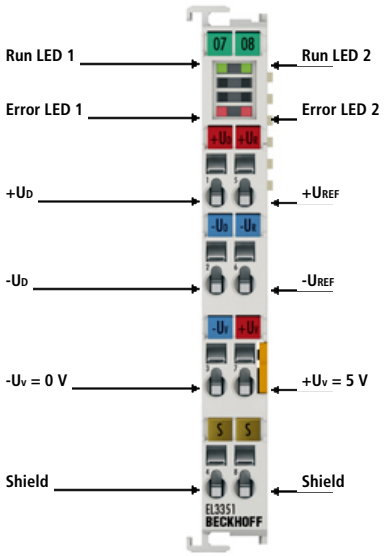
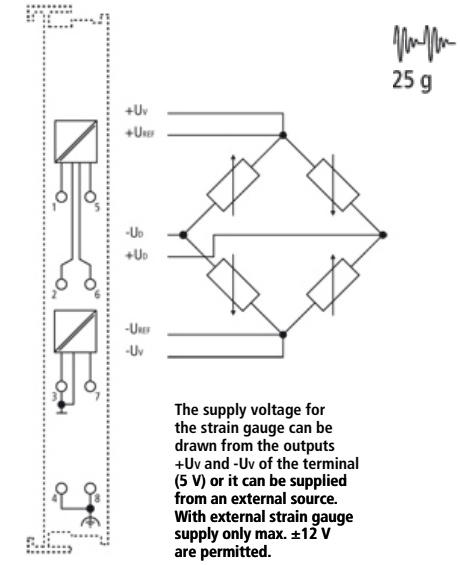


Top view



Contact assembly

The supply voltage for the strain gauge can be drawn from the outputs +Uv and -Uv of the terminal (5 V) or it can be supplied from an external source. With external strain gauge supply only max. ±12 V are permitted.

EL3351 | 1-channel resistor bridge terminal (strain gauge)

The EL3351 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	EL3351 | ES3351
Number of inputs	2, for 1 resistor bridge in full bridge technology
Power supply	via the E-bus
Technology	resistor bridge, strain gauge
Distributed clocks	–
Measuring range U_D	max. -20…+20 mV
Measuring range U_{REF}	max. -12…+12 V
Internal resistance	> 200 kΩ (U_{REF}),> 1 MΩ (U_D)
Input filter limit frequency	50 Hz default setting, parameterisable
Conversion time	2.5…800 ms, configurable, max. 400 samples/s
Power supply U_V	5 V, max. 20 mA
Resolution	16 bit, 32 bit presentation
Filter	50 Hz, configurable
Measuring error	< ±0.1 % (relative to full scale value, 50 Hz filter)
Current consumption power contacts	–
Current consumption E-bus	typ. 170 mA
Supported nominal sensitivity	calculated in PLC, freely selectable
Special features	integrated 5 V DC bridge supply
Weight	approx. 60 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 ESxxxx terminals
Approvals/Markings	CE, UL, ATEX

Related products	
ELM3502-0000	2-channel measuring bridge analysis, full/half/quarter bridge, 24 bit, 20 ksps, push-in, service plug, 6-pin
ELM3504-0000	4-channel measuring bridge analysis, full/half/quarter bridge, 24 bit, 10 ksps, push-in, service plug, 6-pin