



IE3312 | 4-channel analog input thermocouple

The IE3312 analog input module permits four thermocouples to be directly connected. The module's circuit can operate thermocouple sensors using the 2-wire technique. Linearisation over the full temperature range is realised with the aid of a microprocessor. The temperature range can be selected freely. The error LEDs indicate a broken wire. Compensation for the cold junction is made through a temperature measurement in the connecting plugs. This means that standard extension leads can be connected. The IE3312 can also be used for mV measurement.

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 may be carried out either via the fieldbus or using the KS2000 software tool through the Coupler Box configuration interface. The parameters are stored in the module. For the temperature compensation a PT1000 element is needed. Beckhoff offers a connector with temperature compensation (ZS2000-3712).

| Technical data | IE3312 |
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| Number of inputs | 4 |
| Connection method | screw type M12, 2-wire connection for thermocouple |
| Sensor types | types J, K, L, B, E, N, R, S, T, U (default setting type K), mV measurement |
| Measuring range | depending on sensor type; preset value is type K, -100...+1370 °C |
| Resolution | 0.1 °C per digit |
| Measuring error | < ±0.5 % (relative to full scale value) |
| Conversion time | approx. 250 ms (configurable up to 70 ms) |
| Nominal voltage | 24 V DC (-15 %/+20 %) |
| Input filter | 5 variations, configurable |
| Current consumption from Us (without sensor current) | 40 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 | input: 4 x 16 bit data (4 x 8 bit control/status optional) |
| Electrical isolation | channels/control voltage: 500 V, between the channels: no, control voltage/fieldbus: yes, via IP-Link |
| Operating/storage temperature | 0...+55 °C/-25...+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 |

| Accessories | |
|-------------|--|
| ZS2000-3712 | M12 plug (5-pin/straight) for thermocouples with temperature compensation element, screw type connection |