

OPTIDRIVE™

AC Variable Speed Drive

General Purpose Drive
Easy control for all motor types

Easy to Use



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

IP20

IP20

Up to 22kW

Compact, robust
and reliable general
purpose drive for
panel mounting

Simple Installation

DIN rail and keyhole
mounting options

Fast Connection

5mm rising clamp terminals
with captive screws

Quick Reference

Integrated help card

Operates up to 50°C

Modbus RTU

CANopen

on-board as standard

Incredibly Easy to Use

- ✓ Built in PI control, EMC filter (C1) & brake chopper
- ✓ Application macros for industrial, fan and pump operation
- ✓  Bluetooth® connectivity

OPTISTICK

Rapid parameter
cloning and Bluetooth
PC interface

See Page 10

Dual analogue inputs

Motor supply
connects at base

Controls Multiple Motor Types

- ✓ IE2, 3 & 4
- ✓ IM, PM, BLDC and SynRM

4 sizes cover global
supply ratings



Simply Power Up

Optidrive E3 provides precise motor control and energy savings using the factory settings. Simply power up and the drive can immediately deliver energy savings.

14 basic parameters allow simple adjustment for your application if required, with up to 50 parameters available in total for a highly flexible performance.

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

See [Page 6](#)

IP20

Up to 22kW

- ✓ Easy to use
- ✓ Compact & robust

See [Page 4](#)



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

Precise and reliable control for
IE2, IE3 & IE4 motors

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



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:

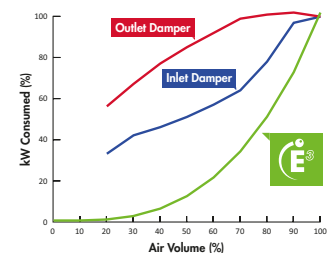
- ✓ Air Handling Units
- ✓ Ventilation Fans
- ✓ Circulating Fans
- ✓ Air Curtains
- ✓ Kitchen Extract



- 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

CANopen

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.



Download on the
App Store

GET IT ON
Google play



www.invertekdrives.com/calculator

	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	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	F	4	#							
	11	15	46	4	ODE - 3 - 4 2 0460 - 3	F	4	#							
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	F	4	#							
	18.5	25	39	4	ODE - 3 - 4 4 0390 - 3	F	4	#							
	22	30	46	4	ODE - 3 - 4 4 0460 - 3	F	4	#							

Replace # in model code with colour-coded option

Enclosure & Display Types



IP20

Size	1	2	3	4
mm Height	173	221	261	420
mm Width	83	110	131	171
mm Depth	123	150	175	212
kg Weight	1.0	1.7	3.2	9.1
Fixings	4 x M5	4 x M5	4 x M5	4 x M8

EMC Filter

F	Internal EMC Filter
0	No Internal EMC Filter

Drive Specification

Input Ratings	Supply Voltage	110 – 115V ± 10% 200 – 240V ± 10% 380 – 480V ± 10%	Control Specification	Control Method	Sensorless Vector Speed Control PM Vector Control BLDC Control Synchronous Reluctance	Application Features	PI Control	Internal PI Controller Standby / Sleep Function
	Supply Frequency	48 – 62Hz		PWM Frequency	4–32kHz Effective		Fire Mode	Bidirectional 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		Fault Memory	Last 4 Trips stored with time stamp
	Phase Imbalance	3% Maximum allowed		Braking	Motor Flux Braking Built-in braking transistor (not frame size 1)		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		Setpoint Control	Analog Signal 0 to 10 Volts 10 to 0 Volts 0 to 20mA 20 to 0mA 4 to 20mA 20 to 4mA Digital Motorised Potentiometer (Keypad) Modbus RTU CANopen	Standards Compliance	Low Voltage Directive	Adjustable speed electrical power drive systems. EMC requirements
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: 0.37–11kW (0.5–15HP) 400V 3 Ph Input: 0.75–22kW 460V 3 Ph Input: 1–30HP	Fieldbus	Built-in	CANopen 125–1000 kbps Modbus RTU 9.6–115.2 kbps selectable		EMC Directive	2004/108/EC Cat C1 according to EN61800-3:2004
	Overload Capacity	150% for 60 Seconds 175% for 2.5 seconds		I/O Specification	Power Supply		Machinery Directive	2006/42/EC
	Output Frequency	0 – 500Hz, 0.1Hz resolution			Programmable Inputs		Conformance	CE, UL, RCM
	Typical Efficiency	> 98%			Digital Inputs			
Ambient Conditions	Temperature	Storage: –40 to 60°C Operating: –10 to 50°C			Analog Inputs			
	Altitude	Up to 1000m ASL without derating Up to 2000m maximum UL approved Up to 4000m maximum (non UL)			Programmable Outputs			
	Humidity	95% Max, non condensing			Relay Outputs			
Enclosure	Ingress Protection	IP20, IP66			Analog Outputs			
Programming	Keypad	Built-in keypad as standard Optional remote mountable keypad						
	Display	7 Segment LED						
	PC	OptiTools Studio						

Options & Accessories

OPTISTICK



Optistick **OPT-2-STICK-IN**
Rapid Commissioning Tool

- Allows copying, backup and restore of drive parameters
- Provides Bluetooth wireless interface to a PC running OptiTools Studio

Remote Keypads



Optipad **OPT-2-OPPAD-IN**
Remote Keypad & OLED Display

Optiport 2 **OPT-2-OPORT-IN**
Remote Keypad & LED Display

RJ45 Accessories



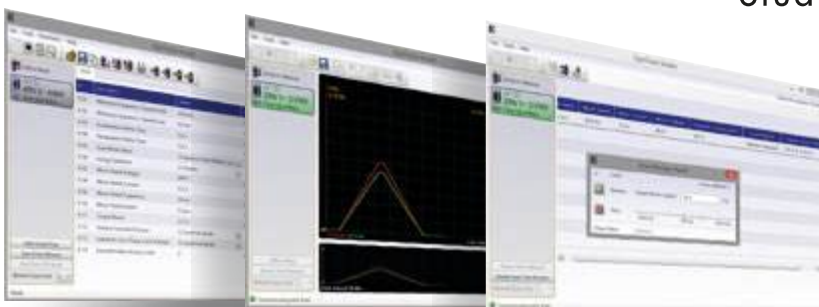
Cable Splitter **OPT-J45SP-IN**
RS485 3 Way Data Cable Splitter RJ45

External EMC Filters, Input Chokes & Output Filters are available

See www.invertekdrives.com for details



OptiTools Studio



Drive commissioning and parameter backup

- Real-time parameter editing
- Drive network communication
- Parameter upload, download and storage
- Simple PLC function programming
- Real-time scope function and data logging
- Real-time data monitoring

Compatible with:

Windows XP, Windows Vista & Windows 7,
Windows 8 & Windows 8.1