



Drivetek as
Regulerte motordrifter - www.dtc.no

OPTIDRIVE™



AC Variable Speed Drive

General Purpose Drive
Easy control for all motor types

Easy to Use



0.37kW–37kW / **110–480V**
3 Phase Input

IP20

IP66

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 37kW

- ✓ 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

IP66

Up to 22kW

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

See **Page 5**



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 (see **Page 8**)

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



IP20

Up to 37kW

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 CAN

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 Smart

Rapid commissioning tool

See Page 10

Dual analogue inputs

Motor supply
connects at base

Controls Multiple Motor Types

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

5 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.



OPTIDRIVE™ E³

IP66 Outdoor

Up to 22kW

Coated Heatsink as Standard

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

Outdoor rated enclosed drives for direct machine mounting, dust tight and ready for washdown duty



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/Nema 4X outdoor rated

Built with tough polycarbonate plastics specifically chosen to withstand degradation by ultra violet (UV), greases, oils and acids. Also robust enough not to be brittle at -20°C.

Dust-Tight Design

Install directly on your processing equipment and be sure of protection from dust and contaminants.

Washdown Ready

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

Switched models

Simply wire up the drive, turn the inbuilt potentiometer and the motor will start running – allowing immediate energy savings.

Saving energy cannot be easier than this!

For ultimate ease of use

- Local Speed Potentiometer
- Run Reverse / Off / Run Forward Switch
- Lockable Mains Disconnect / Isolator



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:

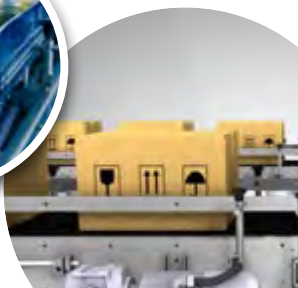
- ✓ Conveyors
- ✓ Mixers
- ✓ Treadmills

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** Smart



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:

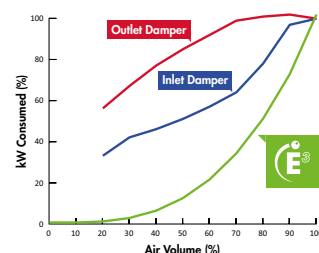
- ✓ Air Handling Units
- ✓ Ventilation Fans
- ✓ Circulating Fans
- ✓ Air Curtains
- ✓ Kitchen Extract



- 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.



Download on the App Store

GET IT ON Google Play



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	210.5	240
mm Depth	162	182	238	275
kg Weight	2.5	3.5	7.0	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			Relay Outputs	Maximum Voltage: 250 VAC, 30 VDC Switching Current Capacity: 6A AC, 5A DC		
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		Braking	Motor Flux Braking Built-in braking transistor (not frame size 1)			Analog Outputs	0 to 10 Volt		
	Overload Capacity	150% for 60 Seconds 175% for 2.5 seconds		Skip Frequency	Single point, user adjustable			Application Features	PI Control	Internal PI Controller Standby / Sleep Function	
	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	Fire Mode			Bidirectional Selectable Speed Setpoint (Fixed / PI / Analog / Fieldbus)		
	Acceleration Time	0.01 – 600 seconds		Digital	Motorised Potentiometer (Keypad) Modbus RTU CANopen EtherNet/IP			Maintenance & Diagnostics	Fault Memory	Last 4 Trips stored with time stamp	
	Deceleration Time	0.01 – 600 seconds		Fieldbus	Built-in	CANopen			125–1000 kbps	Data Logging	Logging of data prior to trip for diagnostic purposes: Output Current Drive Temperature DC Bus Voltage
	Typical Efficiency	> 98%				Modbus RTU		9.6–115.2 kbps selectable	Monitoring	Hours Run Meter	
Ambient Conditions	Temperature	Storage: –40 to 60°C Operating: –20 to 50°C	Standards Compliance	Low Voltage 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)			EMC Directive	2014/30/EU Cat C1 according to EN61800-3:2004					
	Humidity	95% Max, non condensing			Machinery Directive	2006/42/EC					
	Vibration	Conforms to EN61800-5-1			Conformance	CE, UL, RCM					
Enclosure	Ingress Protection	IP20, IP66									

Options & Accessories

Optistick Smart



Optistick Smart **OPT-3-STICK-IN**
Rapid Commissioning Tool

- Allows copying, backup and restore of drive parameters
- Provides Bluetooth interface to a PC running OptiTools Studio or the OptiTools Mobile app on a smartphone
- Onboard NFC (Near Field Communication) for rapid data transfer

Remote Keypads



Optipad **OPT-3-OPPAD-IN**
Remote Keypad & TFT Display

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

RJ45 Accessories



Ideal for simple and fast connection of Modbus RTU/CAN networks

- | | |
|---------------------|--------------------------------------|
| OPT-J4505-IN | RJ45 Cable 0.5m |
| OPT-J4510-IN | RJ45 Cable 1.0m |
| OPT-J4530-IN | RJ45 Cable 3.0m |
| OPT-J45SP-IN | RS485 3 Way Data Cable Splitter RJ45 |

EtherNet Module



EtherNet Module **OPT-2-ETHEG-IN**

- ODVA compliant EtherNet/IP Modbus Translator Device
- Compatible with all drive platforms: P2, E3 & Eco
- Integrated network switch: simplifying network architecture
- Compatible with RSLogix and CoDeSys PLCs

External EMC Filters, Input Chokes & Output Filters are available

See www.invertekdrives.com for details

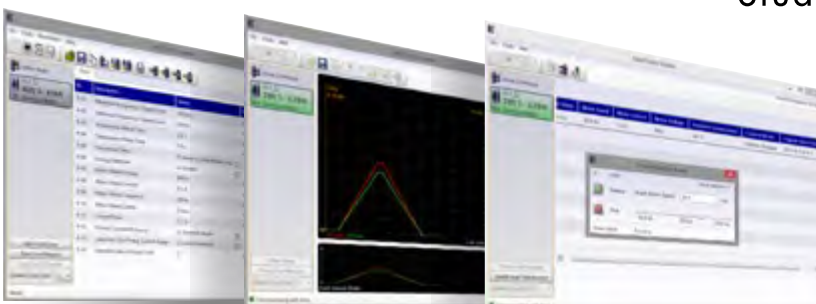


OptiTools Studio

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 Vista & Windows 7, Windows 8, Windows 8.1 & Windows 10



Proven Worldwide in Low Power Applications



Pallet handling in **UK**

Olive oil decanting in **Greece**

Seed processing in **Netherlands**

Pizza making in **Belgium**

Chamfering machines in **Italy**

Machine tool OEM in **UK**

Chemical fume removal in **Singapore**

Sawmill optimisation in **UK**

Precision polishing in **Switzerland**

See www.inverterdrives.com/solutions for full case studies

