



KL3311 | 1-channel thermocouple input terminal with open-circuit recognition

The KL3311 analog input terminal allows thermocouples to be connected directly. The Bus Terminal's circuitry can operate thermocouple sensors using the 2-wire technique. Linearisation over the full temperature range is realised with the aid of a microprocessor. The temperature range can be selected freely. The error LEDs indicate a broken wire. Compensation for the cold junction is made through an internal temperature measurement at the terminals. The KL3311 can also be used for mV measurement.

Technical data	KL3311
Number of inputs	1
Power supply	via the K-bus
Technology	2-wire
Thermocouple sensor types	types J, K, L, B, E, N, R, S, T, U (default setting type K), mV measurement
Connection method	2-wire
Measuring range	in the range defined in each case for the sensor (default setting: type K; -100...+1370 °C); mV measurement: ±30 mV...±120 mV
Conversion time	~ 200 ms
Wiring fail indication	yes
Resolution	0.1 °C per digit
Measuring error	< ±0.5 % (relative to full scale value)
Electrical isolation	500 V (K-bus/signal voltage)
Current consumption power contacts	– (no power contacts)
Current consumption K-bus	typ. 65 mA
Bit width in the process image	input: 1 x 16 bit data (1 x 8 bit control/status optional)
Configuration	no address setting, configuration via Bus Coupler or controller
Special features	electrically isolated
Weight	approx. 70 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, Ex