



## AD-Scan MiniModul classic

- ▶ Extremely compact CAN bus measurement modules
- ▶ 4 or 8 voltage inputs, bipolar, completely electrically isolated
- ▶ Bipolar sensor excitation, independently adjustable
- ▶ Digital 6<sup>th</sup> order Butterworth filter
- ▶ Low power consumption
- ▶ Operating temperature: -40°C to +125°C
- ▶ Robust aluminium housing: IP67
- ▶ Good price-performance ratio



The measurement modules of the CSM MiniModule family solve extreme and combine competing demands on automotive measurement technology. Developed for use inside engine compartment, they are designed for extreme temperature and environmental conditions and are very compact. All CSM MiniModules have excellent specifications and a very good price-performance ratio.

### **AD-Scan 4/8 classic** (ADMM 4/8 classic)

The ADMM 4/8 classic provides 4/8 bipolar voltage inputs with bipolar sensor excitation, can be adjusted separately per channel and offers best measurement accuracy. If required, an additional digital 6<sup>th</sup> order Butterworth filter can be activated. The filter threshold frequency is automatically adjusted to the measurement data rate with 2 kHz/channel maximum or can be adjusted manually per channel.

This module is particularly suitable for most applications, e.g. inside engine compartment, in the trunk or at test stands.

Measurements at test stands, even at totally unprotected places close to electric generators show no interferences. Due to the double number of channels compared to ADMM 4 classic, the ADMM 8 classic has still a better price/channel, with the same excellent specifications.

By default ADMM 4/8 classic is equipped with the same 6-pole LEMO 0B connectors for signal inputs and sensor excitation. On request it is available with other connectors.

### **Shipping content**

CAN-Bus MiniModule, CSM ConfigTool, documentation, calibration certificate according to DIN EN ISO/IEC 17025

### **Maintenance**

We recommend a calibration interval of 1 year. For further technical information and references please contact technical sales and distribution.

### **Part numbers**

Standard version with LEMO 0B 5-pole for CAN/ Power supply and LEMO 0B 6-pole for signal inputs:

ART1012503	ADMM 4 classic (Slide Case)
ART1012502	ADMM 4 classic
ART0200944	ADMM 8 classic (Slide Case)
ART0201021	ADMM 8 classic

### **Accessories**

Interface cables for CAN and power supply, connection cables CAN, adapter cables CAN, signal cables for sensors, termination plug and mechanical mounting parts please see data sheet “**Accessories for CSM MiniModules**”.

## Specifications AD-Scan MiniModul classic

Technical Data	ADMM 4 classic	ADMM 8 classic
<b>Inputs</b>	4 analog inputs	8 analog inputs
Measurement range <sup>(1)</sup>	±0.1 V, ±0.5 V, ±10 V, ±20 V, ±60 V	
Internal resolution	16 bit	
Internal sampling rate per ch.	10 kHz	2 kHz
Measurement data range per ch.	1, 2, 5, 10, 50, 100, 500 Hz and 1 kHz, 2 kHz	
HW input filter	low-pass filter 3 <sup>rd</sup> order, approx. 2 kHz	low-pass filter 3 <sup>rd</sup> order, approx. 500 Hz
SW input filter	switchable 6 <sup>th</sup> order Butterworth filter, range 0.1 Hz to 500 Hz, automatically adjusted to the measurement data rate, alternatively threshold frequency adjustable per channel	
Input protection <sup>(2)</sup>		
Operational safety	±60 V permanent	
Device safety	±100 V permanent, additional ESD protection	
<b>Measurement accuracy</b> at 25°C	typ. 0.05 %	
Temperature drift	typ. ± 10 ppm/K	
<b>Sensor excitation</b>		
Voltage	±5, ±8, ±10, ±12, ±15 V DC max. 30 mA per channel <sup>(3)</sup> , switchable and adjustable per channel	
<b>Galvanic insulation<sup>(4)</sup></b>	no safety insulation in terms of high-voltage applications	
Channel / channel	500 V	
CAN / channel	500 V	
CAN / sensor excitation	500 V	
<b>CAN interface</b>		
Configuration	CAN2 0B (active), High Speed (ISO11898) 125 kBit/s up to max. 1 MBit/s, data transfer free running via CAN-Bus with CSM ConfigTool or CSM INCA AddOn, all settings and configuration data stored in the device, alternatively: configuration and data transfer via CANopen protocol <sup>(5)</sup>	
<b>Power supply</b>		
Minimum	6 V DC (-10 %)	
Maximum	50 V DC (+10 %)	
Power consumption	typ. 1.6 W (without sensor excitation)	
LED indicator	power (green) / status (red)	
<b>Housing</b>	aluminium - gold anodized	
Protection class	IP67	
Weight	approx. 300 g	approx. 500 g
Dimensions (w x h x d)	approx. 120 x 32 x 50 mm approx. 120 x 37 x 50 mm (Slide Case)	approx. 200 x 35 x 50 mm approx. 200 x 40 x 50 mm (Slide Case)
<b>Connectors</b>		
CAN / voltage	LEMO 0B 5-pole	
Signal inputs / sensor excitation	LEMO 0B 6-pole	
<b>Operation/storage conditions</b>		
Operating temperature	-40°C to +125°C	
Relative humidity	5 % to 95 %	
Pollution degree	3	
Storage temperature	-55°C to +150°C	
<b>Conformity</b>	CE	

1) Ranges ±0.1 V and ±0.5 V in ADMM 8 classic: Full measuring accuracy only in industrial temperature range.

2) Observe the information regarding the intended use: see CSM document "Safety Instructions MiniModul".

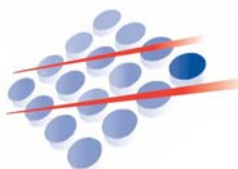
3) In case of full load (7.2 W) a power supply >8V is required, see "Application Note".

4) These MiniModul devices are designed for measurements in vehicles with 12 V-, 24 V-, or 42 V onboard power supply systems. The maximum operating voltage at the measuring inputs is 60 V. **Not suitable** to be used in systems with higher operating voltages, e.g. high-voltage batteries of hybrid- or electric cars.

5) CANopen: see separate data sheet.



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