Easy to use
It's in our DNA

- Clear View mounting point alignment
- One handed DIN rail mount & removal system
- Optistick Pro "for fast data transfer"
- E4 Assist online support portal
- Status LED
- Easy connectivity & file sharing: Power up the device with a mobile over USB-C using the Optistick PRO
- Angled 4mm terminal screw heads for easy access
- Changeover relay
- Built-in certified safe torque off (Sil3)
- 24V comms keep alive
- Easy view serial number and power rating
- Easy EMC disconnect
- Expansion port - comms & extended I/O

Modbus TCP EtherNet/IP

EtherCAT Technology Group PROFINET

Optidrive E4

	kW	HP	Amps	Frame	Product Family	Generation	Frame Size	Voltage Code	Output Current x10	Supply Phases	EMC Filter	Brake Transistor	Enclosed Option
110–115V+10%-15% 1 Phase Input (Voltage Doubler)	0.37	0.5	2.3	1	ODE	4	1	1	0023	1	0	1	2
	0.75	1	4.3	1	ODE	4	1	1	0043	1	0	1	2
	1.1	1.5	5.8	2	ODE	4	2	1	0058	1	0	4	2
200–240V +10%-15% 1 Phase Input or 3 phase output	0.37	0.5	2.3	1	ODE	4	1	2	0023	1	#	1	2
	0.75	1	4.3	1	ODE	4	1	2	0043	1	#	1	2
	1.5	2	7	1	ODE	4	1	2	0070	1	#	1	2
	1.5	2	7	2	ODE	4	2	2	0070	1	#	4	2
	2.2	3	10.5	2	ODE	4	2	2	0105	1	#	4	2
110–115V±10% 1 Phase or 200–240V+10%-15% 1 Phase	0.37	0.5	2.3	1	ODE	4	1	D	0023	1	F*	1	2
	0.75	1	4.3	1	ODE	4	1	D	0043	1	F*	1	2
	1.1	1.5	5.8	2	ODE	4	2	D	0058	1	F*	4	2
200–240V +10%-15% 3 Phase Input	0.37	0.5	2.3	1	ODE	4	1	2	0023	3	#	1	2
	0.75	1	4.3	1	ODE	4	1	2	0043	3	#	1	2
	1.5	2	7	1	ODE	4	1	2	0070	3	#	1	2
	1.5	2	7	2	ODE	4	2	2	0070	3	#	4	2
	2.2	3	10.5	2	ODE	4	2	2	0105	3	#	4	2
200–240V +10%-15% 1/3 Phase Input	0.37	0.5	2.3	1	ODE	4	1	2	0023	Y	0	1	2
	0.75	1	4.3	1	ODE	4	1	2	0043	Y	0	1	2
	1.5	2	7	1	ODE	4	2	2	0070	Y	0	1	2
	1.5	2	7	2	ODE	4	2	2	0070	Y	0	4	2
	2.2	3	10.5	2	ODE	4	2	2	0105	Y	0	4	2
380–480V +10%-15% 3 Phase Input	0.37	0.5	1.2	1	ODE	4	1	4	0012	3	#	1	2
	0.75	1	2.2	1	ODE	4	1	4	0022	3	#	1	2
	1.5	2	4.1	1	ODE	4	1	4	0041	3	#	1	2
	1.5	2	4.1	2	ODE	4	2	4	0041	3	#	4	2
	2.2	3	5.8	2	ODE	4	2	4	0058	3	#	4	2
	3	4	7.7	2	ODE	4	2	4	0075	3	#	4	2
	4	5	9.5	2	ODE	4	2	4	0095	3	#	4	2

Replace # in model code with colour-coded option

Enclosure Types

2	 **IP20**

EMC Filter

F	Internal EMC filter
0	No Internal EMC filter

*110-15V has no internal EMC filter

IP20


	Size	1	2
mm	Height	176	222
mm	Width	82	108
mm	Depth	136	168
kg	Weight	1.0	1.7
	Fixings	4xM5	4xM5

Input Ratings	Supply voltage	110-115V -15%/+10%, 200-240V -15%/+10%, 380-480V -15%/+10%
	Supply frequency	48 – 62Hz
	Phase imbalance	3% Maximum allowed
	Power cycles	120 per hour maximum, evenly spaced
	Inrush current	< rated current
Output Ratings	Overload capacity	Heavy Duty | 150% for 60 seconds, 175% for 2.5 seconds
	Output frequency	0-500Hz, 0.1Hz (high frequency firmware on request)
	Acceleration time	0.01 – 600 seconds
	Deceleration time	0.01 – 600 seconds
	Typical efficiency	> 98%
Ambient Conditions	Temperature	Storage: -40 to 60°C, Operating: -20 to 50°C (60°C derating)
	Altitude	Up to 1000m ASL without derating, Up to 2000m maximum UL approved, Up to 4000m maximum (non UL)
	Humidity	95% Max, non condensing
	Vibration	Conforms to EN61800-5-1
Programming	Keypad	Built-in 7 segment LED (IP20), Optional TFT remote keypad
	PC	Optitools Pro over RJ45 port or USB-C
	Mobile device	Optitools Pro over USB-C
	Copy stick	Over RJ45 Port
IO Specification	User power supply	24Vdc, 150mA short circuit & current limit protected 10Vdc, 10mA short circuit protected for potentiometer
	Programme inputs	4 total, 2 Digital, 2 Analog/Digital
	Digital input spec	8-30Vdc, from on-board or external voltage source <4ms response time, NPN/PNP Logic
	Analog input spec	**Resolution:** 12 bits. **Accuracy:** ±2% full scale. **Response:** < 4ms Parameter adjustable scaling & offset
	Programmable outputs	1 Analog (0-10V, 0-20mA, 4-20mA)/Digital (24Vdc) 1 Changeover Relay
	Relay output spec	Max: 250Vac, 30Vdc, Switching Capacity: 6A AC, 5A DC
Fieldbus	Built-in	Modbus RTU Odd, Even, no Parity, 1/2 stop bits | CanOpen | BACnet MS/TP
	Option	Modbus-TCP | Ethernet-IP | Profinet

Control Specification	Control method	Vector Speed Control, PM Vector Control (Auto back emf measurement), Sensorless Vector Speed Control, V/Hz Speed Control Synchronous Reluctance, BLDC Control, LSPM, PMAREL Torque Control
	Frequency range	0-500Hz (2000Hz on request for IM)
	PWM frequency	4-16Hz real swf
	Stopping modes	Ramp to stop, Coast to Stop
	Braking	AC Flux Braking, DC Injection Braking (Time, current & speed adjustable at start & stop), Dynamic Braking (Size 2 & larger)
	Skip frequency	Single Point, User adjustable
	Setpoint control	**Analog**: 0 to 10 Volts, 10 to 0 Volts, 0 to 20mA, 20 to 0mA, 4 to 20mA, 20 to 4mA. **Digital**: Motorised Potentiometer (Keypad), Modbus RTU, CANopen **Option:** EtherNet/IP, Modbus-TCP, Profinet, Ethercat frequency input up to 100kHz
Enclosure	Ingress protection IP	IP20 NEMA 1 with IP20 option kit
Application Features	PI control	Internal PI Controller, Standby/Sleep Function
	Fire mode	Bidirectional, Select speed setpoint (Fixed/PI/Analog/Fieldbus)
	Common DC bus	DC terminal access (Sz2 and larger) | Phase loss disable
	HVAC features	Spin Start | Variable Torque | Belt Failure detection
	Pump features	Low load detection (Dry Pump)
Maintenance & Diagnostics	Fault memory	Last 4 trips & time stored. Logging Data prior for diagnostics: Output Current | Drive Temperature | DC Bus Voltage etc
	Monitoring	Hours Run Meter | Real units (PSI, Bar, etc...)
	Input phase loss	Ripple and per phase measurement
	Output phase loss	All 3 phases checked at each Enable (can be disabled)
	Brake protection	Brake resistor thermal overload
Standards Compliance	Low Voltage Directive (LVD) 2014/35/EU	EN 61800-5-1: 2007 + A1:2017 + A11:2021
	EMC directive 2014/30/EU	EN 61800-3 : 2004 + A1:2012: 110V drives C3 5mtrs, 200V drives C1 5mtrs, 400V drives C2 5mtrs
	Machinery directive 2006/42/EC	EN 61800-5-2: 2017, EN ISO 13849-1:2023
	Conformance	CE, UL, RCM, UL, UL 61800-5-1
	Environmental class	Conformal Coated PCBs. 2009/125/EC (Eco-design) & Regulation (EU) 2019/1781. 2011/65/EU (RoHS) modified by delegated directive 2015/863 : EN 63000:2018

WHICH DRIVE IS BEST FOR YOUR APPLICATION?

		Optidrive E3	Optidrive E4
Motor Types	IM	•	•
	PM	•	•
	BLDC	•	•
	SynRM	•	•
	LSPM	•	•
	PMAREL		•
Voltage & Power Ratings	110V 1ph input 110V 1 ph output	0.37-0.55kW	0.37-0.55kW
	110V 1ph input 230V 3 ph output	0.37-1.1kW	0.37-1.1kW
	230V 1ph input 230V 1 ph output	0.37-1.1kW	0.37-1.1kW
	230V 1ph input 230V 3 ph output	0.37-4kW	0.37-2.2kW
	230V 3ph input 230V 3 ph output	0.37-18.5kW	0.37-2.2kW
	110–115V 1 ph input / 200–240V 1 ph input		0.37-1.1kW
	200–240V 1 or 3 ph input		0.37-2.2kW
	400V 3ph input 400V 3 ph output	0.75-22kW	4kW
Overload Capacity	Overload capacity	150% 60 sec's	150% 60 sec's
Ambient Conditions	Temperature	-20 to +50degC	
	Humidity	95% Max non-condensing	
Enclosure	IP20	•	•
	IP66	•	
	Nema 1Kit		•
Programming	Keypad	Built-in/Optional remote keypad	Built-in/Optional remote keypad
	Display	LED	LED
Comissioning Connectivity	RJ45	•	•
	USB-C support		•
	Remote keypad	•	•
Control Specification	PWM frequency	2-16 kHz	2-16 kHz (0.1 kHz adjustable)
	Torque control		•
Built-in Fieldbus Connectivity	CANopen	•	•
	Modbus RTU	•	•
		Fixed parity	Odd/Even parity selection
	BACnet MS/TP		•
Plug-in Module Fieldbus Connectivity	Ethernet-IP		•
	Modbus-TCP		•
	PROFINET		•
	Ethercat		•
On-Board Flight recorder	On-Board flight recorder		•

		Optidrive E3	Optidrive E4
I/O Specification	NPN/PNP logic selection		•
	Freely programmable inputs		•
	Dedicated digital inputs	2	2
	Digital/Analog inputs	2	2
	Digital/Analog outputs	1	1
	Relay outputs	1	1 Changeover
	24V keep alive		•
	24V user output capacity	100mA	150mA
	STO		•
Braking	AC flux braking	•	•
	DC injection braking	•	•
	Independent start/ stop for dc injection		•
	Dynamic braking	Size 2 and larger	Size 2 and larger
	Software based braking resistor protection		•
	Mechanical brake control	Basic	Advanced (Torque prove)
Motor Connected check Capacity	Motor connected check		•
Input Phase loss detection Prior to running	Input phase loss detection prior to running		•
Application Features	PI (D) Control	•	•
	Fire mode	•	•
	Master/Slave	•	•
	Sequencer		•
	s-curve adjustment		•
	Power limit		•
	Belt brake protection		•
	Low load/Flow detection		•
	Pump stir		•
	DC bus sharing	Sz2+only	•
	Real units (e,g Bar) for PI setup vs %		•
	Standby/Sleep mode	•	Adjustable standby frequency
	Spin start	•	All motor types
	Auto-back EMF measurement		•
	Skip frequency	•	•
	Side by side mounting		•
	Microprocessor	Basic	Advanced (Faster processing power for higher efficiency Motors)