

KL3351 | 1-channel resistor bridge terminal (strain gauge)

The KL3351 analog input terminal permits direct connection of a resistor bridge. The bridge voltage, U_D , and the supply voltage, U_{REF} , to the bridge are digitised with a 16 bit resolution, and are transmitted along an electrically isolated channel to the supervising automation system. The input channels are available in the form of two 16 bit values for further processing. The resulting measurement can be calculated from the formula: measurement = U_D/U_{REF} . Precise acquisition of the supply voltage along with the bridge voltage compensates for long-term and temperature drift.

Technical data	KL3351 KS3351
Number of inputs	2, for 1 resistor bridge
Power supply	via the K-bus
Signal voltage U_D	-16...+16 mV, configurable
Signal voltage U_{REF}	-10...+10 V, configurable
Technology	DMS connection
Internal resistance	> 200 k Ω (U_{REF}), > 1 M Ω (U_D)
Power supply U_V	5 V DC, max. 20 mA
Resolution	16 bit
Conversion time	< 250 ms, configurable
Filter	50 Hz, configurable
Measuring error	< ± 0.1 % (relative to full scale value)
Current consumption power contacts	– (no power contacts)
Current consumpt. K-bus	typ. 65 mA
Bit width in the process image	input: 2 x 16 bit data (2 x 8 bit control/status optional)
Special features	with internal bridge supply
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
Pluggable wiring	for all KSxxxx Bus Terminals
Approvals	CE, UL, Ex