



EL5021 | 1-channel SinCos encoder interface, 1 V_{PP}

The EL5021 SinCos EtherCAT Terminal serves as interface for the direct connection of a measuring sensor, e.g. a measuring probe with sinusoidal voltage output 1 V_{PP} to the higher-level fieldbus. The measuring signal is processed, interpolated and made available as a 32 bit value. The signal period resolution is 13 bit. The reference mark is also stored in a 32 bit value. The current count and the reference mark value can be read. The input frequency for the measuring signal inputs is 250 kHz. The EL5021 deals with offset, gain and phase error compensation.

Technical data	EL5021, ES5021
Technology	SinCos encoder interface for differential 1 V _{PP} signal
Number of channels	1
Encoder connection	A, A (inv), B, B (inv), C, C (inv)
Encoder operating voltage	5 V DC/max. 0.5 A (generated from the 24 V DC power contacts)
Counter	max. 24 bit
Input frequency	250 kHz @ 10 bit (sampling rate 70 MHz)
Commands	set count, evaluate reference mark latch (C/C [inv]), change of direction, frequency control
Distributed clocks	yes
Input signal	1 V _{PP}
Power supply	24 V via power contacts
Nominal voltage	24 V DC at power contact
Current consumption power contacts	typ. 50 mA + load
Sensor supply	5 V DC from power voltage, 0.5 A max.
Resolution	max. 13 bit, 8192 steps per period
Electrical isolation	500 V (E-bus/field potential)
Current consumption E-bus	typ. 120 mA
Special features	latch, reset, amplitude and frequency error recognition, frequency-dependent period resolution, frequency counter max. 24 bit
Weight	approx. 55 g
Operating/storage temperature	0...+55 °C/-25...+85 °C
Relative humidity	95 %, no condensation
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4
Protect. class/installation pos.	IP 20/variable
Pluggable wiring	for all ESxxxx terminals
Approvals/markings	CE, UL, ATEX
Ex marking	II 3 G Ex nA IIC T4 Gc

Related products	
EL5021-0090	1-channel SinCos encoder interface, 1 V _{PP} , TwinSAFE SC