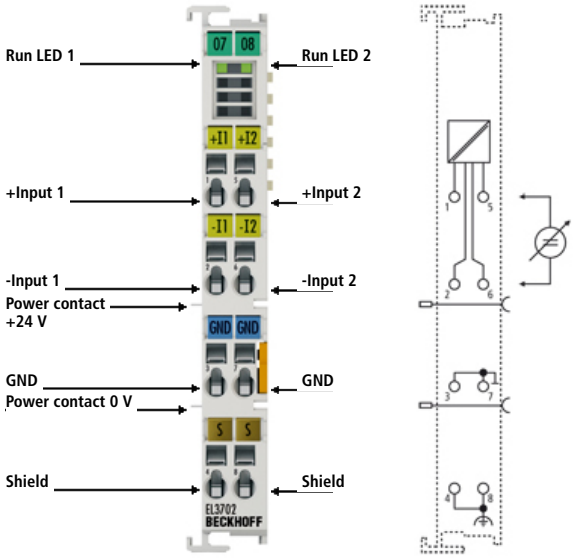

Top view

Contact assembly

EL3702 | 2-channel analog input terminal -10…+10 V with oversampling

The EL3702 analog input terminal handles signals in the range between -10 and +10 V. The voltage is digitised to a resolution of 16 bits, and is transmitted, electrically isolated, to the controller. The signals are oversampled with an adjustable, integer multiple (oversampling factor: n) of the bus cycle time (n microcycles per bus cycle). For each microcycle, the EtherCAT Terminal generates a process data block that is transferred collectively during the next bus cycle. The time base of the terminal can be synchronised precisely with other EtherCAT devices via distributed clocks. This procedure enables the temporal resolution of the analog input signals to be increased to n times the bus cycle time. In conjunction with the EL47xx (analog output terminal with oversampling), responses with equidistant time intervals, e.g. in the event of a threshold value being exceeded, become possible.

The distributed clocks function enables several EL3702 devices to be synchronised in almost any configuration. The maximum sampling rate per channel is 100 ksamples/s (100,000 samples/s).

Technical data	EL3702 | ES3702
Number of inputs	2 (differential)
Power supply	via the E-bus
Technology	differential input, oversampling
Signal voltage	-10…+10 V
Oversampling factor	n = 1…100 selectable (max. 100 ksamples/s)
Distributed clocks	yes
Distributed clock precision	<< 1 µs
Internal resistance	> 200 kΩ
Input filter limit frequency	80 kHz
Common-mode voltage U_{CM}	max. 35 V
Conversion time	~ 10 µs per sample
Input signal bandwidth	0…30 kHz recommended
Resolution	16 bit (incl. sign)
Measuring error	< ±0.3 % up to 10 Hz (relative to full scale value)
Electrical isolation	500 V (E-bus/signal voltage)
Current consumption power contacts	–
Current consumption E-bus	typ. 200 mA
Bit width in the process image	input: n x 2 x 16 bit data; optionally 2 x 16 bit cycle counter, 4 byte StartNextLatch time
Special features	oversampling
Weight	approx. 60 g
Operating/storage temperature	-25…+60 °C/-40…+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	CE, UL, Ex, IECEx

Further information	
XFC	eXtreme Fast Control Technology