



i EL5001-0090 | TwinSAFE SC: SSI encoder interfaces

The EL5001-0090 SSI interface EtherCAT Terminal allows an SSI encoder to be connected directly. The interface circuit generates a pulse for reading the encoder and makes the incoming data stream available to the controller as a data word in the process image. Various operating modes, transmission frequencies and bit widths can be permanently stored in a control register.

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	EL5001-0090
Technology	SSI encoder interface
Number of channels	1
Encoder connection	D+, D-, Cl+, Cl-
Signal output (pulse)	difference signal (RS422)
Signal input (data)	difference signal (RS422)
Power supply	24 V via power contacts
Current consumption	typ. 20 mA without encoder
Encoder supply	24 V DC via power contacts
Data transfer rates	variable up to 1 MHz, 250 kHz default
Serial input	24 bit width (variable)
Data direction	read
Current consumption power contacts	typ. 20 mA
Current consumption E-bus	typ. 120 mA
Distributed clocks	yes
Special features	TwinSAFE SC, adjustable baud rate, coding and data length
Electrical isolation	500 V (E-bus/field potential)
Weight	approx. 55 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

Option for the second channel	
EL5032	2-channel EnDat 2.2 interface
EL5042	BiSS-C interface, unidirectional, 5/9 V DC, IP 20
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 3rd quarter 2018
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