



ELM3148-0000 | 8-channel analog input, $\pm 10 \dots \pm 1.25$ V, ± 20 mA, 24 bit, 1 ksps

The 2-, 4-, 6- or 8-channel ELM314x EtherCAT Terminals in the Economy line can be set to current or voltage measurement channel by channel, offering sampling rates of up to 1 ksps per channel. Analog signals in the ranges from ± 1.25 to ± 10 V, 0 to 10 V, ± 20 mA or 0/4 to 20 mA can be processed. The settings for U or I measurement mode and the desired measuring ranges can be selected via the control system and TwinCAT in the CoE interface. Here it is also possible to select the extensive diagnostics features for unattended long-term use. The 2-, 4- or 6-pin push-in connectors can be removed for maintenance purposes; they enable a direct supply of connected sensors. The power contacts on the side simplify the potential distribution directly on the DIN rail. The typical EtherCAT features are available: distributed clocks functionality with timestamp and the familiar data features of the basic line such as filtering, true RMS calculation and more. Variants with factory calibration certificate and recalibration service on request are in preparation for the ELM measurement modules.

Features	ELM314x
Voltage measurement	$\pm 10/5/2.5/1.25$ V, 0...5/10 V
Current measurement	± 20 mA, 0/4...20 mA, NAMUR NE43

Technical data	ELM3148-0000
Number of channels	8
Technology	voltage or current measurement, configurable for each channel
Signal type	differential
Connection technology	2-/3-/4-wire
Connection type	push-in, service plug 6-pin
Max. sampling rate	max. 1 ms/1 ksps (per channel, multiplex)
Oversampling factor	$n = 1 \dots 10$ selectable
Internal resistance	> 4 M Ω (voltage), typ. 200 Ω (current)
Measuring error	typ. ± 100 ppm/ ± 0.01 % @ 0...50 °C, relative to the respective full scale value
Functional diagnostics	yes
Connection diagnostics	broken wire/short-circuit
Distributed clocks	yes, accuracy $\ll 1$ μ s
Current consumption power contacts	load-dependent
Current consumption E-bus	typ. 270 mA
Weight	approx. 350 g
Operating/storage temperature	0...+55 °C/-25...+85 °C
Thermal dissipation	typ. 2 W
Special features	ExtendedRange 107 %, free numeric filter, TrueRMS, integrator/differentiator, non-linear scaling, PeakHold, service plug, Timestamp
Approvals/markings	CE, UL

Accessories	
ZS9100-0002	shield connection for ELM series, shield diameter 7...16 mm

