

xproThermo8

Converting Thermocouples to CAN with highest Precision

... compact Size and perfectly teamed with xproAnalog8



galvanic Isolation, Status LEDs, 1/100 C° Resolution, CAN-Hub

clever Testing with **xpro**®

xproThermo8

High-resolution Thermocouple Measurement via CAN - modularly expandable

Multi-Channel Signal Conditioning of Thermocouples

xproThermo8 converts 8 thermocouple channels into CAN bus messages with a stunning resolution of up to 0.01 °C and a rate of 10 Hz.

Sophisticated System Design

Using the latest circuit technology we have designed a product that takes temperature measurements to a new level.

The result is an advanced product with a resolution of significantly better than 0.1 degrees Celsius. An additional software filter smooths the signal even further and removes noise components.

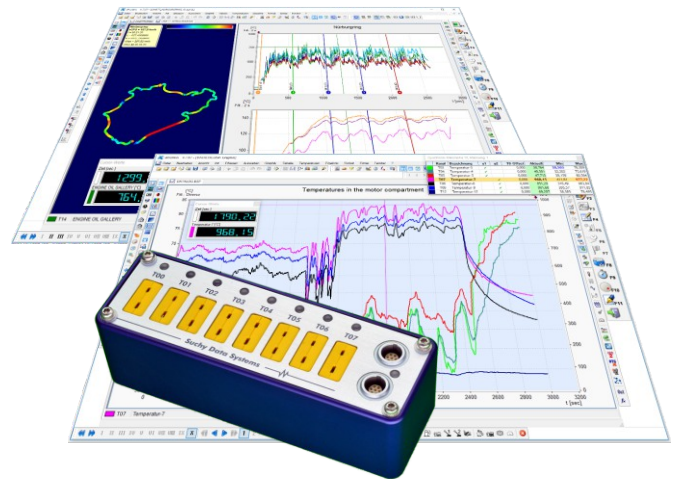
A special cold junction compensation enables an absolute accuracy of around 0.5 degrees Celsius, which is significantly better than the accuracy of the thermocouples themselves.

By default xproThermo8 is adapted for thermocouples type K. Other types can be supported on customer request.

To avoid GND loops, all input channels have their own power supply with a galvanic isolation from channel to channel.

The input range for temperatures is -200 °C...1200 °C so xproThermo8 is an excellent tool for high-temperature measurements, such as for brake disks or catalytic converter temperatures under full load.

Up to 8 modules can be chained to a single CAN bus via the built-in CAN hub. If required, we can provide an even higher number of channels.



Status LEDs signal Open-TC and broken Wires

As an additional valuable feature **xproThermo8** detects defective thermocouples and broken wires.

A status LED on each channel shows a faulty channel in **RED**. If everything is ok the status LED will be **GREEN**.

A single glance is enough to ensure that all sensors are working properly.

CAN-Bus Data Transfer

Converted and linearized data is sent via CAN in 3 groups:

Raw data, filtered values and the cold junction temperature of the individual channels.

Technical Data

Power Supply

- Input Range of Power Supply 9 ... 32 VDC @ ca. 60 mA
- galvanically isolated against Vehicle Power
- electronic Fuse and EMI Protection
- Protection against wrong Polarity

CAN-Bus Communication

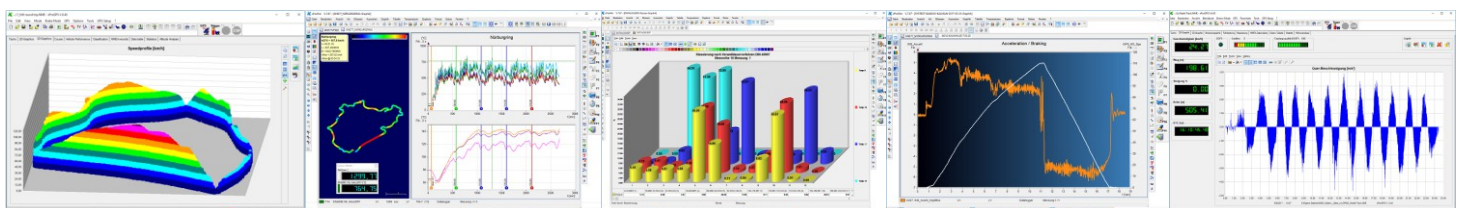
- CAN 2.0B with 500 kBit/s or 1 MBit/s
- higher Data Rates with CAN-FD (coming soon)
- Sensor and Power Connection via Push-Pull sockets
- Settable Terminating Resistor 120 Ohm

Additional Features

- individual Status LED for each Input Channel and CAN
- USB-Interface to Update Firmware
- Thermocouple Type K Messbereich -200 ... 1200 °C
- Open Thermocouple Detection via Status LED
- Precision Cold Junction Compensation better 0.5 C
- constant Data Rate of 10 Hz for all Channels
- extendable up to 8 Modules = 64 Channels per CAN Bus

Dimensions and Weight

- Sturdy and extremely compact Alloy Housing
- Dimensions 117 * 39 * 35 mm
- Weight appx. 200 g
- Temperature Range -40 ... +80 °C



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