

OPTIDRIVE™

사용하기 쉬운 인버터 (VFD)



MOTORTRONICS
Solid State AC Motor Control

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

IP20

IP66



Easy Control for **All Motor Types**

Induction(유도 전동기)

Brushless DC(브러시리스 DC 모터)

Permanent Magnet (영구자석모터)

Synchronous Reluctance(동기식 자기저항모터)



Now you can
specify one drive
for many environments
여러 환경에 적용 가능한
드라이브

Washdown Ready(물로세척)

Outdoor Rated(외부에 설치)

Dust-Tight(먼지 많은곳)

Panel Mounted

Controls multiple motor types
IE2, IE3, IE4 and IE5





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Solid State AC Motor Control

IP20

Up to 22kW / 30HP

- ✓ Easy to use
- ✓ Compact & robust
(소형에 견고한)

IP66

Up to 22kW / 30HP

- ✓ Easy to use
- ✓ Compact & robust
- ✓ Outdoor rated (외부에 설치)

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





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Solid State AC Motor Control

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



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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



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Solid State AC Motor Control

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



MOTORTRONICS
Solid State AC Motor Control

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

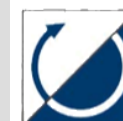


Fan Mode

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



Fire Mode



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Solid State AC Motor Control

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**



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Solid State AC Motor Control

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



MOTORTRONICS
Solid State AC Motor 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

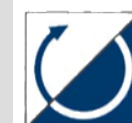


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Solid State AC Motor Control

Fire Mode

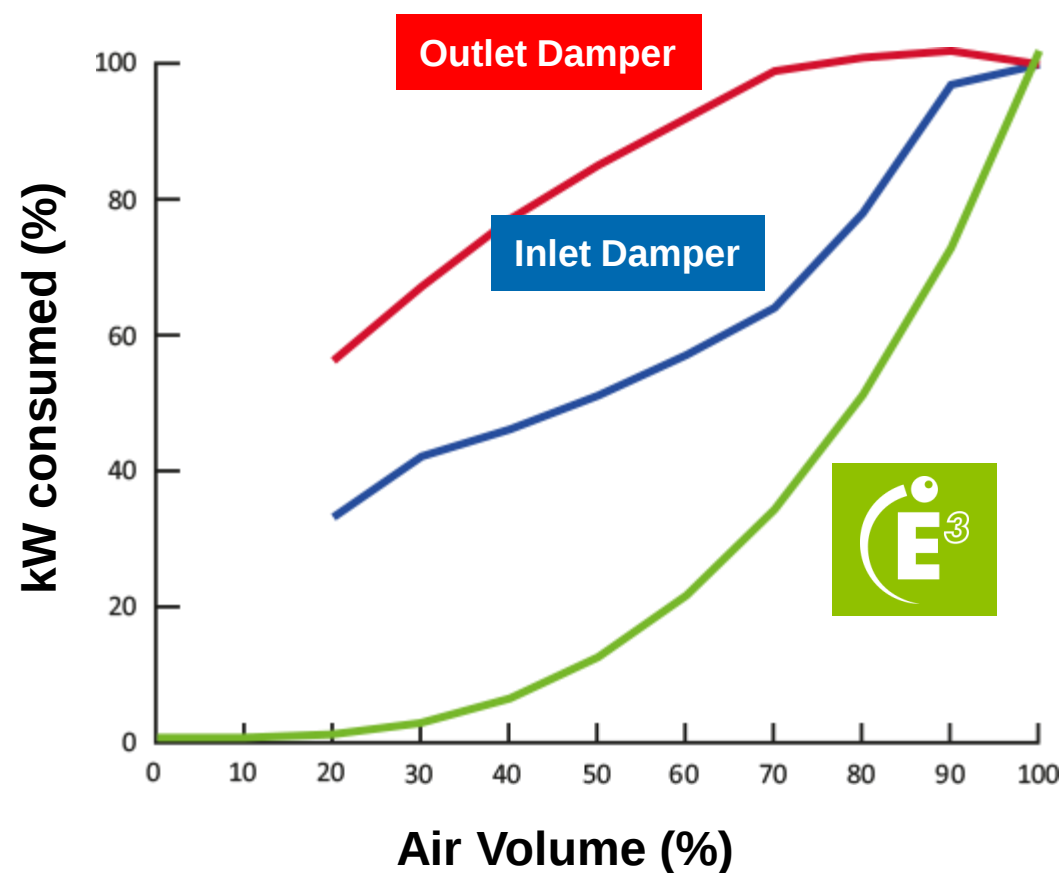
Fire mode ignores signals and alarms, keeping Optidrive E3 operating for as long as possible.

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?

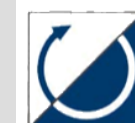
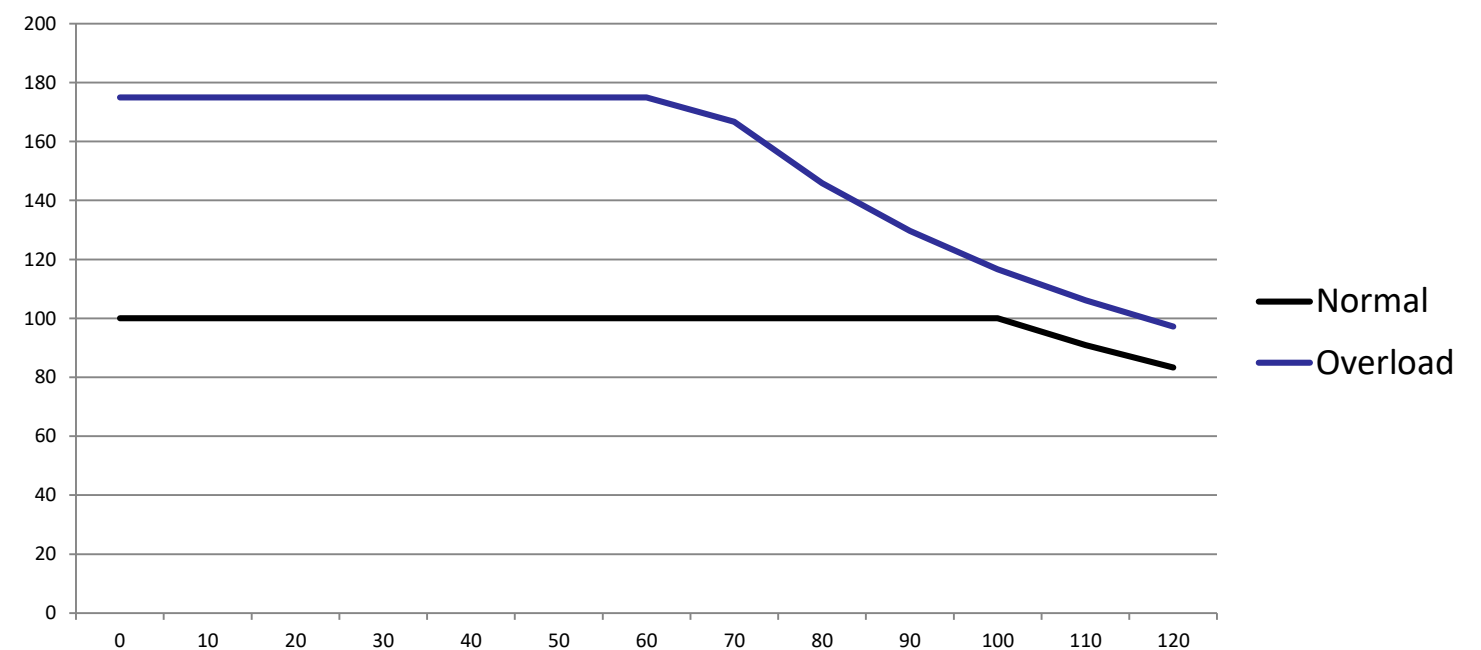


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E3 with IM Motors

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



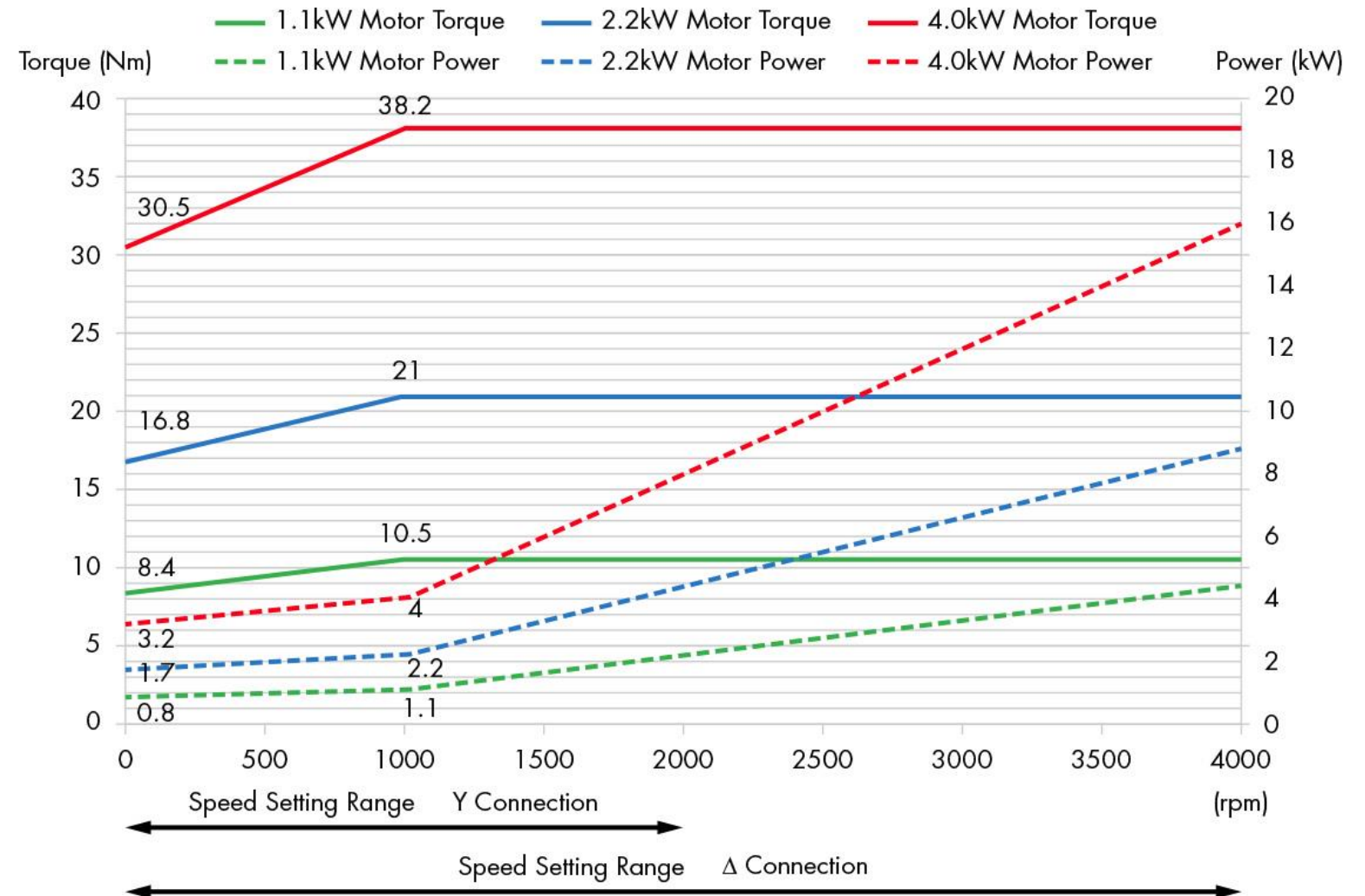
E3 with IE4 Motors

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



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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



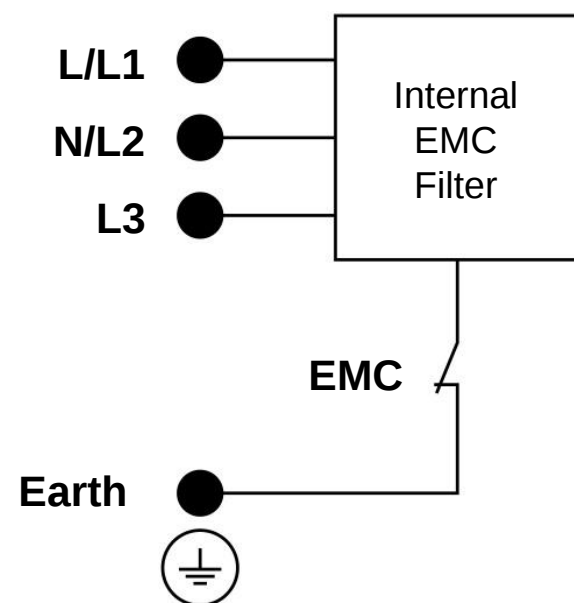
EMC Filter

IP20 Drives:

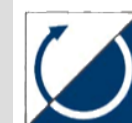
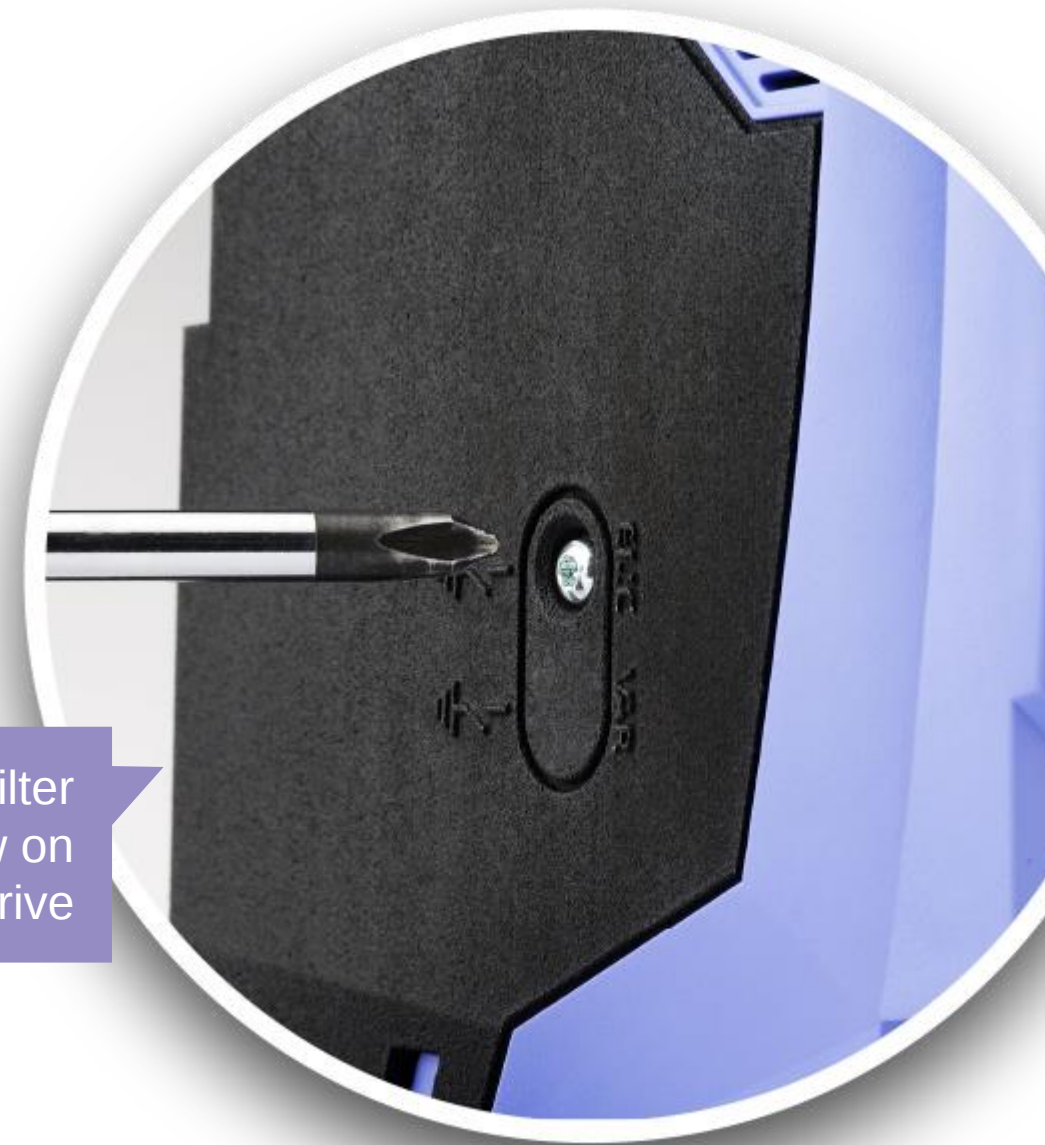
Internal EMC filter with quick disconnect

Optional:

External Optifilter available



Disconnect EMC filter
by removing screw on
side of drive



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Internal Brake Transistor



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

Optional brake resistor
mounts inside the drive



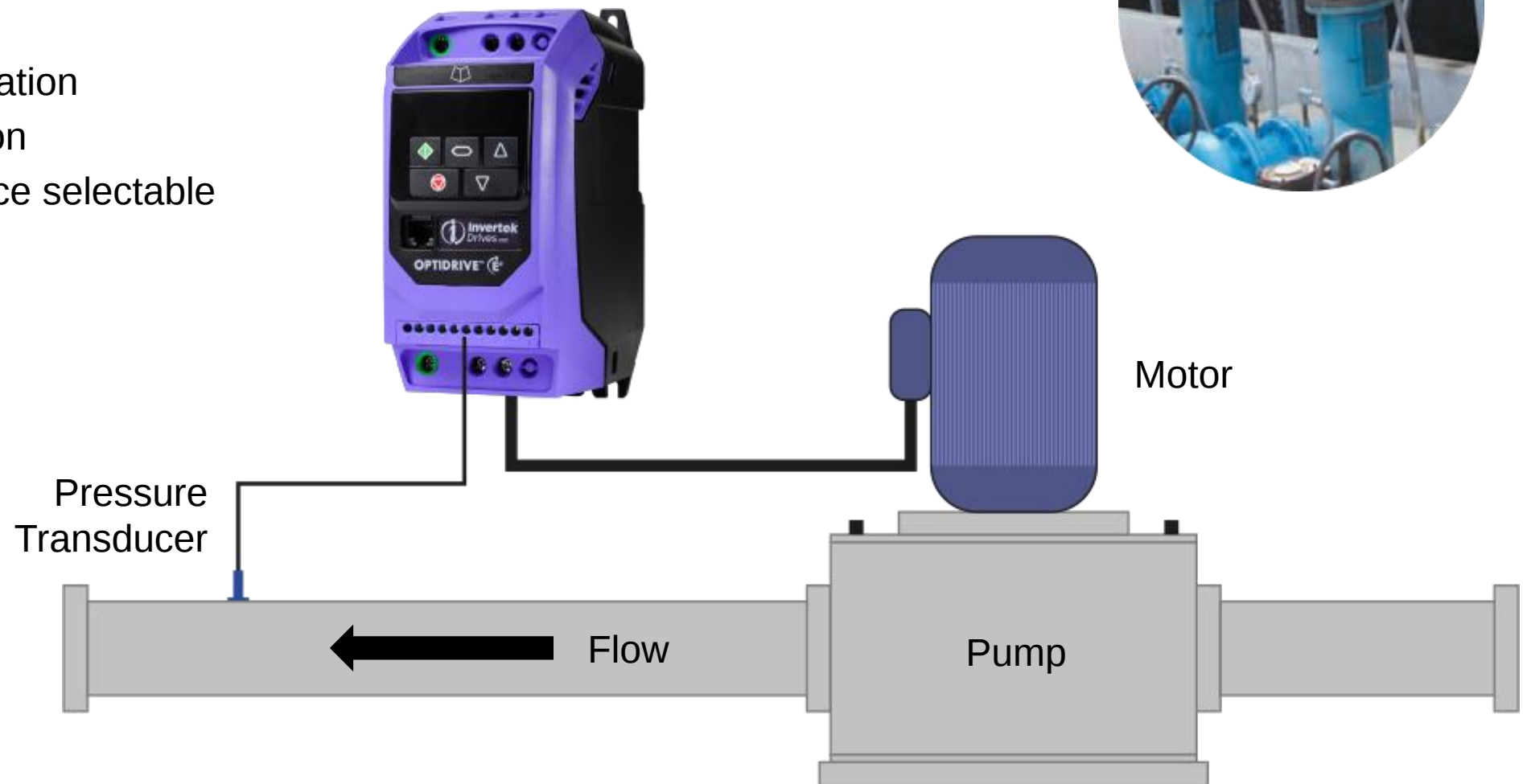
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PI Control

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

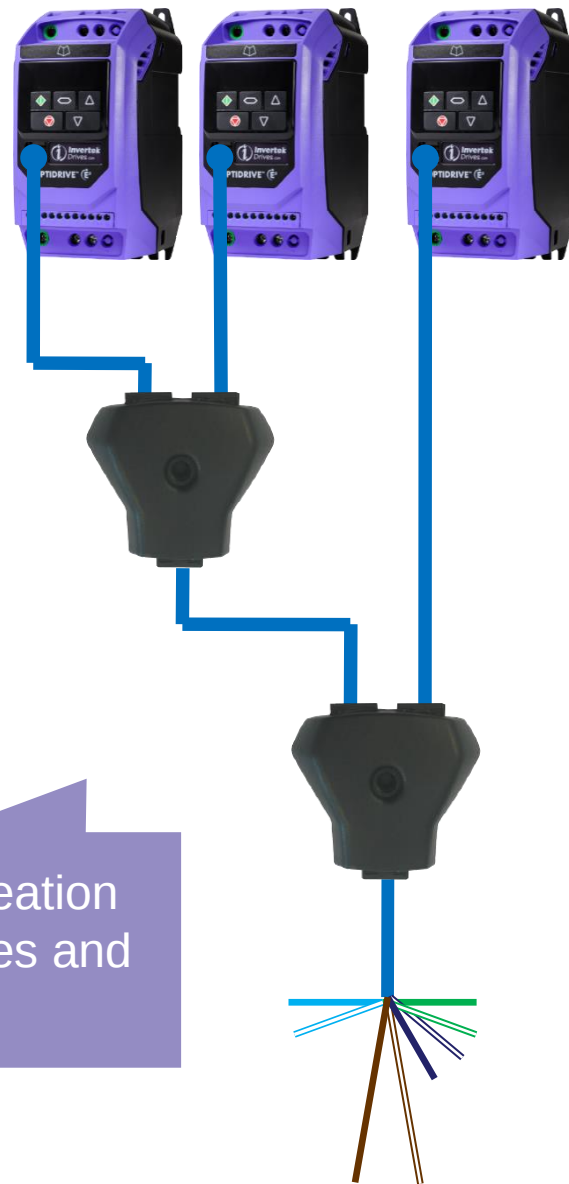
- Easy parameter configuration
- Direct or inverse operation
- Analog or Digital reference selectable

Typical Pressure Control Application:



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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



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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

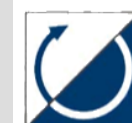


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Spin Start (Flying Start, Catch a spinning motor)

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



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Options & Accessories



NFC

Bluetooth®

OPTISTICK Smart

Optipad



Remote Keypads



Optiport 2

Cable Splitter



RJ45 Accessories



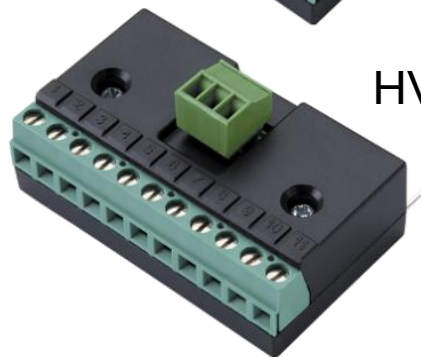
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Options & Accessories

2ROUT



HVACO



Relay Option
Cards



Gateway for PROFIBUS,
DeviceNet & EtherNet



External EMC filters, input
chokes & output filters



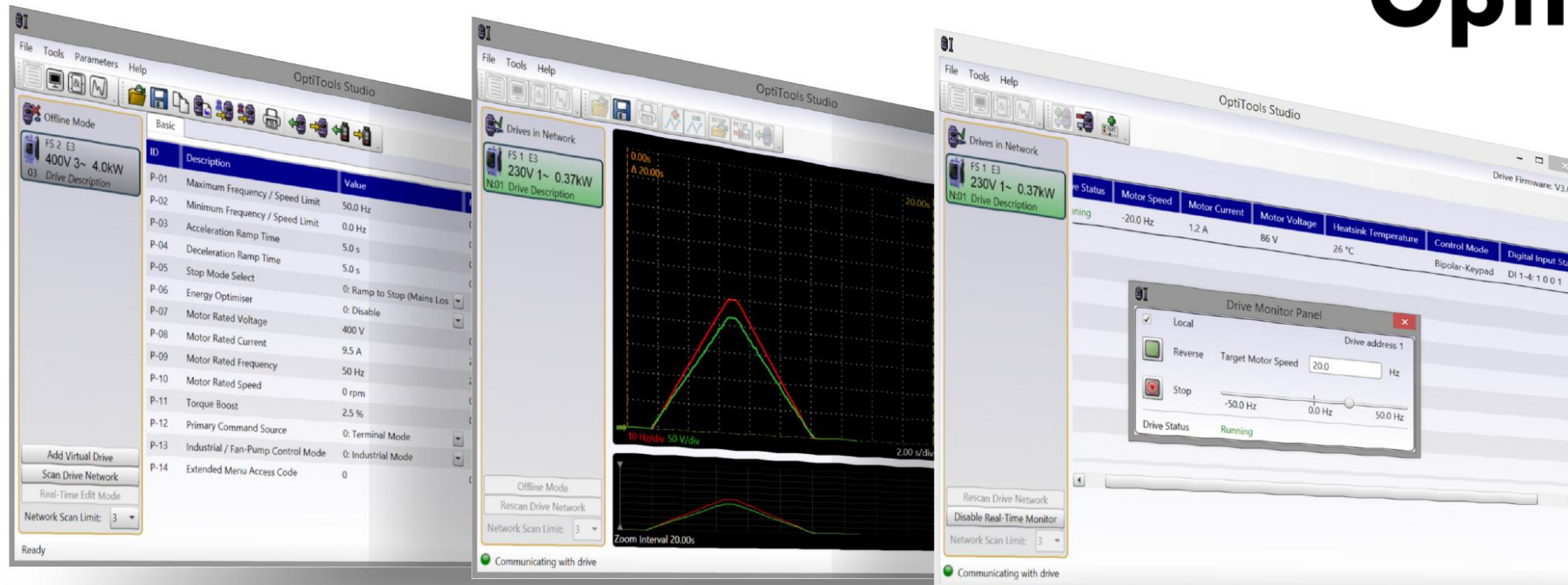
PC Interface



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PC Software

OptiTools Studio



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



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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
reece



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



MOTORTRONICS
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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