



EJ5101 | Incremental encoder interface

The EJ5101 EtherCAT plug-in module is an interface for the direct connection of incremental encoders with differential inputs (RS422). A 32/16 bit counter with a quadrature decoder and a 32/16 bit latch for the zero pulse can be read, set or enabled. Incremental encoders with alarm outputs can be connected at the interface's status input. Interval and frequency measurement with a resolution of up to 100 ns is possible. The gate input allows the counter to be halted. The counter state is taken over with a rising or trailing edge at the latch input.

Due to the optional interpolating microincrement function, the EJ5101 can supply even more precise axis positions for dynamic axes. In addition, it supports the synchronous reading of the encoder value together with other input data in the EtherCAT system via high-precision EtherCAT distributed clocks (DC). Optionally, the time stamp of the last-registered increment edge based on the distributed clocks system can be output.

For further information on XFC see page

Technical data	EJ5101
Technology	incremental encoder interface
Number of channels	1
Encoder connection	A, A (inv), B, B (inv), C, C (inv) (RS422, differential inputs), single-ended connection possible, status input 5 V DC, gate/latch input 24 V DC
Input frequency	max. 4 million increments/s with 4-fold evaluation, equivalent to 1 MHz
Supply voltage electronics	24 V DC (via distribution board)
Sensor supply	5 V DC, 0.5 A
Current consumption	typ. 20 mA without encoder
Current consumption E-bus	typ. 130 mA
Zero-pulse latch	1 x 16/32 bit switchable
Counter	1 x 16/32 bit switchable
Distributed clocks	yes
Electrical isolation	500 V (E-bus/field potential)
Special features	wire breakage detection, latch and gate function, period duration and frequency measurement, microincrements, timestamping of edges, filters
Dimensions (W x H x D)	12 mm x 66 mm x 55 mm
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
Approvals	CE