

EPOS4 Positioning Controllers Data

EtherCAT  CANopen 



EPOS4 Compact 50/8 EtherCAT

Ready-to-install compact solution, designed for use with brushed DC motors with encoders or brushless EC motors with Hall sensors and encoders up to 400/1500 Watt.

EPOS4 Compact 50/15 CAN

Ready-to-install compact solution, designed for use with brushed DC motors with encoders or brushless EC motors with Hall sensors and encoders up to 750/1500 Watt.

Controller version	EtherCAT Slave	CANopen Slave
Electrical data		
Operating voltage V_{CC}	10 - 50 VDC	10 - 50 VDC
Logic supply voltage V_C (optional)	10 - 50 VDC	10 - 50 VDC
Max. output voltage	$0.9 \times V_{CC}$	$0.9 \times V_{CC}$
Max. output current I_{max}	30 A (<5 s)	30 A (<60 s)
Continuous output current I_{cont}	8 A	15 A
Switching frequency of power stage	50 kHz	50 kHz
Sampling rate of PI current controller	25 kHz (40 μ s)	25 kHz (40 μ s)
Sampling rate of PI speed controller	2.5 kHz (400 μ s)	2.5 kHz (400 μ s)
Sampling rate of PID position controller	2.5 kHz (400 μ s)	2.5 kHz (400 μ s)
Max. speed (1 pole pair)	50 000 rpm (sinusoidal), 100 000 rpm (block)	50 000 rpm (sinusoidal), 100 000 rpm (block)
Built-in motor choke per phase	2.2 μ H / 15 A	2.2 μ H / 15 A
Inputs		
Hall sensor signals	H1, H2, H3	H1, H2, H3
Encoder signals	A, A\, B, B\, I, I\ (max. 6.25 MHz)	A, A\, B, B\, I, I\ (max. 6.25 MHz)
Sensor signals	A, A\, B, B\, I, I\, Clock, Clock\, Data, Data\	A, A\, B, B\, I, I\, Clock, Clock\, Data, Data\
Digital inputs	4 (level switchable: logic/PLC)	4 (level switchable: logic/PLC)
Digital inputs "High-speed"	4, differential	4, differential
Analog inputs	2 (12-bit resolution, -10...+10 V)	2 (12-bit resolution, -10...+10 V)
CAN ID / DEV ID	configurable with DIP switch 1...5	configurable with DIP switch 1...5
Outputs		
Digital outputs	2	2
Digital outputs "High-speed"	1, differential	1, differential
Analog outputs	2 (12-bit resolution, -4...+4 V, max. 1 mA)	2 (12-bit resolution, -4...+4 V, max. 1 mA)
Encoder voltage output	+5 VDC, max. 70 mA	+5 VDC, max. 70 mA
Hall sensor voltage output	+5 VDC, max. 30 mA	+5 VDC, max. 30 mA
Auxiliary voltage output	+5 VDC, max. 150 mA	+5 VDC, max. 150 mA
Interfaces		
RS232	-	RxD; TxD (max. 115 200 bit/s)
CAN	-	high; low (max. 1 Mbit/s)
USB 2.0/3.0	Data+; Data- (Full Speed)	Data+; Data- (Full Speed)
EtherCAT	100 Mbit/s (Full Duplex)	-
Indicator		
LED green = READY, red = ERROR	Green LED, red LED	Green LED, red LED
Environmental conditions		
Temperature - Operation	-30...+45°C	-30...+25°C
Temperature - Extended Range	+45...+77°C; Derating: -0.250 A/°C	+25...+77°C; Derating: -0.288 A/°C
Temperature - Storage	-40...+85°C	-40...+85°C
Humidity (condensation not permitted)	5...90%	5...90%
Mechanical data		
Weight	approx. 100 g	approx. 126 g
Dimensions (L x W x H)	59.5 x 79.5 x 35.7 mm	59.5 x 65.5 x 35.1 mm
Mounting	M2.5 screws	M3 screws
Part numbers		
	605298 EPOS4 Compact 50/8 EtherCAT	520886 EPOS4 Compact 50/15 CAN
Accessories		
	235811 DSR 70/30 Shunt regulator	235811 DSR 70/30 Shunt regulator
	Order accessories separately, see page 558	Order accessories separately, see page 558