



EL3356 | 1-channel precise load cell analysis (resistor bridge), 16 bit

The analog EL3356 input terminal enables direct connection of a resistor bridge or load cell in a 4- or 6-wire connection technology. The ratio between the bridge voltage U_D and the supply voltage U_{REF} is determined simultaneously in the input circuit and the final load value is calculated as a process value on the basis of the settings in the terminal. With automatic self-calibration (can be deactivated) and dynamic filters the terminal with measuring cycles of 10 ms can be used for slow weighings with high precision.

Technical data	EL3356 ES3356
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. -25...+25 mV rated voltage
Measuring range U_{REF}	max. -12...+12 V rated voltage
Internal resistance	> 200 k Ω (U_{REF}), > 1 M Ω (U_D)
Input filter limit frequency	10 kHz low pass (-3 dB)
Conversion rate	100...4 samples/s (10...250 ms conversion time)
Power supply U_v	up to 12 V DC from power contacts, dependent on sensor
Resolution	16 bit, 32 bit presentation
Measuring error	< ± 0.01 % for the calculated load value in relation to the final load value with a 12 V feed and 24 mV bridge voltage (hence nominal strain gauge characteristic value of 2 mV/V), self-calibration active, 50 Hz filter active
Current consumption power contacts	depends on strain gauge supply, min. 1 mA
Current consumption E-bus	typ. 210 mA
Supported nominal sensitivity	all, parameter resolution: 0.01 μ V/V; recommended: 0.5...4 mV/V
Special features	self-calibration, quadruple averager, dynamic filters
Weight	approx. 60 g
Operating/storage temperature	0...+55 $^{\circ}$ C/-25...+85 $^{\circ}$ 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	CE, UL, Ex, IECEx

Related products	
EL3356-0010	1-channel precise load cell analysis (resistor bridge), 24 bit
EL3356-0020	1-channel precise load cell analysis (resistor bridge), 24 bit, with calibration certificate
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