



# ELTADRIVE VARIABLE SPEED DRIVES

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## Overview

- 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

### Overview

Focused on ease of use, Eltadrive 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, Eltadrive E3 minimises start-up time.

### Intuitive Keypad Control

Precise digital control at the touch of a button.

### Internal Category C1 EMC Filter

An internal filter in every Eltadrive E3 saves cost and time for installation. Cat C1 according to EN61800-3:2004.

### Sensorless Vector Control for all Motor Types

Precise and reliable control for IE2, IE3 & IE4 motors.

**IM** IE2 & IE3 Induction Motors

**PM** AC Permanent Magnet Motors

**BLDC** Brushless DC Motors

**SynRM** Synchronous Reluctance Motors

### General Purpose Drives

100 - 480V Single & 3 Phase Input, 0.37KW - 22kW / 0.5HP - 30HP.

### External EMC Filters, Input Chokes & Output Filters Available

Contact us for more details.

### SmartStart

Rapid Commissioning Tool

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



#### IP20

Up to 22kW

- Easy to use
- Compact & Robust



#### IP66

Up to 7.5kW

- Dust tight
- Washdown ready

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## IP20

- Up to 22kW
- Built in PI control, EMC filter (C1) & brake chopper
- Application macros for industrial fan operation
- Bluetooth® connectivity
- Controls multiple motor types: IE2, 3, 4, IM, PM, BLDC and SynRM
- Operates up to +50°C



### Overview

Compact, robust and reliable general purpose drive for panel mounting.

### Simply Power Up

Eltadrive 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.

### Power Supply

Connects at top.

### Fast Connection

5mm rising clamp terminals with captive screws.

### Quick Reference

Integrated help card.

### Modbus RTS & CANopen

On board as standard.

### SmartStart

Rapid parameter cloning and Bluetooth® PC interface.

### Motor Supply

Connects at base.

### Dimensional Data

Model	Size	Height	Width	Depth	Weight kg	Fixings
IP20	1	173	83	123	1.0	4 x M5
	2	221	110	150	1.7	4 x M5
	3	261	131	175	3.2	4 x M5
	4	420	171	212	9.1	4 x M8

Dimensions in mm.

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## IP66

- Up to 7.5kW
- Conformal coating as standard
- Switched or non-switched

### Overview

Enclosed drives for direct machine mounting, dust-tight and ready for washdown duty.

### 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 Eltadrive E3 IP66 is ideal for high-pressure washdown applications.

### Eltadrive E3 IP66 Switched

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

### Coated Heatsink as Standard

Ideal for hygiene based operations requiring washdown such as food & beverage.

### Fanless Heatsink

For reliable, cost effective operation.

### Local Speed Potentiometer

### Run Reverse / Off / Run Forward Switch

### Lockable Mains

Disconnect / Isolator.

### Dimensional Data

Model	Size	Height	Width	Depth	Weight kg	Fixings
IP66	1	232	161	179	3.1	4 x M4
	2	257	188	187	4.1	4 x M4
	3	310	211	252	7.6	4 x M4

Dimensions in mm.



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## Technical Data

Product Code	kW	HP	Amps	Size	Model Code	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	Please enquire								
	0.75	1.0	4.3	1	Please enquire								
	1.10	1.5	5.8	2	Please enquire								
200 - 240V ± 10% 1 Phase Input	0.37	0.5	2.3	1	ODE	3	1	2	0023	1	#	1	Y
	0.75	1.0	4.3	1	ODE	3	1	2	0043	1	#	1	Y
	1.50	2.0	7.0	1	ODE	3	1	2	0070	1	#	1	Y
	1.50	2.0	7.0	2	ODE	3	2	2	0070	1	#	4	Y
	2.20	3.0	10.6	2	ODE	3	2	2	0105	1	#	4	Y
	4.00	5.0	15.3	3	Please enquire								
200 - 240V ± 10% 3 Phase Input	0.37	0.5	2.3	1	Please enquire								
	0.75	1.0	4.3	1	Please enquire								
	1.50	2.0	7.0	1	Please enquire								
	1.50	2.0	7.0	2	Please enquire								
	2.20	3.0	10.5	2	Please enquire								
	4.00	5.0	18.0	3	Please enquire								
	5.50	7.50	24.0	3	Please enquire								
	7.50	10.0	30.0	4	Please enquire								
	11.00	15.0	46.0	4	Please enquire								
380 - 480V ± 10% 3 Phase Input	0.75	1.0	2.2	1	ODE	3	1	4	0022	3	#	1	Y
	1.50	2.0	4.1	1	ODE	3	1	4	0041	3	#	1	Y
	1.50	2.0	4.1	2	ODE	3	2	4	0041	3	#	4	Y
	2.20	3.0	5.8	2	ODE	3	2	4	0058	3	#	4	Y
	4.00	5.0	9.5	2	ODE	3	2	4	0095	3	#	4	Y
	5.50	7.5	14.0	3	ODE	3	3	4	0140	3	#	4	Y
	7.50	10.0	18.0	3	ODE	3	3	4	0180	3	#	4	Y
	11.00	15.0	24.0	3	ODE	3	3	4	0240	3	#	4	2
	15.00	20.0	30.0	4	ODE	3	4	4	0300	3	#	4	2
	18.50	25.0	39.0	4	ODE	3	4	4	0390	3	#	4	2
	22.00	3.0	46.0	4	ODE	3	4	4	0460	3	#	4	2

### Fan Mode

(Including Fire Operation) makes air handling a breeze, ideal for simple HVAC systems.

### Applications

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

### Features & Benefits

- High efficiency variable torque motor control
- Flying start capability
- Mains loss ride through
- PI control

\*Replace # in EMC Filter with **F** - Internal EMC Filter or **0** - No Internal EMC Filter

\*Replace # in Enclosure Type with **Y** - IP66 Switched or **2** - IP20

# ELTADRIIVE VARIABLE SPEED DRIVES

## Drive Specifications

Category	Sub	Specification
Input Ratings	Supply Voltage	110 - 115V ± 10%   200 - 240V ± 10%   380 - 480V ± 10%
	Supply Frequency	48 - 62Hz
	Displacement Power Factor	> 0.98
	Phase Imbalance	3% Maximum Allowed
	Inrush Current	< Rated Current
	Power Cycles	120 per hour maximum, evenly spaced
Output Ratings	Output Power	110V 1Ph Input: 0.5 - 1.5HP (230V 3Ph Output)   230V 1Ph Input: 0.37 - 4kW (0.5 - 5HP) 230V 3Ph Input: 0.37 - 11kW (0.5 - 15HP)   400V 3Ph Input: 0.75 - 22kW   460V 3Ph Input: 1 - 30HP
	Overload Capacity	150% for 60 seconds   75% for 2.5 seconds
	Output Frequency	0 - 500Hz, 0.1Hz resolution
	Acceleration Time	0.01 - 600 seconds
	Deceleration Time	0.01 - 600 seconds
	Typical Efficiency	> 98%
Ambient Conditions	Temperature	Storage: -40 - 60°C   Operating: -10 - 50°C
	Altitude	Up to 1000m ASL without derating   Up to 2000m maximum UL approved   Up to 4000m maximum (non UL)
	Humidity	95% maximum, non-condensing
	Vibration	Conforms to EN61800-5-1
Enclosure	Ingress Protection	IP20, IP66
Programming	Keypad	Built-in keypad as standard, optional remote mountable keypad
	Display	7 segment LED
	PC	OptiTools Studio
Control Specification	Control Method	Sensorless Vector Speed Control, PM Vector Control, BLDC Control, Synchronous Reluctance
	PWM Frequency	4 - 32kHz effective
	Stopping Mode	Ramp to stop: User adjustable 0.1 - 600 secs, Coast to stop
	Braking	Motor Flux Braking, Built-in braking transistor (not frame size 1)
	Skip Frequency	Single point, user adjustable
	Setpoint Control	Analog Signal   0 - 10V, 10 - 0V   0 - 20V, 20 - 0V   4 - 20V, 20 - 4V Digital   Motorised Potentiometer (Keypad)   Modbus RTU   CANopen   EtherNet / IP
Fieldbus	Built-in	CANopen   125 - 1000kbps
		Modbus RTU   9.6 - 115.2kbps selectable
I/O Specification	Power Supply	24 Volt DC, 100mA, Short Circuit Protected   10 Volt DC, 5mA for Potentiometer
	Programmable Inputs	4 Total   2 Digital   2 Analog / Digital Selectable
	Digital Inputs	8 - 30 Volt DC, Internal or External Supply, Responsive time < 4ms
	Analog Inputs	Resolution: 12 bits   Responsive time: > 4ms   Accuracy: ± 2% full scale   Parameter adjustable scaling and offset
	Programmable Outputs	2 Total   1 Analog / Digital   1 Relay
Application Features	Relay Outputs	Maximum Voltage: 250 VAC, 30VDC   Switching Current Capacity* 6A AC, 5A DC
	Analog Outputs	0 - 10 Volt
	PI Control	Internal PI Controller   Standby / Sleep Function
Maintenance & Diagnostics	Fire More	Bidirectional   Selectable Speed Setpoint (Fixed / PI / Analog / Fieldbus)
	Fault Memory	Last 4 Trips stored with time stamp
	Data Logging	Logging of data prior to trip for diagnostic purposes: Output Current, Drive Temperature, DC Bus Voltage
Standards Compliance	Monitoring	Hours Run Meter
	Low Voltage Directive	Adjustable speed electrical power drive systems. EMC requirements
	EMC Directive	2004 / 108 / EC Cat C1 according to EN61800-3:2004
	Machinery Directive	2006 / 42 / EC
	Conformance	CE, UL, RCM



## Building Services

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