**Product description**

CSM’s HV ADMM 2LI+ measurement module has been designed for the acquisition of analog signals in high-voltage environments. With two analog measurement inputs with galvanically isolated sensor excitation, the HV ADMM 2LI+ 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 2LI+ measurement modules are thus also suitable for the measurement of pressure and humidity in high-voltage environments.

**Key features**

- 2 analog inputs with reinforced insulation
- Measurement data rate up to 20 kHz via CAN
- Galvanically isolated sensor excitation with reinforced insulation
- Use of standard sensors in high-voltage environments
- 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 2LI+
- 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

<table>
<thead>
<tr>
<th>Type designation</th>
<th>HV ADMM 2LI+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement inputs</strong></td>
<td>2 analog inputs</td>
</tr>
<tr>
<td>Measurement ranges</td>
<td>±1, ±2, ±5, ±10, ±20 V</td>
</tr>
<tr>
<td>Internal resolution</td>
<td>16 bit</td>
</tr>
<tr>
<td>Internal sampling rate per ch.</td>
<td>80 kHz</td>
</tr>
<tr>
<td>Measurement data rate per ch.</td>
<td>1, 2, 5, 10, 20, 50, 100, 200, 500 Hz, 1, 2, 5, 10, 20 kHz</td>
</tr>
<tr>
<td>HW input filter</td>
<td>4th order Butterworth filter (threshold frequency approx. 5 kHz)</td>
</tr>
<tr>
<td>SW input filter</td>
<td>6th order Butterworth filter</td>
</tr>
<tr>
<td>Channel-specific comments</td>
<td>free text consisting of up to 100 characters per channel</td>
</tr>
</tbody>
</table>

- **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**
  - Voltage: 10, 12, 15 V DC
  - Power output: typ. 200 mW per channel
  - Tolerance: max. ±5 %

- **Fields of application**
  - for measurements in HV environments
  - for details see document: “Technical Information: Fields of Application for CSM HV Measurement Modules”

- **Measurement voltages (unipolar & bipolar)**
  - up to 20 V peak
  - for working voltages up to 846 V DC

- **Isolation test**
  - Type approval test: by external accredited test laboratory
  - Routine test: test voltage 3,100 V DC, isolation test is to be performed at least every 12 months

- **Reinforced insulation**
  - 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
Type designation| HV ADMM 2Li+
---|---
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 configurations stored in the device

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)

Housing
- **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**: 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
- **Device safety**: EN 61010-1:2010

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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 Specified typ. power output valid as of hardware revision A001. At operating temperatures above +85 °C and with older hardware revisions, a max. power output of 150 mW is possible.
4 Please also read the CSM document “Safety Instructions HV ADMM”
5 According to EN 61010-1:2010
6 One channel consists of one measurement input plus sensor excitation.
7 Optionally available in other variants.