



EL5151, EL5152 | 1-, 2-channel incremental encoder interface

The EL5151/EL5152 EtherCAT Terminal is an interface with 24 V inputs for the direct connection of incremental encoders. With the EL5151, a 32 bit counter with a quadrature decoder and a 32 bit latch for the zero pulse can be read, set or enabled. Alternatively, the EL5151 can be used as up/down counter terminal with gate.

With the EL5152, two 32 bit counters with quadrature decoder can be read and set. The EL515x supports the synchronous reading of the encoder value, together with other input data, into the EtherCAT system via high-precision EtherCAT distributed clocks (DC).

Technical data	EL5151 ES5151	EL5152 ES5152
Technology	incremental encoder interface 24 V DC, EN 61131-2, type 1, "0": < 5 V DC, "1": > 15 V DC, typ. 5 mA	
Number of channels	1	2
Encoder connection	A, B, C, gate/latch input 24 V DC, 24 V/0 V	A1, B1, A2, B2, 24 V/0 V
Sensor inputs	1	2
Encoder operating voltage	24 V DC	
Counter	1 x 16/32 bit switchable	2 x 32 bit
Input frequency	max. 400,000 increments/s (with 4-fold evaluation)	
Quadrature decoder	4-fold evaluation	
Commands	read, set, latching	
Distributed clocks	yes	
Input signal	24 V DC	
Supply voltage	24 V DC (-15 %/+20 %)	
Nominal voltage	24 V DC at power contact	
Current consumption power contacts	typ. 100 mA + load	
Resolution	1/256 bit microincrements	
Current consumption E-bus	typ. 130 mA	
Bit width in the process image	14 byte ENC input, 6 byte ENC output	28 byte ENC input, 12 byte ENC output
Special features	gate or latch function, microincrements, timestamping of edges, period duration and frequency measurement, up/down counters	microincrements, period duration and frequency measurement, up/down counters
Weight	approx. 50 g	
Operating/storage temperature	-25...+60 °C/-40...+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 ESxxx terminals	
Approvals	CE, UL, Ex	

Special terminals	
EL5151-0021	1-channel incremental encoder interface with parameterisable 24 V DC output

i Product announcement	EL5151, ES5151, EL5152, ES5152: available EL5151-0021: estimated market release on request
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