



**Drivetek as**  
Regulerte motordrifter - [www.dtc.no](http://www.dtc.no)

# OPTIDRIVE™



AC Variable Speed Drive

**General Purpose Drive**  
Easy control for all motor types

Easy to Use



0.37kW–1.1kW / Single Phase Input

IP20

IP66

# 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

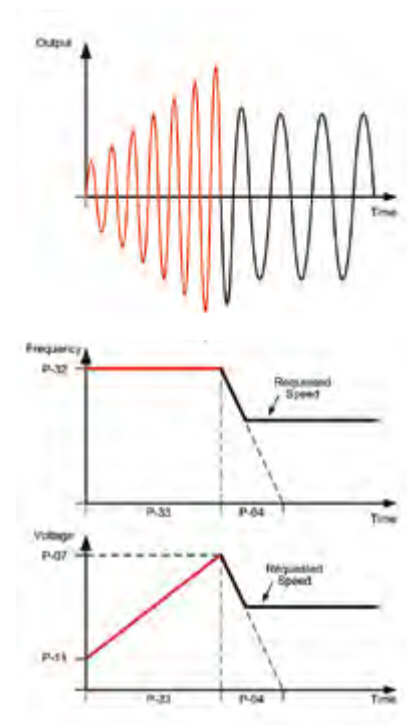
Designed to be cost effective and easy to use, the Optidrive E3 for Single Phase Motors is for use with PSC (Permanent Split Capacitor) or Shaded-Pole Single Phase induction motors.

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™ E<sup>3</sup>

For Single Phase Motors

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



### 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

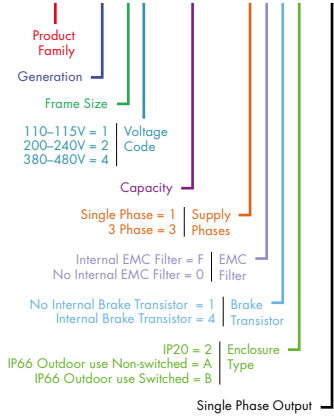
Size	1	2
mm Height	232	257
mm Width	161	188
mm Depth	162	182
kg Weight	2.5	3.5
Fixings	4 x M4	4 x M4

### EMC Filter

F	Internal EMC Filter
0	No Internal EMC Filter

### Model Code Guide:

ODE-3-120043-3F12-01



## 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		Setpoint 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
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		
	Output Frequency	0 – 500Hz, 0.1Hz resolution				Modbus RTU	9.6–115.2 kbps selectable		
	Acceleration Time	0.01 – 600 seconds	I/O Specification	Power Supply	24 Volt DC, 100mA, Short Circuit Protected 10 Volt DC, 10mA for Potentiometer	Machinery Directive	2006/42/EC		
Deceleration Time	0.01 – 600 seconds	Programmable Inputs		4 Total 2 Digital 2 Analog / Digital selectable	Conformance	CE, UL, RCM			
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		Analog Inputs	Resolution: 12 bits Response time: < 4ms Accuracy: ± 2% full scale Parameter adjustable scaling and offset				
	Altitude	Up to 1000m ASL without derating Up to 2000m maximum UL approved Up to 4000m maximum (non UL)	Programmable Outputs	2 Total 1 Analog / Digital 1 Relay					
	Humidity	95% Max, non condensing	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							

# 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

**Optipad 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**

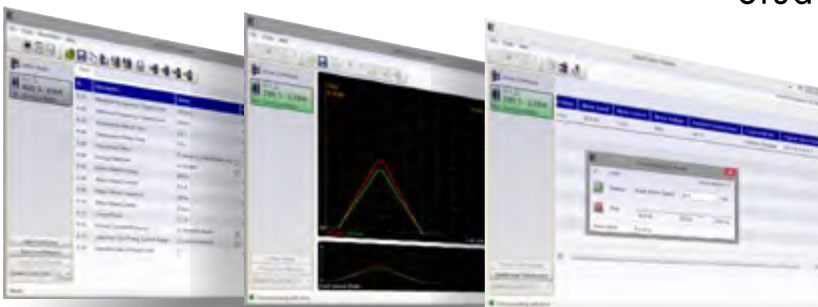
- ODVA compliant EtherNet/IP Modbus Translator Device
- Compatible with all drive platforms: P2, E3 & Eco
- Integrated network switch: simplifying network architecture
- Compatible with RSLogix and CoDeSys PLCs

## External EMC Filters, Input Chokes & Output Filters are available

See [www.invertekdrives.com](http://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



Cooling loop for solar energy research  
**Solar Tech Lab, Italy**

Chain wax development for Team Sky cycling team  
**Muc-Off, UK**

Business-critical climate control for commercial horticulturist  
**Hatziminas Flowers, Greece**

Chilled water pump control predicted to save AED 12385 per year  
**Al Jahili Fort, UAE**

Efficient water circulation gives energy savings of 60% per annum  
**Leisure World, Australia**

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](http://www.inverterdrives.com/solutions) for full case studies

