



HV ADMM 4LI



Product description

CSM's HV ADMM 4LI measurement module is equipped with four analog measurement inputs and is designed for measuring analog voltages in high-voltage environments. This makes the device ideal for stationary and mobile use in electric mobility - electric and hybrid vehicles.

Key features



- ▶ 4 analog inputs with reinforced insulation
- ▶ Measurement data rate up to 20 kHz via CAN
- ▶ Type approval test according to safety standard EN 61010 by an accredited test laboratory
- ▶ Routine test according to safety standard EN 61010

Shipping content

- ▶ Measurement module HV ADMM 4LI
- ▶ 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

Accessories

- ▶ See datasheet „CAN Accessories“

Technical data

Type designation	HV ADMM 4LI
	
Measurement inputs	4 analog inputs
Measurement ranges	± 5 , ± 10 , ± 20 , ± 45 , ± 90 V
Internal resolution	16 bit
Internal sampling rate per ch.	80 kHz
Measurement data rate per ch. ¹⁾	1, 2, 5, 10, 20, 50, 100, 200, 500 Hz, 1, 2, 5, 10, 20 kHz
HW input filter	4th order Butterworth filter (threshold frequency approx. 5 kHz)
SW input filter ²⁾	6th order Butterworth filter
Channel-specific comments	free text consisting of up to 100 characters per channel
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
Fields of application³⁾	for measurements in HV environments ⁴⁾ for details see document: "Technical Information: Fields of Application for CSM HV Measurement Modules"
Measurement voltages (unipolar & bipolar)	up to 90 V peak for working voltages ⁴⁾ up to 846 V DC
Isolation test³⁾	
Type approval test	by external accredited test laboratory ⁴⁾
Routine test	test voltage ⁴⁾ 3,100 V (DC), isolation test is to be performed at least every 12 months
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 12V and 24V
Power supply	
Minimum	6 V DC (-10 %)
Maximum	30 V DC (+10 %)
Power consumption	typ. 1.4 W
LED indicator	power (green), status (red)

Type designation	HV ADMM 4LI
CAN interface	CAN 2.0B (active), High Speed (ISO 11898-2:2016), 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 data stored in the device
Housing⁵⁾	aluminium with HV designation on the front-side (RAL 2003)
Protection class	IP67
Ground connection	M6 threaded hole
Weight	approx. 350 g
Dimensions (w × h × d)	approx. 130 × 33 × 75 mm / approx. 130 × 38 × 75 mm (Slide Case)
Connectors	
CAN / power supply ⁵⁾	LEMO 0B, 5-pole, code G
Signal inputs	LEMO Redel 2P, 8-pole, code B (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 61010-1:2010

¹ 5 kHz: 2 channels @ 500 kbit/s CAN, 4 channels @ 1 Mbit/s CAN, 10 kHz: 2 channels @ 1 Mbit/s, 4 channels @ 2 Mbit/s CAN, 20 kHz: 2 channels @ 2 Mbit/s CAN

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

³ Please also read the CSM document "Safety Instructions HV ADMM"

⁴ According to EN 61010-1:2010

⁵ Optionally available in other variants.

additional products

HV ADMM 2LI+

Module version HV ADMM 2LI+ features two analog inputs, each with a sensor excitation. When combined with special sensor cables, standard sensors, which are typically used in the field of low-voltage applications, can also be safely operated in a high-voltage environment.



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

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





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