Run LED1 — Run LED2
Error LED1 — Error LED2

+TC1 — +TC2

-TC1 — -TC2

Shield — Shield

Observe for earthed thermocoupler: differential inputs max. ± 2 V to ground

25 g

Top view   Contact assembly

KL3312 | 2-channel thermocouple input terminal with open-circuit recognition

The KL3312 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 KL3312 can also be used for mV measurement.

Technical data	KL3312
Number of inputs	2
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
Resolution	0.1 °C per digit
Conversion time	~ 250 ms
Wiring fail indication	yes
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: 2 x 16 bit data (2 x 8 bit control/status optional)
Configuration	no address setting, configuration via Bus Coupler or controller
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

We reserve the right to make technical changes.

Special terminals	
KL3312-0010	type J
KL3312-0011	type J in Siemens S5 format
KL3312-0012	type L
KL3312-0013	type L in Siemens S5 format
KL3312-0014	type B
KL3312-0015	type B in Siemens S5 format
KL3312-0016	type E
KL3312-0017	type E in Siemens S5 format
KL3312-0018	type N
KL3312-0019	type N in Siemens S5 format
KL3312-0020	type R
KL3312-0021	type R in Siemens S5 format
KL3312-0022	type S
KL3312-0023	type S in Siemens S5 format
KL3312-0024	type T
KL3312-0025	type T in Siemens S5 format
KL3312-0026	type U
KL3312-0027	type U in Siemens S5 format
KL3312-0028	0…120 mV measurement
KL3312-0029	type K in Siemens S5 format
KL3312-0040	expanded temperature range for type S and L type S: -50…+1700 °C (as supplied type L: -100…+900 °C)
KL3312-0110	type J, Fahrenheit scaling
KL3312-2000	setting of reference junction temperature via process image, unit 1/256° C in a 16 bit word
KL3312-2100	external reference point temperature specification via process image is possible, the unit is 1/256 °C in 16-bit format, fast conversion time 65 ms