CAN Thermocouple Module

Universal 8-Channel Thermocouple to CAN Module supports any thermocouple type. Designed specifically for automotive use, the Thermocouple Module's data and configuration conforms to the CANopen specification. The CAN interface and power are fully isolated. Accurate measurements are provided by 24-bit ADCs and precision cold junction sensors.

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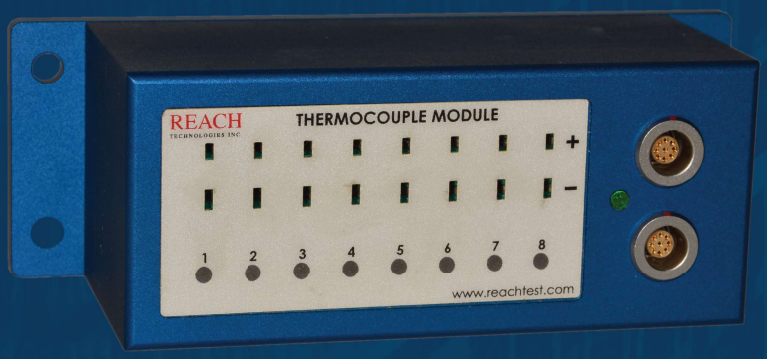

CAN Interface Specifications

Connector Type	■ LEMO 9-pin (M12 5-pin optional)
Protocol	■ CANopen (NMEA 2k optional)
Bit Rates	■ 20 kbps to 1 Mbps

Measurement Specifications

Connector Type	■ Standard miniature thermocouple
Thermocouple Type	■ Supports ALL thermocouple types
	■ Supports 4 user loadable thermocouple tables
ADC quantization	■ 24-bits
ADC sample rate	■ 1.25, 2.5, 5, 10, 20, 40 or 80 samples/sec (per channel)
Filtering	
Hardware	■ 50/60 Hz rejection filter (ADC)
Firmware	■ Sliding window average of 1, 2, 4, 8, 16 or 32 samples
Temperature Conversion	■ NIST tables for Type J, K, N, R, S and T provided. User supplied tables are supported. ADC voltage converted to temperature using linear interpolation of tables.
Cold Junction measurement	■ ±0.25 °C accuracy
Accuracy	■ ±0.75 °C (@ Tambient = 25 °C)
Sensor Break Detection	■ Input status LED turns red. CAN Status message reports open sensor. CAN Data message reports -1000 °C

Physical Specifications

Voltage	■ 9 VDC to 36 VDC
Power Consumption	■ 850 mW
Ambient Tempature Range	■ -50 °C to 120 °C
Storage Temperature Range	■ -50 °C to 130 °C
Relative Humidity	■ 5% to 99%
IP Rating	■ IP 67
Galvanic Isolation	
Power	■ 2500 VRMS Isolation Rating per UL 1577
CAN	■ 5000 VRMS for 1 minute per UL 1577

Height	■ 1.77"	4.5 cm
Width	■ 5.12"	13.0 cm
Depth	■ 2.00"	5.1 cm
Weight	■ 1.1 lb	420g

CANopen

* Specifications subject to enhancement

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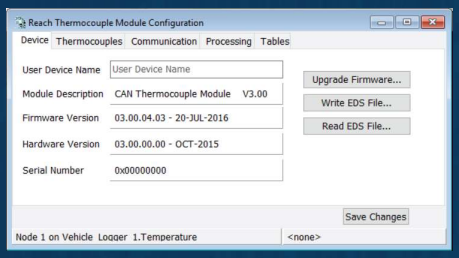
Configuration Software

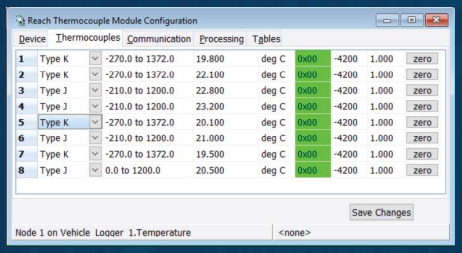
The Thermocouple to CAN Module uses a CANopen Data Dictionary for device configuration. The device may be configured using any third party CAN tool set that supports the CANopen SDO protocol. The Reach Technologies CAN Logger provides device configuration libraries that simplify the configuration of the device.

Device Configuration



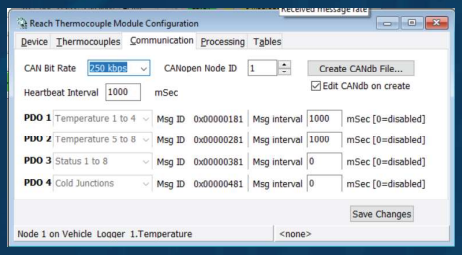
Device Page

- Assign a device name
- Read and write the Electronic Data Sheet
  The EDS defines the CANopen Data Dictionary and is used by third party tools to configure the device
- Upgrade device firmware



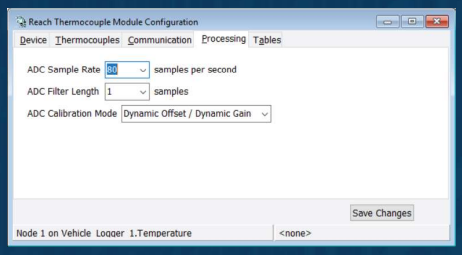
Thermocouple Page

- Assign thermocouple types
- Calibrate (zero) the ADC
- View reported temperature values



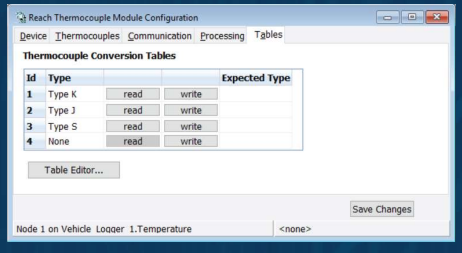
Communication Page

- Configure the CAN communications
- Set the CAN message transmit rate(s)
- Create a CANdb file



Processing Page

- Configure the ADC



Tables Page

- Write thermocouple tables to the device
- Read thermocouple tables from the device
- Launch table editor/viewer

* Specifications subject to enhancement

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