



## i ELX3204-0090 | 4-channel analog input terminal RTD, 2-wire connection, 16 bit, Ex i, TwinSAFE SC



The ELX3204-0090 analog input terminal allows the direct connection of RTDs located in hazardous areas classified Zone 0/20 or 1/21. The circuitry of the ELX3204-0090 can operate sensors with 2-wire technology. Linearisation is carried out over the entire freely selectable temperature range. By default the terminal is set to PT100 sensors with 2-wire technology. The ELX3204-0090 terminal indicates signal state and sensor malfunctions (e.g. wire breakage) by means of LEDs.

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	ELX3204-0090
Technology	temperature measurement
Sensor types	PT100, PT200, PT500, PT1000, Ni100, Ni120, Ni1000 resistance measurement (10 Ω...4 kΩ), KT(Y) sensors
Number of inputs	4 (differential)
Connection method	2-wire
Temperature range	-200...+850 °C (PT sensors); -60...+250 °C (Ni sensors), for further types and details see documentation
Resolution	0.1 °C per digit
Measuring current	< 1 mA (depending on sensor and measuring range)
Measuring error	< ±0.5 °C for PT and Ni sensors
Internal resistance	typ. ≥ 10 kΩ (differential)
Input filter limit frequency	typ. 1 kHz
Conversion time	10...800 ms (adjustable, default: 50 ms)
Supply voltage electronics	24 V DC (via power contacts), ELX9560 power supply
Current consumption power contacts	typ. 10 mA
Current consumption E-bus	typ. 70 mA
Special features	limit value monitoring, digital filter and characteristic curve linearisation integrated, connection method freely configurable, TwinSAFE SC
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	CE, Ex

<b>further Ex components</b>	
<b>ELXxxxx</b>	EtherCAT Terminals with intrinsic safe in- and output
<b>ELXxxxx-0090</b>	EtherCAT Terminals with intrinsic safe in- and output and TwinSAFE SC
<b>CPXxxxx</b>	Multi-touch Panel PCs and multi-touch Control Panels for use in hazardous areas, Zone 2/22

<b>i</b> <b>Product announcement</b>	estimated market release 3rd quarter 2018
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