



# OPTIDRIVE™

The **easy to use**  
variable frequency drive

0.37kW – 22kW / 0.5HP – 30HP  
110 – 480V Single & 3 Phase Input

IP20

IP66



**altus**

# Easy Control for **All Motor Types**

Induction

Brushless DC

Permanent Magnet

Synchronous Reluctance



**OPTIDRIVE™**  $\text{E}^3$



Now you can  
**specify one drive**  
for many environments

Washdown Ready

Outdoor Rated

Dust-Tight

Panel Mounted

Controls multiple motor types  
IE2, IE3, IE4 and IE5



**OPTIDRIVE™** (E<sup>3</sup>)





The easy to use variable frequency drive

IP20

Up to 22kW / 30HP

- ✓ Easy to use
- ✓ Compact & robust

IP66

Up to 22kW / 30HP

- ✓ Easy to use
- ✓ Compact & robust
- ✓ Outdoor rated

- ✓ Internal Category C1 EMC filter
- ✓ Internal PI control
- ✓ Internal brake chopper
- ✓ Dual analogue inputs
- ✓ Operates up to 50°C
- ✓ Bluetooth® connectivity







The easy to use variable frequency drive

## Sensorless Vector Control for all Motor Types

**IM**

IE2 & IE3  
Induction  
Motors

**PM**

AC Permanent  
Magnet Motors

**BLDC**

Brushless DC  
Motors

**SynRM**

Synchronous  
Reluctance  
Motors



Precise and reliable control for  
**IE2, IE3, IE4 & IE5 motors**





The easy to use variable frequency drive

IP20

Up to 22kW / 30HP

## Panel Mounted

4 sizes cover global supply ratings



- Simply power up for instant energy savings
- 14 basic parameters
- Up to 60 parameters if required





# OPTIDRIVE™ E<sup>3</sup>

The easy to use variable frequency drive

**IP20**

Up to 22kW / 30HP

## Panel Mounted

Fast Connection



Power supply connects at top



Simple Installation

Quick Reference Help Card



Operates up to 50° C

Modbus RTU  
CANopen



Dual analogue inputs

OPTISTICK



Motor supply connects at base







**IP66 Outdoor**

**Up to 22kW**

**Outdoor rated enclosed drives for direct machine mounting, dust tight and ready for washdown duty**

**Coated Heatsink as Standard**

Ideal for hygiene based operations requiring washdown — such as food and beverage



**IP66 / NEMA 4X**



**Locally customisable**

Flat front to terminal cover with mounting points for switches and an internal PCB.



Switched or non-switched

Conformal coating as standard



- 1 2 x RJ45 ports**  
eliminate the need for a splitter.
- 2 Easily accessible EMC disconnect**
- 3 Easy to wire**  
due to the large, accessible chamber and removeable gland plate.





The easy to use variable frequency drive

**IP66 Outdoor**

**Up to 22kW / 30HP**

## Switched Drives

For ultimate ease of use

Local Speed Potentiometer

Run Reverse / Off /  
Run Forward Switch

Lockable Mains  
Disconnect / Isolator

Hand/Off/Auto – Local/Remote

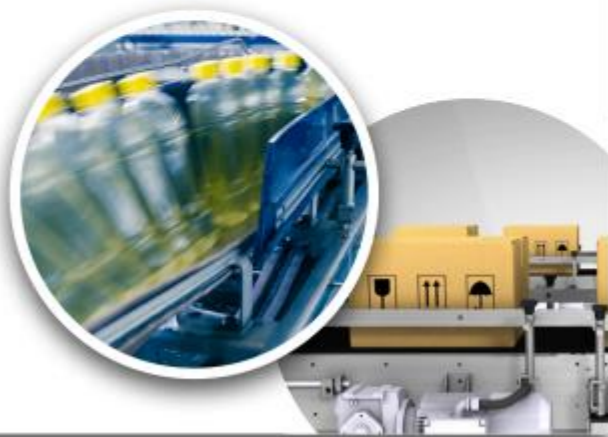


Single parameter application macro selection



## Industrial Mode

- ✓ Conveyors
- ✓ Mixers
- ✓ Treadmills



## Pump Mode

- ✓ Dosing Pumps
- ✓ Borehole Pumps
- ✓ Transfer Pumps
- ✓ Swimming Pools
- ✓ Spas
- ✓ Fountains



## Fan Mode

- ✓ Air Handling Units
- ✓ Ventilation Fans
- ✓ Circulating Fans
- ✓ Air Curtains
- ✓ Kitchen Extract



**Industrial Mode** optimises Optidrive E3 for load characteristics of typical industrial applications

**Applications include:**

- ✓ Conveyors
- ✓ Mixers
- ✓ Treadmills

**Sensorless Vector** provides high starting torque and excellent speed regulation

**IP20**

panel mount units

**IP66**

for direct machine mounting

Rapid parameter cloning using **OPTISTICK Smart**





**Pump Mode** makes energy efficient pump control easier than ever

**Applications include:**

- ✓ Dosing Pumps
- ✓ Borehole Pumps
- ✓ Transfer Pumps
- ✓ Swimming Pools
- ✓ Spas
- ✓ Fountains

Constant or variable torque

Internal PI control



**Fan Mode** (inc. fire operation) makes air handling a breeze, ideal for simple HVAC systems.

**Applications include:**

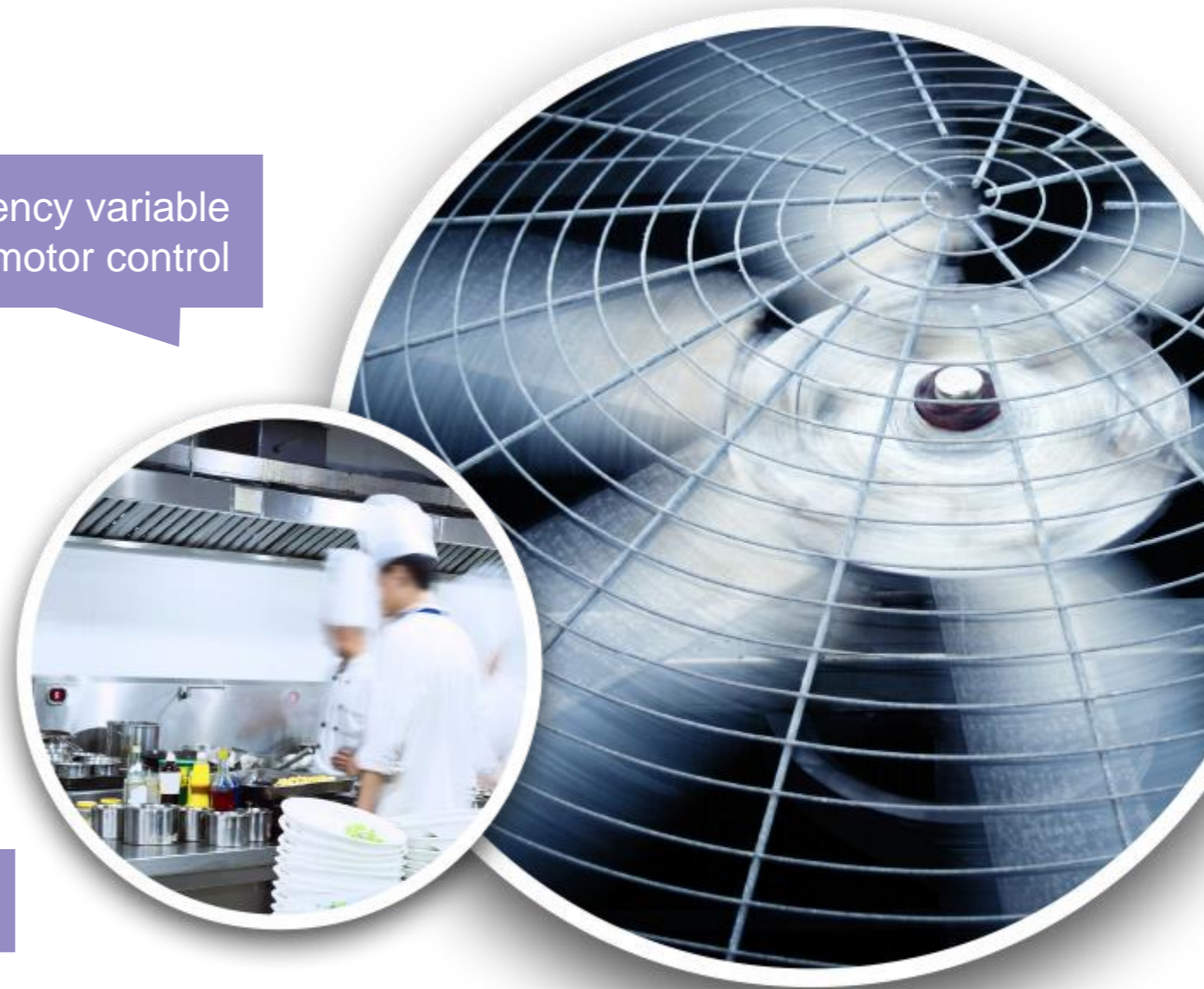
- ✓ Air Handling Units
- ✓ Ventilation Fans
- ✓ Circulating Fans
- ✓ Air Curtains
- ✓ Kitchen Extract

High efficiency variable torque motor control

Flying start capability

Mains loss ride through

Internal PI control



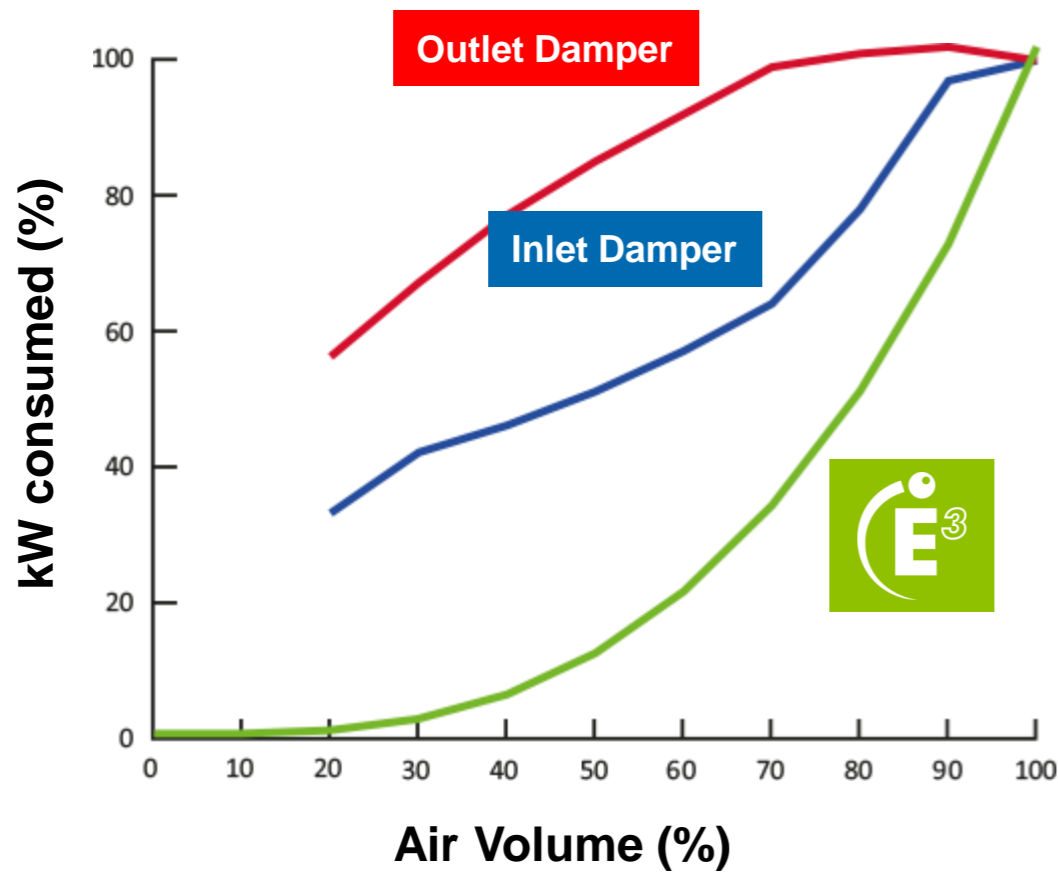
**Fire mode ignores signals and alarms, keeping Optidrive E3 operating for as long as possible.**

This feature is crucial for ensuring smoke extraction from buildings in the event of a fire.



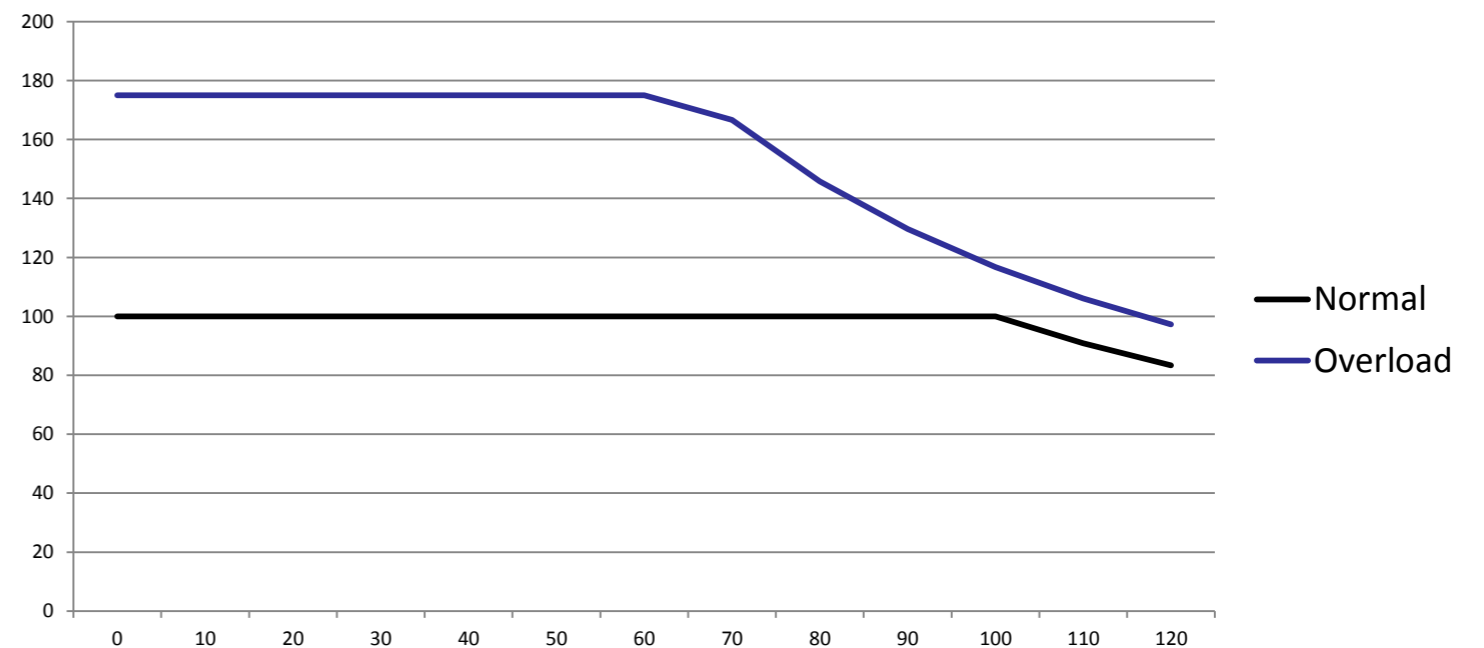
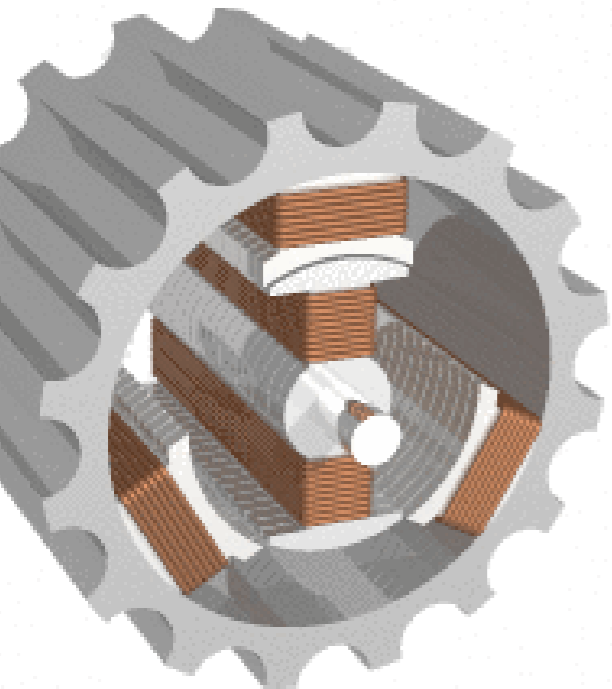


How much energy could you save?



## Advanced Vector Control

- Works without autotune for matched motors (Motor kW = Drive kW)
- Autotune for optimal performance
- Excellent Low Speed Torque
- High Dynamic Speed regulation
- Tripless Operation

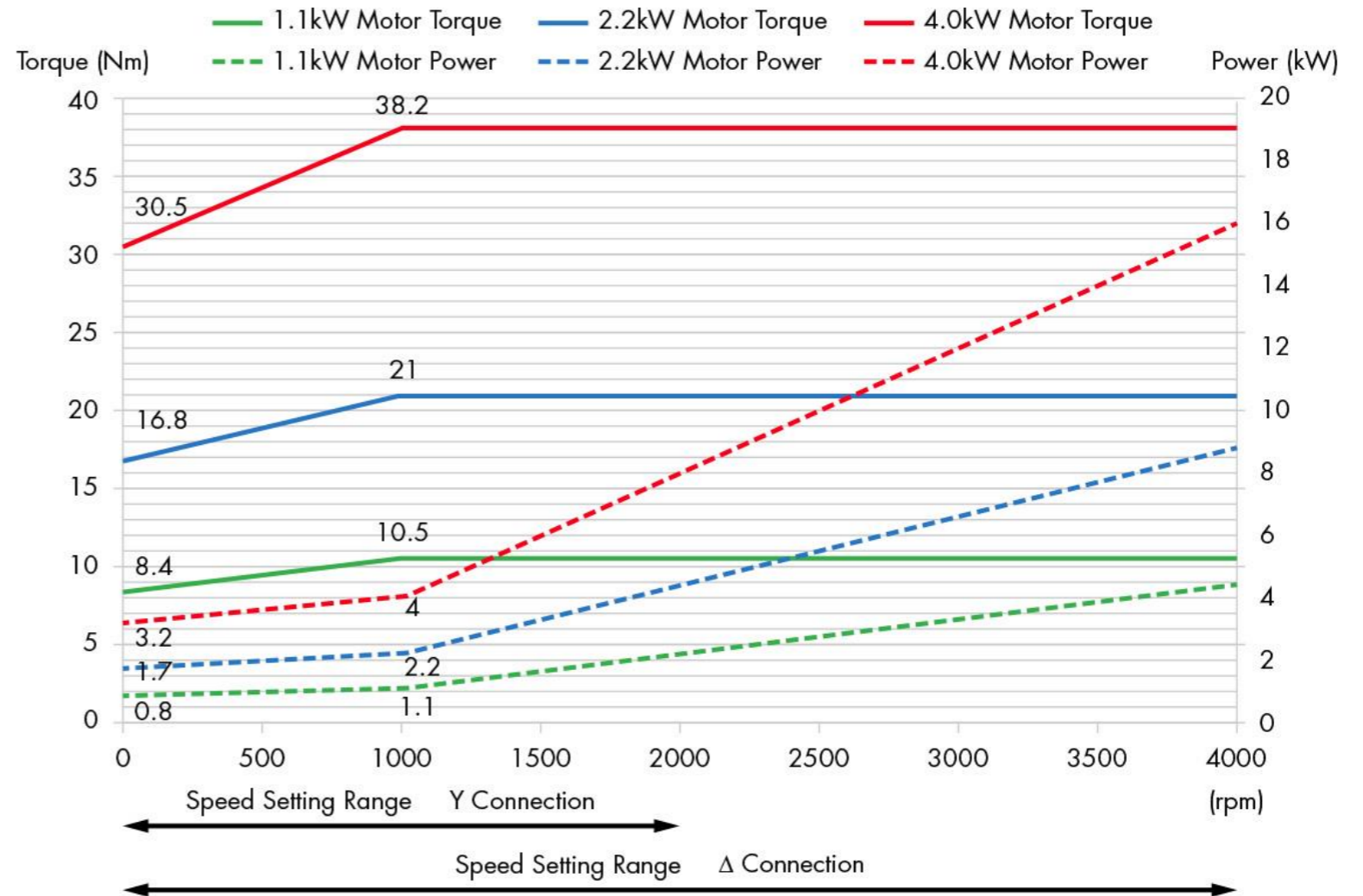


## Motor Types

- Permanent Magnet
- BLDC
- Synchronous Reluctance

## Simple Set Up

- Universal solution for all motor types from all manufacturers
- Requires only basic motor data entry & autotune





- Motor thermal protection based on  $I \times t$  calculation
- Optional direct connection of motor PTC Thermistor
- Enabled using E-trip function in terminal configurations
- Trip level set at approx.  $2.5k\Omega$
- Optional Thermal Memory Retention function, UL compliant

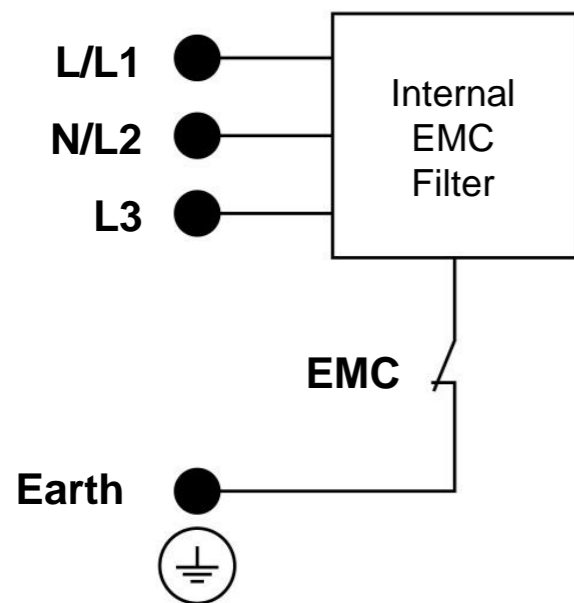


## IP20 Drives:

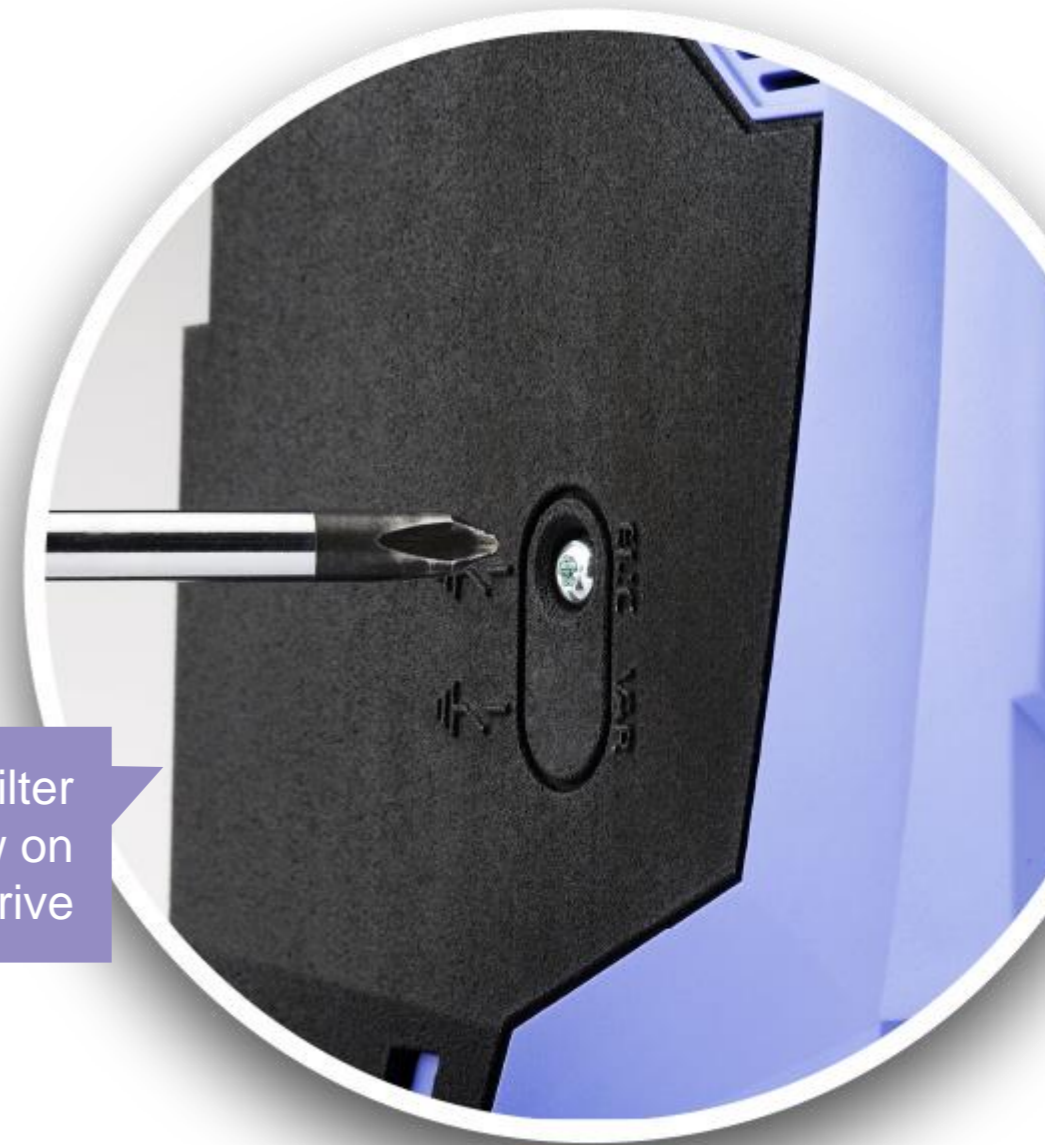
Internal EMC filter with quick disconnect

## Optional:

External Optifilter available



Disconnect EMC filter  
by removing screw on  
side of drive





**Size 2 & 3 drives have  
internal brake transistor**

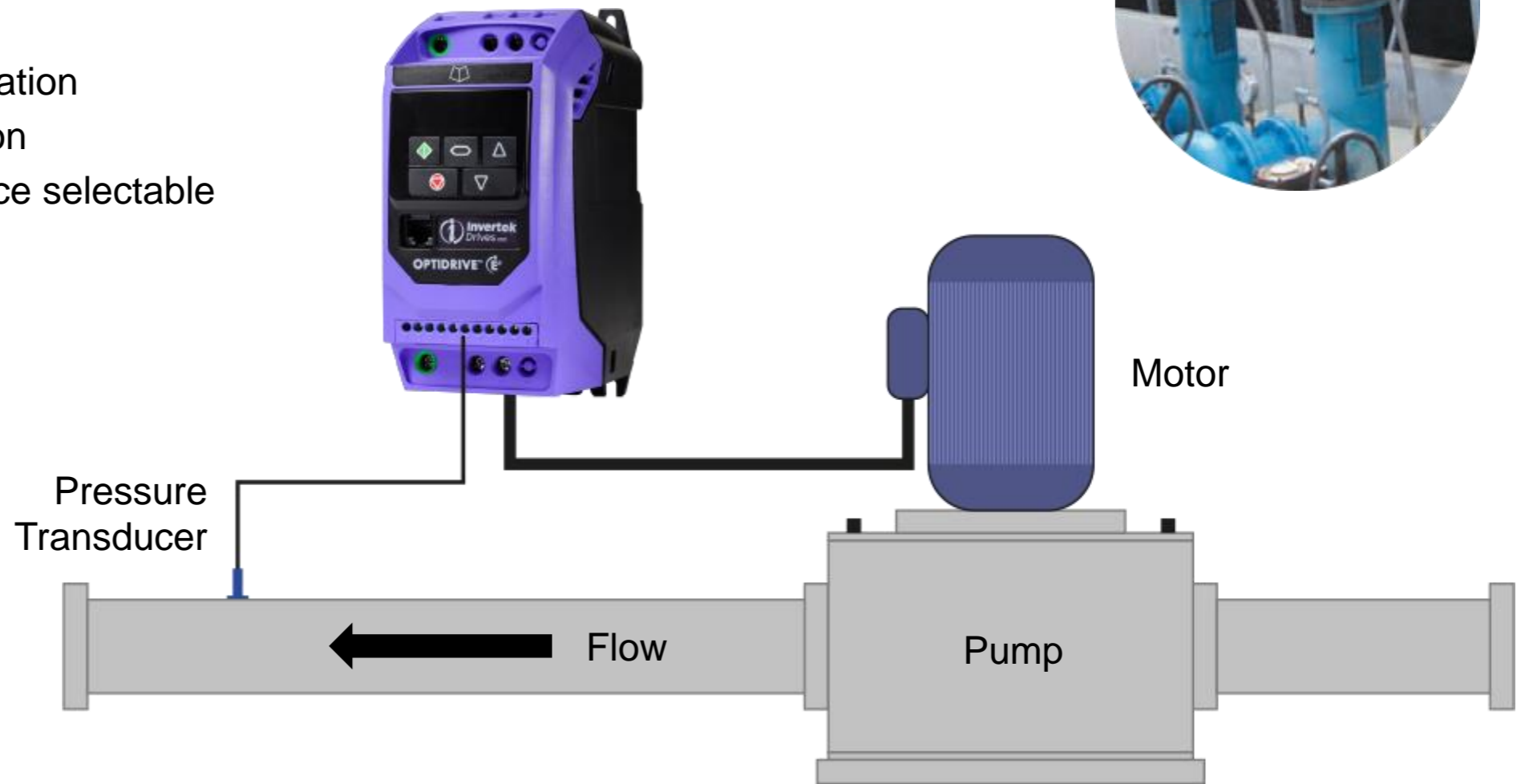
Optional brake resistor  
mounts inside the drive

**Built in simple PI Controller for feedback applications**  
(pressure, flow, temperature etc.)

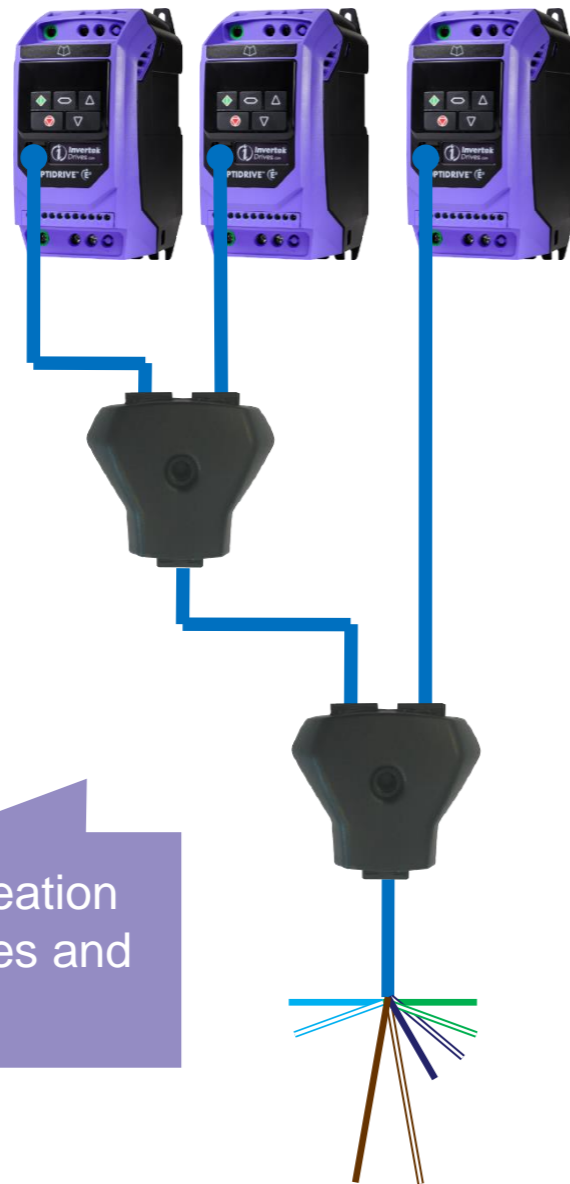
- Easy parameter configuration
- Direct or inverse operation
- Analog or Digital reference selectable



**Typical Pressure Control Application:**







Up to 63 drives can be connected on a single network

*Modbus RTU*

Easy network creation using RJ45 cables and splitters

- All user adjustable parameters are accessible
- All diagnostics available

### Supports

- Read Multiple Holding Registers
- Write Single Holding Register



Intelligent controller,  
PLC etc.



RJ45 Cables & Splitters

- Up to 1000kbps support
- Up to 63 drives
- All user adjustable parameters are accessible
- Control & Status PDOs

## Automatically detects motor frequency and rotational direction (fwd or rev) on drive enable

- Ramps to set speed at desired acc/dec ramp rate
- Reduces risk of O-I trip on enable and mechanical wear on system
- Typically used in HVAC and High Inertia applications
- Not available on Size 1





NFC

Bluetooth®

**OPTISTICK Smart**

Optipad



**Remote Keypads**



Optiport 2

Cable Splitter



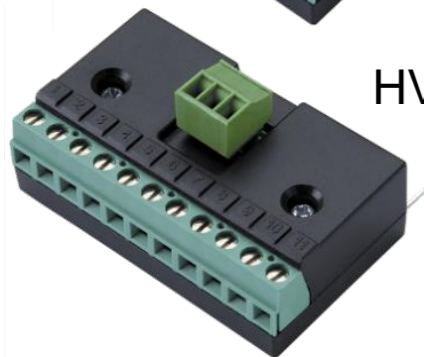
**RJ45 Accessories**



2ROUT



HVACO



**Relay Option Cards**



**Gateway for PROFIBUS, DeviceNet & EtherNet**

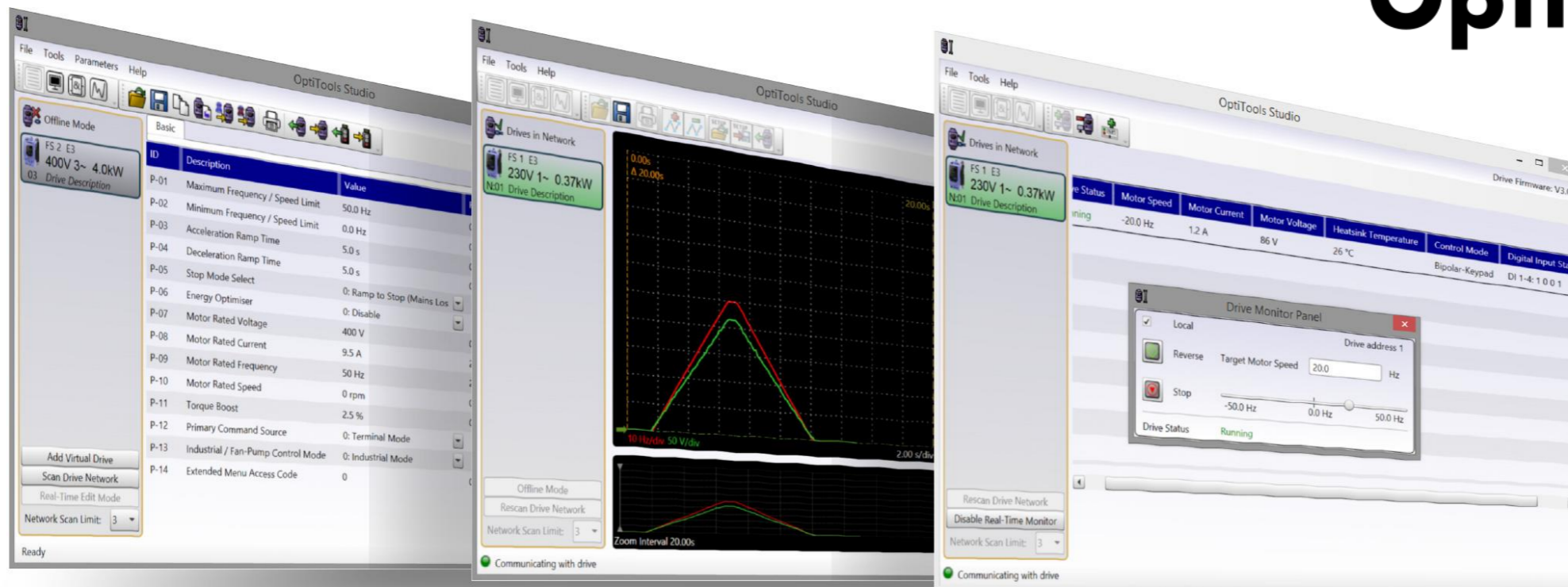


**External EMC filters, input chokes & output filters**



**PC Interface**

# OptiTools Studio



- Parameter Configuration
- Drive Monitor Tool
- Scope Function
- Bluetooth Connection



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