

OPTIDRIVE™

The **easy to use**
variable frequency drive

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

IP20

IP66



Easy Control for **All Motor Types**

Induction

Brushless DC

Permanent Magnet

Synchronous Reluctance



OPTIDRIVE™ 

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)³

IP66 / NEMA 4X

OPTIDRIVE™ E³

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



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

IP20

Up to 22kW / 30HP

OPTIDRIVE™ 

The easy to use variable frequency drive

Panel Mounted

4 sizes cover global supply ratings



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



IP20 Up to 22kW / 30HP

OPTIDRIVE™ **E³**

The easy to use variable frequency drive

Panel Mounted



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.

IP66 Outdoor

Up to 22kW / 30HP

OPTIDRIVE™ 

The easy to use variable frequency drive

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



Application Macros

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

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

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

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

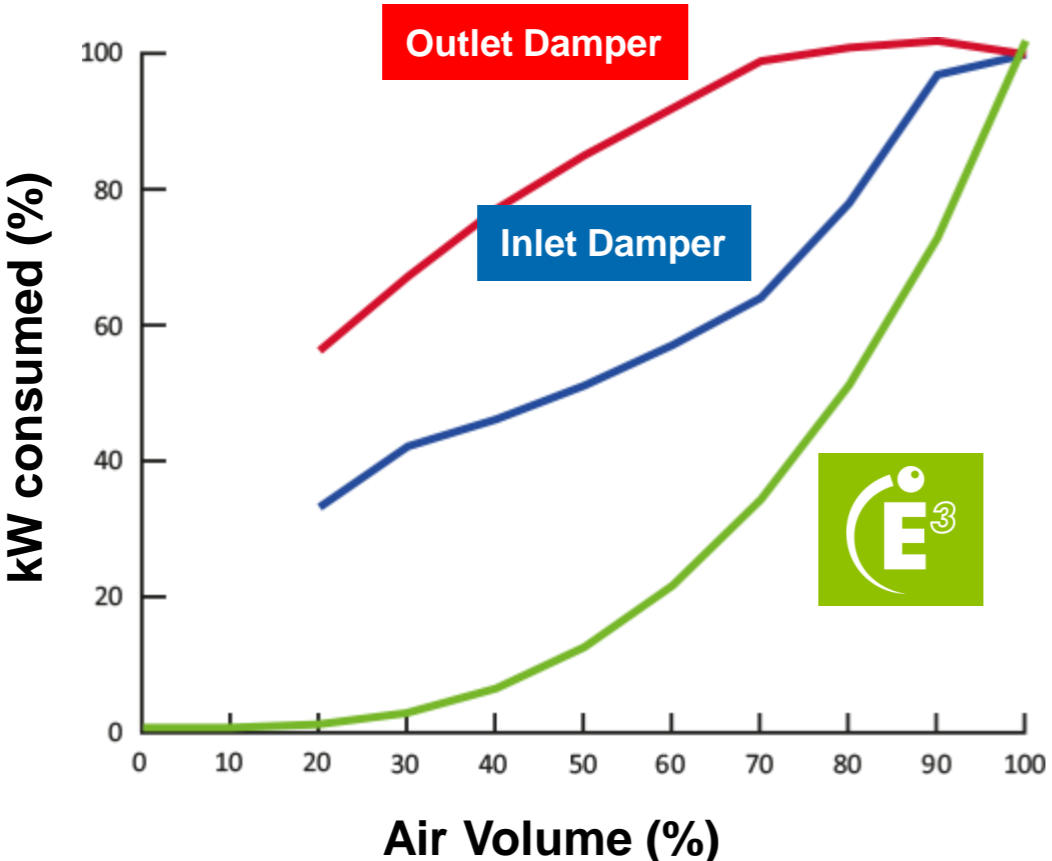
Fire mode ignores signals and alarms, keeping Optidrive E3 operating for as long as possible.

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



Energy Savings Calculator

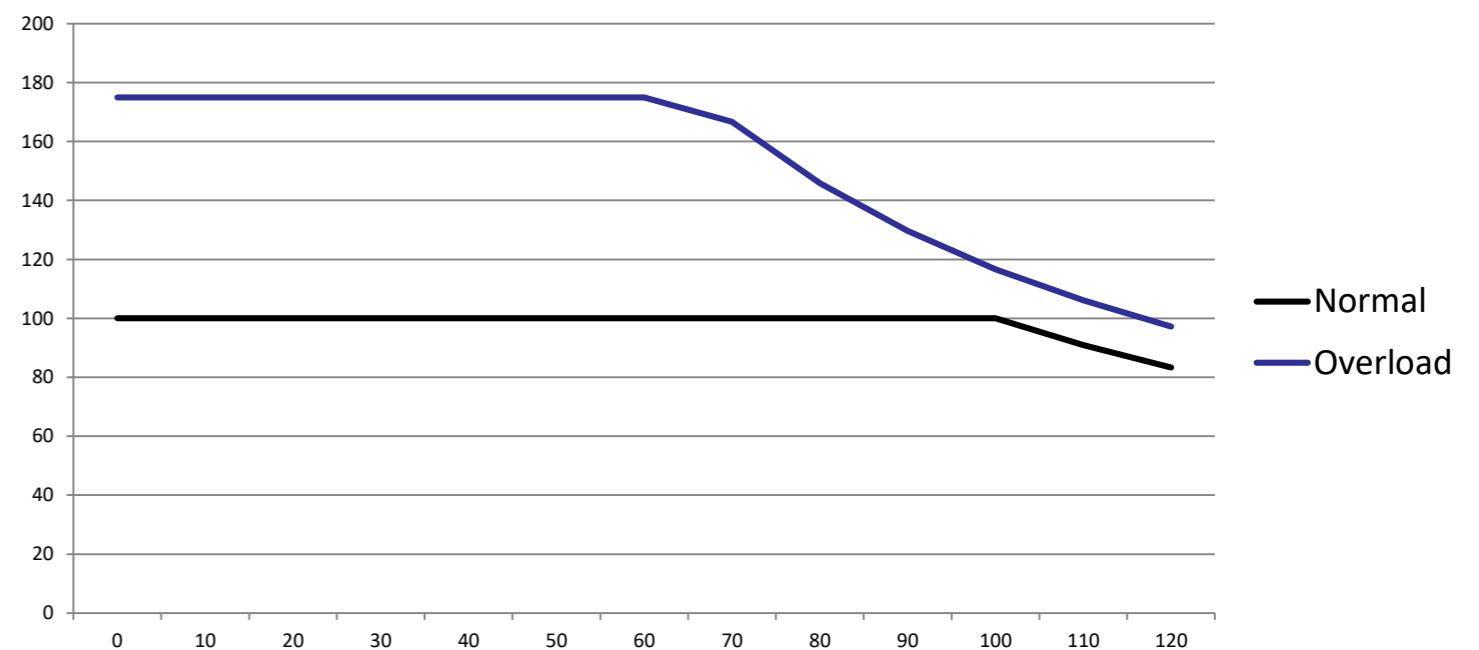
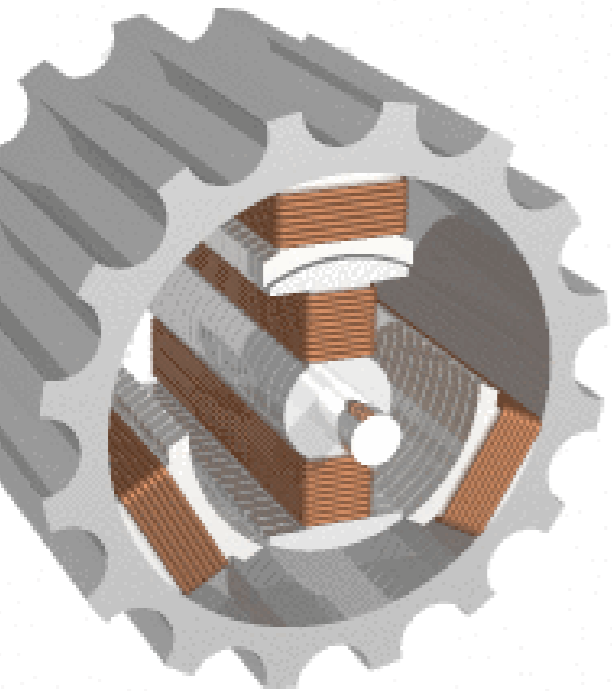
How much energy could you save?



E3 with IM Motors

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



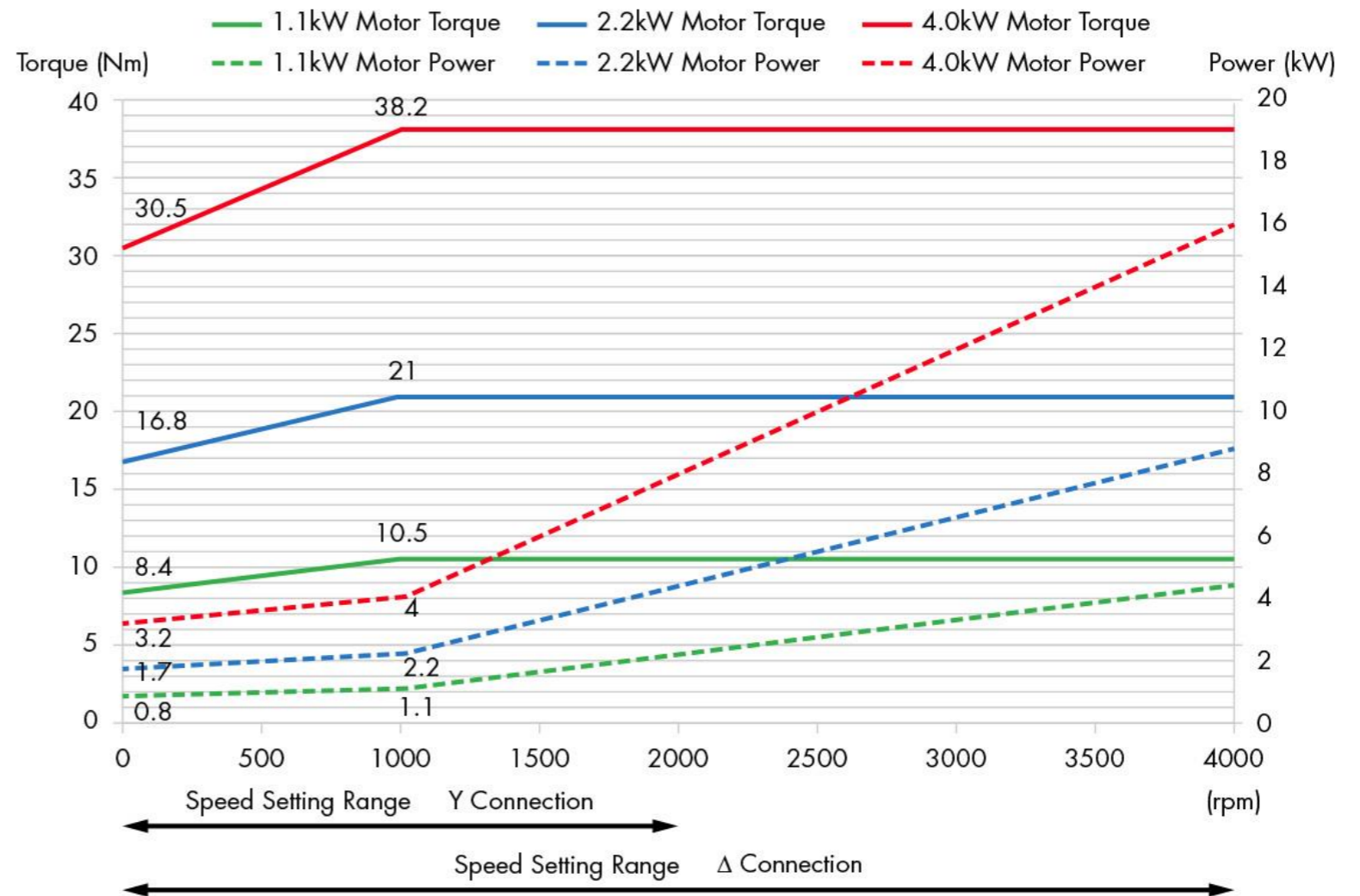
E3 with IE4 Motors

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

- 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



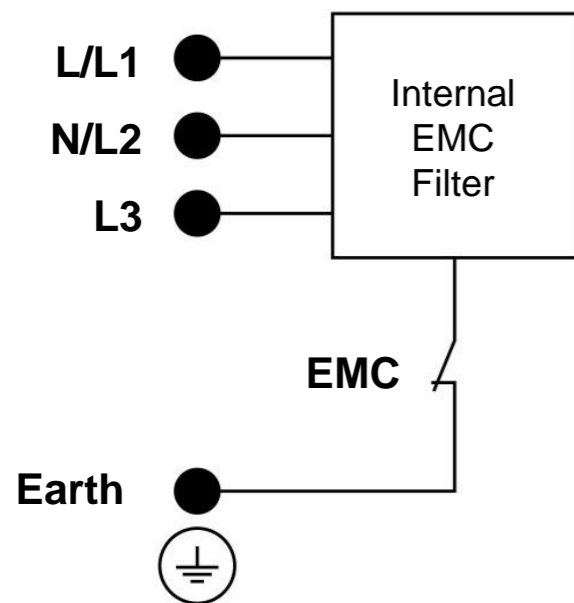
EMC Filter

IP20 Drives:

Internal EMC filter with quick disconnect

Optional:

External Optifilter available



Disconnect EMC filter
by removing screw on
side of drive



Internal Brake Transistor



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

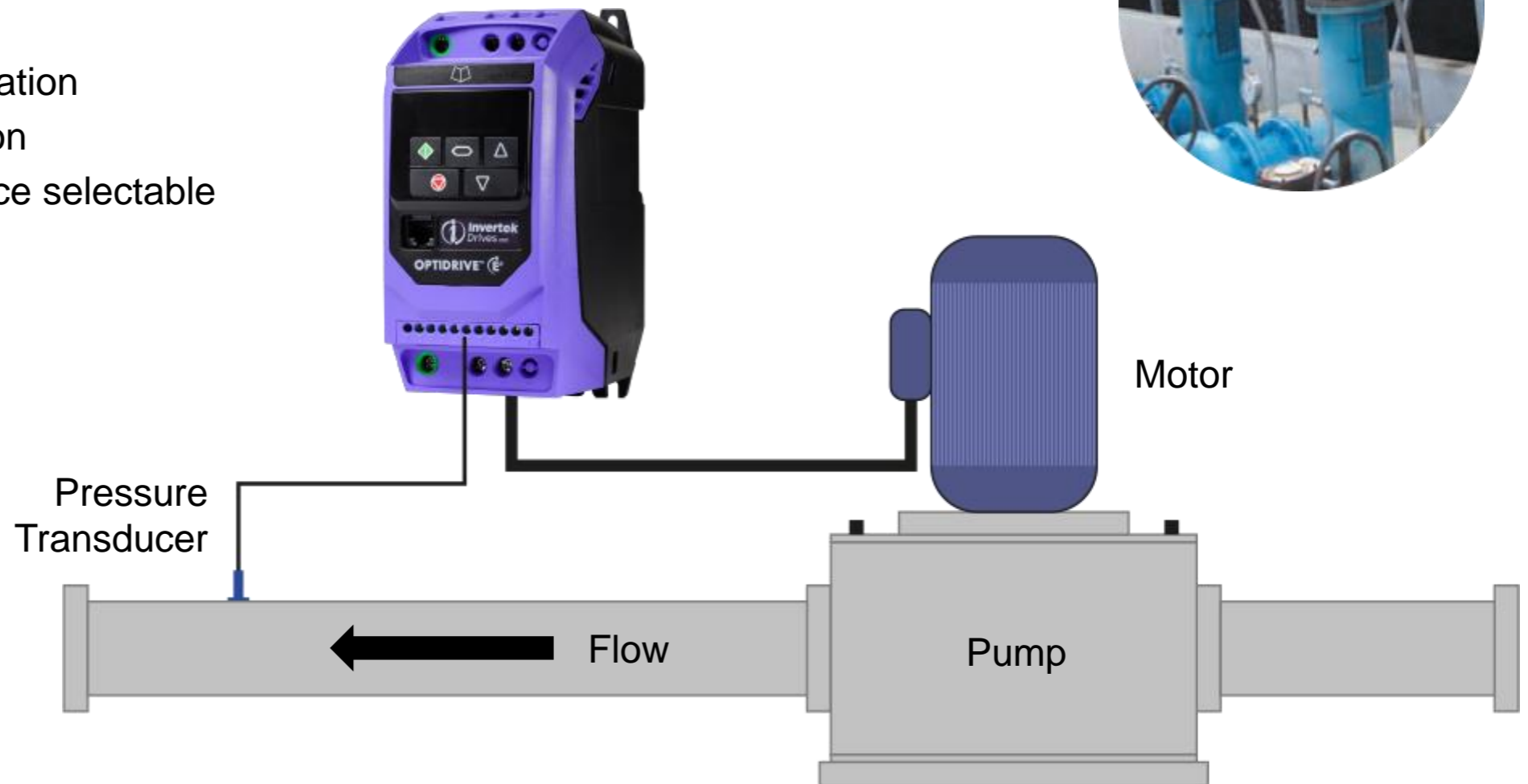
Optional brake resistor
mounts inside the drive

PI Control

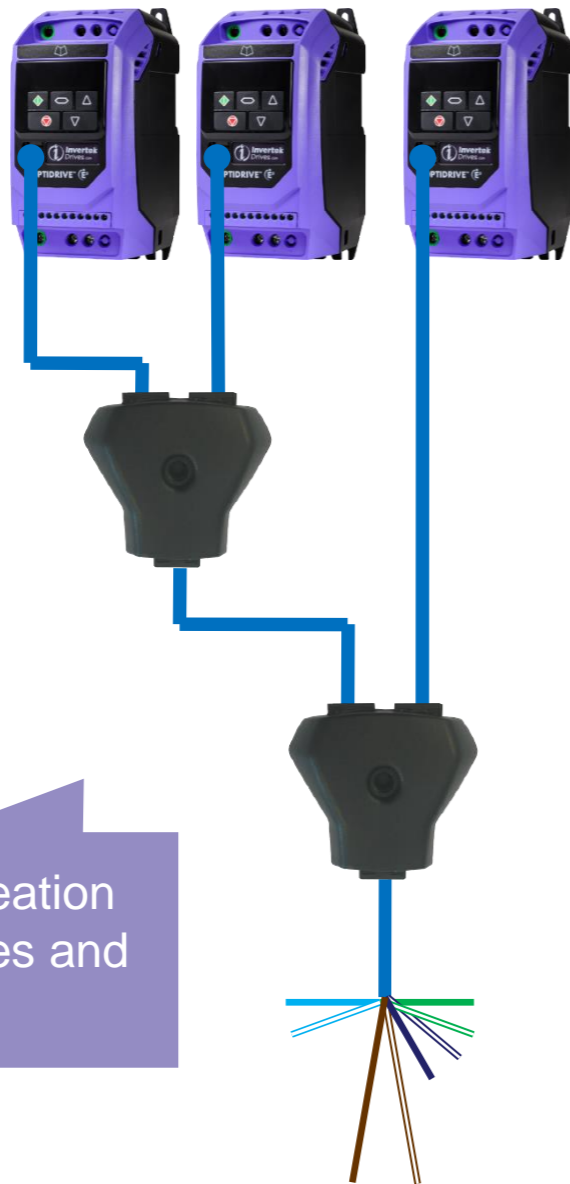
Built in simple PI Controller for feedback applications
(pressure, flow, temperature etc.)

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

Typical Pressure Control Application:



Modbus RTU Network Connection



Up to 63 drives can be connected on a single network

Modbus RTU

- All user adjustable parameters are accessible
- All diagnostics available

Supports

- Read Multiple Holding Registers
- Write Single Holding Register

Easy network creation using RJ45 cables and splitters

CANopen

CANopen

Intelligent controller,
PLC etc.



RJ45 Cables & Splitters

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

Spin Start (Flying Start, Catch a spinning motor)

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



Options & Accessories



NFC

Bluetooth®

OPTISTICK Smart

Optipad



Remote Keypads



Optiport 2

Cable Splitter



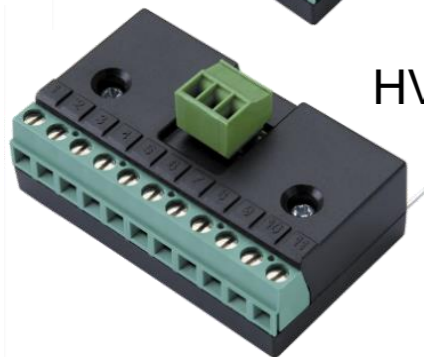
RJ45 Accessories

Options & Accessories

2ROUT



HVACO



Relay Option Cards



Gateway for PROFIBUS, DeviceNet & EtherNet



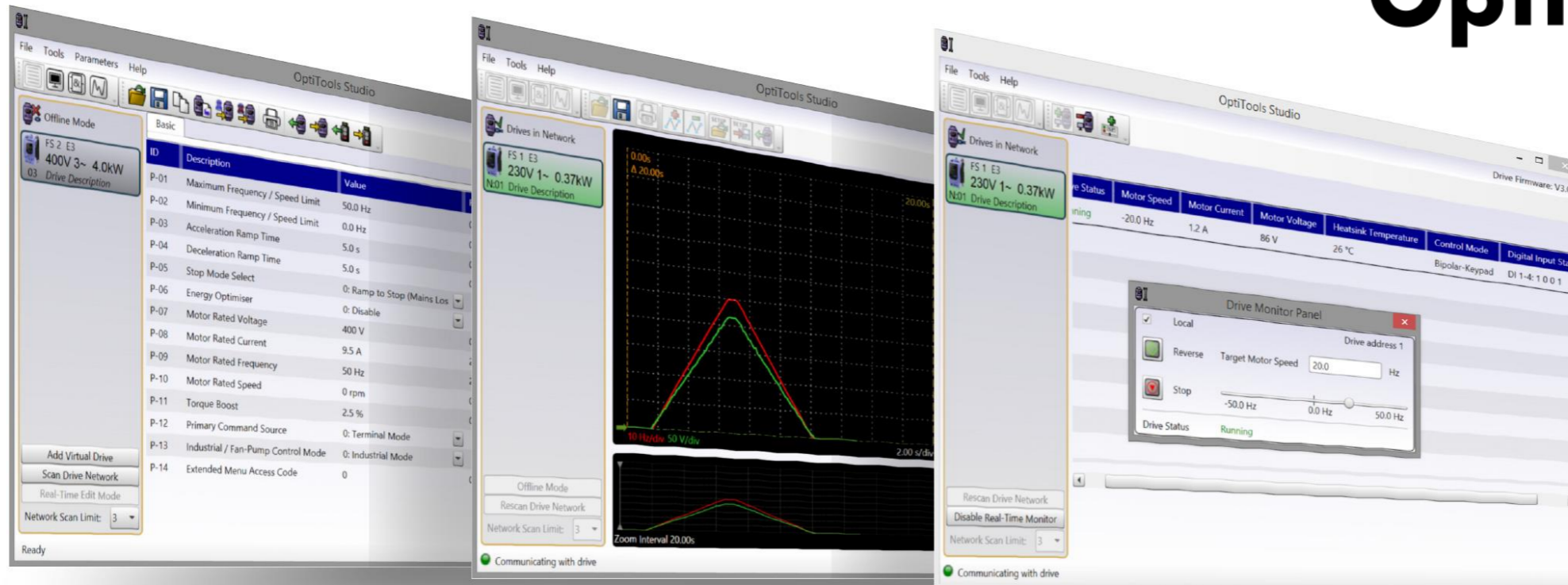
External EMC filters, input chokes & output filters



PC Interface

PC Software

OptiTools Studio



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

Proven Worldwide in Low Power Applications



Cooling loop for solar energy research
Solar Tech Lab, Italy



Chain wax development for Team Sky cycling team
Muc-Off, UK



Business-critical climate control for commercial horticulturist
Hatziminas Flowers, Greece



Chilled water pump control predicted to save AED 12385 per year
Al Jahili Fort, UAE



Efficient water circulation gives energy savings of 60% per annum
Leisure World, Australia

Global Engineered Support



Global Engineered Support

Pre-sales
Support

Technical
Support

Field
Service

Spare Parts
& Repair

International
Support



Online
Support

Customer
Service

Knowledge
Management

Logistics &
Distribution

Service
Contracts