



## PT-Scan MiniModul

- ▶ **Compact CAN bus measurement module, available in two different housings – for use in-vehicle and in test stands**
- ▶ **4 inputs for PT100 or PT1000 RTD elements, configurable via software**
- ▶ **For precise temperature measurement under extreme conditions, where highest accuracy and long term stability is required; e.g. in test stands or on road trials**
- ▶ **Operating temperature: -40 °C to +85 °C**
- ▶ **Robust aluminium housing: waterproof, rugged housing: IP67**
- ▶ **Outstanding price/performance ratio**

The CSM PT-Scan MiniModule series addresses the complex measurement demands of automotive measurement technology. The modules are designed for use in the passenger compartment or trunk, or at test stand locations. Like other modules in the CSM MiniModule family, the PT-Scan has excellent specifications, and an outstanding price-performance ratio.

The PTMM is available with different housings to meet differing installation requirements. These housings can be combined in any manner to suit the application. To ease the handling of the modules, the connectors have been mounted on the front side of the housing.

### Fields of application

The PT-Scan MiniModule is designed for temperature measurement with **PT100 and PT1000 RTD elements** (Resistance Temperature Device). RTD's are the preferred measurement sensor choice whenever an application requires the highest possible accuracy, and excellent long term stability. RTD's can also be a cost effective sensor choice when longer lead wires are required. (in those cases where the cost of additional lengths of thermocouple wires can become excessive). Typical applications are:

- ▷ **test stands** – where temperatures must be measured with a high degree of accuracy
- ▷ **in-vehicle** – where extreme compact size, low weight, and a rugged, waterproofed housing with excellent temperature stability are required



### Software support

Module configuration is done via CAN bus with the **CSM ConfigTool**. Storage of the complete device configuration inside the module makes working with various measurement programs easier. After the modules receive "Power On", the measurement data is sent "free running" onto the CAN bus. The definition of the signals to be measured is stored in a CANdb signal data base, thus the measured values can be collected, visualized and processed with almost any CAN bus hardware, and typically on all commonly-used DAQ software.

As an example, users of ETAS INCA software can configure directly within the INCA environment with the CSM **INCA AddOn**. Configuration data is automatically stored in the INCA database, and measurement can be done immediately within INCA.

Configuration and operation within the CANopen environment is done via the CANopen Master of the automation-/data logging system, or with a standard CANopen configuration tool. The modules support the **DS301 communication-** and **DS404 device-profile**. For more information please refer to the CSM "CANopen" data sheet.

### Accessories

Interface cables for CAN bus and power supply, CAN bus connection cables and adapters, and signal cables for PTMM, termination plugs, as well as mechanical mounting bracket solutions. For detailed information please refer to "**MiniModul Accessories**" data sheet.

## Specifications PT-Scan MiniModul

Technical Data	PTMM
<b>Inputs</b> Measurement range Internal resolution Internal sampling rate Measuring data rate per channel Input filter Broken sensor detection	4 inputs for PT100 or PT1000 RTD elements, adjustable with ConfigTool as PT100 or PT1000 -50°C to +500°C (-58°F to 932 °F) 16 bit 2 kHz 1, 2, 5, 10 Hz low-pass filter, additional digital filtering yes
<b>Measurement accuracy</b> at 25°C Temperature drift	0.10 % typ. 10 ppm/K
<b>Galvanic insulation<sup>(1)</sup></b> CAN / channel CAN / power supply	no safety insulation in terms of high-voltage applications 500 V 500 V
<b>CAN interface</b> Configuration	CAN2 0B (active), High Speed (ISO11898) 125 kBit/s to max. 1 MBit/s, data transfer is free running via CAN-Bus with CSM ConfigTool or CSM INCA AddOn, settings and configurations stored in the device alternatively: configuration and data transfer via CANopen protocol <sup>(2)</sup>
<b>Power supply</b> Minimum Maximum Power consumption LED indicator	6 V DC (-10 %) 50 V DC (+10 %) typ. 1.4 W power (green) / status (red)
<b>Housing</b> Protection class Weight Dimensions (w x h x d)	Aluminium gold anodized IP67 approx. 230 g approx. 300 g (Slide Case) approx. 93 x 30 x 46 mm, approx. 120 x 37 x 50 mm (Slide Case)
<b>Connectors<sup>(3)</sup></b> CAN / voltage Signal inputs	LEMO 0B 5-pole LEMO 0B 6-pole
<b>Operating and storage conditions</b> Operating temperature Relative humidity Pollution degree Storage temperature	-40°C to +85°C (-40°F to +185°F) 5 % to 95 % 3 -55°C to +90°C (-58°F to +194°F)
<b>Conformity</b>	

1) Those MiniModules are designed to measure within 12 V-, 24 V-, or 42 V- vehicle onboard power supply. The maximum operation voltage at the measuring inputs is 60 V. **Not suitable** for direct connection at systems with higher operating voltages, e.g. HV-battery of hybrid- or e-cars.

2) CANopen: see separate data sheet.

3) Optionally available in other variants.

### Shipping content

CAN bus MiniModule, CSM ConfigTool, documentation, calibration certificate

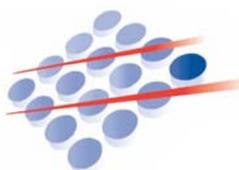
We recommend a calibration interval of 1 year. For further technical information and references please ask our technical sales and distribution.

### Part numbers

ART0200926 PTMM 4 (Slide Case)  
 ART0201030 PTMM 4



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