

OPTIDRIVE™

Stock Drives Catalogue

Variable Speed Drives
& Accessories





UK Headquarters, Welshpool

Invertek Drives

Invertek Drives is dedicated to the design and manufacture of sophisticated electronic variable speed drives, used to control motors in a wide variety of industrial and energy saving applications.



The Organisation

State of the art UK headquarters house specialist facilities for innovation, manufacturing and global marketing.

The company pledges to implement and operate the ISO 14001 Environmental Management System to enhance environmental performance.

All operations, including innovation, are accredited to the exacting customer focused ISO 9001 quality standard.

The company's products are sold globally by a network of specialist distributors in over 80 different countries. Invertek Drives' unique and innovative Optidrive range is designed for ease of use and meets recognised international design standards for CE (Europe), UL (USA) and RCM (Australia).

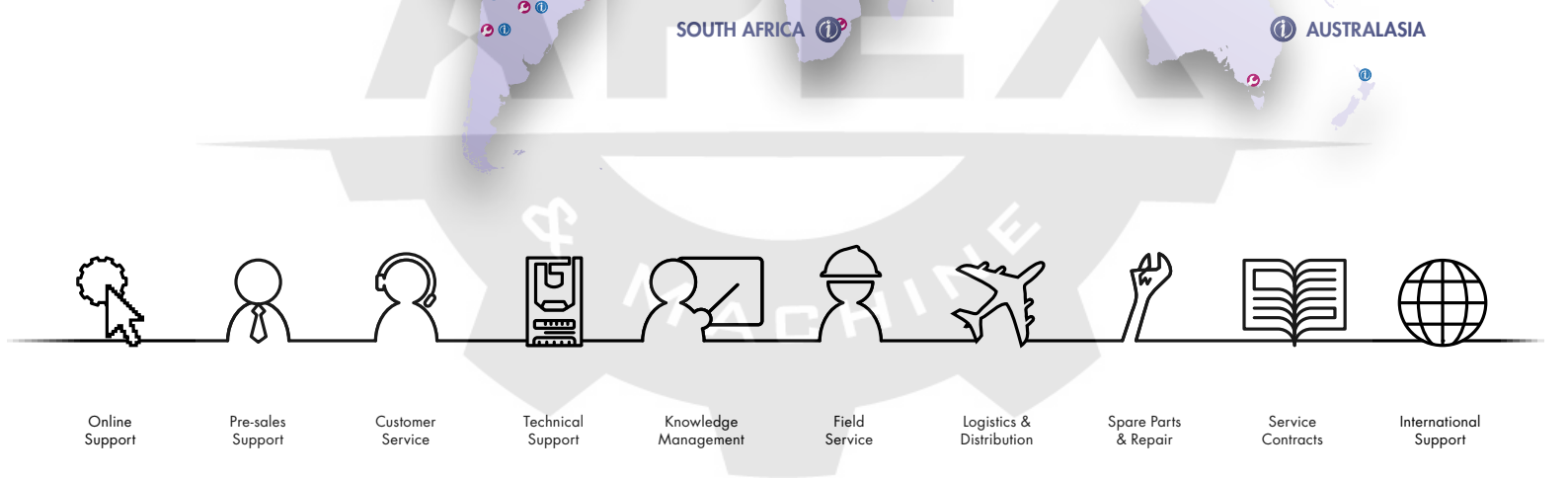
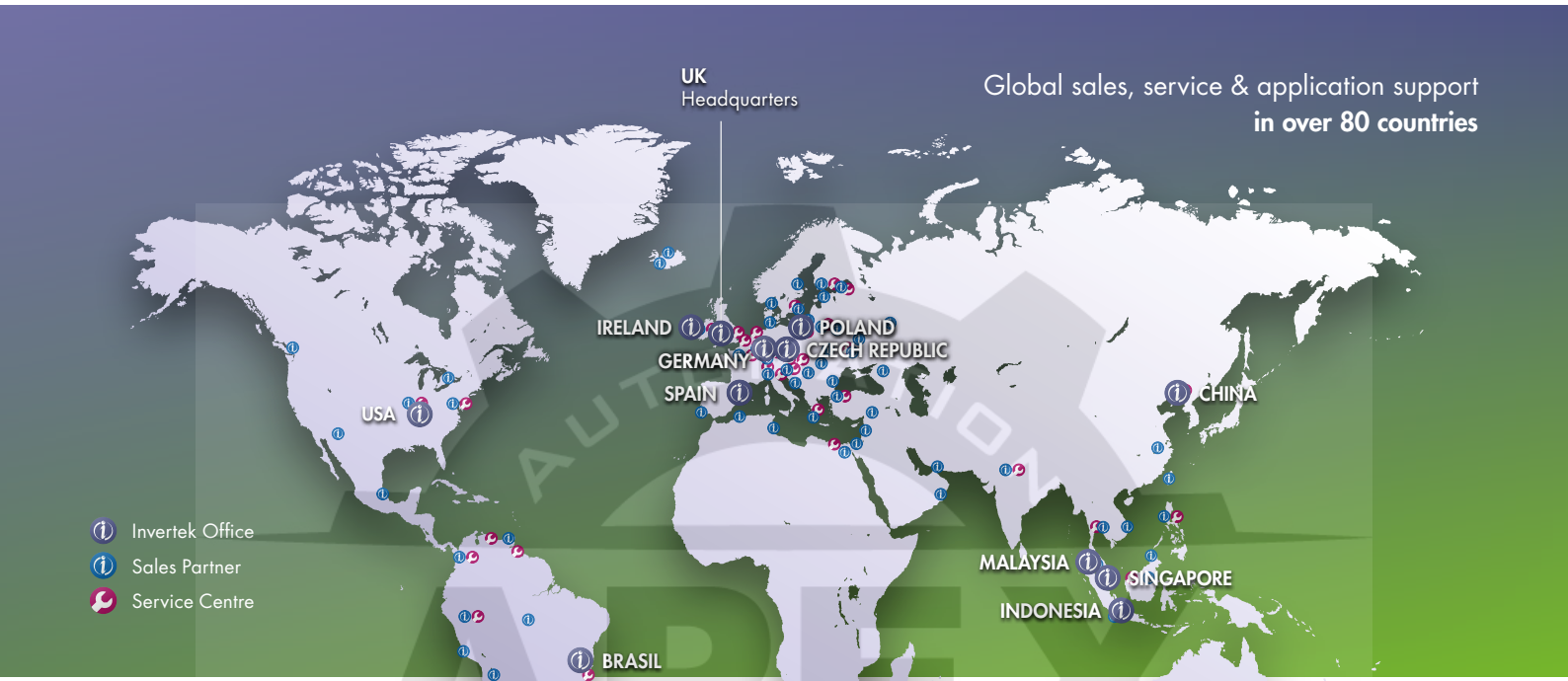


Innovative Products

- Easy to use variable speed drives
- Incredible performance
- Robust & reliable
- Low cost of installation & ownership
- Wide power range
0.37–250kW, 115V–600V



Company Overview



- Conveyors
- HVAC
- Machine Tools



- Manufacturing
- Pumping
- Process Control



- Elevators
- Cranes



Easy to Use

General Purpose Drive

Focused on ease of use, **Optidrive E3** provides unrivalled simplicity of installation, connection and commissioning, allowing the user to benefit from precise motor control and energy savings within minutes.



Simple Commissioning

With just 14 basic parameters and application macro functions providing rapid set up, Optidrive E3 minimises start-up time.



Intuitive Keypad Control

Precise digital control at the touch of a button.



Application Macros

Switch between **Industrial**, **Pump** & **Fan** modes to optimise Optidrive E3 for your application.

Industrial | Pump | Fan

IP20

Compact, robust and reliable general purpose drive for panel mounting

Up to 37kW

- ✓ Easy to use
- ✓ Compact & robust



Take a closer look at the stunning Optidrive E3



www.invertekdrives.com/optidrive-e3

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

LSPM

Line Start PM
Motor

Precise and reliable control for
E2, IE3, IE4 & IE5 motors

IP66 Outdoor

Up to 22kW

- ✓ Outdoor rated
- ✓ Dust-tight
- ✓ Washdown ready



Coated Heatsink as Standard

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



IP66 / NEMA 4X



Key Features

- ✓ Internal Category C1 EMC filter
- ✓ Internal PI control
- ✓ Internal brake chopper
- ✓ Dual analogue inputs
- ✓ Operates up to 50°C
- ✓ Bluetooth® connectivity
- ✓ Option for control of single phase motors

Modbus RTU
CAN

on-board as standard

Internal Category C1 EMC Filter

An internal filter in every Optidrive E3 saves cost and time for installation.

Cat C1 according to EN61800-3:2004



Application Macros

Switch modes at the touch of a button to optimise Optidrive E3 for your application

Single parameter application macro selection



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 or **IP66** for direct machine mounting



Rapid parameter cloning using **OPTISTICK**



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:

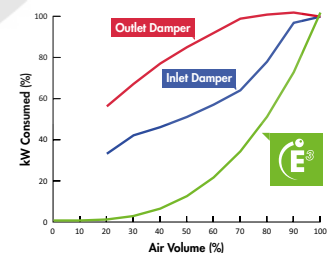
- ✓ Air Handling Units
- ✓ Ventilation Fans
- ✓ Circulating Fans
- ✓ Air Curtains
- ✓ Kitchen Extract



- High efficiency **variable torque** motor control
- Flying start capability
- Mains loss ride through
- PI control

Instant Power Savings

The graph below shows the incredible efficiency of Optidrive E3 for controlling airflow compared to traditional damper control methods.



Modbus RTU CAN

on-board as standard

How much energy could you save?

Estimate potential energy savings, CO₂ emissions and financial savings for your application with the Invertek Drives **Energy Savings Calculator** app.



www.invertekdrives.com/calculator

	kW	HP	Amps	Frame	Model Code	Product Family	Generation	Frame Size	Voltage Code	Output Current x 10	Supply Phases	EMC Filter	Brake Transistor	Enclosure Option
110–115V ± 10% 1 Phase Input	0.37	0.5	2.3	1	ODE - 3 - 1 1 0023 - 1	0	1	#						
	0.75	1	4.3	1	ODE - 3 - 1 1 0043 - 1	0	1	#						
	1.1	1.5	5.8	2	ODE - 3 - 2 1 0058 - 1	0	4	#						
200–240V ± 10% 1 Phase Input	0.37	0.5	2.3	1	ODE - 3 - 1 2 0023 - 1	#	1	#						
	0.75	1	4.3	1	ODE - 3 - 1 2 0043 - 1	#	1	#						
	1.5	2	7	1	ODE - 3 - 1 2 0070 - 1	#	1	#						
	1.5	2	7	2	ODE - 3 - 2 2 0070 - 1	#	4	#						
	2.2	3	10.5	2	ODE - 3 - 2 2 0105 - 1	#	4	#						
	4	5	15.3	3	ODE - 3 - 3 2 0153 - 1	0	4	#						
200–240V ± 10% 3 Phase Input	0.37	0.5	2.3	1	ODE - 3 - 1 2 0023 - 3	0	1	#						
	0.75	1	4.3	1	ODE - 3 - 1 2 0043 - 3	0	1	#						
	1.5	2	7	1	ODE - 3 - 1 2 0070 - 3	0	1	#						
	1.5	2	7	2	ODE - 3 - 2 2 0070 - 3	#	4	#						
	2.2	3	10.5	2	ODE - 3 - 2 2 0105 - 3	#	4	#						
	4	5	18	3	ODE - 3 - 3 2 0180 - 3	#	4	#						
	5.5	7.5	24	3	ODE - 3 - 3 2 0240 - 3	#	4	#						
	7.5	10	30	4	ODE - 3 - 4 2 0300 - 3	#	4	#						
	11	15	46	4	ODE - 3 - 4 2 0460 - 3	#	4	#						
	15	20	61	5	ODE - 3 - 5 2 0610 - 3	F	4	2						
	18.5	25	72	5	ODE - 3 - 5 2 0720 - 3	F	4	2						
380–480V ± 10% 3 Phase Input	0.75	1	2.2	1	ODE - 3 - 1 4 0022 - 3	#	1	#						
	1.5	2	4.1	1	ODE - 3 - 1 4 0041 - 3	#	1	#						
	1.5	2	4.1	2	ODE - 3 - 2 4 0041 - 3	#	4	#						
	2.2	3	5.8	2	ODE - 3 - 2 4 0058 - 3	#	4	#						
	4	5	9.5	2	ODE - 3 - 2 4 0095 - 3	#	4	#						
	5.5	7.5	14	3	ODE - 3 - 3 4 0140 - 3	#	4	#						
	7.5	10	18	3	ODE - 3 - 3 4 0180 - 3	#	4	#						
	11	15	24	3	ODE - 3 - 3 4 0240 - 3	#	4	#						
	15	20	30	4	ODE - 3 - 4 4 0300 - 3	#	4	#						
	18.5	25	39	4	ODE - 3 - 4 4 0390 - 3	#	4	#						
	22	30	46	4	ODE - 3 - 4 4 0460 - 3	#	4	#						
	30	40	61	5	ODE - 3 - 5 4 0610 - 3	F	4	2						
	37	50	72	5	ODE - 3 - 5 4 0720 - 3	F	4	2						

Replace # in model code with colour-coded option

Enclosure Types

A



IP66
Outdoor Use
Non-switched

B



IP66
Outdoor Use
Switched

2



IP20

EMC Filter

F

Internal EMC Filter

0

No Internal EMC Filter

IP20

Size	1	2	3	4	5
mm Height	173	221	261	420	486
mm Width	83	110	131	171	222
mm Depth	123	150	175	212	226
kg Weight	1.0	1.7	3.2	9.1	18.1
Fixings	4xM5	4xM5	4xM5	4xM8	4xM8

IP66

Size	1	2	3	4
mm Height	232	257	310	360
mm Width	161	188	211	240
mm Depth	162	182	235	271
kg Weight	2.3	3.5	6.6	9.5
Fixings	4xM4	4xM4	4xM4	4xM4

Drive Specification

Input Ratings	Supply Voltage	110 – 115V ± 10% 200 – 240V ± 10% 380 – 480V ± 10%	Programming	Keypad	Built-in keypad as standard Optional remote mountable keypad	I/O Specification	Power Supply	24 Volt DC, 100mA, Short Circuit Protected 10 Volt DC, 10mA for Potentiometer					
	Supply Frequency	48 – 62Hz		Display	7 Segment LED		Programmable Inputs	4 Total 2 Digital 2 Analog / Digital selectable					
	Displacement Power Factor	> 0.98		PC	OptiTools Studio		Digital Inputs	8 – 30 Volt DC, internal or external supply Response time < 4ms					
	Phase Imbalance	3% Maximum allowed		Control Specification	Control Method		Sensorless Vector Speed Control PM Vector Control BLDC Control Synchronous Reluctance	Analog Inputs	Resolution: 12 bits Response time: < 4ms Accuracy: ± 2% full scale Parameter adjustable scaling and offset				
	Inrush Current	< rated current			PWM Frequency		4–32kHz Effective	Programmable Outputs	2 Total 1 Analog / Digital 1 Relay				
	Power Cycles	120 per hour maximum, evenly spaced			Stopping Mode		Ramp to stop: User Adjustable 0.1 – 600 secs Coast to stop	PTC Input	Motor PTC / Thermistor Input Trip Level: 2.5Ω				
Output Ratings	Output Power	110V 1 Ph Input: 0.5–1.5HP (230V 3 Ph Output) 230V 1 Ph Input: 0.37–4kW (0.5–5HP) 230V 3 Ph Input: 0.37–18.5kW (0.5-25HP) 400V 3 Ph Input: 0.75–37kW 460V 3 Ph Input: 1–50HP	Fieldbus	Braking	Motor Flux Braking Built-in braking transistor (not frame size 1)	Application Features	Relay Outputs	Maximum Voltage: 250 VAC, 30 VDC Switching Current Capacity: 6A AC, 5A DC					
	Overload Capacity	150% for 60 Seconds 175% for 2.5 seconds		Skip Frequency	Single point, user adjustable		Analog Outputs	0 to 10 Volt					
	Output Frequency	0 – 500Hz, 0.1Hz resolution		Setpoint Control	Analog Signal		0 to 10 Volts 10 to 0 Volts 0 to 20mA 20 to 0mA 4 to 20mA 20 to 4mA	Maintenance & Diagnostics	Fault Memory	Last 4 Trips stored with time stamp			
	Acceleration Time	0.01 – 600 seconds			Digital		Motorised Potentiometer (Keypad) Modbus RTU CANopen EtherNet/IP				Standards Compliance	Data Logging	Logging of data prior to trip for diagnostic purposes: Output Current Drive Temperature DC Bus Voltage
	Deceleration Time	0.01 – 600 seconds			Built-in		CANopen						
	Typical Efficiency	> 98%		Modbus RTU			9.6–115.2 kbps selectable						
Ambient Conditions	Temperature	Storage: –40 to 60°C Operating: –20 to 50°C	Enclosure	Ingress Protection	IP20, IP66		Low Voltage Directive	EMC Directive	Adjustable speed electrical power drive systems. EMC requirements				
	Altitude	Up to 1000m ASL without derating Up to 2000m maximum UL approved Up to 4000m maximum (non UL)								2014/30/EU Cat C1 according to EN61800-3:2004			
	Humidity	95% Max, non condensing									2006/42/EC		
	Vibration	Conforms to EN61800-5-1								CE, UL, RCM			