



HV AD-TBM 8LI



CAN



Key features

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

Product description

CSM's HV AD-TBM 8LI measurement module is designed for the measurement of analog voltages in high-voltage environments. Designed as a slide-in unit for 19-inch racks, this module is excellently suited for test bench applications. HV AD-TBM 8LI is also applicable for mobile use in all types of vehicles and can, for example, be mounted in the trunk of a car.

HV AD-TBM 8LI features eight analog inputs with measurement ranges up to ± 90 V per channel.

Shipping content

- ▶ Measurement module HV AD-TBM 8LI
- ▶ 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 AD-TBM 8LI
	
Measurement inputs	8 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. 2.5 W

Type designation	HV AD-TBM 8LI
LED indicators	
CAN	power / status
Measurement channels	configuration / operation
CAN interface	CAN 2.0B (active), High Speed (ISO 11898-2:2016), 125 kbit/s to max. 1 Mbit/s, up to 2 Mbit/s with CSMcan interface, data transfer free running
Configuration	via CAN bus with CSMconfig, settings and configuration date stored in the device
Housing	aluminum with HV designation on the front-side (RAL 2003)
Protection class	IP65
Ground connection	M6 threaded hole
Weight	approx. 540 g
Mounting	19 inch
Dimensions (w × h × d)	12 HP (approx. 61 mm) 3 U (approx. 129 mm) 100 mm (+ 25 mm protective bracket)
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 +85 °C
Relative humidity	5 % to 95 % (non-condensing)
Operating altitude	max. 5,000 m above sea level
Pollution degree	3
Storage temperature	-40 °C to +85 °C
Conformity	CE
Device safety	EN 61010-1:2010
Part number	ART1081000

¹ 5 kHz: 2 channels @ 500 kbit/s CAN, 4 channels @ 1 Mbit/s CAN, 8 channels @ 2 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 AD-TBM"

⁴ According to EN 61010-1:2010

⁵ Optionally available in other variants.

additional products

HV AD-TBM 4LI+

HV AD-TBM 4LI+ features four 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.





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