

# OPTIDRIVE E2 SINGLE PHASE

## Single Phase Motor Control

AC Variable Speed Drive  
0.37kW - 1.1kW (0.5 - 1.5HP)  
110-240V

### Variable speed drive for low power single phase motors

The Optidrive E2 Single Phase is the world's first fully digital, fully packaged variable speed drive for controlling low power single phase motors.

Designed to be cost effective and easy to use, the Optidrive E2 Single Phase is for use with PSC (Permanent Split Capacitor) or Shaded-Pole Single-Phase induction motors.

Optidrive E2 Single Phase uses a revolutionary motor control strategy to achieve reliable intelligent starting of single phase motors.

Optidrive E2 Single Phase has only 14 standard parameters to adjust in its basic form. The Optidrive's legendary ease of use ensures quick and easy drive commissioning. For the more advanced user the extended parameter set gives access to powerful additional functionality.

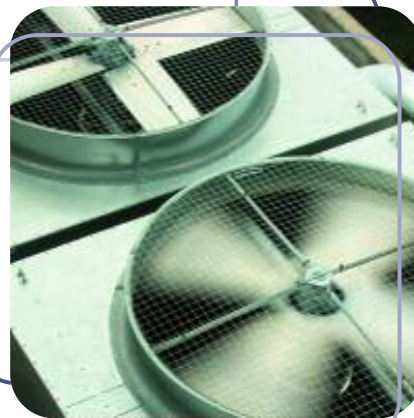


### Key Benefits >>

- 115V & 220V ratings
- Single phase input/ single phase output
- Small mechanical envelope
- Rugged industrial operation 50°C ambient rating
- Simple mechanical & electrical installation
- Simple operation, powerful features & easy to use
- Fast setup, factory default settings ok for most applications, only 14 basic parameters
- Variable torque or constant torque
- Unique programmable boost feature to achieve intelligent starting
- Motor current and rpm indication
- Debugging using troubleshooting & P-00
- 150% overload for 60 secs (175% for 2 secs)
- Keypad control
- Integral RFI filter option
- Integral brake chopper (S2 only)
- Modbus RTU serial communications

### Industry Sectors

- Fan Control
- Food Processing
- Pumping
- Waste Water



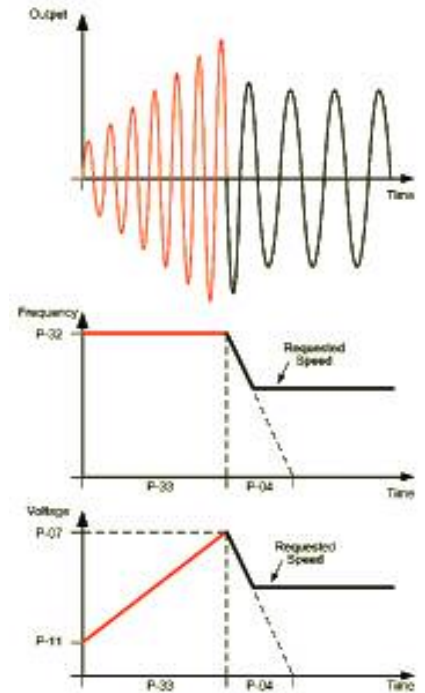
### OPTIDRIVE E2 Single Phase Dimensions

Size	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)	Fixings
1	173	82	123	1.1	4 x M4
2	221	104	150	2.6	4 x M4

Specification		OPTIDRIVE E2 SINGLE PHASE	
<b>Output ratings</b>	Overload Capacity	150% for 60 secs 175% for 2 secs	
	Frequency	0...500Hz	
<b>Input Ratings</b>	Frequency	48 - 62Hz	
	Voltage	110 - 115 + / - 10% 1 Phase (0.5 - 1HP) 200 - 240 + / - 10% 1 Phase (0.37 - 1.1kW / 0.5 - 1.5HP)	
<b>Ambient Conditions</b>	Temperature	Operating : -10 to 50°C Max; Storage : -40 to +60°C	
	Altitude	0 - 2000m, derate 1% per 100m above 1000m	
	Ingress Protection	IP20 (Optional IP55)	
<b>Programming</b>	Keypad	Yes	
	PDA	Yes	
	Smartphone	Yes	
<b>Control Specification</b>	Control Method	V/F	
	V/Hz ratio	Linear	
	Boost	Automatic Boost Phase Operation	
	Stop Mode	Coast / Ramp / DC Brake	
	Internal Brake transistor	Yes (Sizes 2 only). External Resistor required	
	Capacity	100% Drive Rated Power continuously	
	Frequency setpoint control	0...10 VDC	
		0...24 VDC	
		4...20mA	
		0...20mA	
		Digital - Keypad	
		ModBus	
		4	
		Yes	
	Yes		
Acceleration	0..600 sec		
Deceleration	(2 ramps) 0..600 sec		
<b>Programmable I/O</b>	Input 1	Programmable Digital Input	
	Input 2 / Output 2	User Selectable Digital Input / Output	
	Input 3	User Selectable Analog / Digital Input	
	Input 4	User Selectable Analog / Digital Input	
	Output 1	Programmable Analog / Digital Output	
	Relay 1	Relay Output (30 VDC 5A, 250 VAC, 6A)	
	<b>Keypad Display</b>	Operating Display	Output Frequency, Current, Rpm and User Scalable values
	Remote mount	Optional Optiport E2 remote mounting keypad	
<b>Protective Functions</b>	Inverter Trip	Over voltage	
		Over current	
		Under voltage	
		External trip	
		Motor overload	
		Over temperature	
		Short circuited	
	Earth Fault		
	Under Voltage		
Memory	Last 4 Trips stored		
<b>Bus communication</b>	Modbus	Yes	
	Profibus DP	via Gateway	
	DeviceNet	via Gateway	
	RS485 (Optibus)	Standard	

### SPECIAL BOOST PHASE OPERATION

To ensure reliable starting, the Optidrive E2 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, see diagrams below.



### OPTIDRIVE E2 SINGLE PHASE Electrical Data in kW with rfi filter fitted

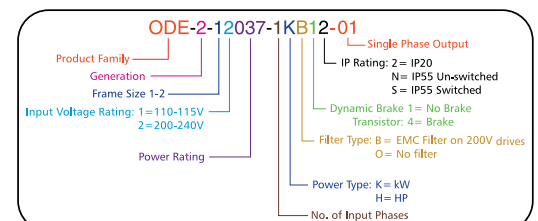
200-240V 1 Phase	Motor Power (kW)	Output Current (A)	Frame Size
ODE-2-12037-1KB12-01	0.37	4.3	1
ODE-2-12075-1KB12-01	0.75	7	1
ODE-2-22110-1KB42-01	1.1	10.5	2

### OPTIDRIVE E2 SINGLE PHASE Electrical Data in HP without rfi filter fitted

110-115V 1 Phase	Motor Power (HP)	Output Current (A)	Frame Size
ODE-2-11005-1H012-01	0.5	7	1
ODE-2-21007-1H012-01	0.75	10.5	2

200-240V 1 Phase	Motor Power (HP)	Output Current (A)	Frame Size
ODE-2-12005-1H012-01	0.5	4.3	1
ODE-2-12010-1H012-01	1	7	1
ODE-2-22015-1H042-01	1.5	10.5	2

### OPTIDRIVE E2 Single Phase Part Number Designation



For Options please refer to page 13