NEW

Invertek Drives.com

OPTIDRIVE™ E3

AC Variable Speed Drive

General Purpose Drive
Proven worldwide in low power applications

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

General Purpose Drive

Compact, reliable and easy to use

Internal EMC filter

Size 4 up to 22kW (30HP)

Increased motor control
IE2, IE3 & IE4 PM and SynRM motors

Fire mode as standard

Easy to Use

Simply power on, and the E3 is up and running, providing precise motor control and energy savings using the factory settings.

14 basic parameters makes drive setup simple for a massive range of applications with 50 parameters in total offering a very high degree of flexibility.

Change Mode

at the touch of a button...

- **Industrial mode**
- **Fan mode** inc. fire operation
- **Pump mode**

DIN rail and keyhole mounting options

Power supply connects at top
with easy to use 5mm rising clamp terminals

Integrated help card

Internal brake chopper

Bluetooth connectivity

Internal PI control

Sensorless vector control

Dual analogue inputs

OPTISTICK
allows fast and accurate multiple drive setup by copying parameters from one drive to another at the touch of a button

Motor supply connects at base

Modbus RTU
CANopen
built-in as standard

IP20

IP66

For washdown duty and protection against dirt or dust ingress

IP66 / NEMA 4X

Switched or Non-switched

Isolator / disconnect switch and integrated potentiometer optional

OPTIDRIVE™ E3

	kW	HP	Amps	Size	Model Code	Product Family	Generation	Frame Size	Voltage Code	Capacity	Supply Phases	EMC Filter	Brake Transistor	Enclosure Type
110–115V±10% 1 Phase Input	0.37	0.5	2.3	1		ODE	3	1	1	0023	1	#	1	#
	0.75	1	4.3	1		ODE	3	1	1	0043	1	#	1	#
	1.1	1.5	5.8	2		ODE	3	2	1	0058	1	#	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	#
200–240V±10% 3 Phase Input	0.37	0.5	2.3	1		ODE	3	1	2	0023	3	#	1	#
	0.75	1	4.3	1		ODE	3	1	2	0043	3	#	1	#
	1.5	2	7	1		ODE	3	1	2	0070	3	#	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	2
	7.5	10	30	4		ODE	3	4	2	0300	3	#	4	2
	11	15	46	4		ODE	3	4	2	0460	3	#	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	#
	3	4	7.7	2		ODE	3	2	4	0077	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	2
	15	20	30	4		ODE	3	4	4	0300	3	#	4	2
	18.5	25	39	4		ODE	3	4	4	0390	3	#	4	2
	22	30	46	4		ODE	3	4	4	0460	3	#	4	2

Replace # in model code with colour-coded option

Enclosure & Display Types

X — **IP66** Non-switched LED Display

Y — **IP66** Switched LED Display

2 — **IP20** LED Display

2 — **IP20** LED Display

EMC Filter

F Internal EMC Filter

0 No Internal EMC Filter

Optidrive E3 Single Phase

Single phase output models also available up to 1.1kW / 1.5HP

Drive Specification

Input Ratings	Supply Voltage	110 – 115V ± 10% 200 – 240V ± 10% 380 – 480V ± 10%
	Supply Frequency	48 – 62Hz
	Displacement Power Factor	> 0.98
	Phase Imbalance	3% Maximum allowed
	Inrush Current	< rated current
	Power Cycles	120 per hour maximum, evenly spaced
Output Ratings	Output Power	110V 1 Ph Input: 0.5–1.5HP (230V 3 Ph Output) 230V 1 Ph Input: 0.37–2.2kW (0.5–3HP) 230V 3 Ph Input: 0.75 - 11kW (0.5–15HP) 400V 3 Ph Input : 0.75–22kW 460V 3 Ph Input : 1–30HP
	Overload Capacity	150% for 60 Seconds 175% for 4 seconds
	Output Frequency	0 – 500Hz, 0.1Hz resolution
	Typical Efficiency	> 98%
Ambient Conditions	Temperature	Storage: –40 to 60°C Operating: –10 to 50°C
	Altitude	Up to 1000m ASL without derating Up to 2000m maximum UL approved Up to 4000m maximum (non UL)
	Humidity	95% Max, non condensing
	Vibration	Conforms to IEC 60068-2-6 Sinusoidal Vibration 10 – 57Hz @ 0.075mm Pk 57 – 150Hz @ 1g Pk
Enclosure	Ingress Protection	IP20, IP66
Programming	Keypad	Built-in keypad as standard Optional remote mountable keypad
	Display	7 Segment LED
	PC	OptiTools Studio

Control Specification	Control Method		V/F Voltage Vector Energy Optimsied V/F Sensorless Vector Speed Control PM Vector Control BLDC Control Synchronous Reluctance
	PWM Frequency		4–32kHz Effective
	Stopping Mode		Ramp to stop: User Adjustable 0.1–600 secs Coast to stop
	Braking		Motor Flux Braking Built-in braking transistor (not frame size 1)
	Skip Frequency		Single point, user adjustable
	Setpoint Control	Analog Signal	0 to 10 Volts 0 to 20mA 20 to 0mA 4 to 20mA 20 to 4 mA
		Digital	Motorised Potentiometer (Keypad) Modbus RTU CANopen
Fieldbus	Built-in	CANopen	125–1000 kbps
		Modbus RTU	9.6–115.2 kbps selectable 8N1, 8N2, 8E1, 8O1
I/O Specification	Power Supply		24 Volt DC, 100mA, Short Circuit Protected 10 Volt DC, 5mA for Potentiometer
	Programmable Inputs		4 Total 2 Digital 2 Analog / Digital selectable
	Digital Inputs		8 – 30 Volt DC, internal or external supply Response time < 4ms
	Analog Inputs		Resolution: 12 bits Response time: < 4ms Accuracy: < 2% full scale Parameter adjustable scaling and offset
	Programmable Outputs		2 Total 1 Analog / Digital 1 Relay
	Relay Outputs		Maximum Voltage: 250 VAC, 30 VDC Switching Current Capacity: 6A AC, 5A DC
	Analog Outputs		0 to 10 Volt

Control Features	PI Control	Internal PI Controller Standby / Sleep Function
	Fire Mode	Bidirectional Selectable Speed Setpoint (Fixed / PI / Analog / Fieldbus)
Maintenance & Diagnostics	Fault Memory	Last 4 Trips stored with time stamp
	Data Logging	Logging of data prior to trip for diagnostic purposes: Output Current Drive Temperature DC Bus Voltage
	Monitoring	Hours Run Meter
Standards Compliance	Low Voltage Directive	Adjustable speed electrical power drive systems. EMC requirements
	EMC Directive	2004/108/EC Cat C1 according to EN61800-3:2004
	Machinery Directive	2006/42/EC
	Conformance	CE, UL, C-Tick

- ✓ **Exceptional** reliability
- ✓ **Extreme** ease of installation
- ✓ **Precise** control
- ✓ **Award winning** energy saving performance

OPTIDRIVE™ E3

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Optidrive E3

Low Power Applications

Dedicated to low power applications, Optidrive E3 combines innovative technology, reliability, robustness and ease of use in a range of compact IP20 & IP66 enclosures.

Simple Commissioning

14 parameter basic setup. Default settings suitable for most applications. Contactor style connection for simple wiring.

Optidrive E3 IP66

Environmentally protected, IP66 rated models can be mounted directly on your processing equipment.

IP66 / NEMA 4X

Washdown Ready

With a sealed ABS enclosure and corrosion resistant heatsink, Optidrive E3 IP66 models are ideal for high-pressure washdown applications.

On-drive Control

IP66 models feature optional, convenient controls for speed control, REV/OFF/FWD and Power ON/OFF, complete with safety lock.

Single Phase Motor Control

Optidrive E3 Single Phase drives provide accurate speed control of single phase PSC or shaded pole motors. Special boost phase ensures reliable starting, initially ramping the motor voltage up to rated voltage whilst maintaining a fixed starting frequency, before reducing the frequency and voltage to the desired operating point.

About Invertek Drives

- **Sales, service & application support in over 80 countries**
- **World-class production, innovation & training facilities at UK headquarters**
- **Global assembly cells controlled by cloud-based manufacturing database**
- **ISO 14001 environmental & ISO 9001 quality management systems**

www.invertekdrives.com/optidrive-e3

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