



i EL5032-0090 | TwinSAFE SC: 2-channel EnDat 2.2 interface

The EL5032-0090 EnDat 2.2 EtherCAT Terminal is used for direct connection of two encoders with EnDat 2.2 interface. The EL5032-0090 enables reading of position values, diagnosis encoder data, internal and external temperature values and the electronic identification plate. With the electronic identification plate all measuring device-specific information is directly available. The position value is output with up to 48 bits, depending on the resolution of the connected measuring device, and transferred to the controller. The position value is output with up to 48 bits, depending on the resolution of the connected measurement device, and transmitted to the control system. Safety-relevant data processing by the TwinSAFE Logic, however, is only possible for 32-bit position values. If the encoder supplies values other than 32-bit values, it is possible to define for the EL5032-0090 whether higher-value or lower-value bits are to be included in the telegram sent to the TwinSAFE Logic.

With the aid of the TwinSAFE SC technology (TwinSAFE Single Channel) it is possible to make use of standard signals for safety tasks in any network or fieldbus. The standard functions and features of the I/Os remain available. The data from these TwinSAFE SC I/Os is fed to the TwinSAFE Logic, where they undergo safety-related multi-channel processing. In the Safety Logic the data originating from different sources is analysed, checked for plausibility and submitted to a "voting". This is done by certified function blocks such as Scale, Compare/Voting (1oo2, 2oo3, 3oo5), Limit, etc. For safety reasons, however, at least one of the data sources must be a TwinSAFE SC component. The remainder of the data can originate from other standard I/Os, drive controllers or measuring transducers.

With the aid of the TwinSAFE SC technology it is typically possible to achieve a safety level equivalent to PL d/Cat. 3 in accordance with EN ISO 13849-1 or SIL 2 in accordance with EN 62061.

Technical data	EL5032-0090
Technology	EnDat 2.2 interface
Number of channels	2
Encoder connection	D+, D-, C+, C-
Encoder operating voltage	optionally 5 V DC or 9 V DC, 0.5 A
Encoder output current	max. 0.5 A for both channels
Supply voltage electronics	24 V DC (via power contacts)
Commands	reading position values including additional information available for selection via MRS code (Memory Range Select), reading and writing parameters, reset functions
Resolution	max. 48 bit position to PLC, max. 32 bit position to TwinSAFE Logic
Current consumption power contacts	typ. 150 mA
Current consumption E-bus	typ. 120 mA
Distributed clocks	yes
Special features	TwinSAFE SC, saving the zero offset shift, electronic type plate, diagnostics, warning, including cable length compensation up to 100 m, reading the encoder temperature values
Electrical isolation	500 V (E-bus/field potential)
Weight	approx. 50 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
Approvals	CE, UL

Option for the second channel	
EL5042	BiSS-C interface, unidirectional, 5/9 V DC, IP 20
EL5001	1-channel SSI encoder interface
EL5151	1-channel incremental encoder interface, 32 bit
EL5021	1-channel SinCos encoder interface, 1 V _{PP}
EL5101	Incremental encoder interface with differential input, 16/32 bit

Related products	
EK1960	TwinSAFE Compact Controller
EL6910	TwinSAFE Logic (TwinCAT 3)

System	
TwinSAFE SC	For further TwinSAFE SC products please see the system overview .

i Product announcement	estimated market release 2nd quarter 2018
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