



ELX3351 | 1-channel analog input terminal strain gauge, 16 bit, Ex i



The analog ELX3351 input terminal enables direct connection of a resistor bridge or load cell from hazardous areas, Zone 0/20 and 1/21. The terminal can be connected in 4- or 6-wire technology. The ratio between the bridge voltage U_b and the supply voltage U_r is determined in 24-bit resolution, and the load value is calculated as a process value. Apart from automatic self-calibration (can be deactivated), additional functions such as Tara and Freeze as well as dynamic filters are integrated.

| Technical data | ELX3351 |
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| Technology | resistor bridge, strain gauge |
| Sensor types | resistor bridge, strain gauge |
| Number of inputs | 1, for 1 resistor bridge in full bridge technology |
| Bridge input resistance | 300 Ω ...1.5 k Ω |
| Measuring range U_b | max. -20...+20 mV |
| Measuring range U_{REF} | max. -12...+12 V |
| Internal resistance | > 25 k Ω (U_r , differential), > 1 M Ω (U_b , differential) |
| Input filter limit frequency | typ. 3.6 kHz (-3 dB, low pass) |
| Conversion time | typ. 1.6 ms |
| Resolution | 24 bit, 32 bit presentation |
| Filter | 50 Hz, configurable |
| Measuring error | < ± 0.5 % (relative to full scale value), self-calibration activ |
| Power supply U_v | up to 12 V DC from power contacts, dependent on sensor |
| Supply voltage electronics | via E-bus |
| Current consumption power contacts | depends on sensor, min. 20 mA |
| Current consumption E-bus | typ. 85 mA |
| Supported nominal sensitivity | all, parameter resolution: 0.01 μ V/V; recommended: 0.5...3 mV/V |
| Special features | self-calibration, dynamic filters, Freeze |
| 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, ATEX, IECEx |
| Ex-Marking | II 3(1)G Ex ec [ia Ga] IIC T4 Gc II (1)D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I |

| further Ex components | |
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| 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 |