



ELX3181 | 1-channel analog input terminal 4...20 mA, single-ended, 16 bit, HART, Ex i



The ELX3181 analog input terminal allows the direct connection of intrinsically safe HART-capable field devices located in hazardous areas classified Zone 0/20 or 1/21. It supplies measuring transducers located in the field and transmits their analog measuring signals electrically isolated to the automation device. The HART protocol (Highway Addressable Remote Transducer) enables two-way communication through digital data transfer via the analog 4...20 mA wiring. The TwinCAT FDT container enables the integration of field device DTMs into TwinCAT Engineering, so that the device configuration and diagnostic functions are available directly within the development environment. The EtherCAT Terminal indicates the signal state by means of light emitting diodes. Error LEDs signal overload and wire breakage, in addition to which LEDs provide information about the state of the HART communication and indicate any communication errors.

Technical data	ELX3181
Technology	intrinsically safe sensors with HART support (version 7)
Signal current	4...20 mA
Number of inputs	1 (single-ended)
Connection method	2-wire
Resolution	16 bit (incl. sign)
Measuring error	< ±0.3 % (relative to full scale value)
Internal resistance	typ. 250 Ω
Input filter limit frequency	25 Hz
Conversion time	typ. 1 ms
Supply voltage electronics	24 V DC (via power contacts), ELX9560 power supply
Current consumption power contacts	typ. 15 mA + load
Current consumption E-bus	typ. 85 mA
Distributed clocks	yes
Special features	standard and compact process image, activatable FIR/IIR filters, limit value monitoring, NE43 NAMUR
Weight	approx. 60 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/see documentation
Approvals/markings	CE, UL, ATEX, IECEx, cFMus

Ex-Marking	<p>ATEX: II 3(1)G Ex ec [ia Ga] IIC T4 Gc II (1)D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I</p> <p>IECEX: Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I</p> <p>cFMus: AIS Class I, II, III, Division 1, Groups A thru G Class I, Division 2, Groups A, B, C, D Class I, Zone 2, AEx nA [ia Ga] IIC T4 Gc Class I, Zone 2, AEx ec [ia Ga] IIC T4 Gc [AEx ia Da] IIIC T4</p>
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further Ex components	
ELXxxxx	EtherCAT Terminals with intrinsic safe in- and output
ELXxxxx-0090	EtherCAT Terminals with intrinsic safe in- and output and TwinSAFE SC
CPXxxxx	Multi-touch Panel PCs and multi-touch Control Panels for use in hazardous areas, Zone 2/22