



ADMM classic



Product description

The **ADMM classic** measurement modules feature 4 or 8 differential, galvanically isolated voltage inputs. Additionally, they are equipped with a very precise, bipolar sensor excitation, which is adjustable per channel.

With their comprehensive operating temperature range and extremely compact housing, the **ADMM classic** measurement modules have been originally designed to be used for measurement tasks in the engine compartment. Due to their wide range of application, they are increasingly used in test benches.

Shipping content

- ▶ MiniModule ADMM classic
- ▶ Configuration software CSMconfig
- ▶ Documentation
- ▶ Calibration certificate in accordance with DIN EN ISO/IEC 17025

Key features

CAN

- ▶ *4 or 8 differential voltage inputs, galvanically isolated*
- ▶ *Measurement inputs adjustable per channel from ± 100 mV to ± 60 V*
- ▶ *Measurement data rate per channel up to 10 kHz (ADMM 4 classic HS)*
- ▶ *High-precision bipolar sensor excitation, adjustable per channel*



Maintenance

- ▶ Calibration every 12 months recommended

Accessories

- ▶ See datasheet "CAN Accessories".

Technical data

Type designation	ADMM 4 classic HS	ADMM 8 classic
		
Inputs	4 analog inputs	8 analog inputs
Measurement ranges	±100, ±200, ±500 mV and ±10, ±20, ±60 V	
Internal resolution	16 bit	
Internal sampling rate per ch.	10 kHz	2 kHz
Measurement data rate per ch.	1, 2, 5, 10, 20, 50, 100, 200, 500 Hz and 1 kHz, 2 kHz, 5 kHz ¹⁾ , 10 kHz ¹⁾	1, 2, 5, 10, 20, 50, 100, 200, 500 Hz and 1 kHz, 2 kHz
HW input filter	low-pass filter 3 rd order, approx. 2.5 kHz	low-pass filter 3 rd order, approx. 500 Hz
SW input filter	switchable 6 th order Butterworth filter, range: 0.1 Hz to 2 kHz	switchable 6 th order Butterworth filter, range: 0.1 Hz to 500 Hz
	automatically adjusted to measurement data rate, alternatively: threshold frequency adjustable per channel	
Input protection ²⁾		
Operational safety	±60 V permanent	
Device safety	±100 V permanent, additional ESD protection	
Gain error		
at 25 °C	max. ±0.05 % of measured value	
Temperature drift	max. ±10 ppm/K	
Sensor excitation	bipolar, switchable and adjustable per channel ³⁾	
Voltage	±5, ±8, ±10, ±12, ±15 V DC	
Current	max. ±30 mA per channel	
Galvanic isolation⁴⁾	no safety isolation in terms of high-voltage applications	
Channel / channel	500 V	
CAN / channel	500 V	
CAN / power supply	500 V	
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 ⁵⁾ with CSMcan Interface, data transfer free running	
Configuration	via CAN bus using CSMconfig or CSM INCA AddOn, settings and configurations stored in the module	
Power supply		
Minimum	6 V DC (-10 %)	
Maximum	50 V DC (+10 %)	
Power consumption ⁶⁾	typ. 0.85 W (without sensor excitation)	typ. 1.3 W (without sensor excitation)
LED indicator (CAN)	power / status	

Type designation	ADMM 4 classic HS	ADMM 8 classic
Housing	aluminium, gold anodized	
Protection class	IP67	
Weight	approx. 300 g	approx. 500 g
Dimensions (w × h × d)	approx. 120 × 32 × 50 mm approx. 120 × 37 × 50 mm (Slide Case)	approx. 200 × 35 × 50 mm approx. 200 × 40 × 50 mm (Slide Case)
Connectors ⁷⁾		
CAN / power supply	LEMO 0B, 5-pole, code G	
Signal inputs	LEMO 0B, 6-pole, code A	
Operating and storage conditions		
Operating temperature range	-40 °C to +125 °C	
Relative humidity	5 % to 95 %	
Pollution degree	3	
Storage temperature	-55 °C to +150 °C	
Conformity	CE	

¹ ADMM 4 classic HS: 5 kHz: 2 channels @ 500 kbit/s, 4 channels @ 1 Mbit/s, 10 kHz: 2 channels @ 1 Mbit/s, 4 channels @ 2 Mbit/s.

² Observe information regarding the intended use. See CSM document "Safety Instructions MiniModules".

³ In case of full load (ADMM 4 classic HS: 3.6 W, ADMM 8 classic: 7.2 W) a power supply > 8 V is required (> 10 V as of an operating temperature of +85 °C), see "Application Note".

⁴ These MiniModules are designed for measurements in vehicles with 12 V, 24 V, or 48 V on-board power supply systems. The maximum operating voltage at the measurement inputs is 60 V. Not suitable to be directly connected to systems with higher operating voltages, e.g. high-voltage batteries of hybrid or electric vehicles.

⁵ ADMM 8 classic: 2 MBit/s as of hardware revision F.

⁶ The specified power consumption is valid as of hardware revision F. It also depends on the sampling rate (see "Application Note"). For older hardware revisions the following applies: typ. 1.5–2.3 W (ADMM 4 classic HS) or typ. 1.6 W (ADMM 8 classic).

⁷ Optionally available in other variants.

additional products

ADMM pro

The ADMM pro measurement modules cover an extremely wide range of application. They can be used for "simple" voltage measurement, high-precision current measurement (via shunts), measurement of very low voltages (mV level, e. g. for strain gauge based sensors), and the acquisition of higher frequency signals with measurement data rates up to 10 kHz.



AD4 OG10

AD4 OG10 provides the means to perform measurements with measurement data rates up to 10 kHz per channel at a high Ethernet bandwidth. EtherCAT® time synchronizations are fully supported. AD4 OG10 is either operated by using an EtherCAT® master via CANopen over EtherCAT® (CoE) or by using the Ethernet/EtherCAT® protocol converter XCP-Gateway in combination with an XCP-compatible data acquisition software.





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