

Mx-SENS2 8

8 fast analog measurement inputs up to 10 kHz

- Measurement modes: V, mA selectable for each input
- 8 sensor excitations (bipolar ± 15 V, up to ± 45 mA)
- Offset adjust functions
- TEDS Class-2 supported
- Measurement data output via XCP on Ethernet or CAN
- Designed for engine compartment applications
- Toolless module to module connection
- Ruggedized and compact modules for harsh environments



Device	
Maximum input protection voltage (channel)	± 100 V (indefinitely), ± 200 V (short-time, $t < 2$ ms)
Channel sampling rates	1/ 2/ 5/ 10/ 20/ 50/ 100/ 200/ 500 Hz
Channel sampling rates	1/ 2/ 5/ 10 kHz (CAN up to 2 kHz)
Aggregate sample rate	80 kHz
Oversampling	10 kHz
Voltage supply	9 ... 36 VDC
Supply voltage thresholds	Switch-on 9 ± 0.3 VDC / Switch-off 6 ± 0.3 VDC
Power consumption, typical	4.0 W (all excitations off)
Working temperature range	$-40 \dots 85$ °C ($-40 \dots 185$ °F)
Storage temperature range	$-55 \dots 105$ °C ($-67 \dots 221$ °F)
IP-Code	IP 67 (ISO 20653 - 2013)
Relative humidity	5 ... 95 %
Dimensions	W212 mm x H41 mm x D55 mm (8.35 in x 1.61 in x 2.17 in)
Weight	690 g (1.52 lb)
Configuration interface	Ethernet
Data transfer rate	100 Mbit Ethernet (IEEE 802.3)
Input sockets	Lemo EGG 1B 307 (7-pin) SIM-DMS compatible
Galvanic isolation	
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)
General channel properties	
A/D converter	16 bit / SAR (successive approximation register)
Special functions	Offset adjust, during measurement, multiple groups

Sensor break detection	For sensor excitation
Channel LED	Available
Flashing mode of channel LED	During configuration - blinking
Channel impedance	10 M Ω
Hardware filter (fixed)	5 kHz cut off frequency
Hardware filter (fixed)	Type RC 4-pole
Hardware filter (fixed)	Accuracy 25 %
Hardware filter (switchable)	Type Butterworth (8-pole)
Hardware filter (switchable)	1.2 kHz cut off frequency
Hardware filter (switchable)	Accuracy 10 %
Software filter types	Butterworth, Bessel, Elliptic (8-pole)
Software filter (DSP selectable)	1/ 1.25/ 1.67/ 2.5/ 5/ 6.67/ 10/ 12.5/ 16.67/ 25/ 50/ 66.67 Hz
Software filter (DSP selectable)	100/ 125/ 166.67/ 250/ 500/ 667.67 Hz
Software filter (DSP selectable)	1.0/ 1.25/ 1.67/ 2.5/ 3.34 kHz
Software filter (DSP selectable)	Accuracy 0.05 %
Channel current	
Measurement range current	0 ... 20 mA, ± 20 mA
Accuracy at ambient temperature 25 °C	± 0.40 %
Internal shunt resistor	50 Ω
Excitation	
Sensor excitation ranges	Bipolar $\pm 2.5/ \pm 5/ \pm 7.5/ \pm 8/ \pm 10/ \pm 12.5/ \pm 15$ V
Accuracy excitation at ambient temperature 25 °C	± 0.25 %
Accuracy excitation at ambient temperature 85 °C	± 0.40 %
Sensor excitation current	30 mA (for V output $\pm 2.5 / \pm 10.0$ V)
Sensor excitation current	40 mA (for V output $\pm 5.0 / \pm 12.5$ V)
Sensor excitation current	45 mA (for V output $\pm 7.5 / \pm 15.0$ V)
Channel volt	
Measurement range SENS	$\pm 0.01/ 0.1/ 0.2/ 0.5/ 1/ 2/ 5/ 10/ 20/ 30/ 50/ 100$ V
Accuracy at ambient temperature 25 °C	± 0.10 % (unipolar measurement ranges)
Accuracy at ambient temperature 25 °C	± 0.06 % (bipolar measurement ranges)
Drift for ambient temperature -40 ... 85 °C	40 ppm/K
Accessories	
System cable	630-302.pdf
System cable	630-524.pdf
System cable	630-507.pdf
System cable	630-501.pdf
System cable	630-522.pdf
System cable	630-500.pdf
System cable	630-504.pdf
System cable	USB2ETH-XLINK.pdf
System cable	X-Link-DEF.pdf

System cable	X-Link-TERM.pdf
Input cable	600-866.pdf
Input cable	620-674.pdf
Input cable	600-807.pdf
Input cable	600-810.pdf
Input cable	670-811.pdf
Input cable	SENS8-TEDS.pdf