

Product Description

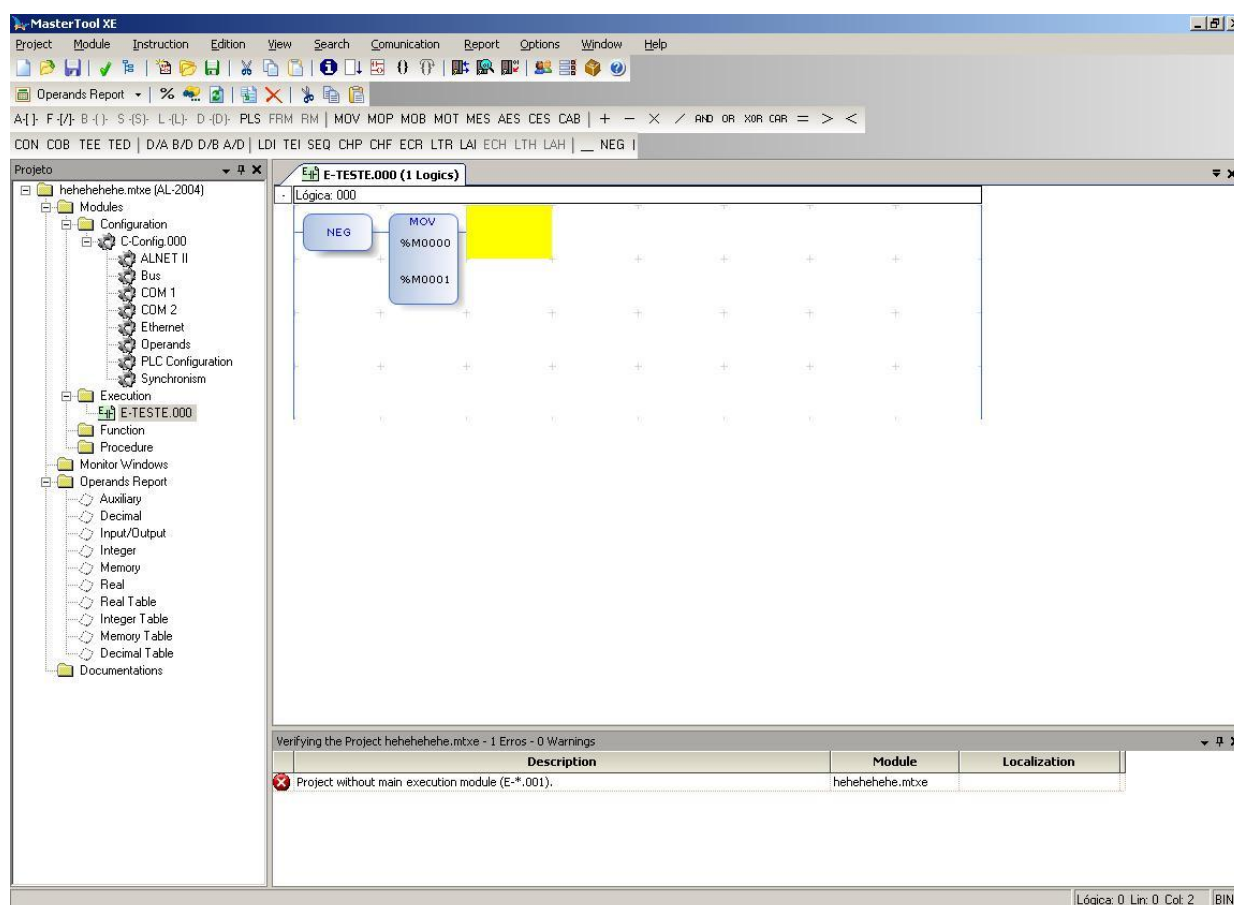
The software MasterTool Extended Edition MT8000 is the configuration and programming tool for ALTUS equipments (Grano, PX and Ponto Series, and AL-2004), including PLCs and remotes. This tool, IEC-61131-3 compliant, also allows monitoring processes, modules configuration and generation of reports.

MT8000 can be executed on Windows 2000® and Windows XP®, and there are available versions of the software, as well as the manual, in English and Portuguese.

MasterTool Extended Edition allows the developing of applications for ALTUS PLCs. The edition of the application program uses a concept of symbolic programming (TAGs or Nicknames), allowing the project documentation during the modules edition. The project concept, which allows a relation among several files making a network, eases the work, reducing the time of the project, besides preventing the user from committing the most common configuration errors, through verification.

It has the project environment optimized, making its use easier. The environment is divided into three parts:

- **TreeView:** This window can be used to increase the agility of MasterTool Extended Edition use, as with only a double click a module or a configuration can be opened, or a list of the instructions used on the program modules can be enabled.
- **Visualization Windows:** the visualization of one or more program module(s), reports, monitoring window or any other file or configuration done by MasterTool Extended Edition.
- **Project Verification:** In this window, the result of the module or project verification is presented. The configuration and programming errors are indicated. Warnings of a programming configuration that cannot have the expected result are also presented.



Ordering Information

Included Items

The product can be bought in two manners:

- The product package has the following itens:
 - Software MasterTool Extended Edition recorded in CDROM
 - License Contract of ALTUS Software
- License to subsequent software download on Altus website: www.altus.com.br (Versions /L Licenses)

Product Code

The following codes must be used to the product purchase:

Code	Name
MT8000 Lite	MasterTool Extended Edition Lite
MT8000 Lite/L	MasterTool Extended Edition Lite/L (license)
MT8000 Professional	MasterTool Extended Edition Professional
MT8000 Professional/L	MasterTool Extended Edition Professional /L (license)
MT8000 Advanced	MasterTool Extended Edition Advanced
MT8000 Advanced/L	MasterTool Extended Edition Advanced /L (license)

Product Features

MasterTool Extended Edition has three distribution versions:

- Lite
- Professional
- Advanced

Those versions have the following characteristics:

	Lite	Professional	Advanced
Verification of the Project	Yes	Yes	Yes
Verification of modules uploading	Yes	Yes	Yes
Programming of PX Series	No	Yes	Yes
Programming of Series AL (Only AL-2004 or superior)	No	Yes	Yes
Programming of Ponto Series	No	Yes	Yes
Programming of Grano Series	Yes	Yes	Yes
Structured Text Language(ST)	No	Yes	Yes
Blocks and Relay Languages (Ladder)	Yes	Yes	Yes
Communication with devices through Ethernet	Yes	Yes	Yes
Saving of Monitoring Windows	Yes	Yes	Yes
Independent numerical base for each operand on monitoring windows	Yes	Yes	Yes
Conversion of Projects from MasterTool Programming MT4100 and MT4000 to MasterTool Extended Edition	Yes	Yes	Yes
Redundancy Wizards	No	No	Yes
Tags of Operands up to 25 characters	Yes	Yes	Yes
Printing of program modules and project configuration	Yes	Yes	Yes
Skins of Function Modules	Yes	Yes	Yes
Skins to loop PIDs	Yes	Yes	Yes
Modules call hierarchy	Yes	Yes	Yes
Substitution of operands blocks	Yes	Yes	Yes
Inclusion of files on the project	Yes	Yes	Yes
MTConsole	No	No	Yes

Programming of UCP Quark Series, AL-600, AL-2000, AL-3000 Series and Piccolo (by MT 4100 module programming) is available from version 5.50 of MasterTool XE.

Language

The software MasterTool XE MT8000 is available in Portuguese and English languages. The language is selected during the software installation process.

Project Verification

Project verification is a tool that indicates errors or dangerous programming practices. So, the user can work in a safer and faster manner. The result of the project verification allows visualizing where the error occurred, pointing the reason for it.

Modules Upload Verification

The verification of modules uploading occurs whenever a module is sent. The objective of this verification is to detect invalid alterations to a given device, taking into consideration the PLC model and the executive version. This verification is extremely important especially when a project is done from another one, which uses another PLC.

Monitoring Windows

Monitoring windows allow a great variety of configurations, for a better versatility on its use. Among the functionalities there are:

- Several operands can be monitored in independent numerical bases.
- The monitoring windows can be saved, to be restored subsequently.

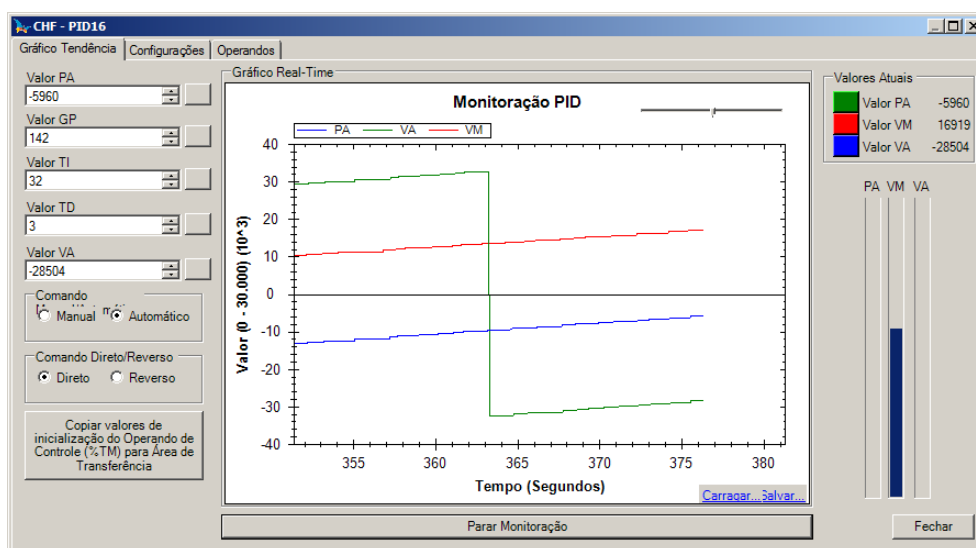
Skins of Function Modules

The function modules supplied by Altus, on its majority, have a personalized way to be filled in. So, it is not necessary to fill in information and configurations to function modules from numbers anymore. This characteristic fasts and guarantees the configurations of those functions.

Skins to Loop PID

The skin to loop PID need to set loop PIDs configured on PLCs. It has friendly interface, where is possible to set all parameters and monitored PID variables like SP, PV and VM within a trend graphic.

The Skin PID is available to function module F-PID16.056 and to PID loops configured by Function 100 Loops PID AL-2752, that running over Realtime Multitasking Processor AL -2005.



The Skin PID is available from version 5.45 of MasterTool XE.

ST Language

The Structured Text, or ST, is a textual programming language, structured, high level and with resources equals to C and Pascal languages. With ST, you can write programs with statement IF, THEN, ELSE, FOR loops and WHILE loops. Also you can create local variables and arrays, create and call functions; and you can access all PLC operands.

	Characteristics
Data Types	BOOL, BYTE, WORD, DWORD, USINT, INT, DINT, REAL
PLC Operands	Can access the PLC operands: <ul style="list-style-type: none"> • %A, %E, %S • %M, %TM • %I, %TI • %F, %TF
Subdivision for operand	Only for operands bits of the %A, %E, %S e %M.
Operators	+ - * / MOD & AND OR XOR < <= > >= = <>
Functions	Yes
Recursive call functions	No
Nested call functions	Up to 16 nested call
Local variables	Yes
Variable to PLC operands	Yes, through AT keyword: VAR WEIGHT AT %M1000 : INT; END_VAR;
Standard related	IEC 61131-3 compliant

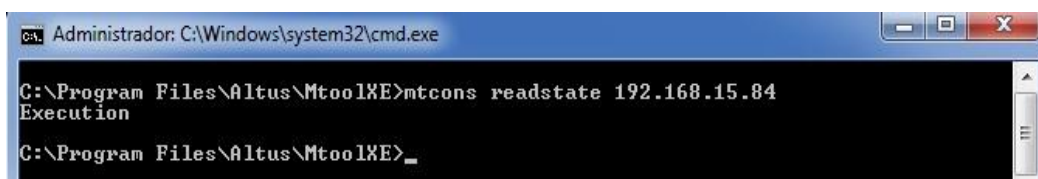
MT4100 Programming Module

MT4100 Programming Module allow to MT8000 programming the PLC series AL-600, AL-2000, AL-3000, QUARK and PICCOLO and router devices AL-2400/S, AL-2401, QK2400 and QK2401.

MTConsole

The MTConsole is a utility that allows the communication with the PC through the command prompt windows to create scripts for automating routine communication. Available commands are:

- Read state from PLC
- Change state from PLC
- Read protection level
- Change protection level of PLC
- Erase FLASH memory
- Remove module of the PLC
- Change memory storage
- Read directory modules
- Read information from PLC
- Read forced relays from PLC
- Change password protection of PLC
- Read memory banks
- Send modules to PLC
- Read modules from PLC
- Compare project
- Verify project



MTConsole is available from MasterTool XE 5.61 version Advanced. Also is necessary a license for this version or higher.

MTConsole works with all models of Altus PLCs. The commands Send/Read modules, Compare, Verify project and read forced relays work only with PLCs of Grano Series, PX Series, Ponto Series and AL-2004.

System Requirements

MasterTool Extended Edition presents, as minimal requisites for its installation and use, the following products:

	MasterTool Extended Edition
Platform	PC with Windows® 2000 SP4, Windows® XP SP2 (32bits) or Windows® 7 (32bits).
Mdac (Microsoft Data Access Components)	Essential for interaction with the ProfiTool. Note: For versions of Windows ® XP with Service Pack higher than the SP2 version is not necessary to install this component. Available at: http://www.microsoft.com/downloads
.Net Framework	Version 2.0 SP2
Processor	Pentium III 800 MHz (minimum)
Disk Space	300 MB (minimum)
RAM Memory	256 MB (minimum)
Resolution	1024x768 (recommendable)

Manuals

To further technical details about Ponto Series products configuration, installation and programming, the following documents must be consulted:

Code	Name
MU299604	MasterTool Extended Edition Use Manual
MP399102	Ladder Programming Manual of MasterTool Extended Edition
MP399003	ST programming Manual of MasterTool Extended Edition
MU299605	MasterTool Extended Edition Use Manual (English)
MP399103	Ladder Programming Manual of MasterTool Extended Edition (English)
MP399603	ST programming Manual of MasterTool Extended Edition (English)