

# OPTIDRIVE E2

## Ease of Use

AC Variable Speed Drive  
0.37kW – 11kW (0.5 – 15HP)  
110 – 480V

General purpose economy drive with modbus communication

Rich in features the Optidrive E2 is the most commercially competitive Optidrive in the Optidrive family. Innovative and compact the Optidrive E2 range combines good looks with robustness, reliability and easy to use performance.

The product is dedicated to low power applications where total costs are ultra-competitive, including:

- Competitive purchase price
- Low installation costs
- Low commissioning costs
- Low technical support costs

Optidrive E2 has only 14 standard parameters to adjust in its basic form, thus Optidrive's legendary ease of use could not be easier or quicker to get started with. Optidrive E2 can be supplied with or without an internal rfi filter.

### Key Benefits

- Small mechanical envelope
- Rugged industrial 50°C ambient rating for hot and tough applications
- Simple mechanical & electrical installation
- Simple operation, powerful features easy to use
- Fast setup, factory default settings ok for most applications, only 14 basic parameters
- 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 and S3 only)
- Modbus RTU serial communications



### Industry Sectors

- Food Processing
- Bottling
- Pumping
- Chemical
- Waste Water
- HVAC
- Conveyor



## OPTISTICK Product code: OPT-STICK

For fast and accurate repeat drive programming

Simply insert Optistick into the RJ45 slot on the face of the Optidrive E2:

- Upload/download buttons allow for fast copying of parameters between drives
- Infra red communications capability provides remote control convenience
- Can be programmed with PDA or Smartphone

| Specification         |                            | OPTIDRIVE E2  |  |
|-----------------------|----------------------------|---|--|
| Output Ratings        | Overload capacity          | 150% for 60 secs; 175% for 2 secs   |  |
|                       | Frequency                  | 0...500Hz   |  |
| Input Ratings         | Frequency                  | 48–62Hz   |  |
|                       | Voltage                    | 110–115V ± 10% 1 Phase (0.5–1.5 HP)<br>200–240V ± 10% 1 Phase (0.37–4kW / 0.5–5 HP)<br>200–240V ± 10% 3 Phase (0.37–3.7kW / 0.5–5 HP)<br>380–480V ± 10% 3 Phase (0.75–11kW / 1–15 HP) |  |
| Ambient Conditions    | Temperature                | Operating: -10 to 50°C max; Storage: -40 to 60°C  |  |
|                       | Altitude                   | 0–2000 m<br>(derate 1% per 100m above 1000m)  |  |
|                       | Ingress protection         | IP20; Optional IP55/NEMA 12 & IP66/NEMA 4X  |  |
| Programming           | Keypad                     | Yes   |  |
|                       | PC                         | Yes   |  |
|                       | PDA                        | Yes   |  |
|                       | Smartphone                 | Yes   |  |
| Control Specification | Control method             | Voltage Vector  |  |
|                       | PWM Frequency              | 4...32kHz (effective)   |  |
|                       | V/Hz ratio                 | Linear  |  |
|                       | Boost                      | Yes   |  |
|                       | Stop mode                  | Coast/Ramp/DC Brake   |  |
|                       | Internal brake transistor  | Yes (sizes 2 and 3); External resistor required   |  |
|                       | Capacity                   | 100% Drive Rated Power continuously   |  |
|                       | Skip frequency             | One point, adjustable frequency band  |  |
|                       | Frequency setpoint control | 0...10V DC  |  |
|                       |                            | 20...4mA  |  |
|                       |                            | 4...20mA  |  |
|                       |                            | 0...20mA  |  |
|                       |                            | Digital–Keypad<br>Modbus RTU  |  |
|                       | Preset speeds              | 4   |  |
|                       | PI control                 | Yes   |  |
|                       | Spin start                 | Yes (sizes 2 and 3)   |  |
| Acceleration          | 0...600 secs               |   |  |
| Deceleration          | (2 ramps) 0...600 secs     |   |  |
| PC setup software     | Optistore V3               |   |  |
| Programmable I/O      | Input 1                    | Programmable Digital Input  |  |
|                       | Input 2                    | Programmable Digital Input  |  |
|                       | Input 3                    | User-selectable Analogue / Digital Input  |  |
|                       | Input 4                    | User-selectable Analogue / Digital Input  |  |
|                       | Output 1                   | Programmable Analogue / Digital Output  |  |
|                       | Relay 1                    | Relay Output (30V DC 5A, 250V AC 6A)  |  |
| Keypad Display        | Operating display          | Output Frequency, Current, RPM, Power and User Scalable values  |  |
|                       | Remote mount               | Optional Optiport E2 remote mounting keypad   |  |
| Protective Functions  | Inverter trip              | Over voltage, over current, under voltage, external trip, motor overload, over temperature, short circuited, earth fault  |  |
|                       | Memory                     | Last 4 trips stored   |  |
| Bus Communication     | Modbus RTU                 | Standard  |  |
|                       | Profibus DP                | via Gateway   |  |
|                       | DeviceNet                  | via Gateway   |  |
|                       | RS485 (Optibus)            | Standard  |  |
| Standards Compliance  | EN 61800-3:2004            | Adjustable speed electrical power drive systems. EMC requirements.  |  |



### OPTIDRIVE E2 Electrical Data in kW with internal rfi filter

| 200–240V<br>1 Phase | Motor Power<br>(kW) | Output Current<br>(A) | Frame Size |
|---------------------|---------------------|-----------------------|------------|
| ODE-2-12037-1KB12   | 0.37                | 2.3                   | 1          |
| ODE-2-12075-1KB12   | 0.75                | 4.3                   | 1          |
| ODE-2-12150-1KB12   | 1.5                 | 7                     | 1          |
| ODE-2-22150-1KB42   | 1.5                 | 7                     | 2          |
| ODE-2-22220-1KB42   | 2.2                 | 10.5                  | 2          |
| ODE-2-32040-1KB42   | 4                   | 15                    | 3          |

| 200–240V<br>3 Phase | Motor Power<br>(kW) | Output Current<br>(A) | Frame Size |
|---------------------|---------------------|-----------------------|------------|
| ODE-2-12037-3K012#  | 0.37                | 2.3                   | 1          |
| ODE-2-12075-3K012#  | 0.75                | 4.3                   | 1          |
| ODE-2-12150-3K012#  | 1.5                 | 7                     | 1          |
| ODE-2-22150-3KB42   | 1.5                 | 7                     | 2          |
| ODE-2-22220-3KB42   | 2.2                 | 10.5                  | 2          |
| ODE-2-32040-3KB42   | 4                   | 18                    | 3          |

**Note:** Suitable for use on single phase supply with 50% derating  
# Size 1, 3 Phase Input drives are not available with internal rfi filter

| 380–480V<br>3 Phase | Motor Power<br>(kW) | Output Current<br>(A) | Frame Size |
|---------------------|---------------------|-----------------------|------------|
| ODE-2-14075-3KA12   | 0.75                | 2.2                   | 1          |
| ODE-2-14150-3KA12   | 1.5                 | 4.1                   | 1          |
| ODE-2-24150-3KA42   | 1.5                 | 4.1                   | 2          |
| ODE-2-24220-3KA42   | 2.2                 | 5.8                   | 2          |
| ODE-2-24400-3KA42   | 4                   | 9.5                   | 2          |
| ODE-2-34055-3KA42   | 5.5                 | 14                    | 3          |
| ODE-2-34075-3KA42   | 7.5                 | 18                    | 3          |
| ODE-2-34110-3KA42   | 11                  | 24                    | 3          |

### OPTIDRIVE E2 Electrical Data in HP without internal rfi filter

| 110–115V<br>1 Phase | Motor Power<br>(HP) | Output Current<br>(A) | Frame Size |
|---------------------|---------------------|-----------------------|------------|
| ODE-2-11005-1H012   | 0.5                 | 2.3                   | 1          |
| ODE-2-11010-1H012   | 1                   | 4.3                   | 1          |
| ODE-2-21015-1H042   | 1.5                 | 5.8                   | 2          |

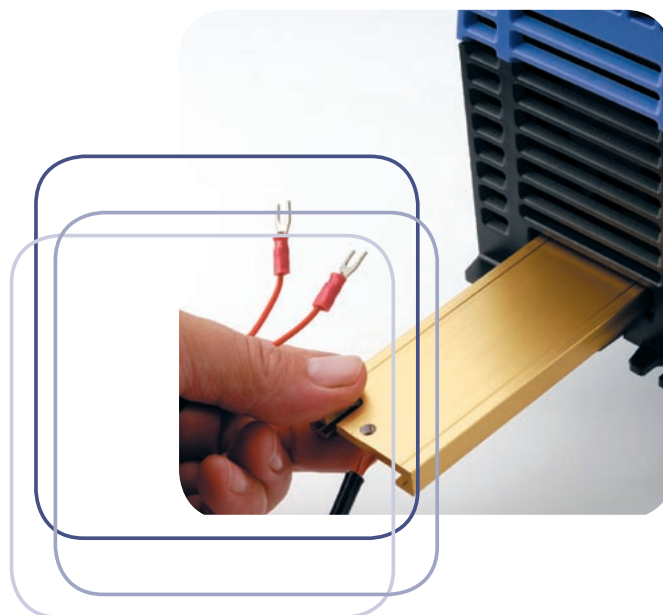
**Note:** 230V, 3 phase output (Voltage Doubler)

| 200–240V<br>1 Phase | Motor Power<br>(HP) | Output Current<br>(A) | Frame Size |
|---------------------|---------------------|-----------------------|------------|
| ODE-2-12005-1H012   | 0.5                 | 2.3                   | 1          |
| ODE-2-12010-1H012   | 1                   | 4.3                   | 1          |
| ODE-2-12020-1H012   | 2                   | 7                     | 1          |
| ODE-2-22020-1H042   | 2                   | 7                     | 2          |
| ODE-2-22030-1H042   | 3                   | 10.5                  | 2          |
| ODE-2-32050-1H042   | 5                   | 15                    | 3          |

| 200–240V<br>3 Phase | Motor Power<br>(HP) | Output Current<br>(A) | Frame Size |
|---------------------|---------------------|-----------------------|------------|
| ODE-2-12005-3H012   | 0.5                 | 2.3                   | 1          |
| ODE-2-12010-3H012   | 1                   | 4.3                   | 1          |
| ODE-2-12020-3H012   | 2                   | 7                     | 1          |
| ODE-2-22020-3H042   | 2                   | 7                     | 2          |
| ODE-2-22030-3H042   | 3                   | 10.5                  | 2          |
| ODE-2-32050-3H042   | 5                   | 18                    | 3          |

**Note:** Suitable for use on single phase supply with 50% derating

| 380–480V<br>3 Phase | Motor Power<br>(HP) | Output Current<br>(A) | Frame Size |
|---------------------|---------------------|-----------------------|------------|
| ODE-2-14010-3H012   | 1                   | 2.2                   | 1          |
| ODE-2-14020-3H012   | 2                   | 4.1                   | 1          |
| ODE-2-24020-3H042   | 2                   | 4.1                   | 2          |
| ODE-2-24030-3H042   | 3                   | 5.8                   | 2          |
| ODE-2-24050-3H042   | 5                   | 9.5                   | 2          |
| ODE-2-34075-3H042   | 7.5                 | 14                    | 3          |
| ODE-2-34100-3H042   | 10                  | 18                    | 3          |
| ODE-2-34150-3H042   | 15                  | 24                    | 3          |



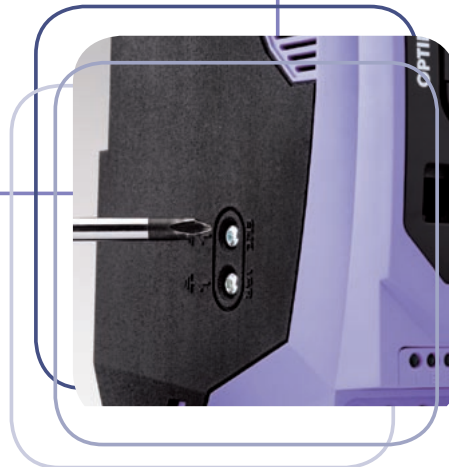
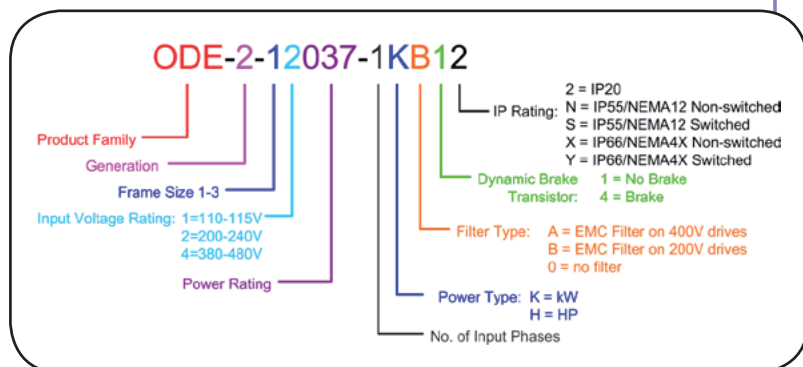


### OPTIDRIVE E2 Dimensions

| Size | Height (mm) | Width (mm) | Depth (mm) | Weight (kg) | Fixings |
|------|-------------|------------|------------|-------------|---------|
| 1    | 173         | 82         | 123        | 1.1         | 4 × M4  |
| 2    | 221         | 104        | 150        | 2.6         | 4 × M4  |
| 3    | 261         | 131        | 175        | 4.0         | 4 × M4  |



### OPTIDRIVE E2 Part Number Designation



EMC and Varistor disconnect

### Options

| Product           | Description  |
|-------------------|--|
| OptiFilter        | RFI Line Filter  |
| Optibrake         | Dynamic Braking Resistor                                   |
| Input Chokes      | Mains Supply Input Chokes                                  |
| Output Filters    | Motor Output Filter, recommended for long motor cable runs |
| 2ROUT             | 2 Relay Output Option                                      |
| HVACO             | 2 Relay Output for HVAC operation                          |
| LOGIP             | High Voltage Logic Input Option                            |
| Optiport E2       | Optiport Plus remote mounting keypad                       |
| Network Cables    | RJ45 Cables and Splitters                                  |
| PC Connection Kit | Isolated RS485 USB Adaptor                                 |
| Optiwand PDA / SP | Commissioning and backup software for Pocket PC / PDA      |
| Optistore V3      | Commissioning and Storage Software for PC                  |
| Fieldbus Gateway  | DeviceNet, Profibus and Ethernet gateways                  |