



EQ3204-0002 | 4-channel analog input PT100 (RTD)

The EQ3204 EtherCAT Box with analog inputs allows resistance sensors to be connected directly. The module's circuitry can operate the sensors using 2-, 3- or 4-wire connection techniques. Linearisation over the full temperature range is realised with the aid of a microprocessor. The temperature range can be selected freely. The module can also be used for simple resistance measurement with the output in ohms. The module's standard settings are: resolution 0.1°C in the temperature range of PT100 sensors in 2-wire connection. Sensor malfunctions such as broken wires are indicated by error LEDs. The module is quite versatile, but the default values are selected in such a way that in most cases it is not necessary to perform configuration. The input filter and associated conversion times can be set within a wide range; several data output formats may be chosen. If required, the inputs can be scaled differently. Automatic limit monitoring is also available. Parameterisation is carried out via EtherCAT.

The modules of the EQxxxx series are made of stainless steel and feature the "Hygienic Design" completely. Therefore they are ideal for applications in the food, chemical or pharmaceutical industries, which require protection class IP 69K.

Technical data	EQ3204-0002
Number of inputs	4
Housing width in mm	39
Input connections	M12, screw type
Connection method	screw type M12 for 2-, 3- and 4-wire connections, presetting: 2-wire
Protocol	EtherCAT
Bus interface	2 x M8 socket, shielded, screw type
Sensor types	PT100, PT200, PT500, PT1000, Ni100, Ni120, Ni1000 resistance measurement (e.g. potentiometer, 10 Ω...1.2/4 kΩ)
Signal type	PT100
Measuring range	-200...+850 °C (PT sensors); -60...+250 °C (Ni sensors)
Resolution	0.1 °C per digit
Measuring error	< ±0.5 °C for PT sensors (further types see documentation)
Conversion time	800 ms up to 2 ms, see documentation, default: approx. 85 ms
Nominal voltage	24 V DC (-15 %/+20 %)
Distributed clocks	-
Measuring current	typ. 0.5 mA
Input filter	5 variations, configurable
Current consumption from Us (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 32 bit RTD input
Electrical isolation	500 V
Special features	V2A stainless steel, Hygienic Design
Dimensions (W x H x D)	39 mm x 160 mm x 43 mm
Operating/storage temperature	-25...+60 °C/-40...+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 69K (according to EN 60529)/variable
Approvals	CE, UL

Accessories	
ZK1090-3xxx-xxxx	Cables for EtherCAT signal in- and -output
ZK2000-71xx-0xxx	Shielded cables for M12 I/O connection sockets
ZK2000-6xxx-xxxx	Cables for M12 I/O connection sockets
ZK2020-xxxx-xxxx	Cables for M8 power supply

Stainless steel products

For further information on the stainless steel control solution please see [here](#).