



ER5151-0002 | Incremental encoder interface with single-ended inputs

The ER5151-0002 EtherCAT Box is an interface for the direct connection of incremental encoders with 24 V DC inputs. 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. Interval measurement with a resolution of up to 100 ns is possible.

Due to the optional interpolating microincrement function, the ER5151-0002 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). The encoder is connected via an 8-pin M12 socket.

The EtherCAT Box modules with zinc die-cast housing are ready for use in harsh industrial and process environments. With the fully sealed design and metal surfaces the ER series is ideal for applications requiring enhanced load capacity and protection against weld spatter, for example.

Technical data	ER5151-0002
Connection technology	M12, 8-pin
Number of channels	1
Encoder connection	M12, screw type, 8-pin
Encoder operating voltage	24 V DC
Encoder output current	0.5 A
Nominal voltage	24 V DC (-15 %/+20 %)
Signal type	single-ended
Sensor supply	24 V DC/0.5 A, short-circuit-proof
Counter	32 or 16 bit, binary
Limit frequency	4 million increments/s (with 4-fold evaluation)
Quadrature decoder	4-fold evaluation
Zero-pulse latch	16/32 bit
Commands	read, set, enable
Distributed clocks	yes
Power supply connection	feed: 1 x M8 male socket, 4-pin; downstream connection: 1 x M8 female socket, 4-pin
Current consumption from Us (without sensor current)	typ. 130 mA + load
Bit width in the process image	1 x 32 bit input, 1 x 16 bit output, 8 bit control, 8 bit status
Electrical isolation	500 V
Operating/storage temperature	0...+55 °C/-25...+85 °C
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 65/66/67 (conforms to EN 60529)/variable
Approvals	CE, UL in preparation

Related products	
EP5151	EtherCAT Box (industrial housing), incremental encoder interface, 32 or 16 bits, binary, 24 V DC input