

EPOS4 Positioning Controllers Data



EPOS4 Micro 24/5 CAN

Miniaturized OEM positioning controller module, designed for use with brushed DC motors with encoders and brushless EC motors (BLDC) with Hall sensors and encoders up to 120 W/360 W.

EPOS4 Micro 24/5 EtherCAT

Miniaturized OEM positioning controller module, designed for use with brushed DC motors with encoders and brushless EC motors (BLDC) with Hall sensors and encoders up to 120 W/360 W.

Controller version	CANopen Slave	EtherCAT Slave
Electrical data		
Operating voltage V_{CC}	10 - 24 VDC	10 - 24 VDC
Logic supply voltage V_C (optional)	10 - 24 VDC	10 - 24 VDC
Max. output voltage	$0.9 \times V_{CC}$	$0.9 \times V_{CC}$
Max. output current I_{max}	15 A (<10 s)	15 A (<10 s)
Continuous output current I_{cont}	5 A	5 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	–	–
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	Clock, Data	Clock, Data
Digital inputs	4 (logic level)	4 (logic level)
Digital inputs "High-speed"	1	1
Analog inputs	2 (12-bit resolution, -10...+10 V)	2 (12-bit resolution, -10...+10 V)
CAN ID / DEV ID	configurable with external wiring	–
Outputs		
Digital outputs	2	2
Digital outputs "High-speed"	1	1
Analog outputs	1 (12-bit resolution, -4...+4 V, max. 1 mA)	1 (12-bit resolution, -4...+4 V, max. 1 mA)
Encoder voltage output	+5 VDC, max. 115 mA	+5 VDC, max. 115 mA
Hall sensor voltage output	+5 VDC, max. 30 mA	+5 VDC, max. 30 mA
Auxiliary voltage output	–	–
Interfaces		
CAN	high; low (max. 1 Mbit/s)	–
EtherCAT	–	100 Mbit/s (Full Duplex)
RS232	RxD; TxD (max. 115 200 bit/s)	–
USB 2.0/3.0	Data+; Data- (Full Speed)	Data+; Data- (Full Speed)
Indicator		
LED green = READY, red = ERROR	Green LED, red LED	Green LED, red LED
Environmental conditions		
Temperature – Operation	-30...+45°C	-30...+40°C
Temperature – Extended Range	+45...+70°C; Derating: -0.200 A/°C	+40...+60°C; Derating: -0.25 A/°C
Temperature – Storage	-40...+85°C	-40...+85°C
Humidity (condensation not permitted)	5...90%	5...90%
Mechanical data		
Weight	approx. 6 g	approx. 7 g
Dimensions (L x W x H)	32.0 x 22.0 x 7.0 mm	36.5 x 27.0 x 7.0 mm
Mounting	M2 screws	M2 screws
Part numbers		
	638328 EPOS4 Micro 24/5 CAN	654731 EPOS4 Micro 24/5 EtherCAT
Accessories		
	309687 DSR 50/5 Shunt regulator Order accessories separately, see page 578	309687 DSR 50/5 Shunt regulator Order accessories separately, see page 578