



ER3174-0002 | 4-channel analog input ± 10 V or 0/4...20 mA, parameterisable, differential input, 16 bit

The ER3174 EtherCAT Box has four analog inputs which can be individually parameterised, so that they process signals either in the $-10 \dots +10$ V or the 0/4...20 mA range. The voltage or input current is digitised with a resolution of 16 bits, and is transmitted (electrically isolated) to the higher-level automation device. The four input channels have differential inputs and possess a common, internal ground potential. The input filter and therefore the conversion times are configurable in a wide range. If required, the inputs can be scaled differently, and automatic limit monitoring is also available. EtherCAT is used for parameterisation purposes. The parameters are stored in the module.

The EtherCAT Box modules with zinc die-cast housing are ready for use in harsh industrial and process environments. With the fully sealed design and metal surfaces the ER series is ideal for applications requiring enhanced load capacity and protection against weld spatter, for example.

Technical data	ER3174-0002
Number of inputs	4 (differential)
Input connections	M12, screw type
Protocol	EtherCAT
Bus interface	2 x M8 socket, shielded, screw type
Signal type	$-10/0 \dots +10$ V 0/4...20 mA
Internal resistance	> 200 k Ω 85 Ω typ. + diode voltage
Common-mode voltage U_{cm}	35 V max.
Resolution	16 bit (incl. sign)
Measuring error	$< \pm 0.3$ % (relative to full scale value)
Input filter limit frequency	5 kHz
Conversion time	~ 100 μ s
Nominal voltage	24 V DC (-15 %/ $+20$ %)
Distributed clocks	yes
Input filter	configurable
Sensor supply	from load supply voltage U_p
Current consumption from U_s (without sensor current)	120 mA
Power supply connection	feed: 1 x M8 male socket, 4-pin; downstream connection: 1 x M8 female socket, 4-pin
Bit width in the process image	4 x 16 bit input, 4 x 8 bit status
Electrical isolation	500 V
Special features	current or voltage parameterisable (0/4...20 mA, $-10/0 \dots +10$ V)
Operating/storage temperature	$-25 \dots +60$ °C/ $-40 \dots +85$ °C
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 65/66/67 (conforms to EN 60529)/variable
Approvals	CE, UL in preparation

Related products	
EP3174	EtherCAT Box, industrial housing, 4-channel analog input ± 10 V or 0/4...20 mA, parameterisable, differential input, 16 bit