



HV ADMM 2+



Product description

MiniModule **HV ADMM 2+** has been designed for the acquisition of analog signals in high-voltage environments. With two analog measurement inputs, each of which disposes over a galvanically isolated sensor excitation, the **HV ADMM 2+** is suitable for a wide range of applications.

Due to the galvanically isolated sensor excitation, **standard sensors**, which are normally used in conventional low-voltage applications, can be used in high-voltage environments as well if they are combined with specific, high-voltage safe sensor cables. Apart from analog voltage measurements, **HV ADMM 2+** measurement modules are thus also suitable for the measurement of pressure and humidity in high-voltage environments.

Shipping content

- ▶ MiniModule HV ADMM 2+
- ▶ Configuration software CSMconfig
- ▶ Documentation
- ▶ Calibration certificate in accordance with DIN EN ISO/IEC 17025
- ▶ HV isolation test certificate

Maintenance

- ▶ HV isolation test according to EN 61010 at least every 12 months
- ▶ Calibration every 12 months recommended

Key features




- ▶ 2 analog inputs with reinforced insulation **up to 846 V**
- ▶ Measurement data rate **up to 20 kHz** via CAN
- ▶ Galvanically isolated sensor excitation with reinforced insulation up to 846 V
- ▶ Use of standard sensors in high-voltage environments
- ▶ Very low power consumption
- ▶ Type approval test according to safety standard EN 61010 by an accredited test laboratory
- ▶ Routine test according to safety standard EN 61010
- ▶ Consistently high measurement accuracy over the entire operating temperature range from -40 °C to +100 °C
- ▶ Extremely compact CAN bus measurement module, IP67

Accessories

- ▶ Cables for CAN and power supply
 - ▶ CAN connection cable
 - ▶ Signal cables for high-voltage sensor connection
 - ▶ CAN bus termination and mechanical mountings
- See datasheet "CSM MiniModule Accessories" for further information.

Technical data

Type designation	HV ADMM 2+
	
Measurement inputs	2 analog inputs
Internal resolution	16 bit
Internal sampling rate per channel	80 kHz
HW input filter	4th order Butterworth filter (threshold frequency approx. 5 kHz)
Measurement ranges	$\pm 1, \pm 2, \pm 5, \pm 10, \pm 20$ V
Measurement data rate per channel ¹⁾	1, 2, 5, 10, 20, 50, 100, 200, 500 Hz, 1, 2, 5, 10, 20 kHz
SW input filter ²⁾	6th order Butterworth filter
Measurement uncertainty	
Gain error at 25 °C	max. ± 0.04 % of measured value
Offset and scaling error	max. ± 0.02 % of final value
Gain drift	max. ± 10 ppm/K of measured value
Zero drift	max. ± 10 ppm/K of final value
Sensor excitation	galvanically isolated, adjustable per channel
Voltage	10, 12, 15 V DC
max. power output	150 mW
Tolerance	max. ± 5 %
Reinforced insulation ^{3), 4)}	
Channel / channel	846 V
Channel / CAN	846 V
Channel / power supply	846 V
Functional insulation	
CAN / power supply	designed for supply voltages 12 V and 24 V
CAN interface	CAN 2.0B (active), High Speed (ISO 11898-2) 125 kbit/s to 1 Mbit/s, up to 2 Mbit/s with CSMcan interface, data transfer rate free running
Configuration	via CAN bus with CSMconfig settings and configuration date stored in the module
Power supply	
Minimum	6 V DC (-10 %)
Maximum	30 V DC (+10 %)
Power consumption	typ. 1.1 W (without sensor excitation)
LED indicator	power (green), status (red)

Type designation	HV ADMM 2+
Housing ⁵⁾	Aluminium with HV designation on the front-side (RAL2003)
Protection class	IP67
Ground connection	M6 threaded hole
Weight	approx. 350 g
Dimensions (w x h x d)	approx. 130 x 33 x 75 mm / approx. 130 x 38 x 75 mm (Slide Case)
Connectors	
CAN / power supply ⁵⁾	LEMO 0B, 5-pole, code G
Signal inputs	LEMO Redel 2P, 8-pole, code C (black)
Operating and storage conditions	
Operating temperature range	-40 °C to +100 °C
Relative humidity	5 % to 95 % (non-condensing)
Operating altitude	max. 5,000 m above sea level
Pollution degree	4
Storage temperature	-40 °C to +100 °C
Conformity	CE
Device safety	EN 61010

¹ 5 kHz: @ 500 kbit/s CAN; 10 kHz: @ 1 Mbit/s CAN, 20 kHz: @ 2 Mbit/s CAN

² Selectable per channel; threshold frequency is automatically adjusted to measurement data rate.

³ For operating the device directly in systems with operation voltages of > 60 V, e.g. high-voltage batteries of hybrid or electric vehicles. Please read the CSM document "Safety Instructions HV ADMM"!

⁴ One channel consists of one measurement input plus sensor excitation.

⁵ Optionally available in other variants

additional products

HV ADMM 4LI

HV ADMM 4LI is equipped with four analog measurement inputs with a measurement range from ± 5 V to ± 90 V. The measurement inputs feature reinforced insulation up to 846 V without sensor excitation.



HV AD-TBM 4+ / HV AD-TBM 8LI

HV AD-TBM measurement modules provide four or eight measurement inputs for voltage measurements in high-voltage environments. Module version "4+" features four measurement channels with sensor excitation, HV AD-TBM 8LI is equipped with eight measurement inputs without sensor excitation. Designed as 19" slide-in modules, both versions are ideally suited for the use in test benches.





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