

## M-THERMO2 u

### 8-channel universal thermocouple inputs type J, K, N, R, S, T, E

- Cold junction compensation per channel
- Status LED at each measurement channel
- Measurement data output to CAN
- Galvanic isolation (inputs, CAN, supply, enclosure)
- Designed for engine compartment applications
- Toolless module to module connection
- Ruggedized and compact modules for harsh environments



<b>Device</b>	
Maximum input protection voltage (channel)	±50 V (indefinitely), ±200 V (short-time, t < 2 ms)
Channel sampling rates	1/ 2/ 5/ 10/ min – 1/ 2/ 5/ 10/ 20/ 50/ 100 Hz
Aggregate sample rate	800 Hz
Voltage supply	9 ... 36 VDC
Supply voltage thresholds	Switch-on 9 ±0.3 VDC / Switch-off 6 ±0.3 VDC
Power consumption, typical	0.9 W
Working temperature range	-40 ... 125 °C (-40 ... 257 °F)
Storage temperature range	-55 ... 150 °C (-67 ... 302 °F)
IP-Code	IP 67 (ISO 20653 - 2013)
Relative humidity	5 ... 95 %
Dimensions	W106 mm x H30 mm x D57 mm (4.17 in x 1.18 in x 2.26 in)
Weight	295 g (0.65 lb)
Configuration interface	CAN high speed
Data transfer rate	Software selectable up to 1 Mbit/s (ISO11898-2)
Input sockets	Miniature TC connector (gold plated)
<b>Galvanic isolation</b>	
Input module power supply	±100 V (indefinitely), ±500 V (pulse voltage)
Input CAN	±100 V (indefinitely), ±500 V (pulse voltage)
Input enclosure	±100 V (indefinitely), ±500 V (pulse voltage)
Input input	±100 V (indefinitely), ±500 V (pulse voltage)
<b>General channel properties</b>	
A/D converter	24 bit (Sigma/Delta)
Sensor break detection	Activation via software settings
Channel LED	Available
Flashing mode of channel LED	Break detection
Flashing mode of channel LED	During configuration - blinking

Channel impedance	4.0 M $\Omega$
Hardware filter (fixed)	10 Hz, filter type RC-low-pass
<b>Channel temperature</b>	
Measurement range temperature	Type E (NiCr-CuNi) -60 ... 900 °C (-76 ... 1652 °F)
Measurement range temperature	Type J (Fe/CuNi) -50 ... 1000 °C (-58 ... 1832 °F)
Measurement range temperature	Type K (NiCr/NiAl) -60 ... 1370 °C (-76 ... 2498 °F)
Measurement range temperature	Type N (NiCrSi/NiSi) -50 ... 1300 °C (-58 ... 2372 °F)
Measurement range temperature	Type R (Pt 13Rh/Pt) -50 ... 1760 °C (-58 ... 3200 °F)
Measurement range temperature	Type S (Pt 10Rh/Pt) -50 ... 1760 °C (-58 ... 3200 °F)
Measurement range temperature	Type T (Cu/CuNi) -200 ... 200 °C (-328 ... 392 °F)
Accuracy at ambient temperature 25 °C	$\pm 0.025$ % for full measurement range (Type K)
Drift for ambient temperature -40 ... 125 °C	$\pm 10$ ppm/K
Linearization of sensor characteristic line	Numerical interpolated
Cold junction compensation (CJC)	PT100 for each input
<b>Accessories</b>	
System cable	620-561.pdf
System cable	620-502.pdf
System cable	620-560.pdf
System cable	620-567.pdf
System cable	620-509.pdf
System cable	M-CAN-ABS.pdf
System cable	M-DEF-200.pdf