altus

eco OPTIDRIVE™

Eco Building Services
Product Overview

0.75kW – 250kW / 1HP – 350HP

200 – 600V Single & 3 Phase Input

IP20 **IP55** **IP66**

altus

Reduced Harmonic Distortion (THDI)

- Meets EN 61000-3-12 without external equipment

Higher Input Power Factor

Improved Efficiency

IE2, IE3 and IE4 Motor Control

Improved Performance

Dedicated Pump Control Features

Added Flexibility

eco OPTIDRIVE™

altus

Dedicated HVAC Drive

0.75 – 250kW / 1.0 – 350 HP

Focus on Ease of Use

Dedicated HVAC Features:

- BACnet (RJ45 connector)
- Fire Mode for smoke extraction
- Fan-belt break detection
- Motor Spin-Start
- PID Loop w/ Sleep & Wake Levels
- Hand/Auto Button on keypad
- Bypass control
- Speed slaving with speed scaling

eco OPTIDRIVE™

Seven Frame Sizes

- FS2 – FS8

0.75 – 250kW (1 - 350HP)

200 – 600 Volt

- 200 – 240 Volt, 1 Phase Input, 0.75 – 2.2kW
- 200 – 240 Volt, 3 Phase Input, 0.75 – 75kW
- 380 – 480 Volt, 3 Phase Input, 0.75 – 250kW
- 480 – 525 Volt, 3 Phase Input, 150 – 200kW
- 500 – 600 Volt, 3 Phase Input, 0.75 – 110kW

IP20, IP55, IP66

- IP20 FS 2, 3, 4, 5, 8
- IP66 FS 2, 3
- IP55 FS4, 5, 6, 7

IP20

Frame Sizes 2 – 5 (+8)

- ✓ Panel mounting design
- ✓ Fan Cooled

IP66

Frame Sizes 2 – 3

- ✓ Wall mounting design
- ✓ With / Without Isolator
- ✓ Convection Cooled

IP55

Frame Sizes 4 – 7

- ✓ Wall mounting
- ✓ Fan Cooled

altus

Optidrive Eco
Energy Efficiency

Save Energy, Cut CO_2

eco OPTIDRIVE™

Optidrive Eco – Green Credentials

A Responsibility to the Customer, and to the environment...

- Designed for Maximum Motor Control Efficiency
- RoHS Manufactured
- Intelligent Standby
- Energy Optimisation Mode
- EN61000-3-12 Compliant

eco OPTIDRIVE™

Optidrive Eco – Green Credentials

A Responsibility to the Customer, and to the environment...

Energy Estimation Tool

- Available as Simple Website Form
- Available as Download Application
- Predicts Energy Usage
- Predicts Energy Savings
- Predicts CO2 Usage
- Predicts CO2 Savings

Optidrive Eco

Key Features

eco OPTIDRIVE™

OLED Display

OLED Multi Language Plain Text Display

- Factory Fit and Stand Alone Options
- Multi-Line Text Display
- Instant visibility for Voltage, Current, Power, Operating Condition
- High visibility from virtually any angle
- User Defined / Scaled Parameters Displayed
- Common languages supported.

Keypad Operation

Used to display real-time information, to access and exit parameter edit mode and to store parameter changes.

Used to increase speed in real-time mode or to increase parameter values in parameter edit mode.

Used to decrease speed in real-time mode or to decrease parameter values in parameter edit mode

Used to reset a tripped drive.
When in Keypad mode is used to Stop a running drive.

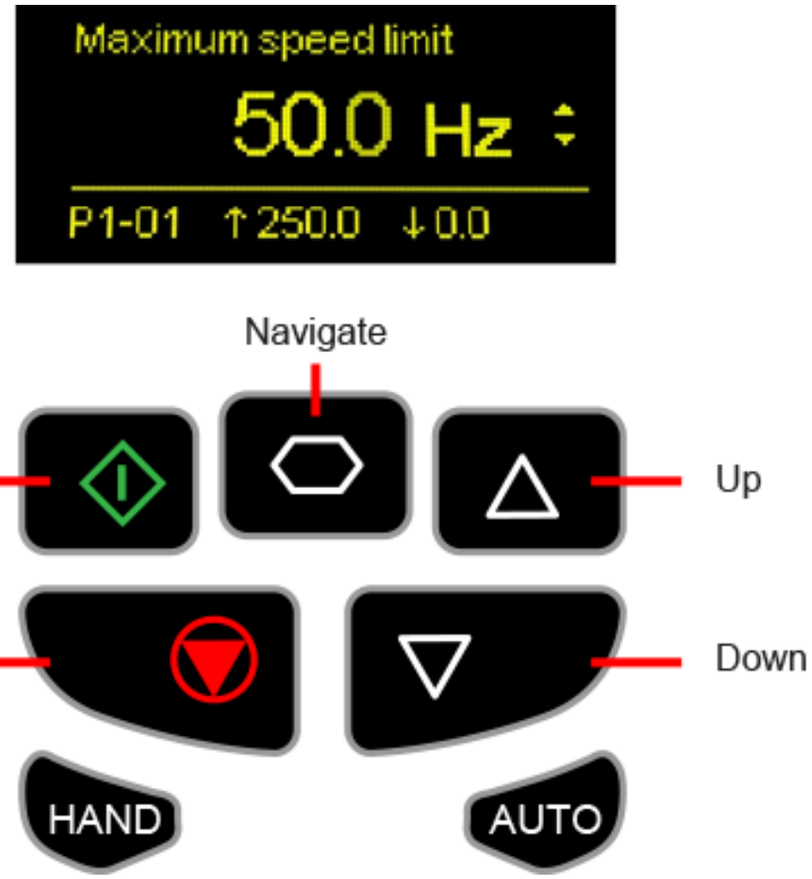
When in keypad mode, used to Start a stopped drive or to reverse the direction of rotation if bi-directional keypad mode is enabled

HAND

Hand mode, places drive directly under keypad control

AUTO

Auto mode, places drive under auto control configured by P1-13.
Normally set to BMS control.



Communications Interface

On board interfaces for

- BACnet MS/TP
- Modbus RTU

Optional Plug in interfaces for:

BACnet IP

EtherCat

DeviceNet

Profibus DPV1

Modbus TCP

EtherCat

ProfiNet

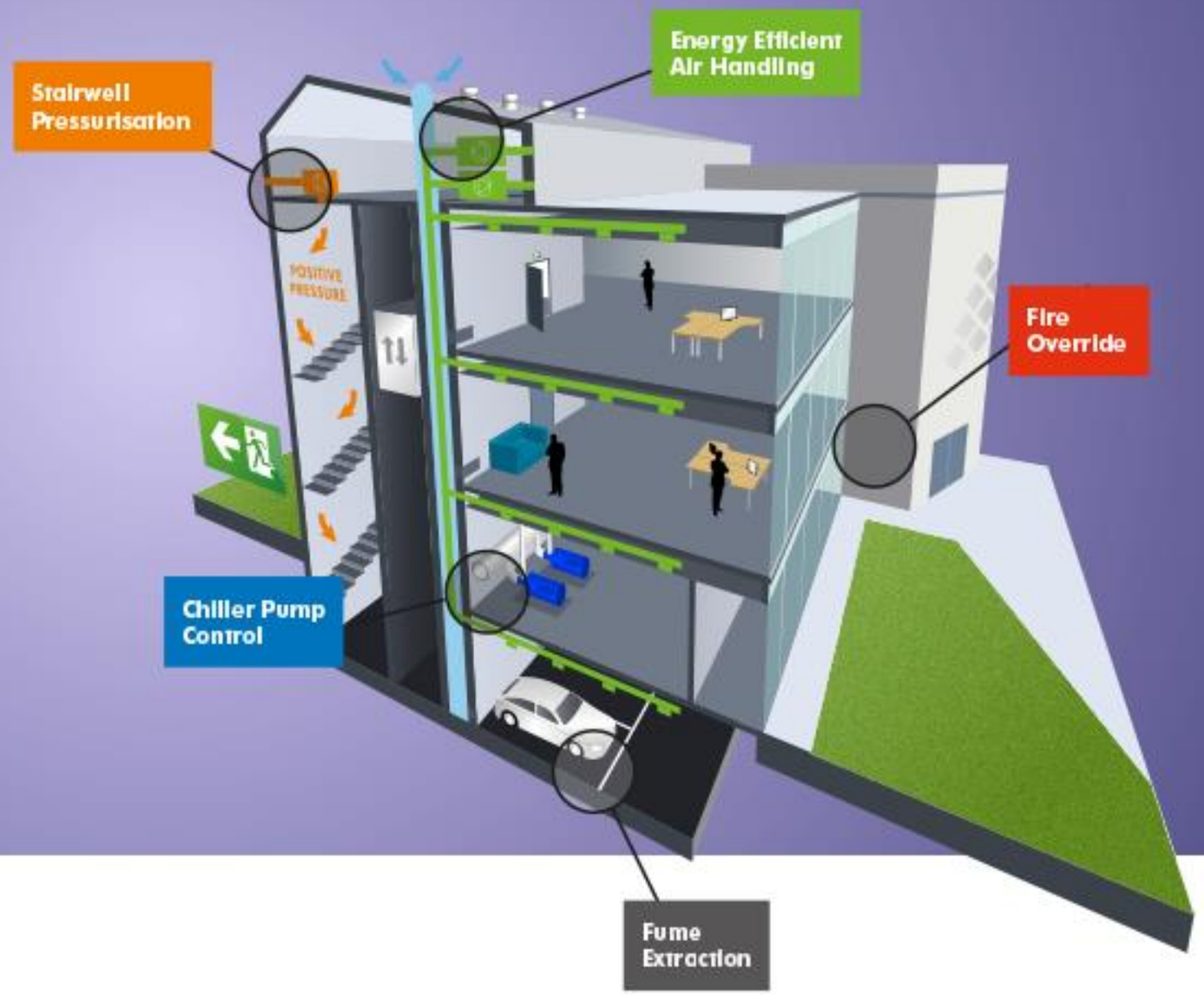
Diagnostics

Service Indicators and Procedures

- Settable Service Interval parameter for routine drive or system maintenance alerts.
- Read Only ‘Time to Service’ parameter in diagnostics menu
- Displayed flashing service indicator on OLED display when service is due.
- Drive outputs configurable for service due indication
- Simple Service ‘reset’ procedure
- Invertek recommended drive service procedure and checks published for increased product life.

altus

Energy Efficient...
Dedicated Fan & Pump Control

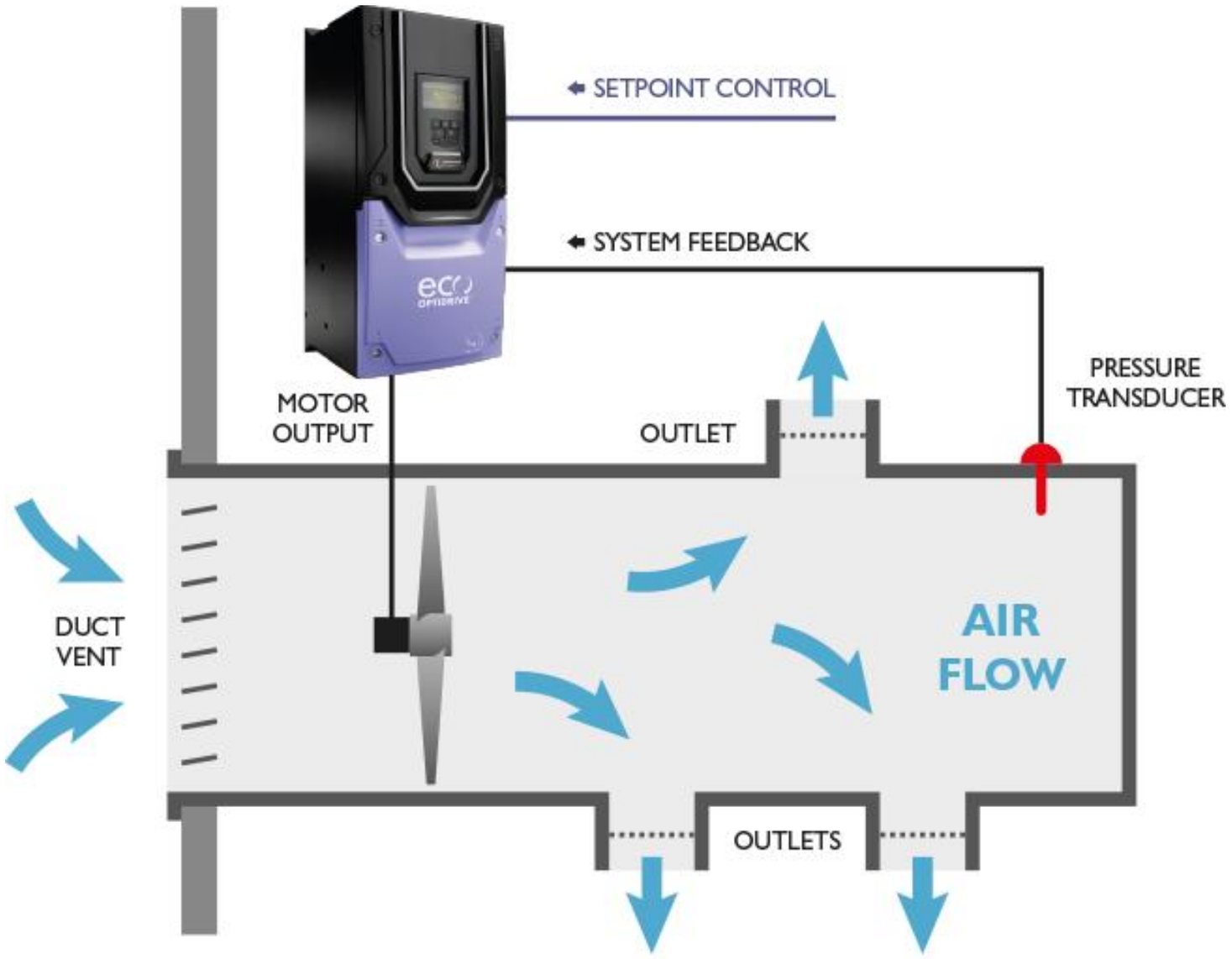


eco OPTIDRIVE™

Controlling Your HVAC System

Airflow can be automatically controlled based on

- Flow
- Pressure
- Differential Pressure
- CO2
- Etc…



Fire Mode Operation

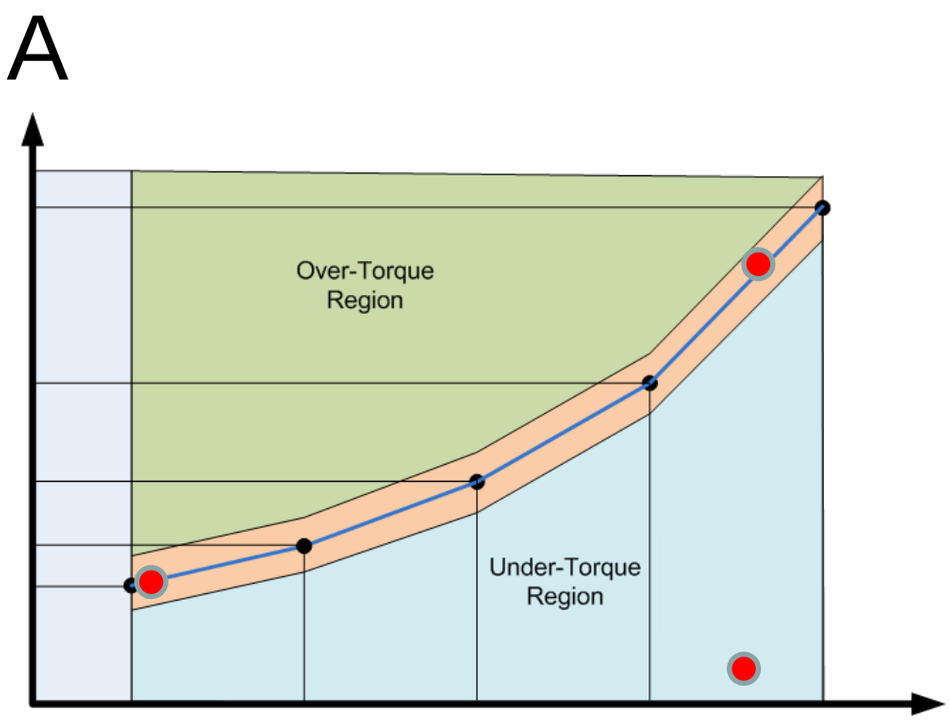
- Drive tries to maintain operational status regardless of inputs (excluding fire mode input) and none critical trip conditions
- Fire (Fire Mode) is shown on drive display when fire mode is active
- Drive output relays configurable for indicating drive is in Fire mode
- Trips Ignored by Fire Mode:
  - Over-temperature, Under-temperature, Thermistor fault, External trip, 4-20mA fault, Phase imbalance, Phase loss, Comms Loss, Accumulated Overload Trip
- Trips requiring automatic reset:
  - Under-Voltage, Over-Voltage, Fast Over-current, Instantaneous Over-Current, Output stage fault
- Used for smoke extraction systems and stairwell pressurization

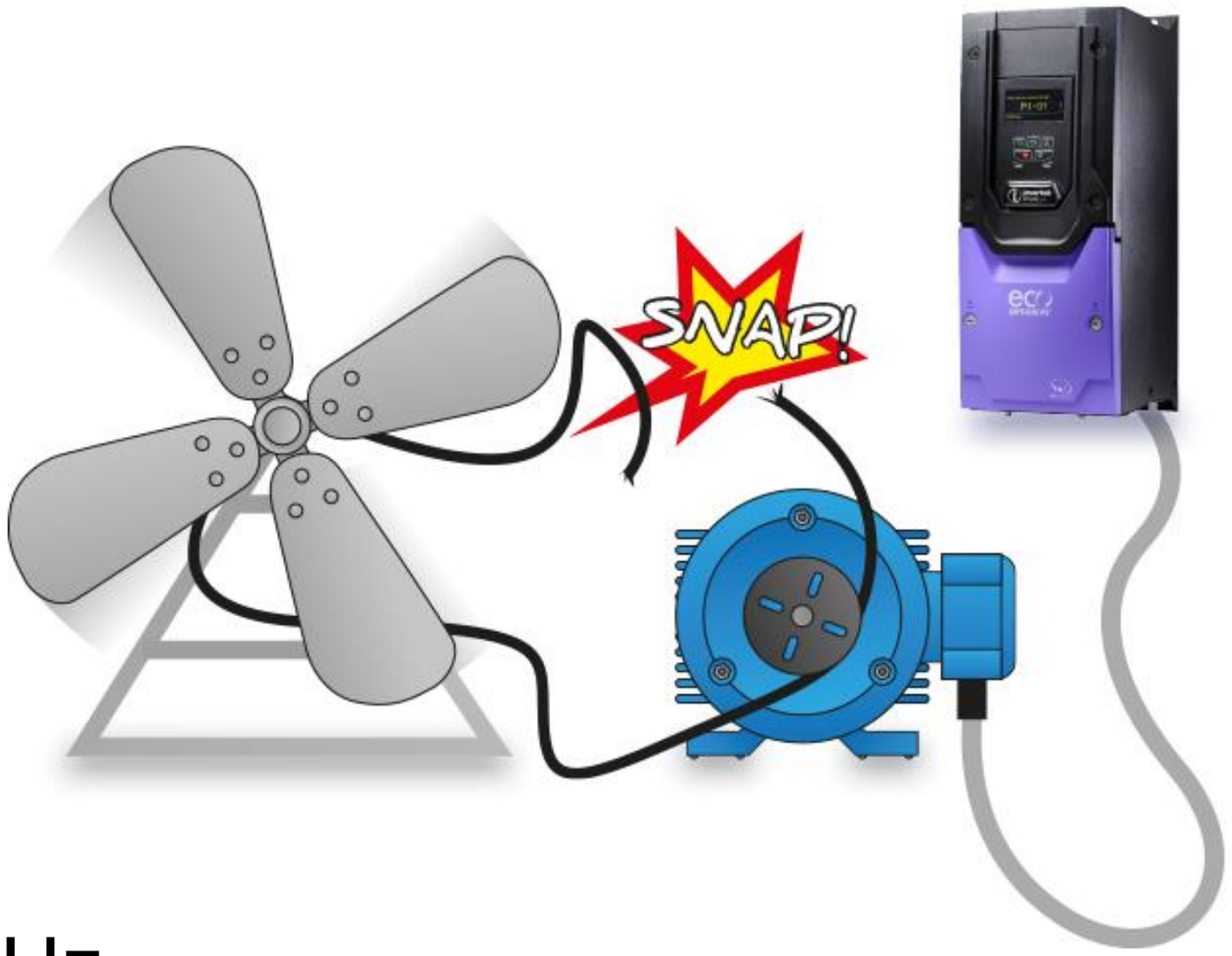
Fan Belt Break Detection

- Uses the Torque detection function to monitor output speed verses current and to compare this to the standard operating profile
- When an under-torque condition is detected the drive is programmed to trip (display shows Under-Torque).
- Drive relay can be configured to indicate drive trip status
- Fan belt break is immediately detected and down time is minimised.

Fan Broken Belt Detection

- Stop
- Run
- Under-Torque





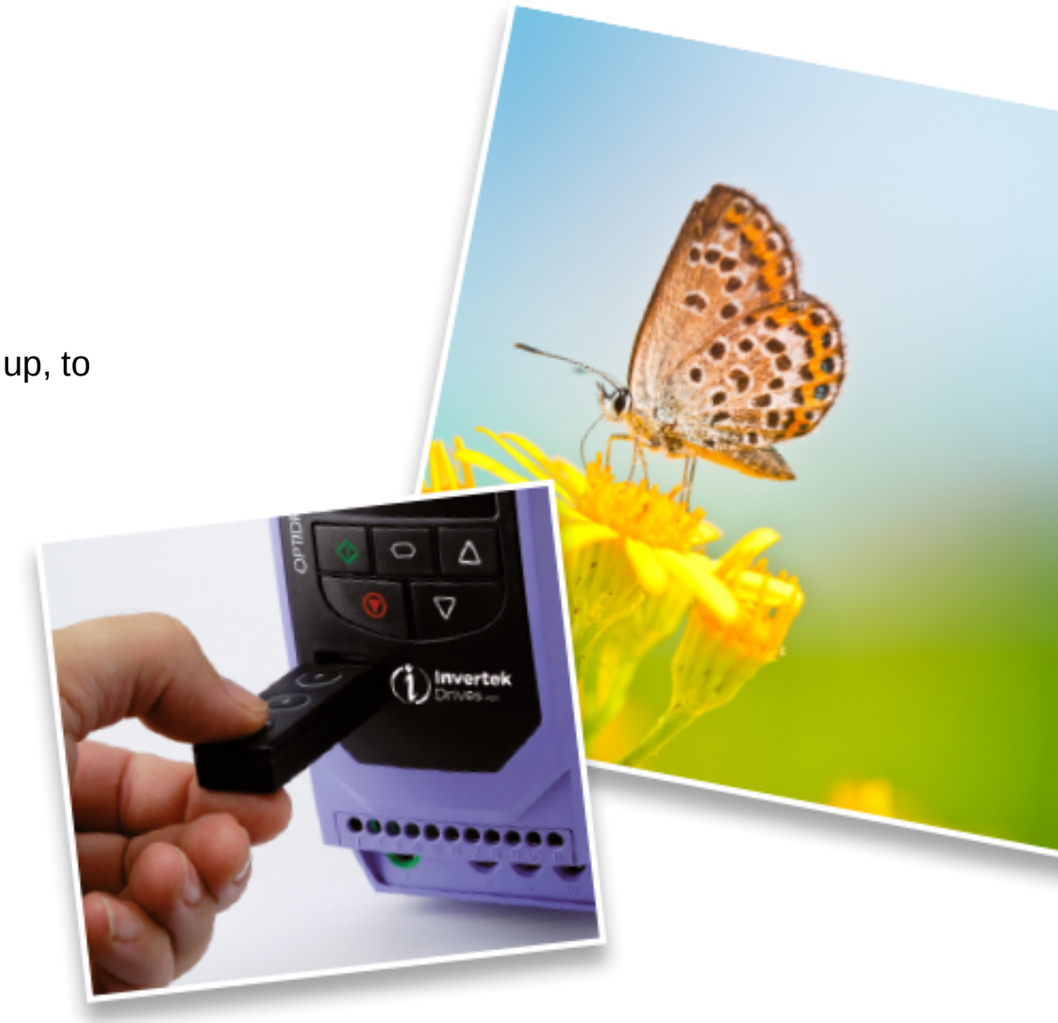
PID Sleep / Standby Function

- The drive has an internal PID that can be used to modulate the motor speed to control pressure, temperature, flow etc.
- To maximise on energy saving and prevent situations like pumping a dead head, a Sleep / Standby mode is available
- The drive enters standby/sleep mode when enabled if the motor frequency/speed is at or below the ‘standby speed threshold’ for the time set in ‘Standby Timer’
- In Standby/Sleep Mode, the display shows ‘Standby’
- In PID Mode, the drive ‘wake-up’ is configured based on the PID Error – the difference between the setpoint and the actual feedback

PID Boost

When operating in PID control, a pre boost function allows the drive to operate at a fixed speed for a preset time prior to entering sleep mode. This prevents the drive continually cycling in and out of sleep mode, increases the sleep time and hence energy savings

- P6-11 Sets the time that the drive will operate at fixed speed for on starting
  - 0.0 – 250.0 Seconds Range
- Drive operates at Preset Speed 7 (P2-07) during this time
- The drive can also be programmed to restart at a fixed speed for a fixed time on wake up, to allow the PID control to adjust
- P6-12 Sets the time that the drive will operate at fixed speed for before stopping
  - 0.0 – 250.0 Seconds Range
- Drive operates at Preset Speed 7 (P2-08) during this time



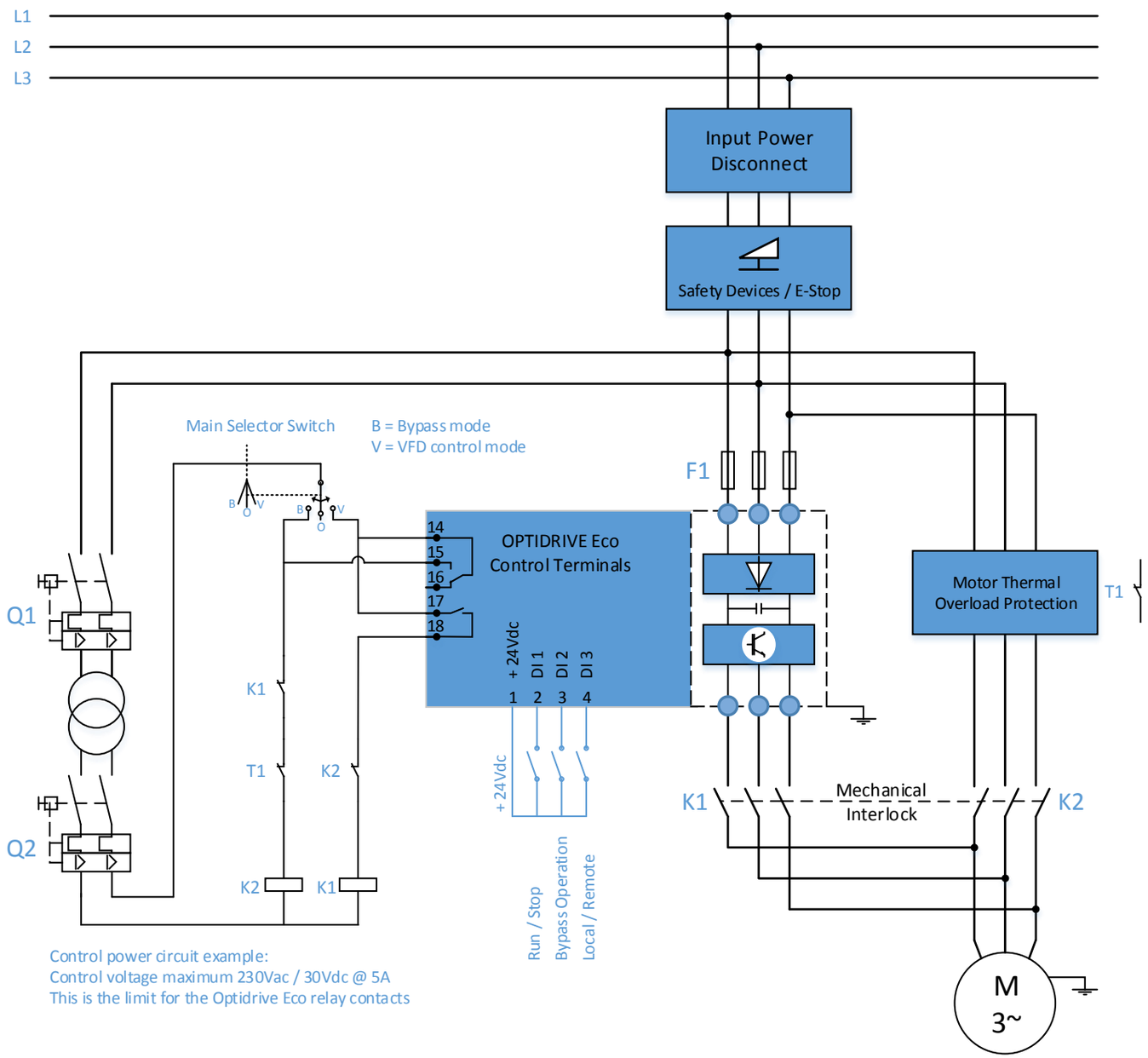
Bypass Control

Eco Bypass Controller:

When under Eco control bypass contactor can be automatically selected when:

- An assigned bypass input is enabled
- Fire mode is activated
- The drive trips

Drive relays 1 and 2 automatically configured when bypass mode enabled.



altus

Thank you

eco OPTIDRIVE™

@altus.sa altussa

KNOW OUR PRODUCTS
AND SOLUTIONS

www.altus.com.br

altus