

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).

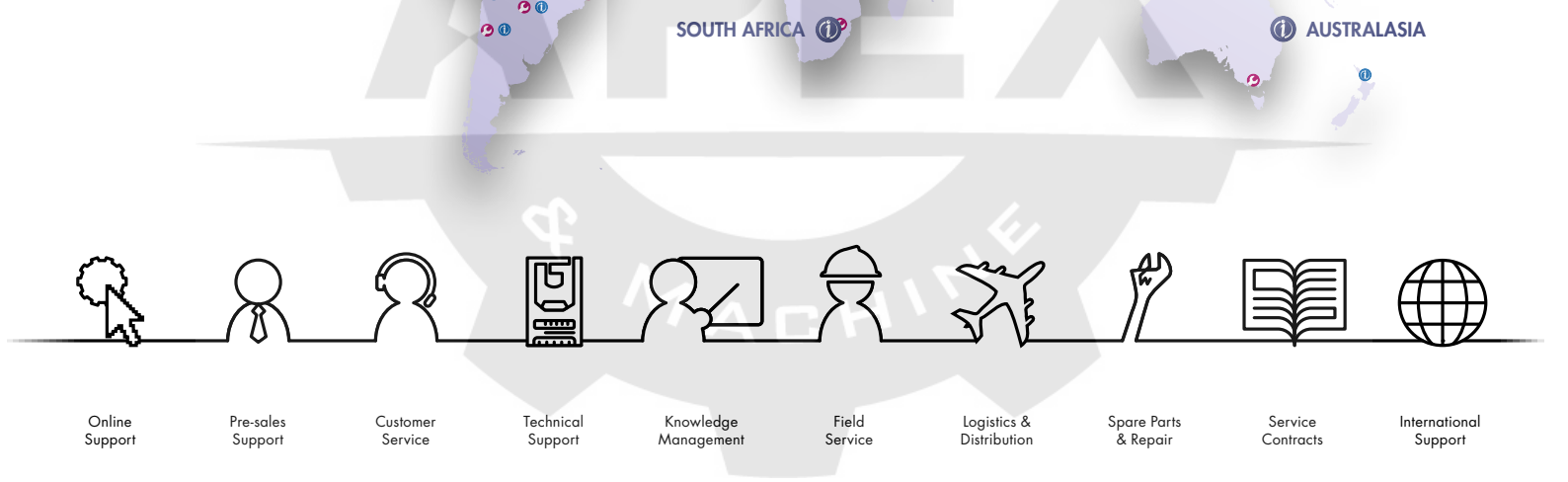
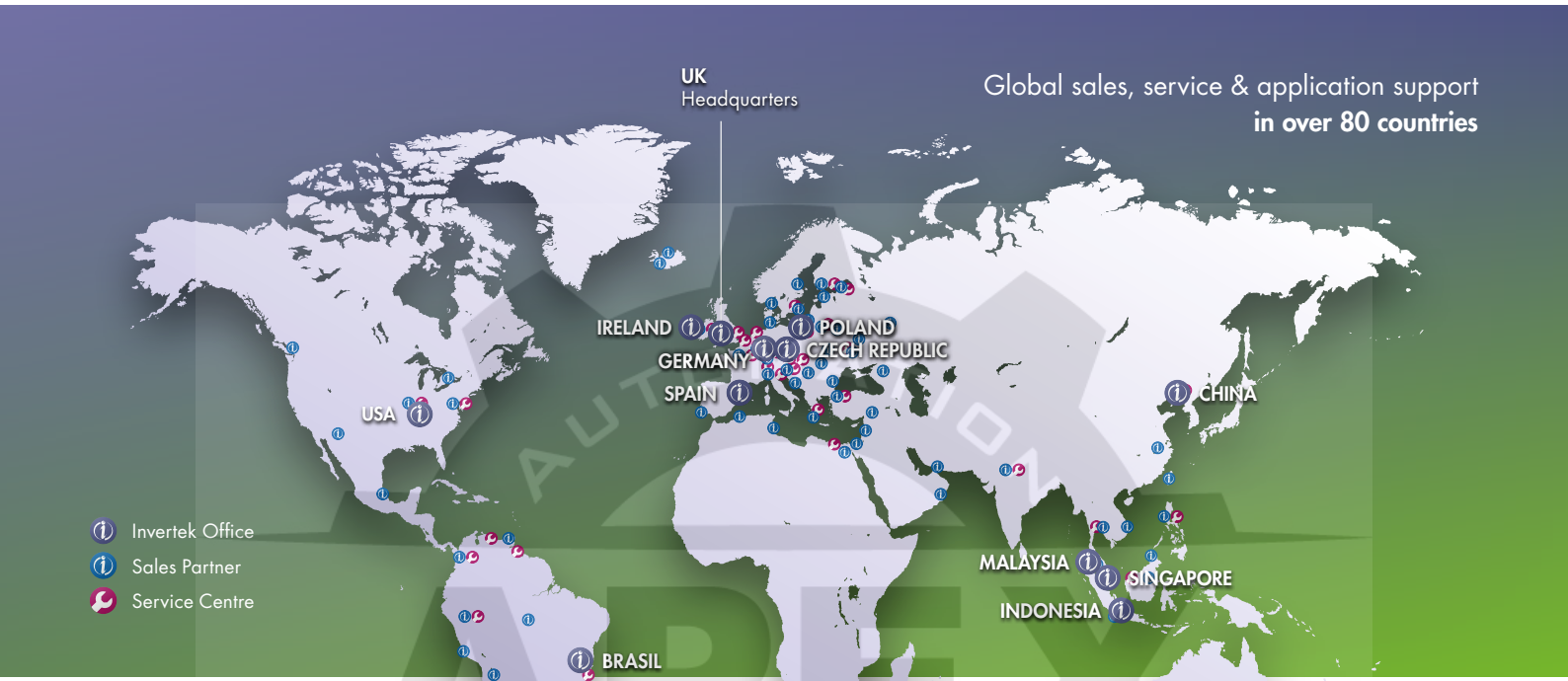


Innovative Products

- 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



OPTIDRIVE™

For Single Phase Motors


IP20

IP66

Up to 1.1kW

Single Phase Motor
Control for PSC &
Shaded-Pole Motors

Key Features

- ✓ 110–115V and 200–240V models
- ✓ Small mechanical envelope
- ✓ Rugged industrial operation
- ✓ Fast setup, and simple operation with 14 basic parameters
- ✓ Unique motor control strategy optimised for single phase motors
- ✓ Motor current and rpm indication
- ✓ Built in PI control, EMC filter (C1) & brake chopper
- ✓ Application macros for industrial, fan and pump operation
- ✓  Bluetooth® connectivity

Modbus RTU
CAN

on-board as standard

150% overload for 60 secs
(175% for 2 secs)



Pump control in
swimming pools & spas



Simple airflow control

Dedicated to Single Phase Motor Control

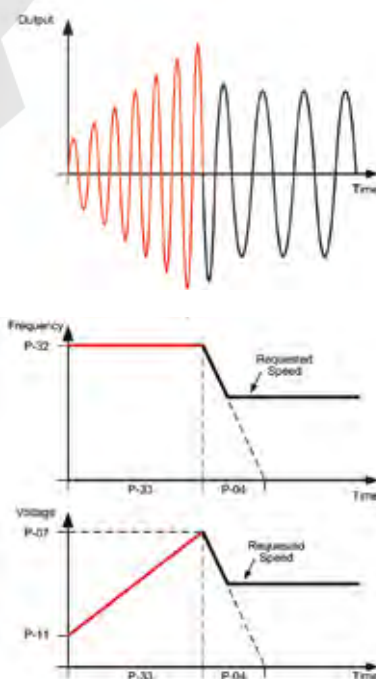
Designed to be cost effective and easy to use, the Optidrive E3 for Single Phase Motors is for use with PSC (Permanent Split Capacitor) or Shaded-Pole Single Phase induction motors.

Optidrive E3 for Single Phase Motors uses a revolutionary motor control strategy to achieve reliable intelligent starting of single phase motors.

- Removes the need for 3 phase supply wiring
- Provides the same performance features as the 3 phase Optidrive E3
- The ideal energy saving solution where high starting torque is not required — typically including fans, blowers, centrifugal pumps, fume extractors and air flow controllers

Special Boost Phase

To ensure reliable starting of single phase motors, the drive initially ramps the motor voltage up to rated voltage whilst maintaining a fixed starting frequency, before reducing the frequency and voltage to the desired operating point.



OPTIDRIVE™ E³

For Single Phase Motors

	kW	HP	Amps	Size	Model Code	Product Family	Generation	Frame Size	Voltage Code	Capacity	Supply Phases	EMC Filter	Brake Transistor	Enclosure Type	Single Phase Output
110–115V ± 10% 1 Phase Input	0.37	0.5	7	1	ODE - 3 - 1 1 0070 - 1	# 1	# - 01								
	0.55	0.75	10.5	2	ODE - 3 - 2 1 0105 - 1	# 4	# - 01								
200–240V ± 10% 1 Phase Input	0.37	0.5	4.3	1	ODE - 3 - 1 2 0043 - 1	# 1	# - 01								
	0.75	1	7	1	ODE - 3 - 1 2 0070 - 1	# 1	# - 01								
	1.1	1.5	10.5	2	ODE - 3 - 2 2 0105 - 1	# 4	# - 01								

Replace # in model code with colour-coded option

Enclosure Types

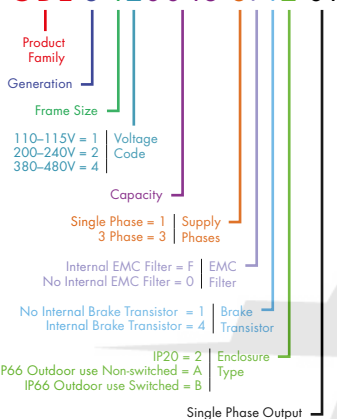
A		IP66 Outdoor Use Non-switched
B		IP66 Outdoor use Switched
2		IP20

EMC Filter

F	Internal EMC Filter
0	No Internal EMC Filter

Model Code Guide:

ODE-3-120043-3F12-01



IP20

Size	1	2
mm Height	173	221
mm Width	83	110
mm Depth	123	150
kg Weight	1.0	1.7
Fixings	4 x M5	4 x M5

IP66

Size	1	2
mm Height	232	257
mm Width	161	188
mm Depth	162	182
kg Weight	2.3	3.5
Fixings	4 x M4	4 x M4

Drive Specification

Input Ratings	Supply Voltage	110 – 115V ± 10% 200 – 240V ± 10%	Control Specification	Control Method	V/F Voltage Energy Optimised V/F	Application Features	PI Control	Internal PI Controller Standby / Sleep Function		
	Supply Frequency	48 – 62Hz		PWM Frequency	4–32kHz Effective		Fire Mode	Selectable Speed Setpoint (Fixed / PI / Analog / Fieldbus)		
	Displacement Power Factor	> 0.98		Stopping Mode	Ramp to stop: User Adjustable 0.1 –600 secs Coast to stop	Maintenance & Diagnostics	Fault Memory	Last 4 Trips stored with time stamp		
	Phase Imbalance	3% Maximum allowed		Braking	Motor Flux Braking Built-in braking transistor (frame size 2)		Data Logging	Logging of data prior to trip for diagnostic purposes: Output Current Drive Temperature DC Bus Voltage		
	Inrush Current	< rated current		Skip Frequency	Single point, user adjustable	Monitoring	Hours Run Meter			
	Power Cycles	120 per hour maximum, evenly spaced			Selfpoint Control	Analog Signal	0 to 10 Volts 10 to 0 Volts 0 to 20mA 20 to 0mA 4 to 20mA 20 to 4mA	Standards Compliance	Low Voltage Directive	Adjustable speed electrical power drive systems. EMC requirements
Output Ratings	Output Power	110V 1 Ph Input: 0.5–0.75HP 230V 1 Ph Input: 0.37–1.1kW (0.5–1.5HP)	Digital	Motorised Potentiometer (Keypad) Modbus RTU CANopen EtherNet/IP		EMC Directive	2014/30/EU 230V 1Ph. Filtered Units : Cat C1 according to EN61800-3:2004			
	Overload Capacity	150% for 60 Seconds 175% for 2.5 seconds	Fieldbus	Built-in		CANopen	125–1000 kbps		Machinery Directive	2006/42/EC
	Output Frequency	0 – 500Hz, 0.1Hz resolution				Modbus RTU	9.6–115.2 kbps selectable		Conformance	CE, UL, RCM
	Acceleration Time	0.01 – 600 seconds	I/O Specification	Power Supply		24 Volt DC, 100mA, Short Circuit Protected 10 Volt DC, 10mA for Potentiometer				
	Deceleration Time	0.01 – 600 seconds				Programmable Inputs			4 Total 2 Digital 2 Analog / Digital selectable	
	Typical Efficiency	> 98%	Digital Inputs	8 – 30 Volt DC, internal or external supply Response time < 4ms						
Ambient Conditions	Temperature	Storage: –40 to 60°C Operating: –20 to 50°C	PTC Input	Motor PTC / Thermistor Input Trip Level: 2.5Ω						
	Altitude	Up to 1000m ASL without derating Up to 2000m maximum UL approved Up to 4000m maximum (non UL)	Analog Inputs	Resolution: 12 bits Response time: < 4ms Accuracy: ± 2% full scale Parameter adjustable scaling and offset						
Humidity	95% Max, non condensing	Programmable Outputs		2 Total 1 Analog / Digital 1 Relay						
Vibration	Conforms to EN61800-5-1		Relay Outputs	Maximum Voltage: 250 VAC, 30 VDC Switching Current Capacity: 6A AC, 5A DC						
Enclosure	Ingress Protection	IP20, IP66	Analog Outputs	0 to 10 Volt						
	Programming	Keypad		Built-in keypad as standard Optional remote mountable keypad						
Display		7 Segment LED								
PC	OptiTools Studio									