

### 42 channel multi-channel input: volt, temperature, current, frequency

- 8 channels: V, mA selectable for each input
- 8 sensor excitations (bipolar  $\pm 15$  V, up to  $\pm 45$  mA)
- 32 channel thermocouple inputs type K (NiCr/NiAl)
- 2 channel universal counter module with sensor excitation
- 2 sensor excitations (unipolar 15 V, up to  $\pm 60$  mA)
- Measurement data output to CAN
- Galvanic isolation (inputs, CAN, supply, enclosure)
- Ruggedized and compact modules for harsh environments



<b>Channel volt</b>	
Measurement range SENS	$\pm 0.1 / 0.2 / 0.5 / 1 / 2 / 5 / 10 / 20 / 30 / 50 / 60 / 100$ V
Accuracy at ambient temperature 25 °C	$\pm 0.05$ % (bipolar measurement ranges) $\pm 0.13$ % (unipolar measurement ranges)
<b>Channel current</b>	
Measurement range	0 ... 20 mA, $\pm 20$ mA
Accuracy	$\pm 0.50$ %
<b>General channel properties</b>	
Special functions	Offset adjust, during measurement, multiple groups
AD converter	16 bit / SAR (successive approximation register)
Channel sampling rates	1 / 2 / 5 / 10 / min -- 1 / 2 / 5 / 10 / 20 Hz
Channel sampling rates	1 / 2 / 5 / 10 / 50 / 100 / 200 / 500 / 1000 / 2000 / 5000 Hz
Channel sampling rates	1 / 2 / 5 / 10 / 50 / 100 / 200 / 500 / 1000 / 2000 Hz
Aggregate sample rate	16 kHz
Hardware filter (switchable)	Bessel (5-Pol)
Hardware filter (switchable)	150 Hz, Butterworth (8-pole) Accuracy 10 %
Hardware filter (switchable)	1 ... 30 kHz
Hardware filter (fixed)	1 Hz, filter type RC low pass
Channel impedance	10 M $\Omega$
Filter damping at ambient temperature 25 °C	$\pm 1.5$ dB (deviation)
Filter damping at ambient temperature -40 ... 125 °C	$\pm 3.0$ dB (deviation)
DC compensation damping at ambient temperature 25 °C	$\pm 1.0$ dB (deviation)
DC compensation damping at ambient temperatur -40 ... 125 °C	$\pm 3.0$ dB (deviation)
Channel LED	Yes

Channel LED	Yes Channel LED is flashing during configuration Channel status LED responds to detected input signal
<b>Channel temperature</b>	
Measurement range temperature	Type K (NiCr/NiAl) -60 ... 1370 °C (-76 ... 2498 °F)
Accuracy at ambient temperature 25 °C (77 °F)	±0.025 % over entire measuring range ±0.035 % in the range -60 ... 1000 °C (-76 ... 1832 °F) ±0.035 % ±3 K in the range 1000 ... 1370 °C (1832 ... 2498 °F)
Drift for ambient temperature -40 ... 85 °C	±20 ppm/K
Drift for ambient temperature 85 ... 120 °C	±30 ppm/K
Linearization of sensor characteristic line	Numerical interpolated
Cold junction compensation (CJC)	8 PT100 (1 per 4 channels)
Aggregate sample rate	640 Hz
<b>Channel CNT</b>	
Mode: frequency	0.03 Hz ... 200 kHz
Mode: duty cycle	0.03 Hz (minimum frequency) 0.01 ... 99.99 % 10 kHz (maximum frequency)
Resolution of duty cycle	1 μ or 1/100 fc filter (higher value)
Mode: period duration, pulse duration, pause duration	1 μs (minimum duration) 200 s (maximum duration)
Resolution Period duration, pulse duration, pause duration	1 μ or 1/100 fc filter (higher value)
Drift at ambient temperature -40 ... 85 °C	±1.5 ppm/K
Drift at ambient temperature 85 ... 105 °C	±2.5 ppm/K
Drift at ambient temperature 105 ... 125 °C	±5.0 ppm/K
Adjustable trigger threshold	±4 V resolution 0.025V ±40 V resolution 0.20 V
Accuracy of trigger threshold at ambient temperature 25 °C	±3 %
Accuracy of trigger threshold at ambient temperature -40 ... 125 °C	±8 %
DC Kompensation	0.8 Hz (lower cut-off frequency -3 dB)
<b>Excitation</b>	
Sensor excitation ranges	Unipolar 2.5 / 5 / 7.5 / 10 / 12.5 / 15 V
Accuracy excitation at ambient temperature 25 °C	±5.0 %
Drift for ambient temperature -40 ... 85 °C	±40 ppm/K
Sensor excitation current	60 mA (for V output ±2.5 / ±15.0 V)
<b>Galvanic isolation</b>	

Input ↔ module power supply	±100 V (indefinitely), ±200 V (short-time, t < 2 ms)
Input ↔ CAN	±100 V (indefinitely), ±200 V (short-time, t < 2 ms)
Input ↔ enclosure	±100 V (indefinitely), ±200 V (short-time, t < 2 ms)
Input ↔ input	±100 V (indefinitely), ±200 V (short-time, t < 2 ms)
Input ↔ excitation	±100 V (indefinitely), ±200 V (short-time, t < 2 ms)
<b>Device</b>	
Inputs	42
Maximum input protection voltage (channel)	±100 V (indefinitely), ±200 V (short-time, t < 2 ms)
Voltage supply	6 ... 36 VDC
Supply voltage thresholds	On 9 ±0.3 VDC / Off 6 ±0.3 VDC
Power consumption, typical	6.0 W (all excitations off)
Working temperature range	-40 ... 85 °C (-40 ... 185 °F)
Storage temperature range	-55 ... 125 °C (-67 ... 257 °F)
IP-Code	IP 67 (ISO 20653 - 2013)
Relative humidity	5 ... 95 %
Dimensions	W261 mm x H116 mm x D55 mm (10.28 in x 4.57 in x 2.17 in)
Weight	1950 g (4.30 lb)
Configuration interface	CAN high speed
Data transfer rate	Software selectable up to 1 MBit/s (ISO11898-2)
Input sockets	Lemo EGG 1B 307 (7-Pin) Miniature TC connector green (DIN IEC 584)
Status LED	Yes
<b>Accessories</b>	
System cable	620-561 M-PWR term cable, banana 620-502 M-CAN cable SUBD/S Term. 620-567 M-CAN/PWR term cable SubD/S, banana M-CAN-ABS 620-560 M-CAN cable
Input cable	600-857 600-857 CNT LEMO 1B7p cable BNC/P 600-858 CNT LEMO 1B7p cable open 600-866 SENS LEMO 1B7p cable BNC/P 670-807 SENS LEMO 1B 6p cable open 670-810 SENS LEMO 1B 7p cable open