	▪ Fixed OPC UA interoperability with Kepware.
	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.
		1.12.24.0	21/06/2023

BG-BH	▪ Fixed a problem where the Ethernet port could eventually fail to communicate when connecting the controller directly to a computer (point-to-point). ▪ Fixed CANopen Slave problem where the controller could not resume the communication after a failure in the CAN bus. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.5	16/01/2023
BF	▪ Support for MT8500 3.40. ▪ Fixed a problem where 3G/4G Modem could fail to reconnect after a communication failure. ▪ Increased the storage capability for the source code, stored now on a 64MB space that is shared with application and Webvisu files. It is necessary to reboot the controller without application to make this new space available. The source code size verification (warning message) was updated accordingly on MT8500 3.40. ▪ Fixed possible issue where the Web Page turns unaccesible after using it for a very long time. ▪ Fixed the retain system to keep the values after a reboot caused by an internal software error. ▪ Fixed potential exception when an application is removed (reset origin). ▪ Included support for additional analog inputs using LibIntegratedIoExt introduced on MT8500 3.40. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.3	15/12/2022
BA-BE	▪ Changes in the source code shared with other products that doesn't affect this product behavior.	1.11.10.0	18/01/2022

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
AY-AZ	▪ New format of firmware update file. This update requires the controller running on firmware version 1.9.29.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface. ▪ Included login mechanism for operation mode page in web interface. ▪ Included a new reset mechanism to solve connection failures of USB modem. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.11.2.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Included support for PROFINET Controller. ▪ Included support to CAN J1939. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.29.0	26/07/2021
AX	▪ Included support for *"number of connected clients"* diagnostic in status bar. To see this diagnostic, MT8500 version 3.31 or greater is required. ▪ Removed the hidden page "*getlogs"* from the system web page to improve cyber security. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.25.0	13/01/2021
AU-AW	▪ Included support for USB WiFi adapters. ▪ Included suppport for additional USB modem devices: Huawei E3276 and E8372. ▪ Fixed a problem on the PTO fast output that could potentially turn on the next normal digital output. ▪ Fixed a problem that could lead to a negative offset on RTD reading. ▪ Fixed a problem where the digital input value was not updated on the execution of external interrupt task. ▪ Fixed a problem related to the system webpage cache. This eliminates the need of clearing the cache on browser side, which was previously required under some circumstances to show the page correctly. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.17.0	18/08/2020
AT	▪ Increased performance (CPU clock increased by 85% through bootloader version 1.0.0.15 included in this release). ▪ USB modem support included. ▪ Included TLS version 1.2 support and client certificate in the MQTT Client Function Block (the latter requires Master Tool 3.23 or higher). ▪ Update of the Altus logo on the system website. ▪ Fixed an issue that could cause corruption of the operating system if the power was interrupted during a specific time of startup, leading the controller to a permanent inoperative state. ▪ Fixed issue in CANopen Remote I/O mode that could eventually prevent the controller from booting. ▪ Improvements to CANopen Remote I/O mode. ▪ Improvements in serial communication. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.9.0	01/06/2020
AS	▪ Included USB Serial RS-232 converter support ▪ Added support for the latest version of the LibSQLClient library. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.11.0	09/01/2020

AR	▪ Included MQTT Client Function Block support (requires MasterTool 3.19 or higher). ▪ Fixed the operation of the tDetailed.Serial.COM1.wRXPendingBytes diagnostic that had stopped working in the previous version, affecting the Serial Communication Function Block. ▪ Fixed a situation that could cause a slippage of the RTC time greater than specified. ▪ Included support for CAN termination configuration, introduced starting with MasterTool version 3.19. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.5.0	12/11/2019
AQ	▪ Included bootloader version 1.0.0.11, which increases the product's immunity level to external electromagnetic interference. The bootloader is now included within the firmware image file, and will be automatically updated during the firmware update process **ONLY** if the controller is running with version 1.7.49.0 or higher). If the firmware update is performed on a controller that has installed a version lower than 1.7.49.0, it will be necessary to perform the procedure **AGAIN** (i.e., twice, for the same version) for the bootloader to be updated. ▪ Included Ethernet/IP Scanner support. ▪ Included support for I/O expansion via CANopen (CANopen Slave mode). ▪ Included support for 2400 and 4800 bit/s baudrates for serial communication. ▪ Improvements to the timing of the Modbus RTU Slave, where sporadic communication errors could occur on an RS-485 network with multiple slaves. ▪ Changed the maximum source code size from 16MB to 26MB (requires reboot without application to make this increase; updated warning message in MasterTool 3.18). ▪ Fixed the operation of EasyConnection, where the application was not deleted after applying the new IP address, causing it to return to the address configured in the application. ▪ Improved mounting of USB mass storage devices, increasing compatibility with certain USB stick models. ▪ Fixed maximum number of ARTI/OPC DA connections from 4 to 8. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.49.0	27/09/2019
AP	▪ Fixed the generation of the comparison interrupt of the counters. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.40.0	09/07/2019
AN-AO	▪ Included support for new approved memories. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.35.0	21/05/2019
AM	▪ Fixed the operation of the external interrupt I02, which had stopped working in the previous version. ▪ Improvements in the operation of fast entrances and exits. ▪ Improvements to the USB mass storage device mounting system. ▪ Performance improvement in the use of CANopen Manager. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.32.0	09/05/2019
AL	▪ Included OPC UA protocol support ▪ Added MSSQL_CLIENT functional block support for access to Microsoft databases ▪ Included fixed DNS server configuration (8.8.8.8 and 8.8.4.4) ▪ Includes support for fast I/O (counters, external interrupt, PTO/PWM output) ▪ Included support for CANopen Manager protocol	1.7.17.0	15/03/2019

	▪ Included support for the FAT32 LBA file system, used in high-capacity mass storage devices. ▪ Fixed issue in the GetTimeZone function that could cause exception by taking the CPU to STOP. ▪ Improvements to the GetDateAndTime and GetDayOfWeek functions, which could cause spikes in runtime. ▪ Fixed problem in the RS-485 serial driver, which could cause sporadic errors in MODBUS RTU communication. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.		
AJ-AK	▪ Changed to indicate status LEDs digital inputs even without application ▪ Changed to flash DG 1x when not applied ▪ Removed log message that was generated when the system time is updated on SNTP (to avoid overloading the log with this message) ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.7.0	05/12/2018
AI	▪ Improved indication of diagnostics via LED ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.5.0	12/11/2018
AH	▪ Included support for USB mass storage devices ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.3.0	26/10/2018
AA – AG	▪ Initial Review ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.40.	1.7.0.12	10/10/2018

2.1.4 XP340 – COMPACT PLC 16DI 16DO 5AI 4AO 2RTD WEB

REV	Description	Version	Date
BG	▪ Included a new command on System Web Page to reset the controller. ▪ Included support for Automation Composer persistent variables. ▪ Improvements in the System Web Page regarding USB 3G/4G modem usability and configuration. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a minor issue which could prevent USB WiFi adapters from connecting to SSIDs containing spaces. ▪ Fixed an issue where the USB 3G/4G modem would fail to reconnect following a communication failure with the SIM card. ▪ Fixed a problem where modifying the controller's system time could cause an overflow error in the OpenVPN connection. ▪ Fixed an OpenVPN configuration issue where the "Client-to-Client communication" feature could remain permanently enabled internally. ▪ Fixed an issue where the OpenVPN section in the System Web Page could become inaccessible after removing a certificate and resetting the controller. ▪ Fixed a problem with gratuitous ARP which could prevent the Ethernet interface to communicate after a download changing Ethernet parameters and later connecting the cable. ▪ Fixed an issue where the System Web Page would time out during data transfers to USB mass storage devices. ▪ Fixed the validation of maximum number of characters for User and Password on System Web Page. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device.	1.14.106.0	03/08/2026

	▪ Fixed a problem where FTP Server communication with the client would not restore automatically after a network interruption. ▪ Fixed an issue which could incorrectly print a "Power failure" log message during a power down. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
BE-BF	▪ Support for MT8500 3.77. ▪ Included commands to enable/disable the USB through the System Web Page and application. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed a problem where the “Execute” button of Network Sniffer could be blocked. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026
BC-BD	▪ Included support for the new parameter of Modbus Server drivers introduced on MasterTool 3.75 which allows connections from other ethernet interfaces. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Included a new feature to not load the Firewall rules when starting the controller with "dontbootapp". ▪ Fixed wrong number of Mastertool Version in the Overview page when using Mastertool 3.31. ▪ Fixed the Firewall issue where the user must add a rule for the HTTP port. ▪ Fixed issue where the System Web Page could receive an error pop-up when accessing the Operation Mode or Network tabs. ▪ Fixed a problem where the Watch Variables tab in System Web Page could not update. ▪ Fixed a potential issue where the Management tab may keep loading until to be reloaded. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed a problem where “InvalidDutyCycle” status was not turning on when duty cycle set to 0%. ▪ General improvements in the Firewall web page usability. ▪ Improvements in the usability of import/export and configuration of Firewall feature. ▪ Removed the support for Operation Mode in the System Web Page (if configured as CANopen Slave, will return to PLC mode after the update). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.77.0	10/11/2025
BB	▪ Fixed an issue introduced on version 1.12.24.0 where the controller could suffer a retentivity loss (retain data initialized) when powered off within a time window of 5 seconds after the application goes to RUN. ▪ Included support for version 5.0 of TP-Link UE300 USB-Ethernet adapter. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.12	10/06/2025
BA	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025

AY-AZ	▪ Fixed a problem where, in very rare occasions, the controller firmware could be corrupted after a power down, making it unable to boot again (bricked). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.6	16/12/2024
AW-AX	▪ Support for MT8500 3.63 ▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem where the internal RS-485 termination was always turned on, independently of the setting selected on CPU configuration screen. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Fixed a problem on OpenVPN where it could incorrectly show a valid certificate as invalid. ▪ Fixed a problem on CAN interface which could cause communication errors with baudrate below 500kbit/s ▪ Fixed visual issues on Firewall section of System Web Page ▪ Fixed a problem on WebVisu introduced on version 1.14.20.0 which could cause a PLC reset when downloading the application ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.4	30/09/2024
AT-AV	▪ Support for MT8500 3.61 ▪ Included support for FTP ▪ Improvements on System Web Page ▪ Changed the timezone of the Clock Setting to match the user’s computer . ▪ Fixed error that could make the firewall rules not to be applied when the selected interfaces was “any” ▪ Fixed a problem related to the Trend Graphic of the WebVisu where the controller could restart if the Application use it ▪ Improved firmware update time ▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely. ▪ Limited the maximum number of OPC UA Server sessions to 50 ▪ Fixed a problem introduced on version 1.12.5.3 where the controller could potentially fail to restore retain data if turned off in a very specific and short time window during the initialization process (while the application is still in STOP). ▪ Fixed an issue that could make the current Application of the device not to be erased when transfering a new Application through the USB ▪ Fixed a problem where the Ethernet port could stop to work on high traffic scenario ▪ Fixed an incompatibility between USB Ethernet Adapter and VPN ▪ Fixed an issue where it was not possible to create a user (User Management) ▪ Fixed a problem introduced on version 1.12.24.0 which was making the CPU status on the treeview to become a red triangle when using MasterTool version lower than 3.40 ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.20.0	08/02/2024
AS	▪ New graphical design of System Web Page.	1.12.29.0	05/09/2023

	▪ Included support on System Web Page to set the PLC clock (time/date). ▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically). ▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway. ▪ Included support to identify the device through the "wink" command on programming tool. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		
AR	▪ Fixed a problem introduced on the previous version, where the CAN Remote Mode stopped to work. ▪ Improvement on the MQTT to support multi-level topics wildcard (‘#’). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.24.3	04/08/2023

AQ	▪ Support for MT8500 3.51.
	▪ Included support to OpenVPN, Firewall and USB-Ethernet Adapter.
	▪ Improvements on System Web Page:
	  ▪ Included configuration for OpenVPN, Firewall and USB-Ethernet Adapter.
	  ▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
	  ▪ Optimization in the time required to perform the firmware update process.
	▪ Fixed USB modem problem where the controller could suffer a memory leak when the modem reconnect multiple times.
	▪ Fixed interoperability problem where the Ethernet/IP stop to communicate after inserting/configuring an USB modem.
	▪ Fixed OPC UA interoperability with Kepware.
	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.
		1.12.24.0	21/06/2023

AO-AP	▪ Fixed a problem where the Ethernet port could eventually fail to communicate when connecting the controller directly to a computer (point-to-point). ▪ Fixed CANopen Slave problem where the controller could not resume the communication after a failure in the CAN bus. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.5	16/01/2023
AN	▪ Support for MT8500 3.40. ▪ Fixed a problem where 3G/4G Modem could fail to reconnect after a communication failure. ▪ Increased the storage capability for the source code, stored now on a 64MB space that is shared with application and Webvisu files. It is necessary to reboot the controller without application to make this new space available. The source code size verification (warning message) was updated accordingly on MT8500 3.40. ▪ Fixed possible issue where the Web Page turns unaccesible after using it for a very long time. ▪ Fixed the retain system to keep the values after a reboot caused by an internal software error. ▪ Fixed potential exception when an application is removed (reset origin). ▪ Included support for additional analog inputs using LibIntegratedIoExt introduced on MT8500 3.40.	1.12.5.3	15/12/2022

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		
AI-AM	▪ Changes in the source code shared with other products that doesn't affect this product behavior. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.11.10.0	18/01/2022
AG-AH	▪ New format of firmware update file. This update requires the controller running on firmware version 1.9.29.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface. ▪ Included login mechanism for operation mode page in web interface. ▪ Included a new reset mechanism to solve connection failures of USB modem. ▪ Fixed misaligned memory exception due to IEC104 server mappings. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.11.2.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Included support for PROFINET Controller. ▪ Included support to CAN J1939. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.29.0	26/07/2021
AF	▪ Included support for *"number of connected clients"* diagnostic in status bar. To see this diagnostic, MT8500 version 3.31 or greater is required. ▪ Removed the hidden page "*getlogs"* from the system web page to improve cyber security. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.25.0	13/01/2021
AD-AE	▪ Included support for USB WiFi adapters. ▪ Included suppport for additional USB modem devices: Huawei E3276 and E8372. ▪ Fixed a problem on the PTO fast output that could potentially turn on the next normal digital output. ▪ Fixed a problem that could lead to a negative offset on RTD reading. ▪ Fixed a problem where the digital input value was not updated on the execution of external interrupt task. ▪ Fixed a problem related to the system webpage cache. This eliminates the need of clearing the cache on browser side, which was previously required under some circumstances to show the page correctly. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.17.0	18/08/2020
AC	▪ Increased performance (CPU clock increased by 85% through bootloader version 1.0.0.15 included in this release). ▪ Included IEC104 Server protocol support (requires Master Tool 3.23 or higher). ▪ USB modem support included. ▪ Included TLS version 1.2 support and client certificate in the MQTT Client Function Block (the latter requires Master Tool 3.23 or higher). ▪ Update of the Altus logo on the system website. ▪ Fixed an issue that could eventually generate an error when downloading an application with Webvisu. ▪ Fixed an issue that could cause corruption of the operating system if the power was interrupted during a specific time of startup, leading the controller to a permanent inoperative state.	1.9.9.0	01/06/2020

	▪ Fixed issue in CANopen Remote I/O mode that could eventually prevent the controller from booting. ▪ Improvements to CANopen Remote I/O mode. ▪ Improvements in serial communication. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
FROM	▪ Included USB Serial RS-232 converter support ▪ Added support for the latest version of the LibSQLClient library. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.11.0	09/01/2020
AA	▪ Initial Review ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.5.0	12/11/2019

2.1.5 XP350 – COMPACT PLC 16DI 16DO 5AI 2RTD MOTION

REV	Description	Version	Date
AU	▪ Included a new command on System Web Page to reset the controller. ▪ Included support for Automation Composer persistent variables. ▪ Improvements in the System Web Page regarding USB 3G/4G modem usability and configuration. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a minor issue which could prevent USB WiFi adapters from connecting to SSIDs containing spaces. ▪ Fixed an issue where the USB 3G/4G modem would fail to reconnect following a communication failure with the SIM card. ▪ Fixed a problem where modifying the controller's system time could cause an overflow error in the OpenVPN connection. ▪ Fixed an OpenVPN configuration issue where the "Client-to-Client communication" feature could remain permanently enabled internally. ▪ Fixed an issue where the OpenVPN section in the System Web Page could become inaccessible after removing a certificate and resetting the controller. ▪ Fixed a problem with gratuitous ARP which could prevent the Ethernet interface to communicate after a download changing Ethernet parameters and later connecting the cable. ▪ Fixed an issue where the System Web Page would time out during data transfers to USB mass storage devices. ▪ Fixed the validation of maximum number of characters for User and Password on System Web Page. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a problem where FTP Server communication with the client would not restore automatically after a network interruption. ▪ Fixed an issue which could incorrectly print a "Power failure" log message during a power down. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.106.0	03/08/2026
AS-AT	▪ Support for MT8500 3.77. ▪ Included commands to enable/disable the USB through the System Web Page and application. ▪ Fixed a problem that could result in session timeout during the download of large projects.	1.14.86.0	04/03/2026

	▪ Fixed a problem where the “Execute” button of Network Sniffer could be blocked. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AQ-AR	▪ Included support for the new parameter of Modbus Server drivers introduced on MasterTool 3.75 which allows connections from other ethernet interfaces. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Included a new feature to not load the Firewall rules when starting the controller with "dontbootapp". ▪ Fixed wrong number of Mastertool Version in the Overview page when using Mastertool 3.31. ▪ Fixed the Firewall issue where the user must add a rule for the HTTP port. ▪ Fixed issue where the System Web Page could receive an error pop-up when accessing the Operation Mode or Network tabs. ▪ Fixed a problem where the Watch Variables tab in System Web Page could not update. ▪ Fixed a potential issue where the Management tab may keep loading until to be reloaded. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed a problem where “InvalidDutyCycle” status was not turning on when duty cycle set to 0%. ▪ General improvements in the Firewall web page usability. ▪ Improvements in the usability of import/export and configuration of Firewall feature. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.77.0	10/11/2025
AP	▪ Fixed an issue introduced on version 1.12.24.0 where the controller could suffer a retentivity loss (retain data initialized) when powered off within a time window of 5 seconds after the application goes to RUN. ▪ Included support for version 5.0 of TP-Link UE300 USB-Ethernet adapter. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.12	10/06/2025
AO	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025
AK-AN	▪ Fixed a problem where, in very rare occasions, the controller firmware could be corrupted after a power down, making it unable to boot again (bricked). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.6	16/12/2024
AJ	▪ Support for MT8500 3.63 ▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem where the internal RS-485 termination was always turned on, independently of the setting selected on CPU configuration screen.	1.14.36.4	30/09/2024

	▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Fixed a problem on OpenVPN where it could incorrectly show a valid certificate as invalid. ▪ Fixed a problem on CAN interface which could cause communication errors with baudrate below 500kbit/s ▪ Fixed visual issues on Firewall section of System Web Page ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		

AG-AI	▪ Support for MT8500 3.61
	▪ Included support for FTP
	▪ Improvements on System Web Page
	  ▪ Changed the timezone of the Clock Setting to match the user's computer .
	  ▪ Fixed error that could make the firewall rules not to be applied when the selected interfaces was "any"
	▪ Improved firmware update time
	▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely.
	▪ Limited the maximum number of OPC UA Server sessions to 50
	▪ Fixed a problem introduced on version 1.12.5.3 where the controller could potentially fail to restore retain data if turned off in a very specific and short time window during the initialization process (while the application is still in STOP).
	▪ Fixed an issue that could make the current Application of the device not to be erased when transfering a new Application through the USB
	▪ Fixed a problem where the Ethernet port could stop to work on high traffic scenario
	▪ Fixed an incompatibility between USB Ethernet Adapter and VPN
	▪ Fixed an issue where it was not possible to create a user (User Management)
	▪ Fixed a problem introduced on version 1.12.24.0 which was making the CPU status on the treeview to become a red triangle when using MasterTool version lower than 3.40
	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.
		1.14.20.0	08/02/2024

AF	▪ New graphical design of System Web Page. ▪ Included support on System Web Page to set the PLC clock (time/date). ▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically). ▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway. ▪ Included support to identify the device through the "wink" command on programming tool. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.29.0	05/09/2023
AE	▪ Improvement on the MQTT to support multi-level topics wildcard ('#'). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.24.3	04/08/2023
AD	▪ Support for MT8500 3.51. ▪ Included support to OpenVPN, Firewall and USB-Ethernet Adapter. ▪ Improvements on System Web Page: ▪ Included configuration for OpenVPN, Firewall and USB-Ethernet Adapter.	1.12.24.0	21/06/2023

	▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer. ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default. ▪ Optimization in the time required to perform the firmware update process. ▪ Fixed USB modem problem where the controller could suffer a memory leak when the modem reconnect multiple times. ▪ Fixed interoperability problem where the Ethernet/IP stop to communicate after inserting/configuring an USB modem. ▪ Fixed OPC UA interoperability with Kepware. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		
AB-AC	▪ Fixed a problem where the Ethernet port could eventually fail to communicate when connecting the controller directly to a computer (point-to-point). ▪ Fixed CANopen Slave problem where the controller could not resume the communication after a failure in the CAN bus. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.5	16/01/2023
AA	▪ Initial revision. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.3	15/12/2022

2.1.6 XP351 – COMPACT PLC 16DI 16DO 5AI 2RTD MOTION CNC

REV	Description	Version	Date
AN	▪ Included a new command on System Web Page to reset the controller. ▪ Included support for Automation Composer persistent variables. ▪ Improvements in the System Web Page regarding USB 3G/4G modem usability and configuration. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a minor issue which could prevent USB WiFi adapters from connecting to SSIDs containing spaces. ▪ Fixed an issue where the USB 3G/4G modem would fail to reconnect following a communication failure with the SIM card. ▪ Fixed a problem where modifying the controller's system time could cause an overflow error in the OpenVPN connection. ▪ Fixed an OpenVPN configuration issue where the "Client-to-Client communication" feature could remain permanently enabled internally. ▪ Fixed an issue where the OpenVPN section in the System Web Page could become inaccessible after removing a certificate and resetting the controller. ▪ Fixed a problem with gratuitous ARP which could prevent the Ethernet interface to communicate after a download changing Ethernet parameters and later connecting the cable. ▪ Fixed an issue where the System Web Page would time out during data transfers to USB mass storage devices. ▪ Fixed the validation of maximum number of characters for User and Password on System Web Page. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a problem where FTP Server communication with the client would not restore automatically after a network interruption.	1.14.106.0	03/08/2026

	▪ Fixed an issue which could incorrectly print a "Power failure" log message during a power down. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AL-AM	▪ Support for MT8500 3.77. ▪ S Included commands to enable/disable the USB through the System Web Page and application. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed a problem where the “Execute” button of Network Sniffer could be blocked. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026
AJ-AK	▪ Included support for the new parameter of Modbus Server drivers introduced on MasterTool 3.75 which allows connections from other ethernet interfaces. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Included a new feature to not load the Firewall rules when starting the controller with "dontbootapp". ▪ Fixed wrong number of Mastertool Version in the Overview page when using Mastertool 3.31. ▪ Fixed the Firewall issue where the user must add a rule for the HTTP port. ▪ Fixed issue where the System Web Page could receive an error pop-up when accessing the Operation Mode or Network tabs. ▪ Fixed a problem where the Watch Variables tab in System Web Page could not update. ▪ Fixed a potential issue where the Management tab may keep loading until to be reloaded. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed a problem where “InvalidDutyCycle” status was not turning on when duty cycle set to 0%. ▪ General improvements in the Firewall web page usability. ▪ Improvements in the usability of import/export and configuration of Firewall feature. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.77.0	10/11/2025
AI	▪ Fixed an issue introduced on version 1.12.24.0 where the controller could suffer a retentivity loss (retain data initialized) when powered off within a time window of 5 seconds after the application goes to RUN. ▪ Included support for version 5.0 of TP-Link UE300 USB-Ethernet adapter. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.12	10/06/2025
AH	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025
AF-AG	▪ Fixed a problem where, in very rare occasions, the controller firmware could be corrupted after a power down, making it unable to boot again (bricked). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.6	16/12/2024
AE	▪ Support for MT8500 3.63	1.14.36.4	30/09/2024

	▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem where the internal RS-485 termination was always turned on, independently of the setting selected on CPU configuration screen. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Fixed a problem on OpenVPN where it could incorrectly show a valid certificate as invalid. ▪ Fixed a problem on CAN interface which could cause communication errors with baudrate below 500kbit/s ▪ Fixed visual issues on Firewall section of System Web Page ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AC-AD	▪ Support for MT8500 3.61 ▪ Included support for FTP ▪ Improvements on System Web Page ▪ Changed the timezone of the Clock Setting to match the user’s computer . ▪ Fixed error that could make the firewall rules not to be applied when the selected interfaces was “any” ▪ Improved firmware update time ▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely. ▪ Limited the maximum number of OPC UA Server sessions to 50 ▪ Fixed a problem introduced on version 1.12.5.3 where the controller could potentially fail to restore retain data if turned off in a very specific and short time window during the initialization process (while the application is still in STOP). ▪ Fixed an issue that could make the current Application of the device not to be erased when transfering a new Application through the USB ▪ Fixed a problem where the Ethernet port could stop to work on high traffic scenario ▪ Fixed an incompatibility between USB Ethernet Adapter and VPN ▪ Fixed an issue where it was not possible to create a user (User Management) ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.20.0	08/02/2024
AA-AB	▪ Initial revision. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.29.0	17/11/2023

2.2 Nexto XF

2.2.1 XF300 – CPU 2ETH,USB,RS485,CAN, 16DI 16DO

REV	Description	Version	Date
AF	▪ Fixed an issue where Portainer could fail to initialize when updating to a Docker-enabled firmware for the first time, resulting in a permanent unavailability of the Docker functionality.	1.14.105.2	21/09/2026

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AE	▪ Included a new command on System Web Page to reset the controller. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a potential controller reset caused by an exception when exposed to a network flood caused by Ethernet loopback. ▪ Fixed an issue where the PTO output could generate more pulses than configured with a specific combination of high frequencies and a low pulse count. ▪ Fixed an issue which could incorrectly print a "M4F failure" log message after restarting the controller. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.105.0	03/08/2026
AD	▪ Support for MT9000 version 4.1.0. ▪ Included support for Firewall, OpenVPN, and FTP Server configurations via the System Web Page. ▪ Included support for DHCP. ▪ Included support for NIC Teaming. ▪ Included support for Switch mode with MRP and RSTP protocols for ring topologies. ▪ Included support for the Docker feature (available as a separate specific firmware file provided together with the standard firmware). ▪ Included support for USB network devices, including 3G/4G modems, Ethernet adapters, and WiFi adapters (list of supported models informed on product documentation). ▪ Included support for Automation Composer persistent variables. ▪ Included diagnostic for hardware watchdog reset. ▪ Included support for integrated I/O hardware failure diagnostics. ▪ Improvements in the System Web Page network settings to prevent IP changes when the application utilizes paired modes (NIC Teaming or Switch). ▪ Improvements in the System Web Page for Memory Card management, now displaying unsupported format and uninserted card states. ▪ Performance improvements for standard digital outputs operating under low MainTask cycle times. ▪ Fixed an issue that occurred when generating over 17 million pulses on PTO fast outputs. ▪ Fixed a potential issue where the controller could restart when generating a small number of pulses at high frequencies via PTO. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a problem where serial communication via Function Blocks could be lost when operating at low baud rates (e.g., 2400 bps). ▪ Fixed an issue where the controller could cause serial interference to other devices on the RS-485 bus during initialization. ▪ Fixed an issue that could result in the loss of retain/persistent data when utilizing the maximum available memory. ▪ Fixed a problem where configuring the PTO with low frequencies could cause high jitter in the MainTask. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.99.3	02/07/2026

AC	▪ Fixed an issue that could cause the controller to reboot after approximately 20 days of continuous operation when no device was connected to the USB port. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.4	01/06/2026
AB	▪ New version due to the shared software platform with XF300-B, with no impact on this model. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.3	22/05/2026
AA	▪ Initial revision ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.2	23/03/2026

2.2.2 XF300-B – CPU 2ETH,USB,RS485,CAN, 16DI 16DO BASIC

REV	Description	Version	Date
AF	▪ New version due to the shared software platform with other XF controllers, with no impact on this model. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.105.2	21/09/2026
AE	▪ Included a new command on System Web Page to reset the controller. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a potential controller reset caused by an exception when exposed to a network flood caused by Ethernet loopback. ▪ Fixed an issue where the PTO output could generate more pulses than configured with a specific combination of high frequencies and a low pulse count. ▪ Fixed an issue which could incorrectly print a "M4F failure" log message after restarting the controller. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.105.0	03/08/2026
AD	▪ Support for MT9000 version 4.1.0. ▪ Included support for Firewall, OpenVPN, and FTP Server configurations via the System Web Page. ▪ Included support for DHCP. ▪ Included support for NIC Teaming. ▪ Included support for Switch mode with RSTP protocol for ring topologies. ▪ Included support for USB network devices, including 3G/4G modems, Ethernet adapters, and WiFi adapters (list of supported models informed on product documentation). ▪ Included support for Automation Composer persistent variables. ▪ Included diagnostic for hardware watchdog reset. ▪ Included support for integrated I/O hardware failure diagnostics. ▪ Improvements in the System Web Page network settings to prevent IP changes when the application utilizes paired modes (NIC Teaming or Switch). ▪ Improvements in the System Web Page for Memory Card management, now displaying unsupported format and uninserted card states. ▪ Performance improvements for standard digital outputs operating under low MainTask cycle times. ▪ Fixed an issue that occurred when generating over 17 million pulses on PTO fast outputs. ▪ Fixed a potential issue where the controller could restart when generating a small number of pulses at high frequencies via PTO.	1.14.99.3	02/07/2026

	▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a problem where serial communication via Function Blocks could be lost when operating at low baud rates (e.g., 2400 bps). ▪ Fixed an issue where the controller could cause serial interference to other devices on the RS-485 bus during initialization. ▪ Fixed an issue that could result in the loss of retain/persistent data when utilizing the maximum available memory. ▪ Fixed a problem where configuring the PTO with low frequencies could cause high jitter in the MainTask. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AC	▪ Fixed an issue that could cause the controller to reboot after approximately 20 days of continuous operation when no device was connected to the USB port. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.4	01/06/2026
AB	▪ Fixed a problem where the integrated digital I/O was not working. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.3	22/05/2026
AA	▪ Initial revision ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.2	23/03/2026

2.2.3 XF315 – CPU 2ETH,USB,RS485,CAN, 16DI 16DO 10AI

REV	Description	Version	Date
AF	▪ Fixed an issue where Portainer could fail to initialize when updating to a Docker-enabled firmware for the first time, resulting in a permanent unavailability of the Docker functionality. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.105.2	21/09/2026
AE	▪ Included a new command on System Web Page to reset the controller. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a potential controller reset caused by an exception when exposed to a network flood caused by Ethernet loopback. ▪ Fixed an issue where the PTO output could generate more pulses than configured with a specific combination of high frequencies and a low pulse count. ▪ Fixed an issue which could incorrectly print a "M4F failure" log message after restarting the controller. ▪ Fixed an issue which prevents the controller to get in RUN due to an incorrect detection of an internal analog hardware failure. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.105.0	03/08/2026
AD	▪ Support for MT9000 version 4.1.0. ▪ Included support for Firewall, OpenVPN, and FTP Server configurations via the System Web Page. ▪ Included support for DHCP. ▪ Included support for NIC Teaming. ▪ Included support for Switch mode with MRP and RSTP protocols for ring topologies.	1.14.99.3	02/07/2026

	▪ Included support for the Docker feature (available as a separate specific firmware file provided together with the standard firmware). ▪ Included support for USB network devices, including 3G/4G modems, Ethernet adapters, and WiFi adapters (list of supported models informed on product documentation). ▪ Included support for Automation Composer persistent variables. ▪ Included diagnostic for hardware watchdog reset. ▪ Included support for integrated I/O hardware failure diagnostics. ▪ Improvements in the System Web Page network settings to prevent IP changes when the application utilizes paired modes (NIC Teaming or Switch). ▪ Improvements in the System Web Page for Memory Card management, now displaying unsupported format and uninserted card states. ▪ Performance improvements for standard digital outputs operating under low MainTask cycle times. ▪ Fixed an issue that occurred when generating over 17 million pulses on PTO fast outputs. ▪ Fixed a potential issue where the controller could restart when generating a small number of pulses at high frequencies via PTO. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a problem where serial communication via Function Blocks could be lost when operating at low baud rates (e.g., 2400 bps). ▪ Fixed an issue where the controller could cause serial interference to other devices on the RS-485 bus during initialization. ▪ Fixed an issue that could result in the loss of retain/persistent data when utilizing the maximum available memory. ▪ Fixed a problem where configuring the PTO with low frequencies could cause high jitter in the MainTask. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AC	▪ Fixed an issue that could cause the controller to reboot after approximately 20 days of continuous operation when no device was connected to the USB port. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.4	01/06/2026
AB	▪ New version due to the shared software platform with XF300-B, with no impact on this model. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.3	22/05/2026
AA	▪ Initial revision ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.2	23/03/2026

2.2.4 XF325 – CPU 2ETH,USB,RS485,CAN, 16DI 16DO 10AI 2AO

REV	Description	Version	Date
AH	▪ Fixed an issue where Portainer could fail to initialize when updating to a Docker-enabled firmware for the first time, resulting in a permanent unavailability of the Docker functionality. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.105.2	21/09/2026
AG	▪ Included a new command on System Web Page to reset the controller.	1.14.105.0	03/08/2026

	▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a potential controller reset caused by an exception when exposed to a network flood caused by Ethernet loopback. ▪ Fixed an issue where the PTO output could generate more pulses than configured with a specific combination of high frequencies and a low pulse count. ▪ Fixed an issue which could incorrectly print a "M4F failure" log message after restarting the controller. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AF	▪ Support for MT9000 version 4.1.0. ▪ Included support for Firewall, OpenVPN, and FTP Server configurations via the System Web Page. ▪ Included support for DHCP. ▪ Included support for NIC Teaming. ▪ Included support for Switch mode with MRP and RSTP protocols for ring topologies. ▪ Included support for the Docker feature (available as a separate specific firmware file provided together with the standard firmware). ▪ Included support for USB network devices, including 3G/4G modems, Ethernet adapters, and WiFi adapters (list of supported models informed on product documentation). ▪ Included support for Automation Composer persistent variables. ▪ Included diagnostic for hardware watchdog reset. ▪ Included support for integrated I/O hardware failure diagnostics. ▪ Improvements in the System Web Page network settings to prevent IP changes when the application utilizes paired modes (NIC Teaming or Switch). ▪ Improvements in the System Web Page for Memory Card management, now displaying unsupported format and uninserted card states. ▪ Performance improvements for standard digital outputs operating under low MainTask cycle times. ▪ Fixed an issue that occurred when generating over 17 million pulses on PTO fast outputs. ▪ Fixed a potential issue where the controller could restart when generating a small number of pulses at high frequencies via PTO. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a problem where serial communication via Function Blocks could be lost when operating at low baud rates (e.g., 2400 bps). ▪ Fixed an issue where the controller could cause serial interference to other devices on the RS-485 bus during initialization. ▪ Fixed an issue that could result in the loss of retain/persistent data when utilizing the maximum available memory. ▪ Fixed a problem where configuring the PTO with low frequencies could cause high jitter in the MainTask. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.99.3	02/07/2026
AE	▪ Fixed an issue that could cause the controller to reboot after approximately 20 days of continuous operation when no device was connected to the USB port. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.4	01/06/2026

AD	▪ New version due to the shared software platform with XF300-B, with no impact on this model. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.3	22/05/2026
AC	▪ Initial revision ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.2	23/03/2026

2.2.5 XF325-W – CPU 2ETH,USB,RS485,CAN, 16DI 16DO 10AI 2AO WEB

REV	Description	Version	Date
AF	▪ Fixed an issue where Portainer could fail to initialize when updating to a Docker-enabled firmware for the first time, resulting in a permanent unavailability of the Docker functionality. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.105.2	21/09/2026
AE	▪ Included a new command on System Web Page to reset the controller. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a potential controller reset caused by an exception when exposed to a network flood caused by Ethernet loopback. ▪ Fixed an issue where the PTO output could generate more pulses than configured with a specific combination of high frequencies and a low pulse count. ▪ Fixed an issue which could incorrectly print a "M4F failure" log message after restarting the controller. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.105.0	03/08/2026
AD	▪ Support for MT9000 version 4.1.0. ▪ Included support for Firewall, OpenVPN, and FTP Server configurations via the System Web Page. ▪ Included support for DHCP. ▪ Included support for NIC Teaming. ▪ Included support for Switch mode with MRP and RSTP protocols for ring topologies. ▪ Included support for the Docker feature (available as a separate specific firmware file provided together with the standard firmware). ▪ Included support for USB network devices, including 3G/4G modems, Ethernet adapters, and WiFi adapters (list of supported models informed on product documentation). ▪ Included support for Automation Composer persistent variables. ▪ Included diagnostic for hardware watchdog reset. ▪ Included support for integrated I/O hardware failure diagnostics. ▪ Improvements in the System Web Page network settings to prevent IP changes when the application utilizes paired modes (NIC Teaming or Switch). ▪ Improvements in the System Web Page for Memory Card management, now displaying unsupported format and uninserted card states. ▪ Performance improvements for standard digital outputs operating under low MainTask cycle times. ▪ Fixed an issue that occurred when generating over 17 million pulses on PTO fast outputs.	1.14.99.3	02/07/2026

	▪ Fixed a problem where the controller would not apply the application-configured timezone when SNTP was disabled. ▪ Fixed a potential issue where the controller could restart when generating a small number of pulses at high frequencies via PTO. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a problem where serial communication via Function Blocks could be lost when operating at low baud rates (e.g., 2400 bps). ▪ Fixed an issue where the controller could cause serial interference to other devices on the RS-485 bus during initialization. ▪ Fixed an issue that could result in the loss of retain/persistent data when utilizing the maximum available memory. ▪ Fixed a problem where configuring the PTO with low frequencies could cause high jitter in the MainTask. ▪ Fixed an issue where the Webvisu Trend element could return an error after extended periods of operation. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AC	▪ Fixed an issue that could cause the controller to reboot after approximately 20 days of continuous operation when no device was connected to the USB port. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.4	01/06/2026
AB	▪ New version due to the shared software platform with XF300-B, with no impact on this model. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.3	22/05/2026
AA	▪ Initial revision ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.88.2	23/03/2026

2.3 Nexto NX

2.3.1 NX3003 – CPU 1 ETH, 1 SERIAL, 14 DI, 10 DO AND PSU 10W

REV	Description	Version	Date
BD	▪ Fixed an issue where PTO execution could stall and fail to complete, requiring a manual stop and restart to resume normal operation. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.10	23/09/2026
BC	▪ Support for MT8500 3.77. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed an issue where the state of digital inputs on I/O module display would not update until the CPU starts to configure it. ▪ Fixed wrong number of Mastertool Version in the Overview page when using Mastertool 3.31. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026

BB	▪ Fixed an issue introduced on version 1.12.23.0 where the controller could suffer a retentivity loss (retain data initialized) when powered off within a time window of 5 seconds after the application goes to RUN. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.12	10/06/2025
BA	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Included support to a new part number of LCD display (no change in visual and/or functionality). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025
AZ	▪ Support for MT8500 3.63 ▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.2	30/09/2024

AY	▪ Support for MT8500 3.61
	▪ Improvements on System Web Page
	  ▪ Changed the timezone of the Clock Setting to match the user’s computer .
	  ▪ Fixed error that could make the firewall rules not to be applied when the selected interfaces was “any”
	▪ Fixed a problem related to the Trend Graphic of the WebVisu where the controller could restart if the Application use it
	▪ Improved firmware update time
	▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely.
	▪ Limited the maximum number of OPC UA Server sessions to 50
	▪ Fixed error that could generate an exception when downloaded an Application with EtherCAT or PROFINET
	▪ Fixed a problem introduced on version 1.12.5.3 where the controller could potentially fail to restore retain data if turned off in a very specific and short time window during the initialization process (while the application is still in STOP).
	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.
		1.14.20.0	08/02/2024

AX	▪ New graphical design of System Web Page ▪ Included support on System Web Page to set the PLC clock (time/date) ▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically) ▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway ▪ Included support to identify the device through the "wink" command on programming tool. ▪ Improvement on the MQTT to support multi-level topics wildcard (‘#’). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.29.0	05/09/2023
AW	▪ Support for MT8500 3.51. ▪ Improvements on System Web Page:	1.12.23.0	22/06/2023

	▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer. ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default. ▪ Optimization in the time required to perform the firmware update process. ▪ Fixed OPC UA interoperability with Kepware. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		
AS-AV	▪ Support for MT8500 3.40. ▪ Fixed possible issue where the Web Page turns unaccesible after using it for a very long time. ▪ Fixed the retain system to keep the values after a reboot caused by an internal software error. ▪ Fixed potential exception when an application is removed (reset origin). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.3	15/12/2022
AQ-AR	▪ New format of firmware update file. This update requires the controller running on firmware version 1.9.29.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.11.2.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Improvements in “one touch diag” feature. ▪ Included support for PROFINET Controller. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.29.0	26/07/2021
AP	▪ Included support for *“number of connected clients”* diagnostic in status bar. To see this diagnostic, MT8500 version 3.31 or greater is required. ▪ Removed the hidden page “getlogs” from the system web page to improve cyber security. ▪ Fixed a problem related to the system webpage cache. This eliminates the need of clearing the cache on browser side, which was previously required under some circumstances to show the page correctly. ▪ Fixed a problem where the digital input value was not updated on the execution of external interrupt task. ▪ Fixed a problem of delay in PTO softstop command when using LibMachineOEM.LABELING_MACHINE function block. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.25.0	13/01/2021
AO	▪ Included TLS version 1.2 support and client certificate in the MQTT Client Function Block (the latter requires Master Tool 3.23 or higher). ▪ Update of the Altus logo on the system website. ▪ Fixed an issue that could cause corruption of the operating system if the power was interrupted during a specific time of startup, leading the controller to a permanent inoperative state. ▪ NX6014 module support on the website ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.8.0	09/11/2020
AM-AN	▪ Included MQTT Client Function Block support (requires MasterTool 3.19 or higher). ▪ Added support for the latest version of the LibSQLClient library. ▪ Included support for Ethernet/IP Adapter and Scanner.	1.8.11.0	27/01/2020

	▪ Included support for viewing the integrated inputs and outputs via the LCD (Hardware menu). ▪ Included support for the labeling function of the LibMachineOEM library. ▪ Improvements in the performance of the built-in fast inputs and outputs. ▪ Fixed the operation of EasyConnection, where the application was not deleted after applying the new IP address, causing it to return to the address configured in the application. ▪ Fixed maximum number of ARTI/OPC DA connections from 4 to 8. ▪ General fixes in User Rights Management, which was not working properly in version 1.7.x.x. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
AL	▪ Improvements in the performance of integrated fast inputs and outputs. ▪ Improvements in serial communication performance. ▪ Improvements to CPU diagnostic messages. ▪ Watchdog reset diagnostics included on the CPU display. ▪ Modified the bootloader from version 1.0.0.13 to 1.0.0.14 to fix an issue where the CPU could trigger the RS-485 bus during product startup. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.36.0	11/06/2019
AI – AK	▪ Included counter comparison interrupt support ▪ Included soft stop command support for PTO fast outputs. ▪ Included pulse counter support on PTO fast outputs. ▪ Performance improvements. ▪ Fixed issue that could eventually prevent the CPU from going to RUN due to the project profile. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.20.0	01/04/2019
AH	▪ Included support for fast inputs: counters ▪ Included support for fast outputs: VFO/PWM and PTO ▪ Reduced firmware update time ▪ Improvements in digital ticket acquisition ▪ Fixed issue that could eventually prevent the CPU from going to RUN after a download/boot ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.9.0	04/12/2018
AE-AG	▪ Performance improvements ▪ Inclusion of OPC UA protocol with encryption ▪ Easy Connection Protocol Improvements ▪ Retry improvements. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.2.0	30/10/2018
AA-AD	▪ Initial Review	1.7.1.6	22/12/2017

2.3.2 NX3004 – CPU 1 ETH, 1 SERIAL PORT

REV	Description	Version	Date
BA	▪ Support for MT8500 3.77. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin.	1.14.86.0	04/03/2026

	▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed an issue where the Power Failure log could not appear. ▪ Fixed an issue where the state of digital inputs on I/O module display would not update until the CPU starts to configure it. Fixed wrong number of Mastertool Version in the Overview page when using Mastertool 3.31. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AZ	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Included support to a new part number of LCD display (no change in visual and/or functionality). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025
AY	▪ Support for MT8500 3.63 ▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.2	30/09/2024
AX	▪ Support for MT8500 3.61 ▪ Improvements on System Web Page ▪ Changed the timezone of the Clock Setting to match the user’s computer . ▪ Fixed error that could make the firewall rules not to be applied when the selected interfaces was “any” ▪ Improved firmware update time ▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely. ▪ Limited the maximum number of OPC UA Server sessions to 50 ▪ Fixed error that could generate an exception when downloaded an Application with EtherCAT or PROFINET ▪ Fixed a problem introduced on version 1.12.5.3 where the controller could potentially fail to restore retain data if turned off in a very specific and short time window during the initialization process (while the application is still in STOP). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.20.0	08/02/2024
AW	▪ New graphical design of System Web Page ▪ Included support on System Web Page to set the PLC clock (time/date) ▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically) ▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway ▪ Included support to identify the device through the "wink" command on programming tool. ▪ Improvement on the MQTT to support multi-level topics wildcard (‘#’). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.29.0	05/09/2023
AV	▪ Support for MT8500 3.51. ▪ Improvements on System Web Page:	1.12.23.0	22/06/2023

	▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer. ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default. ▪ Optimization in the time required to perform the firmware update process. ▪ Fixed OPC UA interoperability with Kepware. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		
AU	▪ Fixed a problem introduced on the previous version that was making the retain/persistent variables not to be saved at the power down. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.6	24/01/2023
AT	▪ Support for MT8500 3.40. ▪ Fixed possible issue where the Web Page turns unaccesible after using it for a very long time. ▪ Fixed the retain system to keep the values after a reboot caused by an internal software error. ▪ Fixed potential exception when an application is removed (reset origin). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.3	15/12/2022
AR-AS	▪ New format of firmware update file. This update requires the controller running on firmware version 1.9.29.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.11.2.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Improvements in “one touch diag” feature. ▪ Included support for PROFINET Controller. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.29.0	26/07/2021
AQ	▪ Included support for *“number of connected clients”* diagnostic in status bar. To see this diagnostic, MT8500 version 3.31 or greater is required. ▪ Removed the hidden page “getlogs” from the system web page to improve cyber security. ▪ Fixed a problem related to the system webpage cache. This eliminates the need of clearing the cache on browser side, which was previously required under some circumstances to show the page correctly. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.25.0	13/01/2021
AP	▪ Included TLS version 1.2 support and client certificate in the MQTT Client Function Block (the latter requires Master Tool 3.23 or higher). ▪ Update of the Altus logo on the system website. ▪ Fixed an issue that could cause corruption of the operating system if the power was interrupted during a specific time of startup, leading the controller to a permanent inoperative state. ▪ NX6014 module support on the website ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.8.0	09/11/2020
AN-AO	▪ Included MQTT Client Function Block support (requires MasterTool 3.19 or higher). ▪ Added support for the latest version of the LibSQLClient library.	1.8.11.0	27/01/2020

	▪ Included support for Ethernet/IP Adapter and Scanner. ▪ Fixed an error that could occur when executing a specific sequence of modification in the configuration of the size of the retentive and persistent areas in %Q. ▪ Fixed the operation of EasyConnection, where the application was not deleted after applying the new IP address, causing it to return to the address configured in the application. ▪ Fixed maximum number of ARTI/OPC DA connections from 4 to 8. ▪ General fixes in User Rights Management, which was not working properly in version 1.7.x.x. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
AM	▪ Included OPC UA protocol support ▪ Added MSSQL_CLIENT functional block support for access to Microsoft databases ▪ Included fixed DNS server configuration (8.8.8.8 and 8.8.4.4) ▪ Fixed position of the F symbol (forcing) on the LCD ▪ Easy Connection feature improvements ▪ Fixed issue in the GetTimeZone function that could cause exception by taking the CPU to STOP. ▪ Improvements to the GetDateAndTime and GetDayOfWeek functions, which could cause spikes in runtime. ▪ Removed log message that was generated when system time is updated by SNTP (to avoid overloading the log with this message)	1.7.17.0	11/03/2019
AJ-AL	▪ Included NX9020 rack support. ▪ Improved SNMP protocol. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.8.10.	1.6.2.0	08/02/2018
AI	▪ Included new configuration options for the operation mode of the Symbolic MODBUS protocols (Server and Slave); ▪ Added return of Easy Connection command execution status; ▪ Included support for new Nexto Jet solution modules; ▪ Improvement in the Ethernet IP protocol; ▪ Improved NVL support; ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.8.10.	1.6.1.0	02/10/2017
AH	▪ Included watch configuration support. ▪ Included support for easy connection. ▪ Included dynamic IP support. ▪ Included support for the NJ6005 mixed analog module. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.8.10.	1.6.0.5	06/01/2017
AD-AG	▪ Added support for flexibility of retentive/persistent memory areas; ▪ Added support for Nexto Jet solution; ▪ Improvement in the presentation of the module tag on the diagnostics web page;	1.5.1.2	18/12/2015
AC	▪ Added support for the SNMP protocol (agent) with MIBII and Private support; ▪ Improvements in the CPU shutdown process and data retentiveness;	1.5.0.21	01/09/2015
AB	▪ Improvements in the handling of data retentiveness;	1.5.0.18	15/06/2015
AA	▪ Initial Review;	1.5.0.16	06/05/2015

2.3.3 NX3005 – CPU 1 ETH, 1 SERIAL PORT, WEB

REV	Description	Version	Date
AW	▪ Support for MT8500 3.77.	1.14.86.0	04/03/2026

	▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed an issue where the Power Failure log could not appear. ▪ Fixed an issue where the state of digital inputs on I/O module display would not update until the CPU starts to configure it. ▪ Fixed wrong number of Mastertool Version in the Overview page when using Mastertool 3.31. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AV	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Included support to a new part number of LCD display (no change in visual and/or functionality). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025
AU	▪ Support for MT8500 3.63 ▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Fixed a problem on WebVisu introduced on version 1.14.20.0 which could cause a PLC reset when downloading the application ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.2	30/09/2024
AT	▪ Support for MT8500 3.61 ▪ Improvements on System Web Page ▪ Changed the timezone of the Clock Setting to match the user’s computer . ▪ Fixed error that could make the firewall rules not to be applied when the selected interfaces was “any” ▪ Fixed a problem related to the Trend Graphic of the WebVisu where the controller could restart if the Application use it ▪ Improved firmware update time ▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely. ▪ Limited the maximum number of OPC UA Server sessions to 50 ▪ Fixed error that could generate an exception when downloaded an Application with EtherCAT or PROFINET ▪ Fixed a problem introduced on version 1.12.5.3 where the controller could potentially fail to restore retain data if turned off in a very specific and short time window during the initialization process (while the application is still in STOP). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.20.0	08/02/2024
AS	▪ New graphical design of System Web Page ▪ Included support on System Web Page to set the PLC clock (time/date) ▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically) ▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway	1.12.29.0	05/09/2023

	▪ Included support to identify the device through the "wink" command on programming tool. ▪ Improvement on the MQTT to support multi-level topics wildcard ('#'). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		

AR	▪ Support for MT8500 3.51.
	▪ Improvements on System Web Page:
	  ▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
	  ▪ Optimization in the time required to perform the firmware update process.
	▪ Fixed OPC UA interoperability with Kepware.
	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.
		1.12.23.0	22/06/2023

AQ	▪ Fixed a problem introduced on the previous version that was making the retain/persistent variables not to be saved at the power down. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.6	24/01/2023
AP	▪ Support for MT8500 3.40. ▪ Fixed possible issue where the Web Page turns unaccesible after using it for a very long time. ▪ Fixed the retain system to keep the values after a reboot caused by an internal software error. ▪ Fixed potential exception when an application is removed (reset origin). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.5.3	15/12/2022
AN-AO	▪ New format of firmware update file. This update requires the controller running on firmware version 1.9.29.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.11.2.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Improvements in "one touch diag" feature. ▪ Included support for PROFINET Controller. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.29.0	26/07/2021
AL-AM	▪ Included support for *"number of connected clients"* diagnostic in status bar. To see this diagnostic, MT8500 version 3.31 or greater is required. ▪ Removed the hidden page "getlogs" from the system web page to improve cyber security. ▪ Fixed a problem related to the system webpage cache. This eliminates the need of clearing the cache on browser side, which was previously required under some circumstances to show the page correctly. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.25.0	13/01/2021
AK	▪ Included TLS version 1.2 support and client certificate in the MQTT Client Function Block (the latter requires MasterTool 3.23 or higher). ▪ Update of the Altus logo on the system website.	1.9.8.0	09/11/2020

	▪ Fixed an issue that could cause corruption of the operating system if the power was interrupted during a specific time of startup, leading the controller to a permanent inoperative state. ▪ NX6014 module support on the website ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
AI-AJ	▪ Included MQTT Client Function Block support (requires MasterTool 3.19 or higher). ▪ Added support for the latest version of the LibSQLClient library. ▪ Included support for Ethernet/IP Adapter and Scanner. ▪ Fixed an error that could occur when executing a specific sequence of modification in the configuration of the size of the retentive and persistent areas in %Q. ▪ Fixed the operation of EasyConnection, where the application was not deleted after applying the new IP address, causing it to return to the address configured in the application. ▪ Fixed maximum number of ARTI/OPC DA connections from 4 to 8. ▪ General fixes in User Rights Management, which was not working properly in version 1.7.x.x. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.11.0	27/01/2020
AH	▪ Included OPC UA protocol support ▪ Added MSSQL_CLIENT functional block support for access to Microsoft databases ▪ Included fixed DNS server configuration (8.8.8.8 and 8.8.4.4) ▪ Fixed position of the F symbol (forcing) on the LCD ▪ Easy Connection feature improvements ▪ Fixed issue in the GetTimeZone function that could cause exception by taking the CPU to STOP. ▪ Improvements to the GetDateAndTime and GetDayOfWeek functions, which could cause spikes in runtime. ▪ Removed log message that was generated when system time is updated by SNTP (to avoid overloading the log with this message) ▪ SNMP protocol improvements	1.7.17.0	11/03/2019
AE-AG	▪ Included NX9020 rack support. ▪ Improved SNMP protocol. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.8.10.	1.6.2.0	08/02/2018
AD	▪ Included new configuration options for the operation mode of the Symbolic MODBUS protocols (Server and Slave); ▪ Added return of Easy Connection command execution status; ▪ Included support for new Nexto Jet solution modules; ▪ Improvement in the Ethernet IP protocol; ▪ Improved NVL support; ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.8.10.	1.6.1.0	02/10/2017
AC	▪ Included watch configuration support. ▪ Included support for easy connection. ▪ Included dynamic IP support. ▪ Included IEC104 server support. ▪ Included support for the NJ6005 mixed analog module. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.8.10.	1.6.0.13	06/01/2017
AA-AB	▪ Initial Review;	1.6.0.9	08/09/2016

2.3.4 NX3008 – CPU 3 ETH, 1 USB, 1 SERIAL, 1 CAN, WEB

REV	Description	Version	Date

AY	▪ Fixed an issue introduced on version 1.14.86.1 where the controller could suffer a retentivity loss (retain data initialized) after a power down when using RS-485 or CAN communication. ▪ Fixed an issue where Portainer could fail to initialize when updating to a Docker-enabled firmware for the first time, resulting in a permanent unavailability of the Docker functionality. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.105.3	06/10/2026
AX	▪ Included a new command on System Web Page to reset the controller. ▪ Included support for Automation Composer persistent variables. ▪ Improvements in Docker usability, adding support for bridge network mode and the ability to bypass container execution during startup (by holding the device button while booting). ▪ Improvements in the System Web Page regarding USB 3G/4G modem usability and configuration. ▪ Improvements in the System Web Page for Memory Card management, now displaying unsupported format and uninserted card states. ▪ Improvements in the System Web Page network settings to prevent IP changes when the NET is used in NIC Teaming or Switch mode. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a potential issue where the RSTP protocol might fail to configure correctly after a power cycle. ▪ Fixed an issue where the MRP protocol would fail to start if the controller was initialized without active interface connections. ▪ Fixed a minor issue which could prevent USB WiFi adapters from connecting to SSIDs containing spaces. ▪ Fixed an issue where the USB 3G/4G modem would fail to reconnect following a communication failure with the SIM card. ▪ Fixed a problem where modifying the controller's system time could cause an overflow error in the OpenVPN connection. ▪ Fixed an OpenVPN configuration issue where the "Client-to-Client communication" feature could remain permanently enabled internally. ▪ Fixed an issue where the OpenVPN section in the System Web Page could become inaccessible after removing a certificate and resetting the controller. ▪ Fixed a problem with gratuitous ARP which could prevent the Ethernet interface to communicate after a download changing Ethernet parameters and later connecting the cable. ▪ Fixed an issue where the System Web Page would time out during data transfers to USB mass storage devices. ▪ Fixed a problem where the controller could trigger a hardware watchdog reset after extended periods of operation with NIC Teaming configured and no active links on the paired interfaces. ▪ Fixed the validation of maximum number of characters for User and Password on System Web Page. ▪ Fixed an issue where the controller could randomly halt IEC tasks and disable tree view objects when multiple read-only instances of Mastertool were connected. ▪ Fixed an issue where the OTD function to not load the application would not work if pressed right after the power off. ▪ Fixed a problem where RS-485 serial communication configured for 7 data bits would incorrectly process 8 bits. ▪ Fixed an issue where the controller could fail to load the application from a USB mass storage device. ▪ Fixed a problem where FTP Server communication with the client would not restore automatically after a network interruption. ▪ Changed the System Web Page to restore the display of the Auxiliary Processor Version.	1.14.105.0	03/08/2026

	▪ Changed the NET diagnostics behavior to consider the internal network bridge when operating in Switch mode. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AW	▪ Fixed a problem introduced on version 1.14.86.1 where IEC 104 Server has stopped to report events. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.6	14/04/2026
AV	▪ Support for MT8500 3.77. ▪ Included commands to enable/disable the Memory Card and USB through the System Web Page and application. ▪ Included Memory Card management on System Web Page with support for unmounting and formatting. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Included support for the new parameter of Modbus Server drivers introduced on MasterTool 3.75 which allows connections from other ethernet interfaces. ▪ Discontinued the feature of copying the Project from/to CPU/Memory Card (removed the Memory Card section from the Informative and Configuration Menu on CPU display). ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed an issue where the Power Failure log could not appear. ▪ Improvements in the Firewall diagnostic when importing an invalid configuration. ▪ Included a new feature to not load the Firewall rules when starting the controller with button pressed ▪ Fixed the Firewall issue where the user must add a rule for the HTTP port. ▪ Fixed wrong number of Mastertool Version in the Overview page when using Mastertool 3.31. ▪ Fixed a potential exception when using the USB Serial Converter after a long time. ▪ Fixed a problem where the Retain variables keep their values after a download. ▪ Fixed a potential exception during project download with NIC Teaming. ▪ Improvement in the CPU internal clock to allow year until 2099. ▪ General improvements in the Firewall web page usability. ▪ Improvements in the usability of import/export and configuration of Firewall feature. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.1	04/03/2026
AU	▪ Improved management of the resources (CPU and memory) used by Docker, protecting the PLC application from potential container execution failures. ▪ Optimizations on the Operating System which allows the Docker Engine to run more efficiently, resulting in better container execution performance. ▪ Added support for using external storage devices with Docker, like Memory Card and USB. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.9	14/08/2025

AT	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Included support to a new part number of LCD display (no change in visual and/or functionality). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025
AS	▪ Support for MT8500 3.63 ▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Included support for NX8000 (mandatory to check the conditions on User Manual before using it) ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.4	30/09/2024
AR	▪ Included bootloader version 1.0.5.0, which fixes a power-on issue mentioned below. The bootloader is now included inside the firmware image file, and it will be updated automatically during the firmware update process. **ATTENTION**: this automatic update requires the controller to be running with version 1.14.34.2 or greater. So, if the firmware update is being performed on a controller that is running an older version, it will be necessary to perform the update procedure twice (to the same version) to have the bootloader updated. ▪ Fixed a problem where the CPU could potentially fail to start after a power-on. ▪ Fixed a problem where the firmware version could not be informed correctly (zero). ▪ Fixed a problem with NET Redundant mode which could cause an exception. ▪ Fixed a problem that could incorrectly produce error log messages related to the internal processor temperature. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Improved stability of CAN and RS-485 communication, specially when working simultaneously. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.34.2	25/07/2024
AQ	▪ Fixed the CAN interface, which was not working properly on previous versions. ▪ Fixed a problem where the internal RS-485 termination was always turned on, independently of the setting selected on CPU configuration screen. ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Fixed a problem on Docker where the CPU could take too long to change from STOP to RUN after a startup. ▪ Fixed the DG LED behaviour when CPU has no application. ▪ Fixed NET3 byOperatingState diagnostic when configured as a redundant pair of NET2 (NIC Teaming). ▪ Fixed a problem where the OTD button could present a slow response. ▪ Fixed a problem on OpenVPN where it could incorrectly show a valid certificate as invalid. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.28.0	02/05/2024
AP	▪ Support for MT8500 3.61 ▪ Included support for Docker feature ▪ Included support for FTP ▪ Improvements on System Web Page ▪ Changed the timezone of the Clock Setting to match the user’s computer .	1.14.20.0	08/02/2024

	▪ Fixed error that could make the firewall rules not to be applied when the selected interfaces was “any” ▪ Fixed a problem related to the Trend Graphic of the WebVisu where the controller could restart if the Application use it ▪ Improved firmware update time ▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely. ▪ Fixed a problem on RS-485 termination where the setting on CPU configuration was behaving with a inverted logic ▪ Fixed the red triangle on NET3 connector in the MT8500 treeview with the controller in NIC Teaming mode ▪ Limited the maximum number of OPC UA Server sessions to 50 ▪ Fixed error that could generate an exception when downloaded an Application with EtherCAT or PROFINET ▪ Fixed a problem where the controller could potentially fail to restore retain data if turned off in a very specific and short time window during the initialization process (while the application is still in STOP) ▪ Fixed an issue that could make the current Application of the device not to be erased when transfering a new Application through the USB ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AN	▪ New graphical design of System Web Page ▪ Included support on System Web Page to set the PLC clock (time/date) ▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically) ▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway ▪ Included support to identify the device through the "wink" command on programming tool. ▪ Improvement on the MQTT to support multi-level topics wildcard (‘#’). ▪ Included support for IEC 104 Server protocol (requires MasterTool IEC XE 3.52 or greater). ▪ Included support to SNMP ▪ Fixed a problem that could potentially make the CPU fail to start after a power-on ▪ Limited the speed of NET2 and NET3 to 10/100Mbps ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.29.0	05/09/2023

AL-AM	▪ Support for MT8500 3.51.
	▪ Improvements on System Web Page:
	  ▪ Included configuration for OpenVPN, Firewall and USB-Ethernet Adapter.
	  ▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
	  ▪ Optimization in the time required to perform the firmware update process.
	▪ Fixed USB modem problem where the controller could suffer a memory leak when the modem reconnect multiple times.
	▪ Fixed interoperability problem where the Ethernet/IP stop to communicate after inserting/configuring an USB modem.
	▪ Fixed OPC UA interoperability with Kepware.
	▪ Improvements in OpenVPN and Firewall.
	▪ Support to the RTL8188EU WiFi adapter.
	▪ General improvements in the system stability.
		1.12.24.0	21/06/2023

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		
AK	▪ Fixed an issue where the CPU would eventually not enter in RUN after a power-on. ▪ Improved the System Web Page to support only one login to the Management tab instead of each feature with separate credentials. Also, a new System tab is available, containing the firmware update and buttons to access the system logs. ▪ Fixed OpenVPN problem that could cause a memory leak when using it as the Gateway for the programming tool. ▪ Fixed RTC drift at high operation temperatures. ▪ Improved immunity against external electromagnetic interferences. ▪ Fixed CAN diagnostics and RTR messages (when DLC is zero) reception. ▪ Updated OPC UA Server operational limits to provide better interoperability with Clients. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.12.15.0	10/03/2023
AA-AJ	▪ Initial revision. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.10.51.0	21/10/2022

2.3.5 NX3010 – CPU 1 ETH, 2 SERIAL

REV	Description	Version	Date
BT	▪ Support for MT8500 3.77. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.18.0	04/03/2026
BS	▪ Included support to a new part number of LCD display (no change in visual and/or functionality). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.14.0	03/04/2025
BR	▪ Support for MT8500 3.70. ▪ Fixed a problem introduced on firmware 1.10.8.0 where the User Rights credentials could be corrupted, making it impossible to login into the controller again. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.12.0	30/11/2024
BQ	▪ Support for MT8500 3.61 ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.7.0	08/02/2024
BP	▪ Fixed a problem related to NX4010 diagnostics on the System Web Page that could cause an internal exception, leading the CPU to stop. ▪ Fixed a problem related to Ethernet communication that could cause an internal exception on some specific conditions, leading the CPU to stop. ▪ Fixed OPC UA interoperability with Kepware. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.10.12.0	21/11/2023
BO	▪ Support for MT8500 3.40. ▪ Fixed wrong “Factory Missing” log message ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.10.8.0	15/12/2022
BN	▪ Fixed the retain system to keep the values after a reboot caused by an internal software error.	1.9.4.0	19/10/2022

	▪ Fixed potential exception when an application is removed (reset origin). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
BM	▪ New format of firmware update file. This update requires the controller running on firmware version 1.8.13.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.1.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Included fixed DNS server settings (8.8.8.8 and 8.8.4.4). ▪ Improved NIC Teaming performance. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.13.0	26/07/2021
BK-BL	▪ Included support for PROFINET Controller. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.10.0	21/05/2021
BJ	▪ Included support for *"number of connected clients"* diagnostic in status bar. To see this diagnostic, MT8500 version 3.31 or greater is required. ▪ Removed the hidden page "getlogs" from the system web page to improve cyber security. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.9.0	13/01/2021
BI	▪ Fixed an issue that prevented the CPU from entering RUN when a name for an application different from the default name "Application" was set. ▪ Fixed problem related to the cache of the system web page. This eliminates the need to clear the browser cache, which was previously required in specific situations to ensure the correct presentation of the page. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.8.0	24/09/2020
-	▪ Included client certificate support in the MQTT Client Function Block (requires Master Tool 3.23 or higher). ▪ Update of the Altus logo on the system website. ▪ Support for the NX6014 module on the web page. ▪ Fixed an issue that prevented the firmware update when there was an application loaded on the CPU. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.6.0	05/06/2020
BH	▪ Included MQTT Client Function Block support (requires MasterTool 3.19 or higher). ▪ Added support for the latest version of the LibSQLClient library. ▪ General fixes in User Rights Management, which was not working properly in version 1.7.x.x. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.3.0	27/01/2020
BF-BG	▪ Fixed copying from memory card to CPU. ▪ Fixed the operation of EasyConnection, where the application was not deleted after applying the new IP address, causing it to return to the address configured in the application. ▪ Included EtherNet/IP Scanner and Adapter support ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.0.14	03/10/2019
BE	▪ Improved the Ethernet interface, avoiding uncontrolled retransmission of the ACK message in scenarios with IP address conflict, which could impact CPU execution time.	1.7.0.11	09/07/2019

	▪ Fixed the menu on the LCD for copying the application to the memory card, which was not showing up since firmware version 1.6.0.11. ▪ Fixed "Retain restore from file failed" log message that was incorrectly generated on startup ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.		
BD	▪ Included OPC UA protocol support ▪ Included fixed DNS server configuration (8.8.8.8 and 8.8.4.4) ▪ Easy Connection feature improvements ▪ Fixed issue in the GetTimeZone function that could cause exception by taking the CPU to STOP. ▪ Improvements to the GetDateAndTime and GetDayOfWeek functions, which could cause spikes in runtime. ▪ Fixed treatment of I/O modules in the break point condition when using a project with machine profile. ▪ Removed log message that was generated when system time is updated by SNTP (to avoid overloading the log with this message) ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.0.8	11/03/2019
BB-BC	▪ Included new configuration options for the operation mode of the Symbolic MODBUS protocols (Server and Slave); ▪ Added return of Easy Connection command execution status; ▪ Included support for new Nexto Jet solution modules; ▪ Improvement in the Ethernet IP protocol; ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.7.40.	1.6.1.3	02/10/2017
BA	▪ Included watch configuration support. ▪ Included support for easy connection. ▪ Included dynamic IP support. ▪ Included IEC104 server support. ▪ Included support for the NJ6005 mixed analog module. ▪ Added MSSQL_CLIENT functional block support for access to Microsoft databases ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.7.40.	1.6.0.11	06/01/2017
AX-AZ	▪ Included SNTP diagnosis in MIB Private. ▪ Fixed possible exception when using project with Basic profile. ▪ Included support for the option introduced in MasterTool IEC XE 2.05 to allow the use of retentive and persistent variables in Function Blocks. ▪ Improved the EtherCAT protocol when used in high-traffic situations on the CPU's other Ethernet ports. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.5.1.7	26/02/2016
AW	▪ Included support for Nexto Jet I/O modules ▪ Included support for size flexibility of Retentive and Persistent memory areas. ▪ Fixed possible loss of system logs in a power failure. ▪ Changed web message in case of impossibility of firmware update when there are many tasks being performed. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.5.1.3	11/11/2015
AV	▪ Fixed possible exception after hot-swapping modules on the bus ▪ Fixed exception issue after making online change in Symbol Configuration ▪ Fixed problem of restarting retentive and persistent variables after exception ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.5.0.15	04/08/2015
AU	▪ Added new vital failure functionality for NETs in projects with redundant half-cluster.	1.5.0.10	25/05/2015

	▪ Support for the new NX9000 8-position rack in the diagnostics on the website. ▪ Added SNTP protocol support. ▪ Maximum number of communication channels simultaneously connected to the CPU changed from 4 to 8. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.		
AT	▪ Added support for the OPC protocol. ▪ Added support for the app's CRC functionality. ▪ Added two new hot swap modes (Disabled and Enabled, with match consistency). ▪ Added SNMP protocol (agent) support with MIBII and Private support. ▪ Added new system logs with useful information for diagnosing and troubleshooting. ▪ System logging is now retentive (that is, it is retained after a CPU reboot). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.4.0.33	29/09/2014
AS	▪ Fixed the timing of forcing BIT variables on redundant systems. ▪ Added support for the NX6020 module. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.3.0.31	30/07/2014
AIR	▪ Added support for the MODBUS Symbol driver (Client/Server and Master/Slave RTU). ▪ Added support for the User Logs library on memory card. ▪ Fixed the generation of diagnostics in case of OTD key failure. ▪ Improvements in memory card access. ▪ Improved CPU boot time. ▪ Added support for the NX6010 module. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.3.0.22	09/01/2014
AP-AQ	▪ Fixed the diagnosis of the number of system reboots. ▪ Improved application startup time. ▪ Improved bus scan time. ▪ Introduced I/O consistency for multitasking applications that access I/O simultaneously. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.4.0	30/09/2013
AO	▪ Improvements in bus interrupt handling. ▪ Bus master improvements. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.2.3	28/06/2013
AN	▪ Internal identification code change in the firmware. ▪ Improved bus interrupt handling. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.1.0	15/02/2013
AM	▪ Increased compatibility with certain memory card models. ▪ Inclusion of firmware version information of the digital modules on the website. ▪ Corrections in the web presentation of the architecture using expansion racks. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.0.9	30/10/2012
AK-AL	▪ Removed option that was no longer used on the web page for firmware update. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.0.7	30/08/2012
AJ	▪ Fixed sending projects to the memory card.	1.2.0.5	02/08/2012

	▪ Improved MODBUS communication performance. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.		
AI	▪ Correction in reading/writing in the RTC after time loss. ▪ Added copy functionality to/from memory card. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.1.0.26	24/05/2012
AF-AH	▪ Fixed improper memory usage. ▪ Fixed exception handling for floating point. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.1.0.9	16/02/2012
AE	▪ Improvements to language switching on web pages. ▪ Corrections in the values of some CPU diagnostics. ▪ Improvements in task cycle times. ▪ Corrections in memory card formatting. ▪ Fixed watchdog on power failure. ▪ Improvements to the MODBUS protocol. ▪ Bus scan time improvements. ▪ Corrections in the indication of task exceptions. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.1.0.8	03/02/2012
AD	▪ Improvements to the watchdog firing system. ▪ Modifications to switch settings. ▪ Inclusion of the gateway in the CPU. ▪ Improvement in Web pages. ▪ Improved access control to the RTC. ▪ Improvements to CPU signature verification. ▪ Changed the way to enable serial diagnostics. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.0.0.9	20/11/2011
AC	▪ Initial Review. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.0.0.6	09/11/2011
AA – AB	▪ Internal Review.	0.0.0.31	02/09/2011

2.3.6 NX3020 – CPU 2 ETH, 2 SERIAL, RACK EXP.

REV	Description	Version	Date
BQ	▪ Support for MT8500 3.77. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.18.0	04/03/2026
BP	▪ Included support to a new part number of LCD display (no change in visual and/or functionality). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.14.0	03/04/2025
BO	▪ Support for MT8500 3.70. ▪ Fixed a problem introduced on firmware 1.10.8.0 where the User Rights credentials could be corrupted, making it impossible to login into the controller again. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.12.0	30/11/2024
BN	▪ Support for MT8500 3.61 ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.7.0	08/02/2024
BM	▪ Fixed a problem related to NX4010 diagnostics on the System Web Page that could cause an internal exception, leading the CPU to stop.	1.10.12.0	21/11/2023

	▪ Fixed a problem related to Ethernet communication that could cause an internal exception on some specific conditions, leading the CPU to stop. ▪ Fixed OPC UA interoperability with Kepware. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.		
BL	▪ Support for MT8500 3.40. ▪ Fixed wrong “Factory Missing” log message ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.10.8.0	15/12/2022
BK	▪ Fixed the retain system to keep the values after a reboot caused by an internal software error. ▪ Fixed potential exception when an application is removed (reset origin). ▪ Fixed an exception that occurs when using DBP with its individual elements ON/OFF mapped to MODBUS. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.4.0	19/10/2022
BI-BJ	▪ New format of firmware update file. This update requires the controller running on firmware version 1.8.13.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.1.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Included fixed DNS server settings (8.8.8.8 and 8.8.4.4). ▪ Improved NIC Teaming performance. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.13.0	26/07/2021
BH	▪ Included support for PROFINET Controller. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.10.0	21/05/2021
BG	▪ Included support for *“number of connected clients”* diagnostic in status bar. To see this diagnostic, MT8500 version 3.31 or greater is required. ▪ Removed the hidden page “getlogs” from the system web page to improve cyber security. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.9.0	13/01/2021
BF	▪ Fixed an issue that prevented the CPU from entering RUN when a name for an application different from the default name "Application" was set. ▪ Fixed problem related to the cache of the system web page. This eliminates the need to clear the browser cache, which was previously required in specific situations to ensure the correct presentation of the page. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.8.0	24/09/2020
-	▪ Included client certificate support in the MQTT Client Function Block (requires Master Tool 3.23 or higher). ▪ Update of the Altus logo on the system website. ▪ Support for the NX6014 module on the web page. ▪ Fixed an issue that prevented the firmware update when there was an application loaded on the CPU. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.6.0	05/06/2020
BD-BE	▪ Included MQTT Client Function Block support (requires MasterTool 3.19 or higher). ▪ Added support for the latest version of the LibSQLClient library.	1.8.3.0	27/01/2020

	▪ General fixes in User Rights Management, which was not working properly in version 1.7.x.x. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
BB-BC	▪ Fixed copying from memory card to CPU. ▪ Fixed the operation of EasyConnection, where the application was not deleted after applying the new IP address, causing it to return to the address configured in the application. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.0.14	03/10/2019
BA	▪ Improved the Ethernet interface, avoiding uncontrolled retransmission of the ACK message in scenarios with IP address conflict, which could impact CPU execution time. ▪ Fixed the menu on the LCD for copying the application to the memory card, which was not showing up since firmware version 1.6.0.11. ▪ Fixed "Retain restore from file failed" log message that was incorrectly generated on startup ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.0.11	09/07/2019
A-Z	▪ Included OPC UA protocol support ▪ Included fixed DNS server configuration (8.8.8.8 and 8.8.4.4) ▪ Easy Connection feature improvements ▪ Fixed issue in the GetTimeZone function that could cause exception by taking the CPU to STOP. ▪ Improvements to the GetDateAndTime and GetDayOfWeek functions, which could cause spikes in runtime. ▪ Fixed treatment of I/O modules in the break point condition when using a project with machine profile. ▪ Removed log message that was generated when system time is updated by SNTP (to avoid overloading the log with this message) ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.0.8	11/03/2019
AV-AY	▪ Included new configuration options for the operation mode of the Symbolic MODBUS protocols (Server and Slave); ▪ Added return of Easy Connection command execution status; ▪ Included support for new Nexto Jet solution modules; ▪ Improvement in the Ethernet IP protocol; ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.7.40.	1.6.1.3	02/10/2017
AU	▪ Included watch configuration support. ▪ Included support for easy connection. ▪ Included dynamic IP support. ▪ Included IEC104 server support. ▪ Included support for the NJ6005 mixed analog module. ▪ Added MSSQL_CLIENT functional block support for access to Microsoft databases ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.7.40.	1.6.0.11	06/01/2017
AR-AT	▪ Included SNTP diagnosis in MIB Private. ▪ Fixed possible exception when using project with Basic profile. ▪ Included support for the option introduced in MasterTool IEC XE 2.05 to allow the use of retentive and persistent variables in Function Blocks. ▪ Improved the EtherCAT protocol when used in high-traffic situations on the CPU's other Ethernet ports. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.5.1.7	26/02/2016
AQ	▪ Included support for Nexto Jet I/O modules ▪ Included support for size flexibility of Retentive and Persistent memory areas. ▪ Fixed possible loss of system logs in a power failure.	1.5.1.3	11/11/2015

	▪ Changed web message in case of impossibility of firmware update when there are many tasks being performed. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.		
AP	▪ Fixed possible exception after hot-swapping modules on the bus ▪ Fixed exception issue after making online change in Symbol Configuration ▪ Fixed problem of restarting retentive and persistent variables after exception ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.5.0.15	04/08/2015
AO	▪ Added new vital failure functionality for NETs in projects with redundant half-cluster. ▪ EtherCAT Master support on the front NETs. ▪ Support for the new NX9000 8-position rack in the diagnostics on the website. ▪ Maximum number of communication channels simultaneously connected to the CPU changed from 4 to 8. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.5.0.10	25/05/2015
AN	▪ Added support for the OPC protocol. ▪ Added support for the app's CRC functionality. ▪ Added two new hot swap modes (Disabled and Enabled, with match consistency). ▪ Added SNMP protocol (agent) support with MIBII and Private support. ▪ Added new system logs with useful information for diagnosing and troubleshooting. ▪ System logging is now retentive (that is, it is retained after a CPU reboot). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.4.0.33	29/09/2014
AM	▪ Fixed the timing of forcing BIT variables on redundant systems. ▪ Added support for the NX6020 module. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.3.0.31	30/07/2014
AL	▪ Added support for the MODBUS Symbol driver (Client/Server and Master/Slave RTU). ▪ Added support for the User Logs library on memory card. ▪ Fixed the generation of diagnostics in case of OTD key failure. ▪ Improvements in memory card access. ▪ Improved CPU boot time. ▪ Added support for the NX6010 module. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.3.0.22	09/01/2014
AJ-AK	▪ Fixed the diagnosis of the number of system reboots. ▪ Improved application startup time. ▪ Improved bus scan time. ▪ Introduced I/O consistency for multitasking applications that access I/O simultaneously. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.4.0	30/09/2013
AI	▪ Improvements in bus interrupt handling. ▪ Bus master improvements. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.2.3	28/06/2013
AH	▪ Internal identification code change in the firmware. ▪ Improved bus interrupt handling. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.	1.2.1.0	15/02/2013

	▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.		
AG	▪ Increased compatibility with certain memory card models. ▪ Inclusion of firmware version information of the digital modules on the website. ▪ Corrections in the web presentation of the architecture using expansion racks. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.0.9	30/10/2012
AE-AF	▪ Removed option that was no longer used on the web page for firmware update. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.0.7	30/08/2012
AD	▪ Fixed sending projects to the memory card. ▪ Included SNTP support. ▪ Included SOE support. ▪ Improved MODBUS communication performance. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.0.5	02/08/2012
AC	▪ Correction in reading/writing in the RTC after time loss. ▪ Added copy functionality to/from memory card. ▪ Fixed exception handling for floating point. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.1.0.26	24/05/2012
AA – AB	▪ Initial Review. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.0.0.1	19/03/2012

2.3.7 NX3030 – CPU 2 ETH, 2 SERIAL, RACK EXP.,RED

REV	Description	Version	Date
BT	▪ Support for MT8500 3.77. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.18.0	04/03/2026
BR-BS	▪ Included support to a new part number of LCD display (no change in visual and/or functionality). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.14.0	03/04/2025
BQ	▪ Support for MT8500 3.70. ▪ Fixed a problem introduced on firmware 1.10.8.0 where the User Rights credentials could be corrupted, making it impossible to login into the controller again. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.12.0	30/11/2024
BP	▪ Support for MT8500 3.61 ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.7.0	08/02/2024
BO	▪ Fixed a problem related to NX4010 diagnostics on the System Web Page that could cause an internal exception, leading the CPU to stop. ▪ Fixed a problem related to Ethernet communication that could cause an internal exception on some specific conditions, leading the CPU to stop. ▪ Fixed OPC UA interoperability with Kepware. ▪ Fixed project synchronization when using a custom application name. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.10.12.0	17/11/2023

BN	▪ Support for MT8500 3.40. ▪ Fixed wrong “Factory Missing” log message ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.10.8.0	15/12/2022
BM	▪ Fixed the redundancy project synchronization system when downloading an application in a Stand-By CPU with the other still in Active (an invalid operation). ▪ Fixed the retain system to keep the values after a reboot caused by an internal software error. ▪ Fixed potential exception when an application is removed (reset origin). ▪ Fixed an exception that occurs when using DBP with its individual elements ON/OFF mapped to MODBUS. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.4.0	19/10/2022
BL	▪ New format of firmware update file. This update requires the controller running on firmware version 1.8.13.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.1.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Included fixed DNS server settings (8.8.8.8 and 8.8.4.4). ▪ Improved NIC Teaming performance. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.13.0	26/07/2021
BK	▪ Fixed the NX4010 redundancy diagnostics presentation on the Web interface. ▪ Included support for PROFINET Controller. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.10.0	21/05/2021
BJ	▪ Included support for *“number of connected clients”* diagnostic in status bar. To see this diagnostic, MT8500 version 3.31 or greater is required. ▪ Removed the hidden page “getlogs” from the system web page to improve cyber security. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.9.0	13/01/2021
BI	▪ Fixed the bForcedIOs forcing diagnostics, which was not correctly indicated in the stand-by PLC. ▪ Fixed an issue that prevented the CPU from entering RUN when a name for an application different from the default name "Application" was set. ▪ Fixed problem related to the cache of the system web page. This eliminates the need to clear the browser cache, which was previously required in specific situations to ensure the correct presentation of the page. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.8.0	24/09/2020
-	▪ Included client certificate support in the MQTT Client Function Block (requires Master Tool 3.23 or higher). ▪ Update of the Altus logo on the system website. ▪ Support for the NX6014 module on the web page. ▪ Fixed an issue that prevented the firmware update when there was an application loaded on the CPU. ▪ Fixed an issue introduced in the previous version that reduced the ability of the redundant system to tolerate an internal software failure in one of the CPUs. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.6.0	05/06/2020

BG-BH	▪ Included MQTT Client Function Block support (requires MasterTool 3.19 or higher). ▪ Added support for the latest version of the LibSQLClient library. ▪ General fixes in User Rights Management, which was not working properly in version 1.7.x.x. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.8.3.0	27/01/2020
BE-BF	▪ Fixed copying from memory card to CPU. ▪ Fixed the operation of EasyConnection, where the application was not deleted after applying the new IP address, causing it to return to the address configured in the application. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.0.14	03/10/2019
BD	▪ Improved the Ethernet interface, avoiding uncontrolled retransmission of the ACK message in scenarios with IP address conflict, which could impact CPU execution time. ▪ Fixed the menu on the LCD for copying the application to the memory card, which was not showing up since firmware version 1.6.0.11. ▪ Fixed "Retain restore from file failed" log message that was incorrectly generated on startup ▪ Introduced support for the correction performed in MT8500 v3.14 for the error that could cause exception when switching over the redundant PLC. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.0.11	09/07/2019
BC	▪ Included OPC UA protocol support ▪ Included fixed DNS server configuration (8.8.8.8 and 8.8.4.4) ▪ Easy Connection feature improvements ▪ Fixed issue in the GetTimeZone function that could cause exception by taking the CPU to STOP. ▪ Improvements to the GetDateAndTime and GetDayOfWeek functions, which could cause spikes in runtime. ▪ Improvements in design synchronization between redundant PLCs ▪ Fixed treatment of I/O modules in the break point condition when using a project with machine profile. ▪ Removed log message that was generated when system time is updated by SNTP (to avoid overloading the log with this message) ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.0.8	11/03/2019
AZ-BB	▪ Included new configuration options for the operation mode of the Symbolic MODBUS protocols (Server and Slave); ▪ Added return of Easy Connection command execution status; ▪ Included support for new Nexto Jet solution modules; ▪ Improvement in the Ethernet IP protocol; ▪ Improved synchronism of redundant projects; ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.7.40.	1.6.1.3	02/10/2017
AY	▪ Included watch configuration support. ▪ Included support for easy connection. ▪ Included dynamic IP support. ▪ Included IEC104 server support. ▪ Included support for the NJ6005 mixed analog module. ▪ Added MSSQL_CLIENT functional block support for access to Microsoft databases ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.7.40.	1.6.0.11	06/01/2017
AV-AX	▪ Included SNTP diagnosis in MIB Private. ▪ Fixed possible exception when using project with Basic profile. ▪ Included support for the option introduced in MasterTool IEC XE 2.05 to allow the use of retentive and persistent variables in Function Blocks.	1.5.1.7	26/02/2016

	▪ Improved the EtherCAT protocol when used in high-traffic situations on the CPU's other Ethernet ports. ▪ Improvement in the treatment of forcing redundant variables. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.		
AU	▪ Included support for Nexto Jet I/O modules ▪ Included support for size flexibility of Retentive and Persistent memory areas. ▪ Fixed possible loss of system logs in a power failure. ▪ Changed web message in case of impossibility of firmware update when there are many tasks being performed. ▪ Increased or maximum number of redundant areas from 100 to 1024. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.5.1.3	11/11/2015
AT	▪ Fixed possible exception after hot-swapping modules on the bus ▪ Fixed forcing of variables on redundant systems ▪ Fixed exception issue after making online change in Symbol Configuration ▪ Fixed problem of restarting retentive and persistent variables after exception ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.5.0.15	04/08/2015
AS	▪ Added new vital failure functionality for NETs in projects with redundant half-cluster. ▪ EtherCAT Master support on the front NETs. ▪ Support for the new NX9000 8-position rack in the diagnostics on the website. ▪ Maximum number of communication channels simultaneously connected to the CPU changed from 4 to 8. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.5.0.10	25/05/2015
AIR	▪ Added support for the OPC protocol. ▪ Added support for the app's CRC functionality. ▪ Added two new hot swap modes (Disabled and Enabled, with match consistency). ▪ Added SNMP protocol (agent) support with MIBII and Private support. ▪ Added new system logs with useful information for diagnosing and troubleshooting. ▪ System logging is now retentive (that is, it is retained after a CPU reboot). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.4.0.33	29/09/2014
AQ	▪ Fixed the timing of forcing BIT variables on redundant systems. ▪ Added support for the NX6020 module. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.3.0.31	30/07/2014
AO-AP	▪ Added support for the MODBUS Symbol driver (Client/Server and Master/Slave RTU). ▪ Added support for the User Logs library on memory card. ▪ Fixed the generation of diagnostics in case of OTD key failure. ▪ Improvements in memory card access. ▪ Improved CPU boot time. ▪ Added support for the NX6010 module. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.3.0.22	09/01/2014
AN	▪ Fixed the diagnosis of the number of system reboots. ▪ Improved application startup time. ▪ Improved bus scan time. ▪ Introduced I/O consistency for multitasking applications that access I/O simultaneously.	1.2.4.0	30/09/2013

	▪ Correction in the synchronization of redundant projects in case of shutdown of the Stand-by CP. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.		
AM	▪ Improvements in bus interrupt handling. ▪ Bus master improvements. ▪ Fixed the synchronization mechanism for redundant projects. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.2.3	28/06/2013
AL	▪ Internal identification code change in the firmware. ▪ Improved bus interrupt handling. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.1.0	15/02/2013
AK	▪ Increased compatibility with certain card models. ▪ Inclusion of firmware version information of the digital modules on the website. ▪ Corrections in the web presentation of the architecture using expansion racks. ▪ Improved performance regarding the synchronization of redundant variables. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.0.9	30/10/2012
AI-AJ	▪ Removed option that was no longer used on the web page for firmware update. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.0.7	30/08/2012
AH	▪ Improvements in the indication of status on web pages. ▪ Fixed sending projects to the memory card. ▪ Fix in the basic configuration of the cluster. ▪ Improvements in the synchronization of the application between PLCA and PLCB. ▪ Improved MODBUS communication performance. ▪ Correction in the treatment of persistent variables used in the SOE protocol. ▪ Improved access to servers by the SNTP. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.2.0.5	02/08/2012
AG	▪ Correction in reading/writing in the RTC after time loss. ▪ Added copy functionality to/from memory card. ▪ Fixed improper memory usage. ▪ Fixed exception handling for floating point. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.1.0.26	24/05/2012
AD - AF	▪ Improvement in the diagnosis of NOS/DNP3. ▪ Improvements and fixes to the MODBUS protocol when using COM1 and COM2. ▪ Corrections in the states of the PLCA and PLCB. ▪ SNTP protocol configuration fixes. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.1.0.15	03/02/2012
AC	▪ Corrections in the detection of PROFIBUS module diagnostics. ▪ Improvements and fixes to the MODBUS protocol. ▪ Improvements to the NIC Teaming protocol. ▪ Improvements and fixes in state exchanges between the PLCs of half-clusters. ▪ Improved application execution time. ▪ Fixes in application and project synchronization. ▪ Base cluster configuration improvements. ▪ Inclusion of the SNTP client protocol.	1.1.0.10	20/01/2012

	▪ Corrections to the SOE/DNP3 protocol. ▪ Fixed watchdog on power failure. ▪ Improved images displayed on web pages. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.		
AA – AB	▪ Initial Review. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.4.4.20.	1.0.0.5	29/11/2011

2.3.8 NX3035 – CPU 6 ETH, 2 SFP, 1 SERIAL, RACK EXP., RED.

REV	Description	Version	Date
AH	▪ Included support to a new part number of eMMC memory (no change in functionality). After updating to this version, downgrading to a previous version will no longer be possible. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.104.2	03/09/2026
AG	▪ Support for MT9000 4.1.0. ▪ Included support for the RS-485 serial interface. ▪ Included support for SNMP Agent. ▪ Included support for FTP Server. ▪ Included support for System Web page synchronization via redundancy. ▪ Included a new command on System Web Page to reset the controller. ▪ Included support for Automation Composer persistent variables. ▪ Included support for network configuration on System Web Page. ▪ Included support for Switch mode with MRP and RSTP protocols for ring topologies. ▪ Improvements in controller link-down detection, reducing switchover time in redundant setups. ▪ Improvements in the System Web Page for Memory Card management, now displaying unsupported format and uninserted card states. ▪ Improvements in the System Web Page network settings to prevent IP changes when the NET is used in NIC Teaming or Switch mode. ▪ Fixed an issue where Firewall rules were not properly applied to interfaces operating in Switch mode. ▪ Fixed an issue where the OpenVPN Server failed to run due to an error during Diffie-Hellman key generation. ▪ Fixed a problem in the Syslog Server feature that could lead to spurious log messages being displayed. ▪ Fixed an issue in Ethernet diagnostics where the RX Drop Errors counter would increment unexpectedly. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a problem where modifying the controller's system time could cause an overflow error in the OpenVPN connection. ▪ Fixed an OpenVPN configuration issue where the "Client-to-Client communication" feature could remain permanently enabled internally. ▪ Fixed an issue where the OpenVPN section in the System Web Page could become inaccessible after removing a certificate and resetting the controller. ▪ Fixed a problem with gratuitous ARP which could prevent the Ethernet interface to communicate after a download changing Ethernet parameters and later connecting the cable. ▪ Fixed a problem where the controller could trigger a hardware watchdog reset after extended periods of operation with NIC Teaming configured and no active links on the paired interfaces. ▪ Fixed the validation of maximum number of characters for User and Password on System Web Page.	1.14.104.0	03/08/2026

	▪ Fixed an issue where the controller could randomly halt IEC tasks and disable tree view objects when multiple read-only instances of Mastertool were connected. ▪ Fixed an issue where the OTD function to not load the application would not work if pressed right after the power off. ▪ Fixed an issue where project synchronization would take an excessive amount of time following a Reset Origin command on the Standby unit. ▪ Fixed an issue where a controller in Non-Configured (NCF) mode could fail to complete project synchronization. ▪ Changed the System Web Page to restore the display of the Auxiliary Processor Version. ▪ Changed the NET diagnostics behavior to consider the internal network bridge when operating in Switch mode. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AF	▪ Support for MT8500 3.77. ▪ Included commands to enable/disable the Memory Card and USB through the System Web Page and application. ▪ Included Memory Card management on System Web Page with support for unmounting and formatting. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Fixed a potential exception during project download with NIC Teaming. ▪ Fixed a problem where swapped optical cables could lead redundancy system not running correctly (stuck at NCF). ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed a problem where the CPU could not initialize the I/O bus correctly after multiple power interruptions. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026
AE	▪ Fixed an issue where the CPU could enter in restart loop after a power up.	1.14.70.4	12/12/2025
AD	▪ Fixed a problem where the LCD could eventually freeze after a long operation time. ▪ Fixed an issue where the Redundancy tab could not appear in the System Web Page. ▪ Fixed a potential exception when downloading an application with MODBUS Server in a NIC Teaming NET port. ▪ Fixed some configuration issues when using NIC Teaming with redundant projects. ▪ Fixed an issue where the redundant controller could stay in NCF after a project synchronization. ▪ Fixed a problem where the CPU could not initialize the I/O bus correctly after an initialization. ▪ Improvements in the usability of import/export and configuration of Firewall feature. ▪ Improvement in the default controller name for redundant projects to keep the standard as “PLC”. ▪ Improvements in the stability of communication between the controller and the programming system. ▪ Improvement in the CPU internal clock to allow year until 2099. ▪ Included LEDs auto-test in the controller startup. ▪ Included support to the Syslog client protocol, available in System Web Page.	1.14.70.0	21/07/2025

	▪ Included feature to not load the Firewall rules when the controller starts with the OTD button pressed. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.0		
AC	▪ Fixed an issue where the frontal NETs and local I/O bus could not communicate properly after a power-on. ▪ Fixed a problem on System Web Page where the download of a network sniffer file could fail. ▪ Fixed a problem related to setting the controller redundancy configuration as CPA or CPB. ▪ Improvements in the performance of redundancy data exchange. ▪ Improvements in the Firewall feature. ▪ Included support for deactivating the SD Card hardware through System Web Page. ▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Included support to OpenVPN. ▪ Included support to a new part number of LCD display (no change in visual and/or functionality). ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.58.0	10/06/2025
AB	▪ Enhancement of firmware flashing process in the factory. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.46.0	03/02/2025
AA	▪ Initial revision. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.44.2	05/01/2024

2.3.9 NX3810 – SAFETY CPU MODULE

REV	Description	Scope	Version	Date
AE	▪ Fixed an issue that caused CPU Safety to error when the total input or output data of the system exceeded 128 bytes.	Firmware	1.10.1.10	09/07/2021
AD	▪ PROFIsafe certification by the ComDeC laboratory. ▪ Updated Runtime Safety to version 1.4.1 HF1.	Firmware	1.9.1.9	01/07/2019
AC	▪ Improved communication stability with MasterTool Safety	Firmware	1.6.1.8	05/09/2018
AA - AB	▪ Initial Review.	Firmware	1.4.1.6	08/01/2018

2.3.10 NX4010 – REDUNDANCY LINK MODULE

REV	Description	Scope	Version	Date
AH	▪ Passing the EtherCAT compliance test.	Firmware	1.0.1.7	12/06/2014
AG	▪ Internal identification code change in the firmware. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.	Firmware	1.0.1.0	15/02/2013
AB - AF	▪ Improved boot in firmware.	Firmware	1.0.0.2	21/12/2011
AA	▪ Initial Review.	Firmware	1.0.0.0	24/11/2011

2.3.11 NX5000 – ETHERNET MODULE

REV	Description	Scope	Version	Date
AU	▪ Fixed a problem on closing TCP/IP connections which could cause sporadic communication failures.	Firmware	1.2.5.0	02/10/2024
AM – AT	▪ Fixed compatibility issue of the Teaming NIC with the Ethernet interface of the AL Series model AL-3414.	Firmware	1.2.0.3	25/01/2016

AL	▪ Added support for the "Machine Profile" project profile	Firmware	1.2.0.1	23/07/2015
AK	▪ Passing the EtherCAT compliance test.	Firmware	1.0.1.4	11/06/2014
AJ	▪ Internal identification code change in the firmware. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.	Firmware	1.0.1.1	15/02/2013
AF-AI	▪ Firmware enhancements in functionality for redundancy and multi-request operation.	Firmware	1.0.0.10	08/05/2012
AD-AE	▪ Firmware improvements in functionality for redundancy operation.	Firmware	1.0.0.7	03/02/2012
AC	▪ Firmware improvements in functionality for redundancy operation.	Firmware	1.0.0.5	18/01/2012
AB	▪ Improvements to the firmware and implemented functionality for redundancy operation.	Firmware	1.0.0.2	27/12/2011
AA	▪ Initial Review.	Firmware	1.0.0.0	24/11/2011

2.3.12 NX5001 – PROFIBUS DP MASTER MODULE

REV	Description	Scope	Version	Date
BD	▪ Fixed an issue where the module could not enter in operational state if a new download is performed while the CPU is still in STOP (coming from a previous download). ▪ Fixed an issue where the module could eventually take a long time to enter in operational state after a download or project synchronization. ▪ Fixed an issue where the bPbusCommFail diagnostic could eventually turn on even if there is no problem on the network.	Firmware	1.3.20.0	10/11/2025
BC	▪ Fixed a problem where the outputs could be cleared (zero) for a short time during a PLC switchover when the size of input data of the PROFIBUS network is greater than 1.500 bytes. ▪ Fixed sporadic timeouts on DPV1 communication. ▪ Fixed a problem where the module could not enter in operational state (blinking E on LCD) or could indicate Watchdog Reset diagnostic after a download or project synchronization. ▪ Fixed a problem with CPU redundancy where the module could start the PROFIBUS network even with the CPU still in STOP. ▪ Fixed an issue where the module could take up to 4s (instead of 2s) to detect loss of bus master.	Firmware	1.3.19.0	21/07/2025
AY-BB	▪ Fixed an issue where the slave present diagnosis (abySlv_State[x]) could not correctly indicate the absence of the slave in the network in projects with a large number of slaves.	Firmware	1.3.0.6	16/11/2020
AV-AX	▪ PROFIBUS Certification	Firmware	1.3.0.5	01/07/2019
AQ-AU	▪ Added support for Scan for Devices functionality.	Firmware	1.3.0.2	15/01/2016
AP	▪ Added support for DPV1 write and read commands. ▪ Added support for I/O synchronization of slaves via PROFIBUS Global Control command (Sync/Unsync/Freeze/Unfreeze). ▪ Added support for the new project profile called "Machine Profile". ▪ Improvement in the network configuration process (start-up) in situations with very low baud rade and a large number of slaves.	Firmware	1.2.0.6	22/07/2015

AO	▪ Passing the EtherCAT compliance test.	Firmware	1.1.1.4	13/06/2014
AM	▪ Internal identification code change in the firmware. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.	Firmware	1.1.1.1	15/02/2013
AK-AL	▪ Fixed boot issue after hot swapping the module on the Active CP bus (only for redundant projects)	Firmware	1.1.0.16	24/05/2012
AJ	▪ Fixed behavior of ST and ER LEDs for configurations with a large number of slaves. ▪ Fixed NX5001 operating mode when it detects loss of communication with the CPU. ▪ Fixed enable/disable module command.	Firmware	1.1.0.15	05/05/2012
AI	▪ Fixed configuration support with more than 32 DPV1 slaves. ▪ Fixed problem of indication of misconfigured module after hot-swap.	Firmware	1.1.0.10	23/02/2012
AG-AH	▪ In projects with Redundancy, corrected indication of loss of communication between the Passive PROFIBUS master and the Active PROFIBUS master. ▪ Fixed NX5001 operating mode when it detects loss of communication with the CPU.	Firmware	1.1.0.9	30/01/2012
AF	▪ For projects with redundancy, when the CPU is in STOP mode, the NX5001 switches its operating mode to OFFLINE. ▪ Fixed problem of loss of random communication with the CPU when the hot swap procedure is carried out in the other modules configured on the bus.	Firmware	1.1.0.7	17/01/2012
AE	▪ Added support for Network Redundancy and Master Redundancy.	Firmware	1.1.0.0	19/12/2011
AA – AD	▪ Initial Review.	Firmware	1.0.0.4	04/11/2011

2.3.13 NX1001 – 24 VDC 16 DI MODULE

REV	Description	Scope	Version	Date
AF	▪ Improved the update time of the reading of the input channels. ▪ Fixed support for Group 1 input channel filters.	Firmware	1.2.0.20	28/10/2015
AE	▪ Passing EtherCAT Conformance Test ▪ Introduced support for use with the Xtorm Series.	Firmware	1.2.0.3	16/06/2014
AC-AD	▪ Fixed the use of an external event in conjunction with operation modes 2,3 and 4.	Firmware	1.1.0.2	15/08/2013
AB	▪ Improved missing module indication diagnostics. ▪ Included counter, period measurement, and pulse capture functionality. ▪ Internal identification code change in the firmware. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.	Firmware	1.1.0.1	08/02/2013
AA	▪ Initial Review.	Firmware	1.0.0.0	28/05/2012

2.3.14 NX1005 – 24 VDC 8 DOT / 8 DI MIXED MODULE

REV	Description	Scope	Version	Date
AH	▪ Changes to source code shared with other products that do not affect the behavior of that product.	Firmware	1.2.0.7	15/08/2017
AD	▪ Passing EtherCAT Conformance Test ▪ Introduced support for use with the Xtorm Series.	Firmware	1.2.0.4	12/06/2014
AC	▪ Fixed the use of an external event in conjunction with operation modes 2,3 and 4.	Firmware	1.1.0.3	15/08/2013

AB	▪ Improved missing module indication diagnostics. ▪ Fixed handling of outputs in hot-swap situations. ▪ Internal identification code change in the firmware. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.	Firmware	1.1.0.1	08/02/2013
AA	▪ Initial Review.	Firmware	1.0.0.0	25/06/2012

2.3.15 NX1006 – 24VDC 8 MONITORED DI MODULE

REV	Description	Version	Date
AB	▪ Fixed an issue that could generate a false line-break diagnostic during a self-test. ▪ Fixed a problem in the configuration mismatch diagnostic, which was not triggering correctly. ▪ Improvements in the OTD usability.	1.0.13.0	10/06/2025
AA	▪ Initial revision.	1.0.2.0	19/01/2024

2.3.16 NX1800 – 24 VDC 8 SAFETY DI MODULE

REV	Description	Version	Date
AE	▪ PROFIsafe certification by the ComDeC laboratory.	1.12.1.10	01/07/2019
AD	▪ Improved internal fault detection for inputs configured as "single"	1.10.1.9	05/09/2018
AA - AC	▪ Initial Review.	1.7.1.6	08/01/2018

2.3.17 NX2001 – 24 VDC 16 DO TRANSISTOR MODULE

REV	Description	Version	Date
AP	▪ Included support for new parameter "Output behavior when CPU is in STOP" (requires Mastertool 3.75 or greater).	1.2.0.10	19/03/2025
AE-AO	▪ Improved update time for digital outputs.	1.2.0.8	28/10/2015
AD	▪ Passing EtherCAT Conformance Test ▪ Introduced support for use with the Xtorm Series.	1.2.0.3	17/06/2014
AB-AC	▪ Improved missing module indication diagnostics. ▪ Fixed handling of outputs in hot-swap situations. ▪ Internal identification code change in the firmware. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.	1.0.1.1	08/02/2013
AA	▪ Initial Review.	1.0.0.0	28/05/2012

2.3.18 NX2800 – 24 VDC 4 SAFETY D0 TRANSISTOR MODULE

REV	Description	Version	Date
AE	▪ PROFIsafe certification by the ComDeC laboratory.	1.12.1.10	01/07/2019
AD	▪ Removed support for disabling the dark pulse ▪ Improved internal hardware fault detection	1.10.1.9	05/09/2018
AA - AC	▪ Initial Review.	1.8.1.6	08/01/2018

2.3.19 NX2020 – 16 DO RELAY MODULE

REV	Description	Version	Date
AE	▪ Passing EtherCAT Conformance Test ▪ Introduced support for use with the Xtorm Series.	1.2.0.3	23/06/2014
AC-AD	▪ Improved missing module indication diagnostics.	1.0.1.1	08/02/2013

	▪ Fixed handling of outputs in hot-swap situations. ▪ Internal identification code change in the firmware. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.		
AA – AB	▪ Initial Review.	1.0.0.0	02/07/2012

2.3.20 NX2025 – 24VDC 8 MONITORED DOT MODULE

REV	Description	Version	Date
AC	▪ Fixed an issue where the bOverCurrent diagnostic could be activated during a Light test when driving loads with a high inrush current. ▪ Fixed an issue where the bNoExternalSupply diagnostic could be activated when the power supply is at the maximum value (30 Vdc).	1.0.14.0	02/12/2025
AB	▪ Fixed a problem in the open-loop diagnostics when using the module at the maximum operation temperature. ▪ Improvements in the OTD usability.	1.0.12.0	10/06/2025
AA	▪ Initial revision.	1.0.8.0	19/01/2024

2.3.21 NX6000 – 8 AI VOLTAGE/CURRENT MODULE

REV	Description	Version	Date
AY	▪ Added support for the new "Disabled" option for the "Open Circuit Value" parameter.	1.4.0.0	03/09/2019
AU - AX	▪ Improved detection of analog input diagnostics ▪ Fixed an issue where the module could take up to 4s (instead of 2s) to detect bus master loss.	1.3.0.7	15/02/2018
AR-AT	▪ Improvements in immunity to electromagnetic interference.	1.3.0.3	10/08/2016
AM-AQ	▪ Improvement in the module calibration process (carried out during the manufacture of the product). ▪ Inclusion of new +-5Vdc scale. ▪ Improved module setup process.	1.3.0.1	03/11/2015
AL	▪ Improvement in the calibration process of analog channels (carried out during the manufacture of the product).	1.2.0.6	03/12/2014
AK	▪ Passing EtherCAT Conformance Test ▪ Introduced support for use with the Xtorm Series.	1.2.0.4	06/06/2014
AG-AJ	▪ Changed test software in confirmation of jiga commands. ▪ Improved the configuration of the inputs to remain as voltage input before configuration. ▪ Improved hot-swapping logic.	1.0.1.8	07/16/2014
AF	▪ Internal identification code change in the firmware. ▪ Improved reading of the number of the rack in which the module is inserted. ▪ Improvement in the hot change routine of the module. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.	1.0.1.2	21/02/2013
AD-AE	▪ Improvement in executive software to make the product more robust to electromagnetic interference.	1.0.0.14	26/09/2012
AC	▪ Performance improvement (reduction of the update time of the input channels)	1.0.0.13	13/09/2012
AA-AB	▪ Initial Review.	1.0.0.0	27/07/2012

2.3.22 NX6014 – 8 AI CURRENT MODULE WITH HART

REV	Description	Version	Date

AF	▪ Fixed a problem where the module could potentially enter in Fatal Failure state after executing a warm/cold reset command on the CPU.	1.0.9.0	21/05/2024
AB-AE	▪ Final overhaul for pilot batch production	1.0.0.8	08/10/2020
AA	▪ Initial (preliminary) review	1.0.0.0	09/12/2019

2.3.23 NX6100 – 4 AO VOLTAGE/CURRENT MODULE

REV	Description	Version	Date
AL	▪ Improved hot swap.	1.2.0.9	27/01/2016
AK	▪ Improvement in the module calibration process (carried out during the manufacture of the product).	1.2.0.7	03/11/2015
AJ	▪ Improvement in the calibration process of analog channels (carried out during the manufacture of the product).	1.2.0.5	03/12/2014
AI	▪ Passing EtherCAT Conformance Test ▪ Introduced support for use with the Xtorm Series.	1.2.0.4	12/06/2014
AH	▪ Introduced support for new hardware revision	1.0.1.5	13/03/2014
AF	▪ Improved hot-swapping logic. ▪ Improvement in the logic of reconfiguring the module after downloading the project.	1.0.1.3	26/07/2013
AE	▪ Internal identification code change in the firmware. ▪ Improved reading of the number of the rack in which the module is inserted. ▪ Improvement in the hot change routine of the module. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.	1.0.1.1	21/02/2013
AC-AD	▪ Improved diagnostic indication through the "D" symbol on the front display.	1.0.0.13	26/09/2012
AB	▪ Performance improvement (reduction of the update time of output channels)	1.0.0.12	13/09/2012
AA	▪ Initial Review.	1.0.0.0	27/07/2012

2.3.24 NX6134 – 4 AO CURRENT MODULE 16BITS WITH HART

REV	Description	Version	Date
AH	▪ Fixed a problem where the module could incorrectly get into fatal error state when powered after the configuration. ▪ Fixed an issue where the module resets the outputs when the power supply is removed, ignoring the last value parameter.	1.0.22.0	10/06/2025
AF-AG	▪ Included support for new parameter "Output behavior when CPU is in STOP" (requires Mastertool 3.75 or greater); ▪ Fixed a problem where the output configured as 4-20 mA with HART would go to 0mA after a download or reset warm/cold; ▪ Fixed blink rate of E symbol on module display, where it was blinking 2x instead of 1x in case of startup with absent CPU and was blinking 1x instead of 2x in case of loss of bus master; ▪ Fixed a problem where the module would not enter in operation (blinking E) after a fast hot swap.	1.0.21.0	14/05/2025
AE	▪ Fixed a problem where the module could not reconfigure after the restablishment of an external power supply interruption.	1.0.16.0	04/07/2024
AD	▪ Fixed a problem where analog outputs set to zero could still produce a small current value physically. ▪ Fixed a problem where the module could potentially enter in hardware failure state during a HART communication. ▪ Fixed a problem where the analog outputs could not go to safe state when power supply voltage is below minimum (19,2 Vdc).	1.0.9.0	15/12/2023

	▪ Fixed a problem where the module could not enter in operational state after re-inserting it with the CPU in STOP. ▪ Fixed a problem where the module incorrectly indicates "no external supply" when applying 24V in some output channel.		
AC	▪ Fixed the behavior of "D" when power supply voltage is below minimum. ▪ Fixed module configuration when using project profile different than Machine Profile (needs the MasterTool 3.52) ▪ Fixed a problem where the output could not update the value after exiting an Open Loop condition	1.0.5.0	25/08/2023
AA-AB	▪ Initial revision.	1.0.4.0	17/08/2023

2.3.25 NX6010 – 8 AI THERMOCOUPLE MODULE

REV	Description	Version	Date
AO	▪ Improvements in immunity to electromagnetic interference.	1.0.0.16	26/10/2022
AK-AL	▪ Source Code Scope Changes to Add BCS NJ6011 Module	1.0.0.14	17/04/2018
AI-AJ	▪ Improvements in the module calibration process (carried out during product manufacturing), to speed up the process.	1.0.0.13	15/09/2017
AH	▪ Additional improvements to immunity to electromagnetic interference.	1.0.0.11	10/08/2016
AG	▪ Improvements in immunity to electromagnetic interference.	1.0.0.9	08/07/2016
AD-AF	▪ Improvement in the module calibration process (carried out during the manufacture of the product). ▪ Passing the EtherCAT compliance test.	1.0.0.6	03/11/2015
AC	▪ Improvement in the module calibration process (carried out during the manufacture of the product).	1.0.0.5	03/12/2014
AA-AB	▪ Initial Review.	1.0.0.4	02/06/2014

2.3.26 NX6020 – 8 AI RTD MODULE

REV	Description	Version	Date
AL	▪ Support for the new hardware revision that introduces further improvements to immunity to electromagnetic interference.	1.1.0.8	29/09/2020
AF-AK	▪ Improvements in immunity to electromagnetic interference.	1.1.0.3	13/01/2017
AC-AE	▪ Inclusion of new 10kΩ scale.	1.1.0.1	03/11/2015
AB	▪ Improved module reconfiguration after loss of communication with the CPU. ▪ Fixed module behavior when without factory signature.	1.0.0.3	15/05/2014
AA	▪ Initial Review.	1.0.0.0	21/02/2014

2.3.27 NX4000 – BUS EXPANSION MODULE

REV	Description	Version	Date
AI	▪ Improved the module initialization process.	1.1.0.7	25/01/2016
AH	▪ Passing EtherCAT Conformance Test ▪ Introduced support for use with the Xtorm Series.	1.1.0.5	26/06/2014
AE-AG	▪ Improved initialization of diagnostics after project download. ▪ Inserted display test at module startup.	1.1.0.2	09/07/2013
AD	▪ Internal identification code change in the firmware. ▪ From this software version onwards, the module is only compatible with MasterTool IEC XE software version 1.29 or higher.	1.1.0.0	21/02/2013
AC	▪ Improved management of diagnostics and configuration of modules for architectures with more than 4 expansion racks.	1.0.0.1	18/10/2012
AA-AB	▪ Initial Review.	0.0.0.5	31/07/2012

2.3.28 NX5110 – PROFIBUS DP HEAD

REV	Description	Version	Date
BF	▪ Fixed an issue introduced in firmware version 1.14.71.0 that prevented communication with a Class 2 master.	1.14.74.6	21/08/2026
BE	▪ New version due to the shared software platform with NX5210, with no impact on this model.	1.14.74.5	03/08/2026
BD	▪ Fixed an issue where the state of digital inputs on module display would not update while the head is not yet in operational state.	1.14.74.0	10/11/2025
BC	▪ New graphical design of System Web Page. ▪ Included support for expansion and parameter change of I/O modules with no interruption (requires a redundant PLC). ▪ Included support for NX1006 and NX2025 modules (requires MT8500 v3.75 or greater). ▪ Included support for HART over PROFIBUS with NX6014 and NX6134 modules. (requires MT8500 v3.75 or greater). ▪ Included support to "Output behavior when CPU is in STOP" parameter for the NX2001 and NX6134 modules (requires MT8500 v3.75 or greater). ▪ Included support to a configurable engineering scale: -30000 to 30000 (default) and 0 to 30000 (new) (requires MT8500 v3.75 or greater). ▪ Included support to a new diagnostic that informs the firmware version ID, which allows to identify the firmware version remotely (check the user manual). ▪ Fixed an incompatibility issue introduced in the firmware version 1.2.3.0 where the NJ modules stopped to work.	1.14.71.0	21/07/2025
AZ-BB	▪ Included support to a new part number of LCD display (no change in visual and/or functionality).	1.2.3.2	03/04/2025
AX-AY	▪ Support for new modules NX6014 and NX6134 (only analog I/O functionality, HART over PROFIBUS is not available yet).	1.2.3.0	21/11/2023
AV - AW	▪ New format of firmware update file. This update requires the controller running on firmware version 1.1.2.12 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface.	1.2.0.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions.	1.1.2.12	26/07/2021
AU	▪ Removed the hidden page “getlogs” from the system web page to improve cyber security.	1.1.2.10	13/01/2021
AS-AT	▪ Fixed an issue introduced in the previous version related to the indication of diagnostics.	1.1.2.8	01/07/2019
AR	▪ PROFIBUS certification.	1.1.2.7	08/04/2019
AP-AQ	▪ Introduced support for Nexto Safety modules.	1.1.2.5	05/09/2018
AJ-AO	▪ Introduced Nexto Jet solution support for the NJ1001, NJ2001, NJ6000, NJ6010, NJ6020, and NJ6100 modules. ▪ Fixed a compatibility issue with the AL-3406 AL Series PROFIBUS master.	1.1.1.16	15/01/2016
AI	▪ Included support for Scan Devices functionality ▪ Included NX9010 rack support	1.1.0.6	15/09/2015
AG-AH	▪ Improved module start-up in fault conditions on the PROFIBUS network. ▪ Additional improvements to the safe state behavior of analog outputs.	1.0.0.27	29/05/2015
AF	▪ Improved the safe state behavior of analog outputs.	1.0.0.25	06/05/2015
AE	▪ Improved the process of configuring modules during startup.	1.0.0.15	29/01/2015
AB	▪ NX9999 and NX9000 support.	1.0.0.12	15/12/2014
AA	▪ Initial Review	1.0.0.0	06/10/2014

2.3.29 NX5210 – REDUNDANT PROFIBUS DP HEAD

REV	Description	Version	Date
BD	▪ Fixed an issue introduced in firmware version 1.14.71.0 that prevented communication with a Class 2 master.	1.14.74.6	21/08/2026
BC	▪ Fixed an issue where the head could randomly enter the Error state after extended periods of operation.	1.14.74.5	03/08/2026
BB	▪ Improved firmware update security to allow updating the PROFIBUS head only when in Offline mode. ▪ Fixed a potential issue where the head could enter in Error state randomly or also after a hotswap. ▪ Fixed an issue where the state of digital inputs on module display would not update while the head is not yet in operational state.	1.14.74.0	10/11/2025
BA	▪ New graphical design of System Web Page. ▪ Included support for expansion and parameter change of I/O modules with no interruption (requires a redundant PLC). ▪ Included support for NX1006 and NX2025 modules (requires MT8500 v3.75 or greater). ▪ Included support for HART over PROFIBUS with NX6014 and NX6134 modules. (requires MT8500 v3.75 or greater). ▪ Included support to "Output behavior when CPU is in STOP" parameter for the NX2001 and NX6134 modules (requires MT8500 v3.75 or greater). ▪ Included support to a configurable engineering scale: -30000 to 30000 (default) and 0 to 30000 (new) (requires MT8500 v3.75 or greater). ▪ Included support to a new diagnostic that informs the firmware version ID, which allows to identify the firmware version remotely (check the user manual). ▪ Fixed an incompatibility issue introduced in the firmware version 1.2.3.0 where the NJ modules stopped to work. ▪ Fixed a problem where the Standby head could sporadically get into Active state, forcing the other head permanently to Error state. ▪ Fixed a problem where the PROFIBUS head could eventually go to offline after a switch over or hotswap.	1.14.71.0	21/07/2025
AW-AZ	▪ Included support to a new part number of LCD display (no change in visual and/or functionality).	1.2.3.2	03/04/2025
AU-AV	▪ Support for new modules NX6014 and NX6134 (only analog I/O functionality, HART over PROFIBUS is not available yet).	1.2.3.0	21/11/2023
AR - AT	▪ New format of firmware update file. This update requires the controller running on firmware version 1.1.2.12 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface.	1.2.0.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions.	1.1.2.12	26/07/2021
AQ	▪ Removed the hidden page “getlogs” from the system web page to improve cyber security.	1.1.2.10	13/01/2021
AO-AP	▪ Fixed an issue introduced in the previous version related to the indication of diagnostics.	1.1.2.8	01/07/2019
AN	▪ PROFIBUS certification.	1.1.2.7	08/04/2019
AL-AM	▪ New version generated due to sharing the software platform with the NX5110. There have been no changes to the redundancy functionality.	1.1.2.5	05/09/2018
AF-AK	▪ Introduced Nexto Jet solution support for the NJ1001, NJ2001, NJ6000, NJ6010, NJ6020, and NJ6100 modules. ▪ Fixed a compatibility issue with the AL-3406 AL Series PROFIBUS master. ▪ Improvements in redundancy functionality.	1.1.1.16	15/01/2016
AE	▪ Included support for Scan Devices functionality ▪ Included NX9010 rack support	1.1.0.6	15/09/2015

AD	▪ Improved module start-up in fault conditions on the PROFIBUS network. ▪ Additional improvements to the safe state behavior of analog outputs.	1.0.0.27	17/07/2015
AC	▪ Improved the safe state behavior of analog outputs.	1.0.0.25	06/05/2015
AB	▪ Improved the process of configuring modules during startup. ▪ Improved network redundancy.	1.0.0.15	29/01/2015
AA	▪ Initial Review	1.0.0.12	15/12/2014

2.3.30 NX5100 – MODBUS TCP HEAD

REV	Description	Version	Date
AR	▪ Support for MT8500 3.77. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the state of digital inputs on I/O module display would not update until the CPU starts to configure it. ▪ Fixed issue where the controller fails to change IP through the OTD button. ▪ Removed the option to set IP by application in the Network tab in the System Web page. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026
AQ	▪ Included support to a new part number of LCD display (no change in visual and/or functionality). ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected.	1.14.36.7	03/04/2025
AP	▪ Support for MT8500 3.61	1.14.20.0	14/02/2024
AO	▪ Support for MT8500 3.52 ▪ New graphical design of System Web Page	1.12.29.0	05/09/2023

AM-AN	▪ Improvements on System Web Page:
	  ▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
	  ▪ Optimization in the time required to perform the firmware update process.
		1.12.23.0	22/06/2023

AK-AL	▪ Support for MT8500 3.40. ▪ Fixed possible issue where the Web Page turns unaccesible after using it for a very long time. ▪ Fixed potential exception when an application is removed (reset origin).	1.12.5.3	15/12/2022
AI-AJ	▪ New format of firmware update file. This update requires the controller running on firmware version 1.9.29.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface.	1.11.2.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Improvements in “one touch diag” feature.	1.9.29.0	26/07/2021

AH	▪ Removed the hidden page "getlogs" from the system web page to improve cyber security. ▪ Fixed a problem that could cause corruption of operating system in case of engergy interruption during a specific moment of power-up process, leading the controller to a permanent inoperative state. ▪ Fixed a problem related to the system webpage cache. This eliminates the need of clearing the cache on browser side, which was previously required under some circumstances to show the page correctly.	1.9.25.0	13/01/2021
AF-AG	▪ Fixed maximum number of ARTI/OPC DA connections from 4 to 8.	1.8.11.0	09/01/2020
AE	▪ Changes to source code shared with other controllers, but which do not affect the behavior of this product.	1.7.17.0	11/03/2019
AC-AD	▪ Official review after development conclusion.	1.0.0.5	29/06/2017
AA-AB	▪ Initial review.	1.0.0.1	09/05/2017

2.3.31 NX5101 – MODBUS TCP HEAD, 14 DI, 10 DOT (NO HOTSWAP)

REV	Description	Version	Date
AO	▪ Support for MT8500 3.77. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed issue where the System State diagnostic shows "Stop" instead of "No Application" after a Reset Origin. ▪ Fixed an issue where the state of digital inputs on I/O module display would not update until the CPU starts to configure it. ▪ Fixed issue where the controller fails to change IP through the OTD button. ▪ Removed the option to set IP by application in the Network tab in the System Web page. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026
AN	▪ Included support to a new part number of LCD display (no change in visual and/or functionality). ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using "enforced encryption" option. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected.	1.14.36.7	03/04/2025
AM	▪ Support for MT8500 3.61	1.14.20.0	08/02/2024
AL	▪ Support for MT8500 3.52 ▪ New graphical design of System Web Page	1.12.29.0	05/09/2023

AK	▪ Improvements on System Web Page:
	  ▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
	  ▪ Optimization in the time required to perform the firmware update process.
		1.12.23.0	22/06/2023

AG-AJ	▪ Support for MT8500 3.40. ▪ Fixed possible issue where the Web Page turns unaccesible after using it for a very long time. ▪ Fixed potential exception when an application is removed (reset origin).	1.12.5.3	15/12/2022

AF	▪ New format of firmware update file. This update requires the controller running on firmware version 1.9.29.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface.	1.11.2.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Improvements in “one touch diag” feature.	1.9.29.0	26/07/2021
AE	▪ Removed the hidden page “getlogs” from the system web page to improve cyber security. ▪ Fixed a problem related to the system webpage cache. This eliminates the need of clearing the cache on browser side, which was previously required under some circumstances to show the page correctly.	1.9.25.0	13/01/2021
AD	▪ Included support for visualization of the integrated I/O by LCD (menu Hardware). ▪ Fixed a problem that could cause corruption of operating system in case of engergy interruption during a specific moment of power-up process, leading the controller to a permanent inoperative state. ▪ Fixed “wrong slot” problem related to the usage of the NX9020 rack. ▪ Fixed the problem where the Web page don’t update its elements properly. ▪ Updated Altus’ logo on the Web page.	1.9.8.0	09/11/2020
AB-AC	▪ Changed the bootloader from version 1.0.0.13 to 1.0.0.14 due to code sharing with the CPU, but no functional impact on this product since it does not have RS-485.	1.7.9.0	11/06/2019
AA	▪ Initial review.	1.7.9.0	02/04/2019

2.3.32 NJ1001 – 24 VDC 16 DI MODULE NEXTO JET

REV	Description	Version	Date
AA	▪ Initial review.	1.2.0.20	16/10/2015

2.3.33 NJ1005 – 24 VDC 8 DOT/8 DI MIXED MODULE NEXTO JET

REV	Description	Version	Date
AA	▪ Initial review.	1.2.0.7	15/08/2017

2.3.34 NJ2001 – 24 VDC 16 DO MODULE NEXTO JET

REV	Description	Version	Date
AA-AL	▪ Initial review.	1.2.0.8	16/10/2015

2.3.35 NJ6000 – 8 AI VOLTAGE/CURRENT MODULE NEXTO JET

REV	Description	Version	Date
AJ	▪ Included support for the new "Disabled" option for the "Open Circuit Value" parameter.	1.4.0.0	03/09/2019
AH – AI	▪ Improved detection of analog input diagnostics ▪ Fixed an issue where the module could take up to 4s (instead of 2s) to detect bus master loss.	1.3.0.7	15/02/2018
AF-AG	▪ Improvements in immunity to electromagnetic interference.	1.3.0.3	10/08/2016
AA-AE	▪ Initial review.	1.3.0.1	24/09/2015

2.3.36 NJ6001 – 6 AI V/I MODULE NEXTO JET12 BITS

REV	Description	Version	Date
AE	▪ Included support for 4-20mA scale and the new "Open Circuit Value" parameter.	1.1.0.1	03/09/2019
AD	▪ Changes in the scope of the source code to add the BCS NJ6001, BCS NJ6005, and BCS NJ6101 modules.	1.0.0.14	11/04/2018
AB-AC	▪ Fixed an issue where the module could take up to 4s (instead of 2s) to detect bus master loss. ▪ Improvements in the product calibration process.	1.0.0.13	04/10/2017
AA	▪ Initial review.	1.0.0.11	15/09/2017

2.3.37 NJ6005 – 6 AI/4 AO V/I MIXED MOD NEXTO JET

REV	Description	Version	Date
AJ	▪ Included support for 4-20mA scale and the new "Open Circuit Value" parameter.	1.1.0.1	03/09/2019
AI	▪ Changes in the scope of the source code to add the BCS NJ6001, BCS NJ6005, and BCS NJ6101 modules.	1.0.0.14	11/04/2018
AF-AH	▪ Fixed an issue where the module could take up to 4s (instead of 2s) to detect bus master loss.	1.0.0.13	04/10/2017
AD-AE	▪ Improved module start-up in cases of low voltage of the external supply.	1.0.0.11	13/07/2017
AB	▪ Official review after development conclusion.	1.0.0.8	18/01/2016
AA	▪ Initial review.	1.0.0.2	02/12/2016

2.3.38 NJ6010 – 8 AI THERMOCOUPLE MODULE NEXTO JET

REV	Description	Version	Date
AM	▪ Improvements in immunity to electromagnetic interference.	1.0.0.16	26/10/2022
AI-AL	▪ Source Code Scope Changes to Add BCS NJ6011 Module	1.0.0.14	17/04/2018
AG - AH	▪ Improvements in the module calibration process (carried out during product manufacturing), to speed up the process.	1.0.0.13	15/09/2017
AF	▪ Additional improvements to immunity to electromagnetic interference.	1.0.0.11	10/08/2016
AE	▪ Improvements in immunity to electromagnetic interference.	1.0.0.9	08/07/2016
AA-AD	▪ Initial review.	1.0.0.6	25/09/2015

2.3.39 NJ6020 – 8 AI RTD MODULE NEXTO JET

REV	Description	Version	Date
AK	▪ Support for the new hardware revision that introduces further improvements to immunity to electromagnetic interference.	1.1.0.8	29/09/2020
AE-AJ	▪ Improvements in immunity to electromagnetic interference.	1.1.0.3	13/01/2017
AA	▪ Initial review.	1.1.0.1	31/07/2015

2.3.40 NJ6100 – 4 AO VOLTAGE/CURRENT MODULE NEXTO JET

REV	Description	Version	Date
AC	▪ Internal change that does not impact the functionalities of the product.	1.2.0.9	27/01/2016
AA-AB	▪ Initial review.	1.2.0.7	13/07/2015

2.3.41 NJ6101 – 4 AO V/I MODULE NEXTO JET12 BITS

REV	Description	Version	Date

AF	▪ Included 4-20mA scale support	1.1.0.1	03/09/2019
AE	▪ Changes in the scope of the source code to add the BCS NJ6001, BCS NJ6005, and BCS NJ6101 modules.	1.0.0.14	11/04/2018
AB-AD	▪ Fixed an issue where the module could take up to 4s (instead of 2s) to detect bus master loss. ▪ Improvements in the product calibration process.	1.0.0.13	04/10/2017
AA	▪ Initial review.	1.0.0.11	15/09/2017

2.3.42 NJ6011 – 4 AI TC MODULE NEXTO JET

REV	Description	Version	Date
AF	▪ Improvements in immunity to electromagnetic interference.	1.0.0.16	26/10/2022
AC-AE	▪ Source Code Scope Changes to Add BCS NJ6011 Module	1.0.0.14	17/04/2018
AA-AB	▪ Initial review.	1.0.0.13	15/09/2017

2.3.43 GSDs for Nexto PROFIBUS Heads

REV	Description	Version	Date
AD	▪ Included support for NX1006 and NX2025 modules (requires firmware 1.14.71.0 or greater). ▪ Included DPV1 support for NX5x10 (HART over PROFIBUS requires firmware 1.14.71.0 or greater). ▪ Included support to "Output behavior when CPU is in STOP" parameter for the NX2001 and NX6134 modules (requires firmware 1.14.71.0 or greater). ▪ Included support to a configurable engineering scale: -30000 to 30000 (default) and 0 to 30000 (new). Requires firmware 1.14.71.0 or greater.	1.0.1.7	10/11/2025
AC	▪ Support for the new NX6014 and NX6134 analog modules for 0EDE. GSD and 0EDD. GSD.	1.0.1.6	21/11/2023
AB	▪ Included new scales for the NX6020 and NX6000 modules. ▪ Included ALNJ0EDD. GSD, with support for Nexto Jet solution modules.	1.0.1.4	08/12/2015
AA	▪ Initial review.	1.0.0.0	09/10/2015

2.3.44 DTM Nexto Series

REV	Description	Version	Date
AC	▪ Refactoring of the legacy DTM project to a newer version of Visual Studio; ▪ Development of DTMs for Nexto PROFIBUS remote I/O modules (5110 and 5210); ▪ Development of the PROFIBUS Master DTM to enable HART over PROFIBUS communication directly through the CPU; ▪ Added tolerance and switchover for CPU and PROFIBUS remote I/O; ▪ Consolidation of the Ponto and Nexto DTMs into a single installer due to the high degree of similarity between the two.	1.2.2.0	02/10/2026
AB	▪ Implemented DTMs of the single and redundant Profinet slaves of the Nexto Series. The installer now has 3 DTMs; ▪ Implemented a scan function that allows the identification of HART devices connected to the analog modules of the Nexto Series with HART Support.	1.0.0.5	15/08/2024
AA	▪ Initial review.	1.0.0.2	17/11/2021

2.4 Nexto NL

2.4.1 NL717 – DATALOGGER 8DI 8AI LORA

REV	Description	Version	Date
AH	▪ Included support for Automation Composer persistent variables. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed the validation of maximum number of characters for User and Password on System Web Page. ▪ Fixed a problem where the SNTP Client could stop to work after a manual adjustment of the system clock. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.106.0	03/08/2026
AG	▪ Support for MT8500 3.77. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026
AF	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025
AE	▪ Support for MT8500 3.63 ▪ Included support to the new diagnostic bNetDefinedByWeb (requires Mastertool 3.63 or greater) ▪ Improvements on System Web Page to enhance the reliability and usability. ▪ Fixed a problem which would prevent the communication between MasterTool and CPU when using “enforced encryption” option. ▪ Fixed a problem on firmware update where the process could fail unexpectedly or take longer than expected. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.4	30/09/2024

AD	▪ Support for MT8500 3.62
	▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway
	▪ Included support to identify the device through the "wink" command on programming tool.
	▪ Improvements on System Web Page:
	  ▪ New graphical design of System Web Page
	  ▪ New Network tab, which now allows to change the IP configuration and also introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
	  ▪ Optimization in the time required to perform the firmware update process.
	  ▪ Included support on System Web Page to set the PLC clock (time/date)
		1.14.31.4	04/07/2024

	▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically) ▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely. ▪ Improvement on the MQTT to support multi-level topics wildcard ('#'). ▪ Limited the maximum number of OPC UA Server sessions to 50. ▪ Fixed possible watchdog reset when using SDI-12 and LoRa simultaneously. ▪ Fixed analog inputs measurement precision. ▪ Fixed wrong LoRa status regarding the ACT_TYPE and the FSB configurations. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.		
AB-AC	▪ Software changes to improve manufacture process. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.13.11.0	06/07/2023
AA	▪ Initial revision. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.17.40.	1.13.9.0	18/05/2023

2.5 Nexto HX (Xtorm)

2.5.1 HX3040 – CPU 6 ETH, 2 SERIAL, IRIG-B, RED.

REV	Description	Version	Date
BB	▪ Fixed a potential exception on IEC 61850 Server when downloading a new application with publishing events. ▪ Included support on IEC 61850 Client for multi-client and reserved flags in the ICD files, which solves interoperability issues with SIPROTEC 5 IEDs. ▪ Fixed a problem on IEC 61850 Client when using different logical devices with logical nodes with the same suffix. ▪ Toolkit 3.5.18.60.	1.14.103.3	20/10/2026
BA	▪ Included support for Automation Composer persistent variables. ▪ Improvements in the System Web Page for Memory Card management, now displaying unsupported format and uninserted card states. ▪ Fixed a login issue where access was denied due to a phantom active session (system indicated another user was logged in). ▪ Fixed a problem with gratuitous ARP which could prevent the Ethernet interface to communicate after a download changing Ethernet parameters and later connecting the cable. ▪ Fixed the validation of maximum number of characters for User and Password on System Web Page. ▪ Fixed an issue where project synchronization would take an excessive amount of time following a Reset Origin command on the Standby unit. ▪ Fixed a problem on event grouping using double-point variable which could resulted in invalid values reported to the Client. ▪ Fixed an issue where a controller in Non-Configured (NCF) mode could fail to complete project synchronization. ▪ Fixed a problem where FTP Server communication with the client would not restore automatically after a network interruption. ▪ Changed system permissions to allow multiple Mastertool instances to connect simultaneously with read-write access. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.103.0	03/08/2026

AZ	▪ Included support for using the same point on multiple event groups (requires MT9000 4.1.0 or greater). ▪ Fixed an issue where the MMS Client driver was not routing events to other drivers like IEC 104 Server. ▪ Fixed a problem introduced on firmware 1.14.72.0 where the events were not being removed from the CPU queue after being delivered, causing an overflow. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.8	04/05/2026
AY	▪ Support for MT8500 3.77. ▪ Support for 61850 MMS Client protocol (requires Mastertool IEC XE 3.77 or higher) ▪ Included commands to enable/disable the Memory Card through the System Web Page and application. ▪ Included Memory Card management on System Web Page with support for unmounting and formatting. ▪ Included a log message to inform lost of persistent/retain data after applying the settings via EasyConnection. ▪ Fixed a problem that could result in session timeout during the download of large projects. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.86.0	04/03/2026
AX	▪ Included support for Firewall ▪ Added a log entry to record when a power failure occurs. ▪ Discontinued the feature of copying the Project from/to CPU/Memory Card (removed the Memory Card section from the Informative and Configuration Menu on CPU display). ▪ Fixed an issue that caused PTP to not synchronize correctly with the TAI (International Atomic Time) time scale. ▪ Fixed issue where the System State diagnostic shows “Stop” instead of “No Application” after a Reset Origin. ▪ Fixed an issue where the programming system displayed duplicate read-only client connections. ▪ Fixed an issue where the Power Failure log could not appear. ▪ Fixed an issue that could result in watchdog caused by an Intercept Command Function Block timeout when receiving an SBO command in the IEC61850 Server. ▪ Fixed a potential exception that could occur when downloading the application while a DNP3 Client was communicating via commands. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.72.0	31/10/2025
AW	▪ Included a new field in Overview tab of System Web Page informing the version of Mastertool used by the application. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.7	03/04/2025
AV	▪ Support for MT8500 3.70. ▪ Included support to keep user logs after a power down. ▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely. ▪ Fixed a problem which could cause exception in the Stand-By CPU after a project synchronization. ▪ Fixed a problem when transferring files through MasterTool to a folder with a large path. ▪ Fixed a problem where the NET3 connector in the project treeview could show a red triangle when configured in NIC Teaming mode. ▪ Fixed a wrong log regarding SysEthernet during the product initialization. ▪ Fixed small visual issues on System Web Page. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.18.60.	1.14.36.5	30/11/2024

AU	▪ Support for HD8500 2.15.
	▪ Included support for PTP time synchronization.
	▪ Included support for FTP.
	▪ Included support for Event Routing.
	▪ Included support for BitString Information and Command on IEC 104 Server protocol.
	▪ Fixed a problem on MMS Server which could cause an exception when repeating a command for the same variable with the same value.
	▪ Fixed an exception that occurs when using DBP with its individual elements ON/OFF mapped to MODBUS.
	▪ Fixed potential exception when an application is removed (reset origin).
	▪ Fixed a problem introduced on MasterTool Xtorm 2.12 which could potentially cause an exception after a redundant CPU switchover.
	▪ Fixed possible issue where the Web Page turns unaccesible after using it for a very long time.
	▪ New graphical design of System Web Page
	▪ Improvements on System Web Page:
	  ▪ New Network tab, which now allows to change the IP configuration and also re-introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
	  ▪ Optimization in the time required to perform the firmware update process.
	  ▪ Included support on System Web Page to set the PLC clock (time/date).
	  ▪ Removed the requirement of PLC in STOP to perform a firmware update (now it will stop automatically).
	▪ Included support to allow changing the Default Gateway of a network interface through SysSockSetDefaultGateway.
	▪ Improvement in the backup of retentive data of the Application.
	▪ Info: This version was built with CODESYS Control 3.5.17.40.
		1.12.32.4	03/05/2024

AS	▪ New format of firmware update file. This update requires the controller running on firmware version 1.9.29.0 or greater. ▪ Added protection against CSRF (cross-site request forgery) for management pages in web interface. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.11.2.0	26/07/2021
-	▪ Changed firmware update mechanism to include support for the new file format that will be introduced on upcoming versions. ▪ Improvements in “one touch diag” feature. ▪ Included support for PROFINET Controller. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.29.0	26/07/2021
AR	▪ Removed the hidden page “*getlogs”* from the system web page to improve cyber security. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.25.0	13/01/2021
AQ	▪ Fixed IEC 104 Client driver, which was not issuing a general interrogation command right after opening the connection with the server device. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.21.0	08/10/2020
-	▪ Fixed a problem introduced on previous version that could make the HX11xx modules to not report its events properly. ▪ Fixed IEC 104 Client driver, which was not generating events when the connection was reestablished.	1.9.20.0	29/09/2020

	▪ Fixed the force diagnostic bForcedIOs, which was not being informed correectly on the stand-by PLC. ▪ Fixed a problem introduced on previous version which was avoiding the blue wave effect of diagnostic button to work properly. ▪ Fixed a problem related to the system webpage cache. This eliminates the need of clearing the cache on browser side, which was previously required under some circumstances to show the page correctly. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.		
-	▪ Included support for double points (DBP) and logic selection on event grouping. ▪ Improvements on serial communication. ▪ Updated Altus' logo on the Web page. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.15.0.	1.9.4.0	18/08/2020
-	▪ Included support for IEC104 Client. ▪ General fixes related to Memory Card, which could make the app transfer options to now show on LCD and also to cause exception. ▪ Fixed wrong log message "Signature file is not available". ▪ Improvements on handling of command receiver functionblock. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.58.0	13/02/2020
-	▪ Included support for MSSQL_Client Function Block for accessing Microsoft databases. ▪ Included a fixed DNS Server configuration (8.8.8.8 and 8.8.4.4) ▪ Included parameters on IEC104 and DNP3 Server drivers for allowing to select local/utc time on event transmission and clock synchronization command. ▪ Fixed a problem on IEC 61850 Reports that could cause an exception leading the CPU to STOP. ▪ Fixed a problem on the network binding, which could cause a losing of data when a protocol communicates with a NET different from one. ▪ Fixed a problem on function GetTimeZone, which could cause an exception leading the CPU to STOP. ▪ Fixed the clock synchronization commands of IEC104 and DNP3 servers, which were not applying correctly the year, month and day. ▪ Improvements on GetDateAndTime and GetDayOfWeek functions, which could cause peak on execution time. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.12.60.	1.7.40.0	23/08/2019
AN-AP	▪ Improvements to the IEC 60870-5-104 Server communication protocol; ▪ Improvements in command interception functionality; ▪ Improvements in the treatment of forcing redundant variables; ▪ Improvement in the handling of the timeout for downloading the application; ▪ Fix in IEC 61850 Server protocol for names longer than 255 characters; ▪ Included CDC APC support in IEC 61850 driver ▪ Improvements in the CPU shutdown process; ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.8.10.	1.2.0.16	03/10/2017
AM	▪ Introduced support for IEC 60870-5-104 Server communication protocol. ▪ Improvements to the IEC 61850 Server communication protocol. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.1.0.12	01/08/2016

AY-AL	▪ Fixed handling of Command Interception for REAL type exit points (this fix also depends on MasterTool Xtorm version 1.04 or higher). ▪ Improved indication of overflow by Server drivers in case of CPU event queue overflow. ▪ Improvements to Event Grouping functionality. ▪ Improvements in forcing redundant variables. ▪ Fixed the handling of BIT-type variables in the "IEC 61850 Variables Mapping" tab. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.1.0.1	30/12/2015
AH-AI	▪ Introduced support for Hydro Power Logical Nodes in the IEC 61850 Server driver. ▪ Improvements to the IEC 61850 Server driver in generating events for analog points. ▪ Improved the stability of IEC 61850 Server driver communication in configurations with a very large number of Logical Nodes. ▪ Introduced a new diagnostic in the DNP3 Server driver to report the status of the unsolicited messages being enabled. ▪ Increased the maximum number of control centers from 4 to 5 ▪ Increased or maximum number of redundant areas from 100 to 1024. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.0.1.54	20/10/2015
AF-AG	▪ Fixed IRIG-B compatibility issue with the Reason RT430 GPS receiver. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.0.1.44	31/03/2015
AE	▪ Introduced support for the MMS Server protocol in the IEC 61850 driver ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.0.1.26	06/08/2014
AA-AD	▪ Initial Review. ▪ Info: This version was built with CODESYS Control Runtime Toolkit 3.5.3.50.	1.0.0.0	30/10/2013

2.5.2 HX1100 – Module 32 ED 24 Vdc w/ Event Log

REV	Description	Version	Date
AA	▪ Initial Review.	1.0.0.18	14/09/2015

2.5.3 HX1120 – Module 32 ED 125 Vdc w/ Event Log

REV	Description	Version	Date
AF	▪ Improvements to the module's hot-swappable mechanism when removed from the bus.	1.0.0.18	14/09/2015
AD-AE	▪ Improvements to module hot-swappable support.	1.0.0.15	04/08/2014
AC	▪ Improved event detection accuracy for double points.	1.0.0.13	28/03/2014
AA-AB	▪ Initial Review.	1.0.0.1	30/10/2013

2.5.4 HX2200 – 16 SD Relay Module

REV	Description	Version	Date
AH	▪ Fixed a problem that could result on outputs turning on for one scan cycle of the CPU when operating in an expansion rack with communication integrity problems (defective cable, for example). ▪ Fixed an issue where the module could take up to 4s (instead of 2s) to detect loss of bus master.	1.0.18.0	28/07/2025
AB-AG	▪ Internal modification for compatibility with the hardware	1.0.0.15	22/09/2015

AA	▪ Initial review.	1.0.0.14	09/04/2015

2.5.5 HX2300 – 16 SD Relay Module 24 Vdc with CBO (Check Before Operate)

REV	Description	Version	Date
AF	▪ Fixed a problem that could result on outputs turning on for one scan cycle of the CPU when operating in an expansion rack with communication integrity problems (defective cable, for example). ▪ Fixed an issue where the module could take up to 4s (instead of 2s) to detect loss of bus master.	1.0.18.0	28/07/2025
AA-AE	▪ Initial review.	1.0.0.15	22/09/2015

2.5.6 HX2300/16CBO – 16 SD Relay Module 24 Vdc with 16 CBO (Check Before Operate)

REV	Description	Version	Date
AC	▪ Fixed a problem that could result on outputs turning on for one scan cycle of the CPU when operating in an expansion rack with communication integrity problems (defective cable, for example). ▪ Fixed an issue where the module could take up to 4s (instead of 2s) to detect loss of bus master.	1.0.18.0	01/12/2025
AA-AB	▪ Initial review.	1.0.0.15	07/18/2019

2.5.7 HX2320 – 16 SD Relay Module 125 Vdc with CBO (Check Before Operate)

REV	Description	Version	Date
AO	▪ Fixed a problem that could result on outputs turning on for one scan cycle of the CPU when operating in an expansion rack with communication integrity problems (defective cable, for example). ▪ Fixed an issue where the module could take up to 4s (instead of 2s) to detect loss of bus master.	1.0.18.0	28/07/2025
AH-AN	▪ Internal change to support HX2200 hardware	1.0.0.15	22/09/2015
AF-AG	▪ Introduced support for HX2200 and HX2300 modules	1.0.0.14	09/04/2015
AC-AE	▪ Improvements to module hot-swappable support.	1.0.0.13	04/08/2014
AB	▪ Improved the CBO fault detection algorithm.	1.0.0.11	28/03/2014
AA	▪ Initial Review.	1.0.0.1	30/10/2013

2.5.8 HX6000 – 16 EA Voltage/Current Module

REV	Description	Version	Date
AI	▪ Improvements in immunity to electromagnetic interference.	1.0.0.22	13/01/2017
AC-AH	▪ Improvements to module hot-swappable support.	1.0.0.20	01/08/2014
AB	▪ Improvement in the digital low-pass filter algorithm	1.0.0.16	28/03/2014
AA	▪ Initial Review	1.0.0.4	30/10/2013

2.5.9 HX6020 – 8 EA Temperature Module (RTD)

REV	Description	Version	Date
AM	▪ Support for the new hardware revision which improves immunity against electromagnetic interference.	1.0.20.0	05/04/2024
AG-AL	▪ Improvements in immunity to electromagnetic interference.	1.0.0.18	13/01/2017
AC-AF	▪ Improvements to module hot-swappable support.	1.0.0.16	01/08/2014
AB	▪ Improved accuracy for the range of 0 to 20 ohms.	1.0.0.14	28/03/2014

AA	▪ Initial Review	1.0.0.4	30/10/2013

2.5.10 HX6065 – 4 AI AC VOLTAGE / 4 AI AC CURRENT / 4 AO V/I MOD

REV	Description	Version	Date
AG	▪ Improved Frequency measurement ▪ Improved Apparent Power measurement on triangle configurations ▪ Improved stability at low temperatures ▪ Improved EMC immunity	1.0.34.0	05/09/2023
AA	▪ Initial revision.	1.0.0.21	06/05/2020

2.5.11 HX8320 – Redundant 60W 125Vdc Power Supply

REV	Description	Version	Date
AI	▪ Improved module temperature reading and changes to test and recording software due to the inclusion of the HX8300.	1.0.0.19	31/10/2016
AC-AH	▪ Improvements to module hot-swappable support.	1.0.0.17	18/08/2014
AB	▪ Improved link fault detection on expansion cables.	1.0.0.15	28/03/2014
AA	▪ Initial Review	1.0.0.1	30/10/2013

2.5.12 HX8300 – Redundant 60W 24Vdc Power Supply

REV	Description	Version	Date
AA	▪ Initial Review	1.0.0.19	01/11/2016

2.5.13 HX8305 – Redundant 60W 24Vdc Power Supply with SFP

REV	Description	Version	Date
AD	▪ Fixed an issue where the SFP interface could potentially fail to establish link after a power-up.	1.1.4.0	03/09/2026
AB-AC	▪ Initial Review	1.1.3.0	03/07/2026

2.5.14 HX8325 – Redundant 60W 125Vdc Power Supply with SFP

REV	Description	Version	Date
AD	▪ Fixed an issue where the SFP interface could potentially fail to establish link after a power-up.	1.1.4.0	03/09/2026
AB-AC	▪ Initial Review	1.1.3.0	03/07/2026

3. Connect Series

3.1 GW700 - GATEWAY LORA, ETH, USB

REV	Description	Version	Date

AC	▪ Improvements on System Web Page:
	  ▪ New graphical design of System Web Page
	  ▪ New Network tab, which now allows to change the IP configuration and also introduces the embedded network sniffer.
	  ▪ Login unification (now it will be requested only in the Management tab). After the update, the credentials will be reset to default.
		1.14.31.3	04/07/2024

	▪ Optimization in the time required to perform the firmware update process. ▪ Removed restriction of local network to perform a firmware update, now allowing to execute this operation remotely.		
AB	▪ Software changes to improve manufacture process. ▪ Fixed LoRa information in the product web page.	1.13.11.0	06/07/2023
AA	▪ First revision	1.13.9.0	10/05/2023

4. Mastertool Series

4.1 MT9000 – Mastertool X

REV	Description	Version	Date
AB	▪ Added support for HX8305 and HX8325 modules. ▪ Added support for Switch and NIC Teaming modes on XF3xx controllers. ▪ Updated GL-9087 device. ▪ Updated LD Editor with general improvements. ▪ Changed the minimum MODBUS Slave task interval from 20 ms to 5 ms. ▪ Fixed Event grouping on HX3040 to support the same point event in multiple groups (requires firmware 1.14.86.8 or greater). ▪ Fixed an issue on LD Editor where parallel branch gets broken when removing contact before math operator. ▪ Fixed problem in the IEC61850 Client when importing a .CID file containing OSI address parameters. ▪ Fixed update project issues(copy of Serial, Ethernet and CAN parameters) when changing CPU model. ▪ Info: This version was built with CODESYS Development System 3.5.18.60.	4.1.0	30/06/2026
AA	First release of MT9000 - Mastertool X, the next evolution of Nexto System programming tool. Based on version 3.77 of MT8500, this release introduces a new version numbering scheme, starting at 4.0.0, and brings architectural improvements that establish a strong technical foundation for upcoming features and continued platform evolution. Highlights: ▪ Support for new Nexto XF controllers and Nexto XP, NX3008, NX3035, HX3040 and NL717. ▪ New Project Wizard, providing a more intuitive workflow and updated device selection. ▪ New Project Profiles, with simplified options and more flexibility on IEC Tasks and POUs. ▪ Native 64-bit architecture support, improving performance and memory usage for large projects. ▪ New simplified license model: Lite and Advanced (1 year or perpetual). Additional changes: ▪ Increased the symbolic memory size of NX3008 CPU from 12 MB to 40 MB. ▪ Increased the symbolic memory size of NX3035 CPU from 20 MB to 48 MB. Info: This version was built with CODESYS Development System 3.5.18.60.	4.0.0	02/04/2026

4.2 MT8500 – MasterTool IEC XE

REV	Description	Version	Date

BU	▪ Changed the communication driver validation introduced in version 3.77 so that exceeding the documented driver limit per NET interface generates a warning instead of a compilation error, improving compatibility with legacy projects. ▪ Fixed an issue where the Non-Active HX3040 could fail to reach the Standby state in redundant applications containing MMS Client with large or complex IEC 61850 (.SCD) configurations due to application state synchronization timing. ▪ Fixed an issue in the MODBUS Symbolic drivers that could cause incorrect data updates when transferring blocks spanning multiple mapped array variables. ▪ Fixed a compatibility issue that could prevent Easy Connection from working on computers with Npcap installed. For this fix to work, Npcap must be installed with the “WinPcap API-compatible Mode” option enabled. ▪ Updated the PROFIBUS baud rate validation introduced in version 3.76 to allow baud rates below 1500 kb/s in redundant applications when the network contains only third-party PROFIBUS devices. ▪ Info: This version was built with CODESYS Development System 3.5.18.60	3.78	01/09/2026
BT	▪ Added support for MMS Client on the HX3040. ▪ Added EDS files for XP3xx on EtherNet/IP Remote mode. ▪ Added EDS files for GL-9089 EtherNet/IP Remote. ▪ Added CODESYS Library Documentation Support package. ▪ Added diagnostic variable for enable/disable state of Memory Card and USB on CPUs that support these features. ▪ Added informational messages in the compiler indicating the total number of mapped points and mappings used in the application. ▪ Changed the refresh rate of “Connected Clients” in the status bar from 1s to 60s. ▪ Fixed an error when printing the Bill of Materials (BOM) with the HX3040. ▪ Fixed an issue in the LibHART library where some empty HART instrument variables could be displayed as the value “Infinity”. ▪ Fixed a compilation error caused by using more than 20,480 Modbus mappings (introduced in version 3.76). ▪ Fixed a Portuguese translation error in the “Application Build Options” screen that caused UI overlap. ▪ Improvements in the WHSB bus error diagnostic detection. ▪ Info: This version was built with CODESYS Development System 3.5.18.60.	3.77	02/03/2026
BS	▪ Added new Function Blocks in LibHART for reading HART dynamic variables (PV, SV, TV, QV). ▪ Added a new object HART with a wizard to create a POU for HART communication. ▪ Changed the watchdog time of PROFIBUS slaves on redundant PLC architectures from 1s to 2s. ▪ Changed the order of BOM columns, moving Count to first position. ▪ Fixed an issue on I/O Simulator which could cause a crash when using variables of REAL type. ▪ Fixed an issue in LibSparkplug where the EON did not respond to rebirth commands when no alias was configured. ▪ Fixed an issue in Modbus Symbol Server that could return incorrect values when reading coils or input status. ▪ Fixed an issue where the NX5000 could fail to communicate over MODBUS after stopping the driver multiple times. ▪ Fixed an issue where it was possible to add an EtherCAT SoftMotion Master on a network interface that already have other driver. ▪ Removed support for Remote I/O Mode on the XP340. ▪ Info: This version was built with CODESYS Development System 3.5.18.60.	3.76	16/12/2025

BR	▪ Added support to the new CPU NX3035 and I/O modules NX1006 and NX2025. ▪ Added GL-9087 Profinet device. ▪ Added firmware version number in NX5x10 diagnostics. ▪ Added a new parameter (checkbox) in Modbus Server drivers to allow connections from other ethernet interfaces. ▪ Added notification for NX5x10 firmware version when updating projects with old GSD files (the new GSD requires firmware version 1.14.0.0 or higher). ▪ Added option to suppress NX3008 current consumption dialog. ▪ Added support for Firewall diagnostics on HX3040. ▪ Added a new parameter on NX2001 and NX6134 which allows to select the output behavior when the CPU is in STOP (requires firmware version 1.2.0.10 and 1.0.21.0 or higher, respectively). ▪ Added warning in Easy Connection confirmation message to inform about initialization of retain/persistent memory. ▪ Changed the default gateway address to 0.0.0.0 for Ethernet interfaces other than NET1. ▪ Changed the default value of "Connection Mode" in MODBUS Symbol Client from "Connections is closed after na inactive time out of (s):" to "Connection stays open while a time-out does not occur.". ▪ Changed the limit for redundant objects from 1024 to 1000. ▪ Fixed crash when using Modbus Symbol Server mappings with a large number of mapped variables. ▪ Fixed error message when pressing TAB in MODBUS_Device request row. ▪ Fixed exception in redundant projects when project path contains “.project”. ▪ Fixed internal error when updating NX5100 clock via MasterTool. ▪ Fixed issue where MasterTool could improperly delete user libraries during a project update. ▪ Fixed issue where some libraries were not appearing in Intellisense. ▪ Fixed issue when using PROFIBUS on NX3008 where a manual switchover command in the PO9900/NX9100 did not work on the first PROFIBUS Remote on the network if it doesn't have output modules. ▪ Hidden some reserved device diagnostic structures. ▪ Implemented a warning message to prevent POU calls in the MainTask. ▪ Implemented compiler message to show quantity of input/output bytes for each NX5001 PROFIBUS network. ▪ Implemented enhancements to online export/import variables. Users can now choose the destination and filename when exporting variables, which are saved with the .expvars extension. The import screen allows selecting the source location for importing these files. Additionally, when creating an archive, users can define which files will be included and also select specific files to extract during the restore process. ▪ Implemented protections for some specific commands that could cause disruption of the control system when operating with redundant CPUs, like performing a STOP command on the Active CPU, or performing an Online Change on the Active CPU when the other CPU is in Stand-by (this last case specifically for HX3040) ▪ Implemented warning for half-cluster redundancy with DPV1 enabled on non-redundant PROFIBUS heads. ▪ Improved the diagnostic message text of group power supply on I/O modules. ▪ Increased total mappings per instance for HX3040, from 5000 to 20480 mappings. ▪ Optimized the spent time for protocol verifications. ▪ Updated GSD files to enable DPV1 functions for NX5110/NX5210 and PO5064/PO5065. ▪ Updated all Nexto library compilers to CODESYS 3.5.18.50.	3.75	21/07/2025

	▪ Removed (discontinued) the feature of copying the Project from/to CPU/Memory Card for HX3040 and NX3008 CPUs. ▪ Info: This version was built with CODESYS Development System 3.5.18.60.		
BQ	▪ Fixed a problem introduced on version 3.51 where the Project Update would cause an unintended modification in redundant areas (Special_Variables_Redundant GVL), preventing the non-active PLC to get into Stand-by state after a download with project synchronization disabled. ▪ Changed the default MainTask interval to 100ms for NX and HX CPUs. ▪ Changed the messages during Project Update and Firmware Version check to inform the user about the conditions and consequences of an update, helping to avoid unnecessary modifications and interruptions to the control system. ▪ Changed the default option of “Enable diagnosis for devices” in the PLC Settings to Disabled (it was enabled in version 3.40). ▪ Added additional verification checks for IEC61850 Server to not allow invalid Logical Node configuration (index 0 or same index) and absence of Logical Device. ▪ Info: This version was built with CODESYS Development System 3.5.18.60.	3.71	24/03/2025
BP	▪ Added support for Xtorm Series. ▪ Added support for the PROFINET Controller in HX3040 (non-redundant mode). ▪ Added support for “Codesys Control Win V3 x64” (demo mode only). ▪ Added official support for SparkPlugB Library. ▪ Added new screen which shows the memory consumption on projects with NX and XP CPUs (Device/MemoryConsumption). ▪ Updated the CFC package to enhance performance in the refactoring feature. ▪ Fixed an issue that could result in error when trying to add an OPC UA Information Model to the project. ▪ Fixed an issue in PO506x for projects created before Mastertool version 2.00 which was not allowing the addition of new modules (blank list). ▪ Fixed an issue in redundant projects using Modbus Direct, where the execution of a STOP command for a CPU was experiencing significant delays. ▪ Fixed an issue in Symbol Configuration where selecting a GVL (or other symbol) from a library did not generate code properly, resulting in the symbol not being selected when using NX or XP controllers. ▪ Fixed an issue in the Compiler that did not generate an error for points mapped to the same address in the IEC104 protocol. ▪ Fixed an issue where the Redundancy Configuration could not effectively apply a modification after a specific sequence of unchecking and checking an item. ▪ Fixed the issue with project updates when an external EDS was not installed prior to the update. ▪ Fixed the message displayed when the user executes the stop command in redundant projects. ▪ Improved performance by removing the check for the limit on the number of variables in a POU. ▪ Improved the Easy Connection confirmation message to prompt users to save a project backup. ▪ Improvements in Portuguese translation. ▪ Removed the Tools/Package Manager command. ▪ Info: This version was built with CODESYS Development System 3.5.18.60.	3.70	29/11/2024
BO	▪ Added support to use NX8000 with NX3008. ▪ Added new J1939 Database (discontinued in 3.40).	3.63	23/09/2024

	▪ Added diagnostic to inform when the network configuration is defined by the system webpage. ▪ Added a new diagnostic element “byFirmwareVersionLow” for PO506x. ▪ Fixed a namespace problem on MQTT wizard which caused a compilation error. ▪ Fixed an MQTT Wizard code to accept all types of variables in a Publisher message tag. ▪ Fixed a wrong compilation error when using PO9100 and NX9900. ▪ Removed (discontinued) the parameter “Enable I/O update per task” for NX3008. ▪ Info: This version was built with CODESYS Development System 3.5.18.60.		
BN	▪ Added Restore Points feature. ▪ Added a new object with a Wizard to create a POU for Datalogger Function Block. ▪ Added a new object with a Wizard to create a POU for MQTT Function Block. ▪ Added commands “Reorder List and Clear Gaps”, “Save Current Values to Recipe” and “Restore Values from Recipe” in the “Declaration” menu. ▪ Enabled command “Scan for Devices…” for EtherNet/IP and CANopen. ▪ Enabled the “Update device” command for CAN, EtherNET/IP, EtherCAT and PROFINET protocols. ▪ Fixed a potential hardware watchdog on NL717 when using SDI12 Function Block. ▪ Fixed a problem introduced on version 3.60 where some drivers can stop working after a second download in NX3008. ▪ Fixed a problem where COM1 TYPE could be incorrect after a project update changing CPU model. ▪ Fixed a problem where Modbus Symbol mappings could be corrupted after copy and paste from other projects. ▪ Fixed a problem where, under rare conditions, a Modbus reconnection could cause an exception. ▪ Fixed general translation errors. ▪ Moved cache build to the end of the install process to optimize the first execution of the program. ▪ Updated MT8500 3.62 CANopen package to 4.2.0.0. ▪ Disabled the ‘Scan for Devices’ command while logged in. ▪ Info: This version was built with CODESYS Development System 3.5.18.60.	3.62	07/06/2024
BM	▪ Added support to PROFINET Dual-port Controller for MRP on NX3008. ▪ Info: This version was built with CODESYS Development System 3.5.18.60.	3.61	08/02/2024
BL	▪ Added a message to confirm “Import Online Variables”. ▪ Added a new command “Build” under Build menu. ▪ Added a new command “Release Notes” under Help menu. ▪ Added consistency in redundant PROFIBUS heads to check the presence of redundant virtual module. ▪ Added “Professional Developer Edition” support through an option selected during the install process. Functionality differs based on the selected device. Requires a Codesys license for activation. ▪ Added documentation in various libraries to enhance user guidance. ▪ Added support for “.projectarchive” files on “Open project” command. ▪ Added support for selection of other languages. ▪ Added support for Static Analysis Light. ▪ Changed PIDControl to create its objects inside folders for a better project organization.	3.60	08/02/2024

	▪ Changed the “Communication Settings” style from “Classic mode” to “Simple mode.” ▪ Changed the default path for new projects for a dedicated folder. ▪ Changed the default profile of new projects to “Machine.” ▪ Changed the default setting to use the “Textual View” in the POUs/GVLs. ▪ Changed the default option of ‘Behavior for outputs in stop’ to ‘Set all outputs to default’ in PLC Settings, reversing the change made in version 3.53. ▪ Changed to register as the default program to open .project and .projectarchive extensions. ▪ Fixed a problem in the project update with an NX5100. ▪ Fixed a problem on Webvisu which could prevent the application to start when the option "Overwrite existing trace on PLC" is unchecked. ▪ Fixed a problem on CPU redundancy that could cause an exception after a switchover due to a problem on the compiler, which could incorrectly allocate non-related variables inside redundant areas. ▪ Fixed a problem that prevented more than one tool from connecting at the same time in the controller. ▪ Fixed a problem that was making the login process hang for several seconds when the Source Download option was set to “Prompt at download.” ▪ Fixed a problem where a change in the description of NX and NJ modules could not be applied. ▪ Fixed a problem where NX and NJ modules could not be properly updated after a Project Update. ▪ Fixed a problem where the module description could not be saved properly after a project update. ▪ Fixed an invalid device log message “Demo mode for IO-Link expired (license not installed).” ▪ Fixed issues related to LoRa, SDI12, diagnostics, and filters in the NL717 Datalogger. ▪ Fixed the number of analog inputs on IntegratedIO GVL for XP3xx. ▪ Fixed a problem where it was not possible to add variables to WatchList using the right-click button in Tabular View mode. ▪ Improved the performance of code generation, especially in projects with symbolic variable mappings. ▪ Improved the performance to open a project. ▪ Optimized the processing of MODBUS Master (Serial) requests, which can significantly improve the communication performance on networks with several slaves. ▪ Removed (discontinued) the CPU parameters “TCP/IP Parameters” for all CPUs models. ▪ Removed (discontinued) the functionality “Diagnostic Explorer.” ▪ Removed the limit of the quantity of variables on Symbol Configurator. ▪ Updated editor of Ladder Logic Diagram (LD) with several improvements. ▪ Updated EtherNet/IP, Profinet, and EtherCAT communication drivers, removing all customizations. Previous projects may require adjustments. ▪ Updated Gateway program, removing all customizations. ▪ Updated version of CodeMeter to support Soft Container licenses on Workstation (Device licensing not supported yet). ▪ Info: This version was built with CODESYS Development System 3.5.18.60.		
BK	▪ Added support for NX6014 and NX6134 on PROFIBUS head NX5110 and NX5210. ▪ Changed the default option of ‘Behavior for outputs in stop’ to ‘Keep Current Values’ in PLC Settings, reversing the change made in MasterTool 3.40.	3.53	16/11/2023

	▪ Fixed a problem introduced on version 3.40 where the diagnostics and commands of NX4010 were not working when using half-cluster redundancy without redundancy panel. ▪ Fixed a problem where the EtherCAT Master driver could prevent the local bus to start after a download, making the CPU to say in STOP. ▪ Info: This version was built with CODESYS Development System 3.5.17.40.		
BJ	▪ Added support for NX6134 module. ▪ Added support to IEC 60870-5-104 Server protocol on NX3008 CPU. ▪ Fixed a problem introduced on previous version which was causing error when adding I/O modules on NX5100 and NX5101 MODBUS TCP Heads. ▪ Changed the minimum MainTask interval to 1ms for all CPUs and project profiles. ▪ Increased the XP350 data memory from 2MB to 6MB and the program memory from 3MB to 8MB. ▪ Removed “Output state in STOP” parameter (discontinued) from NX1005, NX2001, NX2020, NX6100 and NX6134. ▪ Info: This version was built with CODESYS Development System 3.5.17.40.	3.52	01/09/2023

BI	▪ Added new modules XP201, XP600, and XP610 on the device repository (CANopen slave devices).
	▪ Added command "Create POUs from Template" for CFC language.
	▪ Added PLC Settings tab on the target device.
	▪ Improved design of NET interfaces configuration for better usability and uniformity.
	▪ PID Auto-tune improvements (NextoPID library):
	  ▪ The maximum range of parameter PercHystPV was increased from 1% to 5%, allowing us to auto-tune processes with noise levels higher than the previous version.
	  ▪ The error PEAK_TOO_LOW changed to avoid unnecessary aborts of auto-tuning.
	  ▪ The error CYCLE_TOO_FAST was eliminated to avoid unnecessary aborts of auto-tuning.
	  ▪ The error HIGH_DEAD_TIME was eliminated to avoid unnecessary aborts of auto-tuning.
	▪ PID ControlPWM block improvements (NextoPID library): this block now must be called inside a cyclic task. Freewheeling tasks would provide non-precise output. Otherwise, the Error output is set. Furthermore, a new output SampleTime informs the interval of the cyclic task.
	▪ Fixed "Export Online Variables" problems with more than 10.000 variables.
	▪ Fixed simulation mode to work using port 11739.
	▪ Fixed Datalogger NL717 communication problems when using LoRa Radio and SDI-12.
	▪ Updated version of EtherNet/IP driver:
	  ▪ Fixed problems when using one BYTE + one BOOL.
	  ▪ Fixed a problem that was triggering an Online Change even with no changes on the project.
	  ▪ Fixed a problem where Ethernet/IP Scanner would not update %I in RUN when option "Update I/O while in stop” is checked.
	  ▪ Removed the limit of 511 bytes of input or output per connection.
	  ▪ Changed the default task of the IO Cycle of EtherNet/IP Scanner and Adapter from MainTask to an exclusive task.
	▪ Deprecated and removed the CSV export/import feature.
	▪ Info: This version was built with CODESYS Development System 3.5.17.40.
		3.51	19/06/2023

BH	▪ Added support for XP350 PLC with SoftMotion.	3.50	19/01/2023

	▪ Added support for NL717 Datalogger. ▪ Added support to run Python scripts. ▪ Included a new command to remove the current license (returning to Lite). ▪ Fixed MODBUS RTU Master request diagnostic not working with more than 128 requests. ▪ Fixed I/O mapping update for EtherCAT devices. ▪ Fixed general screen size and translation problems. ▪ Fixed the “Invalid result package” error message when trying to login to the CPU with incompatible firmware. ▪ Info: This version was built with CODESYS Development System 3.5.17.40.		
BG	▪ Added support to new CPU NX3008. ▪ Added new modules XP101 and XP106 on device repository (CANopen slave devices). ▪ Added verification to check for the presence of non-related variables inside redundant areas. ▪ Added support to EtherCAT Master for all Nexto Xpress. ▪ Added LibIntegratedIoExt which allows to use additional analog inputs on Nexto Xpress. ▪ Added a compilation error message when user uses REFERENCE TO in persistent vars. ▪ Fixed Online Change performance, which was degraded since version 3.31. ▪ Fixed login performance when several CFC POUs windows were opened. ▪ Fixed an issue where mappings of MODBUS Symbol Client and Master could stop to work (frozen values) after an online change. ▪ Fixed an issue where graphical elements could show a red “X” ending on a crash due to GDI handle leak. ▪ Fixed an issue where deleting unused symbols on Symbol Configuration could lead to exception on OPC UA Server. ▪ Fixed an issue where changing the execution order of CFC POU with online change could lead to a PLC exception. ▪ Fixed Mastertool crash error after closing ModBus Server window when opening a project without updating it. ▪ Fixed an issue where changing focus in and out on NET fields results on project change. ▪ Fixed MasterTool crash error when changing Watchdog of MainTask on Xpress controller. ▪ Fixed an issue where Project Compare could show differences for identical CFC POUs. ▪ Fixed declaring the libraries dependencies as placeholders. ▪ Fixed a problem where MasterTool may not be able to locate the PLC in the Devices list when using "localhost" gateway when running the tool on a computer with more than five network adapter devices. ▪ Increased the maximum size of Program Memory from 2MB to 3MB on XP300/XP315/XP325. ▪ Increased the maximum size of Program Memory from 6MB to 8MB on XP340 and NX3005. ▪ Removed limit of 500 assemblies on EtherNetIP Scanner. ▪ Updated version of EtherCAT Master driver. ▪ Updated LibNextoPID library containing new standard and advanced control functions. ▪ General improvements on Portuguese and English texts. ▪ Info: This version was built with CODESYS Development System 3.5.17.40.	3.40	08/12/2022
BF	▪ Added rules to allow adding only PLC compatible devices. ▪ Added new command Create POUs from Template. ▪ Added new wizard combo box to categorize devices during project creation.	3.34	16/02/2022

	▪ Added start and stop system events in project template.
	▪ MODBUS Symbol:
	  ▪ Fixed MODBUS Client/Server does not support ambiguous variables.
	  ▪ Fixed bug that IntegratedIO Tags don't work with Modbus.
	  ▪ Fixed exception in the PLC when changing the size of the array mapped in MODBUS.
	▪ Project Update:
	  ▪ New User Interface.
	  ▪ Correct version displaying.
	  ▪ Removed Project Environment window.
	  ▪ Fixed behavior that caused the project to break when updating without saving first.
	▪ Reduced CPU consumption when logged in.
	▪ Fixed window behavior not closing during code generation.
	▪ Fixed wizard behavior not correctly displaying ethernet interface choices.
	▪ Fixed exception when loss connection to the PLC.
	▪ Fixed Gateway conflict message with other Gateways already installed.
	▪ Fixed incorrect channel and description texts in Integrated I/O page.
	▪ Fixed keyboard shortcuts S and N for Write and Force dialogs in Portuguese language.
	▪ Fixed improper add of GVLs IoQualities and Modules_Diagnostic when opening project created on previous versions.
	▪ Fixed issue that allows Maintask interval greater than 100 ms in projects with Machine Profile.
	▪ Fixed missing .DLL that causes problemas in Trace object of previous versions.
	▪ Removed the 'Enable retain and persistent variables in function blocks' checkbox from CPU parameters page.
	▪ Removed 'Scan for Devices' command for PROFIBUS devices.
	▪ Removed software license update window during startup.
	▪ Removed access to startup application settings.
	▪ Info: This version was built with CODESYS Development System 3.5.15.55.		

BE	▪ Added CSV import and export tab of I/O mappings. ▪ Fixed issue in MODBUS Symbol RTU Master that makes mappings stop to work after an online change. ▪ Fixed issue in MODBUS Symbol RTU Slave that makes mappings stop to work after an online change. ▪ Fixed crash after closing the Clock Settings dialog. ▪ Fixed application startup exception when declaring arrays of function blocks in retain or persistent areas. ▪ Fixed system out of memory error caused by changes in Redundancy configuration. ▪ Fixed J1939 device issue regarding stack version. ▪ Fixed issue that made impossible to delete the copies of UserPrg POU. ▪ Fixed the startup with invalid international settings. ▪ Fixed issue in PID Control editor that causes malfunction after performing a 'clean all' command. ▪ Unchecked, by default, the 'Recipe management in the PLC' option in the 'Recipe Manager' object. ▪ Renamed bit bReserved05 to bHardwareFailure for Ponto series module PO1213. ▪ Improvements in NX5000 redundancy performance. ▪ Improvements in Portuguese translation. ▪ Info: This version was built with CODESYS Development System 3.5.15.55.	3.33	24/09/2021
BD	▪ Fixed improper online change request due to IoDrvNextoRedundancy library.	3.32	11/06/2021

	▪ Fixed improper online change request due to LibDatabaseManager library. ▪ Fixed the overlap of I/O addresses for PROFINET devices. ▪ Improvements in PROFIBUS diagnostics for Ponto Series slaves. ▪ Info: This version was built with CODESYS Development System 3.5.15.55.		
BC	▪ Added ‘Declarations > Add all instance paths’ command for PersistentVars. ▪ Added confirmation dialog for force variables command (F7). ▪ Added confirmation dialog for write variables command (Ctrl + F7). ▪ Added ‘Connected Clients’ counter in the status bar (requires compatible firmware). ▪ Added support to System Events. ▪ Added support to reStructuredText documentation for libraries. ▪ Added Application tab on target device. ▪ Fixed compatibility with projects created between versions 3.15 and 3.23. ▪ Fixed issue in MODBUS Symbol Server that makes mappings stop to work after an online change. ▪ Fixed issue in MODBUS Symbol Client that makes mappings stop to work after an online change. ▪ Fixed issue that makes ‘subsequent’ attribute don’t be applied on online change. ▪ Fixed issue that makes new objects marked in Redundancy Configuration don’t be applied on online change. ▪ Fixed Ethernet/IP Scanner to proper work with I/O bit mapping from existing symbolic variables. ▪ Fixed ‘Scan for Devices’ command of EtherCAT Master on online mode. ▪ Fixed compile error for GVLs with attribute ‘qualified_only’ in Redundancy Configuration. ▪ Fixed improper download request for Nexto projects with EtherCAT Master. ▪ Fixed improper online change request for projects with CFC’s POUs. ▪ Fixed behavior of pulse variables (Special_Variables GVL) for projects with “Basic” profile. ▪ Fixed issue that put project with Symbol Configuration in dirty state after opening. ▪ Fixed the installation conflict with Codesys 3.5 SP15 Patch 5. ▪ Enabled ‘Download Application Info’ option for all targets. ▪ Removed command “Tools > Import and Export Options”. ▪ Improvements in Portuguese translation. ▪ Improvements in online help (Nexto Xpress resolution of PT100 and PT1000). ▪ Improvements in CSV import and export commands. ▪ Improvements in installer. ▪ Improvements in PID Control editor. ▪ Improved the performance to save project changing the project compress level from maximum compress to minimum compress. ▪ Fixed the issue of the Gateway not starting. ▪ Fixed the Special Variables program calls location in redundant applications. ▪ Info: This version was built with CODESYS Development System 3.5.15.55.	3.31	16/04/2021
BB	▪ Added command “License Manager” in “Tools” menu; ▪ Added command “License Repository” in “Tools” menu; ▪ Added command “Bookmarks” in “View” menu; ▪ Added commands “Find in Project” and “Replace in Project” to standard toolbar; ▪ Increased the RAM usage limit of the programming system for x64 architecture;	3.30	07/10/2020

	▪ Increased maximum number of tasks of Nexto Xpress PLCs from 5 to 16;
	▪ Integrated I/O points are considered by Wizard when creating a project with I/O modules;
	▪ Enabled on Menu “Declarations” the submenu “Reorder List and Clear Gaps”.
	▪ Improvements in HART communication;
	▪ Fixed Ethernet/IP Scanner’s configuration issues regarding import of third-party EDS files;
	▪ Fixed System log visualization when changing to another PLC;
	▪ Improvements of the intelligent input assistance:
	  ▪ Categories: Open with ‘Ctrl + Space’, switch pages with arrows left/right;
	  ▪ Filters: When typing elements from DUTs or FBs, naming filter now is independent of character position and characteres are highlighted;
	▪ Improvements on Watch:
	  ▪ Type cast for pointer inside Watch;
	  ▪ Monitoring of instance via interface, also in case of dynamically created objects;
	  ▪ Monitoring of the instance when reference is made via pointer;
	▪ Improvements on ST Editor:
	  ▪ When the cursor is on a symbol name, all occurrence locations of the symbol within the editor are highlighted;
	  ▪ Incremental search for strings with ‘Ctrl + Shift + i’;
	  ▪ Navigation through searched string with ‘Alt + Page Up/Page Down’;
	  ▪ Comment and uncomment multiple lines at once via context menu or ‘Ctrl + o’ and ‘Ctrl + i’ shortcuts;
	  ▪ Editing columns via keyboard operation ‘Shift + Alt + Arrow Keys’;
	  ▪ Auto declare via “Smart Tags” with suggestion popup. Keyboard shortcut is ‘Ctrl + .’;
	▪ Improvements on CFC ToolBox and Editor:
	  ▪ Accelerated multiple insertion of an element from the ToolBox in the CFC editor, by selecting the element on ToolBox view, pressing Ctrl and left clicking in the editor to insert at each new click;
	  ▪ Auto Dataflow Mode as new default setting;
	  ▪ Display Execution Order shows the execution order of the blocks as overlay;
	  ▪ Execution order is setting is adaptable in POU properties;
	  ▪ Explicit start point for feedback loops;
	  ▪ Drag and drop of variables;
	▪ Improvements in device treeview to show access modifiers;
	▪ Signing of compiled libraries supported, and new icons. See more info in ‘Library Manager > Icon legend’;
	▪ Fixed CANOpen CiA 405 Library Help navigation;
	▪ Improvements in message texts about memory range field exceeding PLC memory limit;
	▪ Improvements in portuguese message texts;
	▪ Fixed improper online change request after close and reopen a project;
	▪ Improvements in project update (modify device) for products with Integrated I/O;
	▪ Improvements of color schemes in Text Editor options;
	▪ Improvements in “Update Software License” Window;
	▪ Improvements in simulation mode;
	▪ Removed Spanish option from installer;
	▪ Fixed issue related to Reset Coil instruction for 32 bits variables in LD and FBD languages;
	▪ Fixed installer issue that applied wrong file permissions during reinstalling;		

	▪ Fixed improper variable unchecking after project update due to Symbol Configuration automatic cleanup routine; ▪ Fixed improper online change request due to Symbol Configuration automatic cleanup routine; ▪ Fixed improper online change request on projects with not installed third-party devices; ▪ Fixed error on printing the project through the command "Document…" in "Project" menu; ▪ Fixed issue that hides product library when the project is opened/created; ▪ Fixed Wizard calculation of number of Thermocouple modules; ▪ Removed IL language from Wizard; ▪ Improvements in Wizard usability; ▪ Improved mappings limit routines; ▪ Improved robustness of Login command; ▪ Improved project treeview display. ▪ Info: This version was built with CODESYS Development System 3.5.15.40.		
-	▪ Added support to IEC 60870-5-104 Server protocol on XP340. ▪ Added support to Client Certificate on MQTT Protocol. ▪ Added diagnostics to new USB devices (Wifi and 3G/4G modem) on Nexto Xpress. ▪ Updated Nexto Xpress images with new Altus visual identity. ▪ Increased limit of OPC UA variables from 5000 to 20000. ▪ Increased limit of Export Online Variables from 30000 to 60000. ▪ Performance optimization of Export Online Variables routines. ▪ Fixed bit forcing issues for direct mapped variables. ▪ Fixed compilation error in Simulation Mode when using some CPU and rack combinations. ▪ Fixed compilation error caused by LibDatalogger dependencies. ▪ Info: This version was built with CODESYS Development System 3.5.12.02.	3.23	01/06/2020
-	▪ New limit of 16000 Ethernet/IP Device assemblies for the whole project. ▪ Added support to Update Device context menu for EtherCAT Slaves. ▪ Increased limit of assemblies per Ethernet/IP Device to 500. ▪ Fixed an issue where a password-protected project would failed to open. ▪ Fixed an issue where PIDControl object would not always save the generated code correctly. ▪ Fixed some issues with Export Online Variables. ▪ Improved Project Update for update of children devices. ▪ Improved support for multiple versions to be installed in parallel. ▪ Improvements in texts for Portuguese and English Cultures. ▪ Info: This version was built with CODESYS Development System 3.5.12.02.	3.22	30/03/2020
-	▪ Added Import/Export to CSV for NX6014 module. ▪ Increased limit of assemblies per Ethernet/IP Device from 50 to 60. ▪ Fixed a crash in Ethernet/IP interface when configuring "AXL E EIP DI 16 M12 6P" device. ▪ Improvements in Project Wizard. ▪ Improvements in texts for Portuguese and English Cultures. ▪ Info: This version was built with CODESYS Development System 3.5.12.02.	3.21	12/02/2020
-	▪ Added NX6014 module support in local bus; ▪ Added a new command called "Start PACTware" in "Tools" menu to call an Asset Management Tool. ▪ Fixed exception in Redundant NX3030 after project synchronization process; ▪ Fixed issue causing "Online Change" when opening project with WebVisualization object.	3.20	27/12/2019

	▪ Info: This version was built with CODESYS Development System 3.5.12.02.		
-	▪ Added option Refactoring in the menu Tools/Options; ▪ Added new Module Options on EtherNet/IP Module of EtherNet/IP Adapter: SInt Input Module x 124, SInt Output Module x 125, Int Input Module x 124, Int Output Module x 125, DInt Input Module x 124, DInt Output Module x 125, Real Input Module x 124 and Real Output Module x 125; ▪ Added support for MQTT_CLIENT Function Block (provided by LibMQTT), which allows the controller to publish/subscribe MQTT messages; ▪ Added support for MSSQL_CLIENT Function Block (provided by LibSQLClient), which allows the controller to connect to a Microsoft SQL Server database; ▪ Added support to CAN termination parameter on the CPU device for XP300, XP315, XP325 and XP340; ▪ Added network configuration rules in XP300, XP315, XP325 and XP340 to prevent downloads with invalid configuration. ▪ Improvements in Project Update; ▪ Improvements in Project Wizard; ▪ Improvements in the project file creation; ▪ Improvements in NX3003 Integrated/IO Mapping; ▪ Improvements in texts for Portuguese Culture; ▪ Disabled Expansion Ethernet Interfaces and Redundancy network for Basic License; ▪ Fixed a problem was removing the Redundancy Configuration object while updating the project; ▪ Fixed a problem generating code without errors with NX4000 modules disconnected; ▪ Fixed problem creating unnecessary NX4000 modules; ▪ Fixed a crash in MasterTool while updating some kind of redundant projects; ▪ Fixed a problem prevented project creation when MasterTool International Settings was marked “Same as Microsoft Windows”; ▪ Fixed issue that caused “Online Change” when opening project in specific situation; ▪ Fixed a crash in Ethernet/IP interface when configuring “AXL E EIP DI 16 M12 6P” device. ▪ Info: This version was built with CODESYS Development System 3.5.12.02.	3.19	20/12/2019
-	▪ Added support to XP340 PLC; ▪ Added option on the device IEC 60870-5-104 Server to receive a command in local time; ▪ Added option to the device IEC 60870-5-104 Server to send timestamps in local time; ▪ Added the command Refactoring in the menu Edit; ▪ Added new options of Baudrates for Nexto Xpress Serial (COM1): 2400 bps and 4800 bps; ▪ Added new elements for Visualization feature; ▪ Added a new object called Alarm Manager; ▪ Added a new object called Trend Recording Manager; ▪ Added a new object called Interface; ▪ Added CANopen Manager for XP300 and XP315; ▪ Added J1939 Manager and ECU for XP300, XP315, XP325 and XP340. ▪ Improvements in Help Files; ▪ Improvements in Import/Export CSV; ▪ Improvements in International Settings; ▪ Improvements in Project Update; ▪ Improvements in Project Wizard; ▪ Improvements in the project file creation;	3.18	29/10/2019

	▪ Improvements in MODBUS Server Mapping Screen; ▪ Improvements in Comparing Projects with PIDControl object; ▪ Improvements in texts for Portuguese Culture; ▪ Improvements in Fast Input configuration consistency; ▪ Improvements in PLCOpenXML Import command; ▪ Fixed SNTP period parameter in compiler warning to resolve “Implicit conversion from unsigned Type ‘USINT’ to signed Type ‘SINT’” error; ▪ Fixed problems to configure MODBUS in COM interfaces after selecting Normal Mode; ▪ Fixed a problem to send the project archive to PLC; ▪ Fixed a problem to show Security Screen in the previous versions; ▪ Fixed NX9020 description; ▪ Fixed an error when saving Recipes using REAL variables; ▪ Fixed call location at MainPrg of redundant applications; ▪ Fixed login with online change in Redundant Project; ▪ Fixed copy/paste for CANopen Remote Device; ▪ Changed the MainTask Interval to be triggered as a warning, no longer as an error for Xpress CPUs; ▪ Changed field name of the serial advanced parameter to “RS-485 Termination”; ▪ Changed download archive size from 16 MB to 26 MB for XP300, XP315 and XP325; ▪ Added support in MODBUS Symbol drivers and IEC 60870-5-104 Server driver to variables from Function Blocks with EXTENDS directive; ▪ Added consistency when try to using a NX5100 with NX9020; ▪ Disabled clock settings in simulation mode. ▪ Info: This version was built with CODESYS Development System 3.5.12.02.		
-	▪ XP3xx controllers added to the CANopen Slave device library (for use with the CANopen Manager). ▪ Improvements to the project update process. ▪ Improvements to project file creation. ▪ Improvements to Help files. ▪ Fixes to copy/paste commands in the integrated I/O mapping screen. ▪ Fixes in the Special Variables system GVL. ▪ Info: This version was built with CODESYS Development System 3.5.12.02.	3.17	04/09/2019
-	▪ Integrated I/O mapping added for NX3003 and XP3xx. ▪ EtherNet/IP Scanner and Adapter protocols enabled for all CPUs. ▪ Datalogger functionality added (LibDataLogger library). ▪ System GVL named Special Variables added, containing pulse bits, timing variables, and constants. ▪ New parameter “Open Circuit Value” added for XP3xx analog inputs. ▪ Information about module installation added to the Help. ▪ Tooltip (help text) added when hovering over I/O modules on the bus. ▪ Improvements to NX5101 MODBUS mapping for data alignment according to physical order. ▪ Improvements to the analog output configuration screen for XP315 and XP325. ▪ Fixed an error occurring in the New Project screen when attempting to add I/O modules. ▪ Improvements to English Help files. ▪ Fixed I/O simulation not working for NX3003 and XP3xx. ▪ Restricted the use of reserved words “DigitalInputs”, “DigitalOutputs”, “FastInputs”, and “FastOutputs” in code generation for NX3003 CPUs and XP3xx PLCs. ▪ Resolved incompatibility with NJ6001 and NJ6005 (introduced in versions 3.14 and 3.15) when the module firmware version is lower than 1.1.0.1.	3.16	14/08/2019

	▪ Info: This version was built with CODESYS Development System 3.5.12.02.		
-	▪ Updated compiler version, fixing a potential exception when using the EtherNet/IP protocol. ▪ Info: This version was built with CODESYS Development System 3.5.12.02.	3.15	01/07/2019
-	▪ Added “Disabled” option for the open circuit value of 4–20 mA inputs on NX6000 and NJ6000, allowing signal readings below 4 mA (0 to 4 mA). ▪ Added 4–20 mA scale for NJ6001, NJ6005, and NJ6101 modules, including an option to configure input behavior under open circuit conditions. ▪ Added “Login” button to the Easy Connection screen. ▪ Added confirmation message before removing project objects. ▪ Added option to open product information in the context menu (right-click) on the bus configuration screen. ▪ Updated to use Internet Explorer 11 on the start page (requires Internet Explorer 11 to be installed). ▪ Improved copy/paste operations in the Modbus Symbol Server editor. ▪ Improved LibNextoPID algorithm for anti-reset windup and automatic recovery in case of error (e.g., Gp < 0). ▪ Fixed translation of the “Paste Contacts” submenu in the “FBD / LD / IL” menu. ▪ Fixed behavior to always create new projects using the latest PLC version. ▪ Fixed a potential reference error when executing CSV export command. ▪ Fixed language selection after opening the “Clock Settings” window. ▪ Fixed “Export Online Variables” command. ▪ Fixed an issue introduced in version 3.10 that could cause an exception during switchover in redundant PLCs. ▪ Fixed an issue introduced in version 3.11 that could cause exceptions when reading/writing MODBUS mappings with variables larger than 16 bits. ▪ Changed Recipe Manager limits to allow a maximum of 5,000 variables per Recipe Definition. ▪ Improvements to Help files. ▪ This version was built with CODESYS Development System 3.5.12.00.	3.14	26/06/2019
-	▪ Updated the installer to resolve issues where the installation process could fail on machines running outdated versions of Windows 7 and 8.1. ▪ This version was built with CODESYS Development System 3.5.12.00.	3.13	16/04/2019
BA	▪ Added support for CANopen Manager for XP325. ▪ Added support for fast I/O (counters, interrupts, and PWM/PTO) for XP300, XP315, and XP325. ▪ Added interrupt and counter interrupt options for NX3003 in the Integrated I/O screen. ▪ Added support for Import and Export for NX3003, XP300, XP315, and XP325. ▪ Updated Help with CANopen information. ▪ Fixed the “Enable retain and persistent variables in Function Blocks” checkbox, which was not effective when selected for Nexto Xpress controllers. ▪ Declaration editors (GVLs and POUs) now open in tabular mode. ▪ Included LibMachineOEM. ▪ Added automatic opening of the Project Update screen when opening projects from previous versions. ▪ Fixed an issue in the PLC redundancy control algorithm that could cause a failure during the switchover process if a specific communication fault between the two CPUs had previously occurred. ▪ This version was built with CODESYS Development System 3.5.12.00.	3.12	11/03/2019
AZ	▪ Added “I/O Simulation” page.	3.04	28/12/2018

	▪ Added new hot-swap mode for the following devices: NX3003, NX3004, NX3005, NX3010, NX3020, NX3030, and NX5100. ▪ Updated Help. ▪ Added OPC UA with encryption support. ▪ Declaration editors (GVLs and POUs) now open in tabular mode. ▪ Added a warning message about value changes when leaving a device editor. ▪ Improved error message when using the Basic license. ▪ Added support for Nexto Xpress PLC series XP300, XP315, and XP325. ▪ Added support for NX3003 PLC. ▪ Added support for NX5101 MODBUS TCP Head. ▪ Added EtherNet/IP adapter. ▪ Added option to create the project directory in the Project Creation Wizard. ▪ Added “Find in Project” command in the “Edit” menu. ▪ Added “Replace in Project” command in the “Edit” menu. ▪ Added “Find in Call Tree” command in the “Edit > Navigate” menu. ▪ Added “MasterTool IEC XE Perspective” command in the “View > Choose Perspective” menu. ▪ Added “HMI Perspective” command in the “View > Choose Perspective” menu. ▪ Added “Views” command in the “View > HMI Views” menu. ▪ Added “HMI Features” command in the “View > HMI Views” menu. ▪ Added “Programming” command in the “View > HMI Views” menu. ▪ Added “Data Source” command in the “View > HMI Views” menu. ▪ Added “Confirm Accepted Changes” command in the “Project” menu. ▪ Added “Confirm Accepted Changes” command. ▪ Added “Insert Execution Box” command in the FBD/LD/IL menu. ▪ Added “Find in Call Tree” command in the POU object “Navigate” context menu. ▪ Added “Export Library” command in the “Library Manager” object context menu. ▪ Added “Encryption” tab in the Application object. ▪ Improved performance of the “Import Safety Project” command in the “Project” menu. ▪ Changed the value range for the “Minimum Error Before Clock Update” parameter to 1 to 65519 ms. ▪ Info: This version was built with CODESYS Development System 3.5.12.00.	3.05 3.10 3.11	
AY	▪ Added EtherNet/IP Help in Portuguese. ▪ Added a message to notify when Easy Connection does not find any devices. ▪ Added project creation version information to the About dialog. ▪ Added hot-swap support for Nexto Jet modules when using bus expansion. ▪ Increased the maximum number of EtherCAT slaves to 192. ▪ Added “Import Safety Project...” and “Delete Imported Safety Objects” commands. ▪ Added support for NX9020 rack. ▪ Info: This version was built with CODESYS Development System 3.5.7.60.	3.03	15/01/2018
AX	▪ Added EtherNet/IP Scanner device. ▪ Added IEC 60870-5-104 Server device. ▪ Added Easy Connection command. ▪ Added Print Preview command in the File menu. ▪ Added “Edit I/O Mapping” command in the Device object context menu. ▪ Added “Blink” command to “Upload Source Code...” and “Download Source Code...” commands.	3.02	09/06/2017

	▪ Added “Enable Breakpoint” and “Disable Breakpoint” commands in the Debug menu. ▪ Added “Toggle Breakpoint” command for POU when the CPU is connected. ▪ Added new commands (Save current values as a formula, Clear differences from template, and Restore values from formula). ▪ Added options to the “Operating Mode” command in the Communication menu. ▪ Added support for quality variables for I/O modules. ▪ Added support for quality variables for the MODBUS Symbol Client driver. ▪ Added support for NJ1005, NJ6001, NJ6011, NJ6101, and NX5100 modules. Project structure changes for new projects: ▪ Wizard page updated to select the language for UserPrg and StartPrg. ▪ New projects now include four folders: SystemGVLs, SystemPOUs, UserGVLs, and UserPOUs. ▪ A new POU named StartPrg is created for each new project. ▪ A new POU named UserPrg is created for non-redundant projects. ▪ Three new GVLs created: IOQualities, Module_Diagnostics, and System_Diagnostics. ▪ Diagnostic GVL is no longer created for new projects. ▪ Updated Synchronization screen in CPU configuration. The new screen allows time zone configuration with SNTP disabled. ▪ Updated tab design across all screens. Fixes: ▪ Fixed compiler issue when using Symbol Configuration with variables containing “_”. ▪ Fixed issue where Persistent Variables were initialized when a variable type was changed during an online change process. ▪ Fixed issues related to source code download options. ▪ ▪ New features and changes: ▪ Added new design option for the Communication Settings page. ▪ Enabling or disabling redundant objects now triggers an online change download. ▪ Implemented consistency for maximum number of bytes in PROFIBUS slave. ▪ Implemented “Keep communication running when CPU is stopped” setting for MODBUS Slave and Server. ▪ Implemented folder permissions in the Permissions window. ▪ Implemented export/import process for dynamic IP address parameter on NET1. ▪ Implemented process to close all windows upon logoff. ▪ Implemented reduction of project file size when removing objects. ▪ Implemented highlighting of the number of recent projects on the start page. ▪ Implemented validation to deny read, write, and force operations on invalid array indexes. ▪ Added internal point configuration for Nexto CPUs. ▪ Improvements: ▪ Improvements in NX5001 DP Parameters tab. ▪ Improvements in SmartCoding tab options (Tools > Options). ▪ Improvements in Device Editor tab options (Tools > Options). ▪ Improvements in Portuguese language screens. ▪ Improvements in Auto Declare command. ▪ Improvements in Project Information command. ▪ Improvements in Cross Reference List command.		

	▪ Improvements in Monitoring command. ▪ Improvements in Breakpoint command. ▪ Improvements in EtherCAT Master Synchronization window. ▪ Improvements in POU object for implicit checks. ▪ Improvements in Recipe object in Treeview. ▪ Improvements in Symbol Configuration object. ▪ Improvements in Trace object. ▪ Improvements in online change process in certain cases. ▪ Improvements in Recipe Manager. ▪ Improvements in memory usage during project update. ▪ Improvements in Portuguese Help files. ▪ Improvements in Help files. ▪ Improvements in GVL and Persistent Variables objects. ▪ Other: ▪ Removed incorrect icon from the Add Gateway window. ▪ Info: This version was built with CODESYS Development System 3.5.7.60.		
AW	▪ Changes to the Bill of Materials for MT8500/PRO/L, MT8500/ADV/L, and MT8500/BASIC/L licenses, due to the need for components to comply with the RoHS directive. ▪ Info: This version was built with CODESYS Development System 3.5.3.141.	2.09	06/02/2017
AV	▪ Added support for NJ6005 module. ▪ Translated NVL Help files into Portuguese. ▪ Enabled PROFIBUS network redundancy for NX3020 in the Wizard page. ▪ Improvements to the redundancy state machine when using only Ethernet I/Os. ▪ Improvements to reduce MasterTool IEC XE project size. ▪ Info: This version was built with CODESYS Development System 3.5.3.141.	2.08	26/12/2016
AU	▪ Added support for NX3005 CPU. ▪ Added Visualization (WebVisu) functionality for NX3005 CPU. ▪ Added Network Variable List functionality. ▪ Added Clock Configuration command for CPUs. ▪ Added commands for Dynamic IP Configuration of NET1 on CPUs. ▪ Enabled the “Edit Page Size” menu in the CFC object. Fixes and improvements: ▪ Fixed issue when exporting Online Variables with SOE enabled. ▪ Fixed issue related to symbols in Treeview with redundant PROFIBUS networks. ▪ Performance improvements in CSV Import command. ▪ Fixed a potential issue with redundant system initialization when using only Nexto Series PROFIBUS slaves. ▪ Modified validation rule for hot-swap parameter in Nexto Jet Series. The system can now start operation even with missing modules. ▪ Info: This version was built with CODESYS Development System 3.5.3.141.	2.07	31/10/2016
AT	▪ Added option to enable the use of retain and persistent variables in Function Blocks. ▪ Updated validation rule for maximum current of the NX3004 power supply, allowing usage up to 20 W under specific conditions. ▪ Introduced support for NX5110 on NX9010 rack. ▪ Improvements to the “Export Online Variables” command. ▪ Fixed project import/export with PO7078 module. ▪ Compilation performance optimization for applications using MODBUS Client and MODBUS Master. ▪ Performance optimization for Open Project, Build Code, and Login commands.	2.05	25/01/2016

	▪ Info: This version was built with CODESYS Development System 3.5.3.141.		
AS	▪ Introduced support for the Nexto Jet solution, including the following modules: NJ1001, NJ2001, NJ6000, NJ6010, NJ6020, and NJ6100. ▪ Added new PROFIBUS slave device NX5110_NJ, enabling the use of Nexto Jet modules with the Nexto Series PROFIBUS DP network head. ▪ Added Online Variables export and import commands in the Online menu. ▪ Added support for flexible sizing of Retain and Persistent memory areas. ▪ Improvements to PIDControl when used in redundant projects. ▪ Updated name and description of the parameter “Allocate Diagnostics Area According to Device Description” in the NX5001 module configuration. ▪ Added validation for Sync0 and Sync1 parameters in EtherCAT. ▪ Added validation for Cycle Time parameter in EtherCAT slave. ▪ Improved message texts related to synchronization options in EtherCAT configuration. ▪ Improvements to EtherCAT Help files. ▪ Removed HotStartCounter diagnostic from NX3004 CPU diagnostic structure. ▪ Fixed issue when using NX9010 in simulation mode. ▪ Updated text of Hot Swap options in the General Parameters tab. ▪ Improvements to Portuguese Help files. ▪ Improved message texts related to MODBUS driver mapping limits using direct representation. ▪ Info: This version was built with CODESYS Development System 3.5.3.141.	2.03	15/10/2015
AR	▪ Added “Scan Devices” functionality for Nexto Series NX5001 PROFIBUS Master. ▪ Added support for NX9010 rack. ▪ Improvements to EtherCAT Master device. ▪ Improvements to OPC Configuration screen, including new validations for ARRAY type and a new option to use the CP embedded gateway. ▪ Improvements to OPC Server service. ▪ Improvements to Symbol Configuration object to automatically remove deleted variables. ▪ Improvements in handling third-party GSD files in the Device Repository. ▪ Improvements to “Force Values” command for BIT types. ▪ Improvements to editing commands (add/copy/paste/cut/remove) for PROFIBUS slave devices. ▪ Improvements to wizard pages to validate current consumption before creating a project. ▪ Improvements to Help pages. ▪ Info: This version was built with CODESYS Development System 3.5.3.141.	2.02	04/08/2015
AQ	EtherCAT Master: ▪ Added EtherCAT Master device to be inserted as a communication driver. ▪ Enabled “Scan Devices...” option to automatically detect devices connected under the EtherCAT Master. ▪ Added new project profile called “Machine Profile” for fast application execution. PROFIBUS DP Slaves (Nexto Series NX5110 and NX5210): ▪ Added to Configuration and Consumption. ▪ Added to Bill of Materials. ▪ Added limit validations for Nexto PROFIBUS slave series.	2.01	14/05/2015

	▪ Added a library to read and write PROFIBUS DPV1 commands using the NX5001 interface. ▪ Added new CPU configuration option “Enable I/O update per task”, allowing I/O updates in tasks other than MainTask. ▪ Added PLCopenXML Export and Import options in the Project menu. ▪ Added option to use redundancy without Control Panel (“Panel-less redundancy”). ▪ Added option “No Redundancy Panel” to use a redundant system without the Control Panel. ▪ Implemented automatic handling for vital failures of Ethernet interfaces and MODBUS client in Half Cluster redundant projects. ▪ Info: This version was built with CODESYS Development System 3.5.3.141.		
AP	▪ Added OPC Server. ▪ Added application CRC functionality. CSV Import/Export improvements: ▪ Added support for import/export of Nexto CPU parameters. ▪ Added support for import/export of Nexto series module configuration. ▪ Added support for import/export of Ponto series PROFIBUS slaves. ▪ Added support for import/export of GVLs to CSV files. ▪ Added support for import/export of POUs in ST language to CSV files. ▪ Added support for importing multiple selected CSV files. ▪ Added Recipe Manager functionality. ▪ Added new programming language: CFC Page-Oriented language. ▪ Added support for Sync and Freeze commands for NX5001 modules. ▪ Added two new hot-swap modes (Disabled and Enabled with startup consistency). ▪ Introduced compatibility with Windows 8.1. Improvements to Ponto Series PROFIBUS slaves: ▪ Added to Configuration and Consumption. ▪ Added new screen for base configuration. ▪ Added new screen for expansion configuration. ▪ Added to Bill of Materials. ▪ Added to limit validation checks. Project Wizard improvements: ▪ Added option for Bus Expansion with Redundancy. ▪ Added redundancy option with OPC communication. ▪ Added configuration page for I/O modules. ▪ Added descriptions for project profiles. ▪ Improvements to Help files. ▪ Performance improvements in graphical configuration. ▪ Added new function blocks PID_INT and PID_REAL in NextoPID library. ▪ Improvements in PIDControl editor. ▪ Blocked Project Update from newer projects to older versions (downgrade). ▪ Updated support link. ▪ Improved consistency for 24-character device identification. ▪ Added validation for the use of AT variables in redundant objects. ▪ Changed behavior for project file creation and download during Online Change. ▪ Changed behavior for implicit “Create Boot Application” during download and Online Change. ▪ Changed default Source Download option to “Prompt at program download and online changes”.	2.00	30/09/2014

	▪ Changed Additional Files option to send “Download information files” by default. ▪ Improved usability of FBD/IL/LD and CFC editors. ▪ Info: This version was built with CODESYS Development System 3.5.3.120.		
AO	▪ Added “Edit Object (offline)” command. ▪ Disabled “Exclude from Compilation” option for CPUs. ▪ Added new NX6020 analog module. ▪ Standardized parameter comments for modules and texts used in MODBUS mappings. ▪ Improved memory card configuration saving process. ▪ Improvements to Import/Export commands. ▪ Improved Project Update process to allow updating projects from any version without stopping the application. ▪ Removed option to read MODBUS data using broadcast slave address (this option is invalid). ▪ Improved accuracy of the local bus watchdog detection mechanism. ▪ Fixed Online Change functionality. ▪ Fixed MODBUS driver issue where, in specific situations, it could incorrectly indicate a fault diagnostic in NX5000. ▪ Libraries containing diagnostic variable structures are now visible. ▪ Added new read/write time functions with redundancy support and improved accuracy. ▪ Info: This version was built with CODESYS Development System 3.4.4.25.	1.41	18/07/2014
AN	▪ Added new NX6010 analog module. ▪ Added new MODBUS Symbol drivers (Client/Server and RTU Master/Slave), including support for importing/exporting configurations via CSV files. ▪ Added library for User Logs on memory card. ▪ Improved product installation time (changed from Microsoft InstallShield installer to Inno Setup-based installer). ▪ Info: This version was built with CODESYS Development System 3.4.4.25.	1.40	13/01/2014
AM	▪ Improvements to the compiler (updated to version 3.4.4.27). ▪ Increased MODBUS mapping limit from 128 to 512. ▪ Increased TAG name character limit from 24 to 255. ▪ Increased TAG description character limit from 24 to 255. ▪ Increased device name character limit from 24 to 255.	1.33 1.34 1.35	28/10/2013
AL	▪ Improvements to the bus master.	1.32	01/07/2013
AK	▪ Fixed issues in Simulation Mode. ▪ Fixed validation of memory overlap for Diagnostic Variables. ▪ Fixed license verification that returned Demo license when registration expired. ▪ Fixed rack number display showing zero when a module other than bus expansion was selected. ▪ Added compilation on project open. ▪ Improved performance of Project Update command. ▪ Improved project compilation time. ▪ Improved performance of the “Login” command. ▪ Improved performance when editing projects with redundant architectures. ▪ “Bus Interrupt” renamed to “Bus Event”. ▪ Changed watchdog time for external event tasks to 10 ms.	1.31	12/06/2013
AJ	▪ Improvements to Login. ▪ Improvements to cable auto-connection and bus expansion validation.	1.30	11/04/2013
AI	▪ Updated firmware versions of NX3010, NX3020, and NX3030 CPUs to 1.2.1.3. ▪ Updated firmware versions of NX1001, NX1005, and NX4000 modules to 1.1.0.1.	1.29	20/02/2013

	▪ Updated firmware versions of NX2001, NX2020, NX4100, NX5000, NX6000, NX6100, and NX8000 modules to 1.0.1.1. ▪ Updated firmware version of NX5001 module to 1.1.1.1. ▪ Implemented Bus Expansion redundancy. ▪ Implemented BASIC license. ▪ Increased I/O module limit from 80 to 128. ▪ Implemented validation and correction of task watchdog time. ▪ Implemented validation and correction of Configuration task priority.		
AH	▪ Updated IoDrvNX5001 version to 1.1.0.25.	1.28 1.27	25/01/2013
AG	▪ Updated firmware versions of NX3010, NX3020, and NX3030 CPUs to 1.2.0.11. ▪ Updated firmware versions of NX1001 and NX1005 modules to 1.0.0.6. ▪ Updated firmware version of NX6000 module to 1.0.0.3. ▪ Updated firmware version of NX6100 module to 1.0.0.2. ▪ Updated firmware version of NX4000 module to 1.0.0.2. ▪ Added auto-connection and cable models NX9202, NX9205, and NX9210 for Bus Expansion. ▪ Increased symbolic variable memory of NX3010 CPU from 3 MB to 4 MB. ▪ Increased symbolic variable memory of NX3020 CPU from 3 MB to 5 MB.	1.26 1.25	23/11/2012
AF	▪ Improved handling of the “Add Device” command in the context menu.	1.24	06/08/2012
AE	▪ Updated NX3010 CPU to version 1.2.0.6. ▪ Updated NX3020 CPU to version 1.2.0.6. ▪ Updated NX3030 CPU to version 1.2.0.6. ▪ Updated PIDControl plugin to version 1.23. ▪ Updated Help. ▪ Added support for NX4000 module – Bus Expansion module. ▪ Added SNTP and SOE support for NX3020 CPU. ▪ Increased diagnostic area of CPUs.	1.23	03/08/2012
AD	▪ Updated NX3010 CPU to version 1.1.0.22. ▪ Updated NX3030 CPU to version 1.1.0.27. ▪ Added NX3020 CPU version 1.0.0.14. ▪ Updated PIDControl plugin to version 1.22. ▪ Added support for up to 4 NX5001 modules. ▪ Added PX2612 and cables for redundant projects. ▪ Added NX6000 module. ▪ Added NX6100 module.	1.22	30/05/2012
AC	▪ Updated NX3010 CPU to version 1.1.0.10. ▪ Updated NX3030 CPU to version 1.1.0.12. ▪ Added support for Windows 7 64-bit. ▪ Added NX4010 – Redundancy Link Module. ▪ Added wizard for creating redundant projects. ▪ Added SNTP and SOE configuration tabs. ▪ Added PIDControl plugin. ▪ Added project profile update.	1.20	03/02/2012
AB	▪ Updated NX3010 CPU to version 1.0.0.7. ▪ Added NX3030 CPU version 1.0.0.2. ▪ Added NX5000 – Ethernet Interface. ▪ Added “Project Update” functionality.	1.12	29/11/2011
AA	▪ Initial version.	1.00	07/11/2011

4.3 MT8800 – MasterTool Safety

REV	Description	Version	Date
AB	▪ Added “Rename Safety Device” command.	1.01	11/06/2019

	▪ Improved error messages. ▪ Disabled simulation mode for Safety CPU.		
AA	▪ Initial version.	1.00	15/12/2017

5. Ponto Series

5.1 PO5063V1 – PROFIBUS-DP FIELD NETWORK HEAD

REV	Description	Scope	Version	Date
BC	▪ Implemented improvement to provide the executive (firmware) version in byte 6 of the PROFIBUS Head Extended Diagnostics area.	Executive	2.18	05/08/2024
BB	▪ Fixed conditions that could cause the network head to lock up randomly (entering error or watchdog mode).	Executive	2.17	20/10/2021
BA	▪ New version due to source code sharing with PO5064/65. No impact on this product, as it does not support DPV1 (asset management).	Executive	2.14	03/04/2019
AY-AZ	▪ Improved detection of missing modules on the bus.	Executive	2.13	21/03/2016
AX	▪ Improvement in input reading during hot swapping. ▪ Improvement in the assembly of the DPV1 module directory when using the PO9999 module.	Executive	2.11	24/08/2015
AW	▪ Improvement in the bus scanning mechanism, performing a reconfiguration if the module does not start operating after an incorrectly executed hot swap. ▪ Improvement in the sending of extended diagnostics when using the “status in diagnose” option in architectures with the PO1212 input module. ▪ Improvement in the mechanism that supports configuration changes without stopping the control.	Executive	2.08	3/10/2014
AV	▪ Improvement in the timeout calculation configuration based on the configured watchdog value.	Executive	2.07	20/10/2011
AT – AU	▪ Version incremented to follow the version increase of the PO5063V4 and PO5063V5 heads. There was no functional change in the PO5063 model.	Executive	2.06	26/07/2010
AN – AS	▪ Corrected the bit-write command used by HMIs over serial communication.	Executive	2.05	24/03/2008
AL – AM	▪ Changed FPGA version to use Rev C PCI	SW Cargo	1.07	22/11/2007
AI	▪ Corrected the failure in generating diagnostics for the last module on the bus.	Executive	2.04	30/06/2006
AF – AH	▪ Changes applicable only to the PO3X42 series.	Executive FPGA	1.05	06/04/2006
AE	▪ Improved GBL behavior in retransmission due to bus errors.	SW Cargo	1.05	05/10/2005
	▪ Corrected an error in the parameterization of the PO7079 module when positioned at slot 20 or higher.	Executive	2.03	
AA – AD	▪ Initial version.	Executive SW Cargo	2.02 1.04	20/06/2005

5.2 PO5063V5 – REDUNDANT PROFIBUS-DP FIELD NETWORK HEAD

REV	Description	Scope	Version	Date
BC	▪ Implemented an improvement to make the executive (firmware) version available in byte 6 of the PROFIBUS Head Extended Diagnostic area.	Executive	5.18	05/08/2024

BB	▪ Corrected an issue that could cause a brief shutdown of all remote outputs (a blink) when changing parameters using download method 3. ▪ Corrected some conditions that could cause the head to freeze randomly (entering error mode or watchdog).	Executive	5.17	20/10/2021
BA	▪ New version due to source code sharing with PO5064/65. No impacts on this product as it does not have DPV1 (asset management)	Executive	5.14	03/04/2019
AY-AZ	▪ Improved reading of bus diagnostics after switching the PROFIBUS head to Primary Online mode. ▪ Improved detection of missing modules on the bus.	Executive	5.13	21/03/2016
AX	▪ Improved readout of inputs during hot swapping. ▪ Improved assembly of the DPV1 module directory when using module PO9999.	Executive	5.11	24/08/2015
AW	▪ Improved bus scanning mechanism, performing a reconfiguration if the module does not go into operation after an incorrect hot swap. ▪ Improved the sending of extended diagnostics when using the "status in diagnosis" option on architectures with the PO1212 input module. ▪ Improved the mechanism to support configuration changes without stopping the control.	Executive	5.08	3/10/2014
AV	▪ Improved the setting in the timeout calculation depending on the configured watchdog value.	Executive	5.07	20/10/2011
AT - AU	▪ Improved switchover by hot-swapping heads.	Executive	5.06	26/07/2010
AN – AS	▪ Fixed the write bit command, used by serial HMIs.	Executive	5.05	24/03/2008
AL – AM	▪ Changed FPGA version to use Rev C PCI	SW Cargo	1.07	22/11/2007
AI	▪ Fixed the failure to generate the diagnosis for the last module of the bus.	Executive	5.04	30/06/2006
AG – AH	▪ Changes referring only to the PO3X42 series.	Executive FPGA	1.05	06/04/2006
AF	▪ Improved GBL behavior in relay due to bus errors.	SW Cargo	1.05	05/10/2005
	▪ Fixed an error in the parameterization of module PO7079 when in a position equal to or greater than 20.	Executive	5.03	
AA – AE	▪ Initial release	Executive SW Cargo	5.02 1.04	20/06/2005

5.3 PO5064 – PROFIBUS-DPV1 FIELD NETWORK HEAD

REV	Description	Scope	Version	Date
AR	▪ Implemented improvement to make the executive version (firmware) available in byte 6 of the PROFIBUS Extended Head Diagnostics area.	Executive	1.18	05/08/2024
AQ	▪ Fixed some conditions that could cause the head to crash randomly (going into error or watchdog mode)	Executive	1.17	20/10/2021
AP	▪ Fixed an issue that could cause the freezing of I/O if the procedure of changing the configuration of the remote PROFIBUS was carried out without stopping the process in a redundant system (NX3030) when there was simultaneously DPV1 (asset management) communication	Executive	1.12	03/04/2019
AN-AO	▪ Improved detection of missing modules on the bus.	Executive	1.11	21/03/2016
AM	▪ Improved readout of inputs during hot swapping. ▪ Improved assembly of the DPV1 module directory when using module PO9999.	Executive	1.09	24/08/2015

AL	▪ Improved bus scanning mechanism, performing a reconfiguration if the module does not go into operation after an incorrect hot swap. ▪ Improved the sending of extended diagnostics when using the "status in diagnosis" option on architectures with the PO1212 input module. ▪ Improved the mechanism to support configuration changes without stopping the control.	Executive	1.06	3/10/2014
AK	▪ Improved bus scanning for HART devices and Input and Output modules.	Executive	1.05	21/01/2013
AJ	▪ Improved switchover by hot-swapping heads.	Executive	1.03	04/05/2012
AH-AI	▪ Improved the timeout calculation setting depending on the configured watchdog value. ▪ Improved switchover characteristics.	Executive	1.02	09/11/2011
AG	▪ Improved switchover and hot-swappable characteristics of modules at start-up ▪ Improved Switchover support during DPV1 communication ▪ Fixed problem of hot swapping modules in DPV1 communication ▪ Changed treatments for PO7079 and PO7080 counting modules.	Executive	1.01	07/07/2009
AA-AF	▪ Initial release	Executive FPGA	1.00	14/11/2008

5.4 PO5065 – REDUNDANT PROFIBUS-DPV1 FIELD NETWORK HEAD

REV	Description	Scope	Version	Date
AIR	▪ Implemented improvement to make the executive version (firmware) available in byte 6 of the PROFIBUS Extended Head Diagnostics area.	Executive	1.18	05/08/2024
AQ	▪ Fixed issue that could cause a quick shutdown of all remote outputs (flashing) when changing parameters via download method 3. ▪ Fixed some conditions that could cause the head to crash randomly (going into error or watchdog mode)	Executive	1.17	20/10/2021
AP	▪ Fixed an issue that could cause the freezing of I/O if the procedure of changing the configuration of the remote PROFIBUS was carried out without stopping the process in a redundant system (NX3030) when there was simultaneously DPV1 (asset management) communication	Executive	1.12	03/04/2019
AN-AO	▪ Improved reading of bus diagnostics after switching the PROFIBUS head to Primary Online mode. ▪ Improved detection of missing modules on the bus.	Executive	1.11	21/03/2016
AM	▪ Improved readout of inputs during hot swapping. ▪ Improved assembly of the DPV1 module directory when using module PO9999.	Executive	1.09	24/08/2015
AL	▪ Improved bus scanning mechanism, performing a reconfiguration if the module does not go into operation after an incorrect hot swap. ▪ Improved the sending of extended diagnostics when using the "status in diagnosis" option on architectures with the PO1212 input module. ▪ Improved the mechanism to support configuration changes without stopping the control.	Executive	1.06	03/10/2014
AK	▪ Improved bus scanning for HART devices and Input and Output modules.	Executive	1.05	21/01/2013
AJ	▪ Improved hot-swap switchover of heads	Executive	1.03	04/05/2012

AH-AI	▪ Improved the timeout calculation setting depending on the configured watchdog value. ▪ Improved switchover characteristics.	Executive	1.02	09/11/2011
AG	▪ Improved switchover and hot-swappable characteristics of modules at start-up ▪ Improved Switchover support during DPV1 communication ▪ Fixed problem of hot swapping modules in DPV1 communication ▪ Changed treatments for PO7079 and PO7080 counting modules.	Executive	1.01	07/07/2009
AA-AF	▪ Initial release	Executive FPGA	1.00	14/11/2008

5.5 GSDs for PROFIBUS Heads

REV	Description	Scope	Version	Date
AG	▪ Included parameter of PO1212 module	GSD	1.29	05/11/2009
AF	▪ Inserted PO7080 and PO1212 modules ▪ Entered the correct diagnosis for PO7081	GSD	1.28	14/05/2009
AE	▪ Inclusion of GSDs for PO5064 and PO5065 in the package	GSD	1.27	22/11/2008
AD	▪ Removal of PO2026 module ▪ Inserted module PO7081 ▪ Entering option DPV1_Slave = 0 ▪ Inserted PO1400, PO1403 and PO1406 modules ▪ Modificado o formato do release de Wise para 7zip self-extract ▪ Entered parameter 128 for PO1400, PO1403 ▪ Creation of the PO2026 module ▪ Release of the version for the PO1212 module	GSD	1.26	07/05/2008
AC	▪ Modificado a string do PO2025	GSD	1.23	13/01/2006
AB	▪ Created module PO1006 ▪ Created module PO2025 ▪ Modified the parameters of PO7079 ▪ Removed parameters 73, 77, 81 and 85 from PO7079 ▪ Modificado string do PO9100 ▪ Modificado string do PO1006	GSD	1.22	16/11/2005
AA	▪ Initial release	GSD	1.10	10/01/2005

5.6 DTM for PO5064 and PO5065

REV	Description	Scope	Version	Date
AB	▪ Separation into two DTMs was implemented to identify which type of head is being used (PO5064 or PO5065); ▪ Implemented scan function that allows detecting the heads in a PROFIBUS network and also identifying the HART devices connected to the analog modules of the heads.	DTM	1.1.0.5	11/06/2012
AA	▪ Initial release	DTM	1.00	22/11/2008

5.7 PO2025 – MOD 8SD 24VDC SEGURAS C/BARR. ISOL.

REV	Description	Version	Date
AK	▪ Changed overcurrent detection logic to inhibit it during the initial stages of output activation. Now the evaluation begins only after a delay corresponding to the Light Pulse width minus 200us, allowing longer pulse settings to accommodate higher inrush currents (such as those observed in emergency light beacons).	1.01	28/07/2026
AA-AJ	▪ Initial release	1.00	12/07/2005

6. AltusTracer Series

6.1 AT400 - BLE RTLS Asset Monitoring Suite

REV	Description	Version	Date
AV	▪ Added tag battery level information to the interface.	1.15	31/10/2024
AU	▪ Fixed installation issues on Windows Server 2012. ▪ Reduced page loading times, lowering the API's computational cost for this task. ▪ Included the Roboto font in the installation package, removing the need for internet access during first-time interface usage. ▪ API tokens no longer expire after one week, making integration with external applications easier.	1.1.1.4	11/01/2024
AT	▪ Documentation updated. ▪ Improvements to the System Logs and Beacon History tables. ▪ Updated to Flutter 2.10.5. ▪ Fixed several bugs. ▪ Database moved to the ProgramData folder and is no longer lost during system reinstallation or updates. ▪ Added the option to generate notifications when a beacon goes offline.	1.1.1.3	29/09/2023
AS	▪ Various bug fixes. ▪ Modified how durations are displayed on dashboards. ▪ Added user management with two access levels: User and Administrator. ▪ Added a security layer to the API, which now requires a user token in the request header. ▪ Both the application and API now run over HTTPS instead of HTTP, adding an extra layer of encryption. ▪ Notification viewing and deletion are now user-specific. ▪ Logs now track all configuration changes made by users, including the identity of the user who performed the action.	1.1.1.2	16/03/2023
AR	▪ Fixed installation and licensing issues. ▪ Software is now installed on port 6543 instead of port 80 to avoid conflicts.	1.1.1.1	29/12/2022
AQ	▪ Various interface improvements to facilitate navigation and provide greater visualization customization. ▪ Android version optimized.	1.1.1.0	28/09/2022
AP	▪ Dashboard screen restored. ▪ Fixed a bug where the RSSI queue was initialized with zeros. ▪ CanvasKit is now stored locally with the interface to support offline operation. ▪ Minor bug fixes.	1.1.0.7	23/06/2022
AO	▪ Added a licensing system. ▪ Dashboard screen temporarily removed.	1.1.0.6	10/03/2022

AN	▪ Added the first version of the Dashboard screen.	1.1.0.5	12/01/2022
AM	▪ Manual Training: Users define the location of each gateway, and the service determines the location based on the gateway with the strongest signal. ▪ Multi-location Occupancy: Beacon size can be defined as 1, 2, or 3, allowing it to occupy multiple locations. Additional occupied locations are determined by the "Front Location" property of each location. For example, at Brasdiesel, Area 1 is in front of Area 2, and Area 2 is in front of Area 3. Therefore, a size 3 beacon positioned in Area 1 will also occupy Areas 2 and 3. ▪ MQTT Broker Address Configuration: Previously, the system always used the Mosquitto broker installed with xTracer. It is now possible to configure a different MQTT broker if desired (the default broker remains unchanged).	1.1.0.4	05/01/2022
AL	▪ Specific version for deployment at Brasdiesel, where beacon readings must be ignored when a beacon is tilted/upright. This version includes modifications to data_manager.py, config.py, the database settings table, and the interface settings page. ▪ When a beacon is upright, the time queue continues to be updated while the RSSI queue remains static. As a result, the two queues become progressively out of sync for as long as the beacon remains upright.	1.1.0.3b	19/11/2021
AK	▪ Bug fixes. ▪ Added real-time modification of beacons tracked by the Python service. ▪ Added x86 installer option. ▪ Added Brazilian Portuguese localization. ▪ SignalR now reconnects automatically when the connection is lost. ▪ Updated documentation.	1.1.0.3	04/10/2021
AJ	▪ Interface migrated to a web-based platform. ▪ Stability improvements. ▪ Automated IIS configuration. ▪ Added an offline beacon card. ▪ Added location import functionality. ▪ Fixed a bug where the filter value was always fixed at 0.63.	1.1.0.2	16/08/2021
AI	▪ Stability improvements. ▪ Log visualization. ▪ Beacon and training import via CSV. ▪ Access control. ▪ Notifications. ▪ Separation between maps and locations.	1.1.0.1	30/07/2021
AH	▪ Added a Windows interface and a new API. Features include: ▪ Interface-based settings that were previously configured through the .ini file. ▪ Map-based result visualization. ▪ Historical result visualization.	1.1.0.0	24/06/2021
AG	Changes were made to resolve database corruption issues: ▪ Minor API modifications. ▪ Changes to data_manager to make the gateway disconnection verification process more thread-safe.	1.0.0.8	17/05/2021
AF	▪ Created a system that logs gateways that remain disconnected for extended periods. ▪ Removed the database layer between the API, MQTT communication, and the data_manager. ▪ Predictions are now published immediately after being generated. ▪ Improved the installer to simplify executable creation.	1.0.0.7	16/03/2021
AE	▪ Minor message-related changes; additions to .gitignore.	1.0.0.6	29/01/2021
AD	▪ Increased the filtering system's tolerance for data rejection, allowing calculations to be performed in environments with greater interference.	1.0.0.5	21/12/2020
AC	▪ Added filter parameters to the configuration file.	1.0.0.4	27/11/2020
AB	▪ Implemented a logging system; corrected grammar issues and messages throughout the application; introduced the data_manager to reduce	1.0.0.3	03/11/2020

	database usage and eliminate the need to save raw gateway data during system execution.		
AA	▪ Initial revision	1.0.0.1	26/08/2020

7. ArchiteX Series

7.1 AX8500 – ARCHITEX

REV	Description	Version	Date
AC	▪ Updated DTM Nexto to version 1.2.2.0 ▪ Updated Offline Help (Asset Management Manual) ▪ Updated CodeMeter Runtime to v9.10.	1.02	02/10/2026
AB	▪ Included optional AX9000 HART-IP Gateway module; ▪ Included support for licensing via Wibu CodeMeter.	1.01	31/07/2026
A	▪ Initial revision	1.00	28/01/2025

7.2 AX9000 - GATEWAY HART-IP

REV	Description	Version	Date
AB	▪ Initial revision	1.1.3.0	31/07/2026