

# PT-Scan MiniModules

- ▶ **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 aluminum 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 within the passenger compartment or trunk, or at test stand locations. Like all other modules in the CSM MiniModule family, the PT-Scan has excellent specifications, and an outstanding price-performance ratio.

The PTMM is available in different housings to meet differing installation requirements. These housings can be combined in any manner to suit the application. All connectors are placed on the front side of the modules, which addresses important handling considerations.

## **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 wire 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 Config Tool**. 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 are 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 "**Accessories for CSM MiniModules**" data sheet.

# Specification PT-Scan MiniModules

Technical Data	PTMM 4
<b>Inputs</b> Measurement range Internal resolution Internal sampling rate per channel Measuring rate per channel Input filter Broken sensor detection	<b>4 inputs for PT100 or PT1000 RTD elements,</b> adjustable with Config Tool as PT100 or PT1000 -50 °C to +500 °C (-58 °F to 932 °F) 16 bit 2000 Hz 1, 2, 5, 10 Hz low-pass filter, additional digital filtering yes
<b>Isolation voltages</b> CAN / Channel CAN / Power Supply	500 V DC 500 V DC
<b>CAN Interface</b>  Configuration	CAN2.0B (active) High-Speed CAN (ISO 11898) 125 kBit/s to max. 1 MBit/s  via CAN bus with CSM Config Tool compatible with all other xx-Scan CAN Modules from CSM all settings stored within device  alternatively: Configuration and data transmission with CANopen protocol <sup>1)</sup>
<b>Light emitting diode</b>	LED: Power (green), Status (red)
<b>Power supply</b>  Power consumption	approx. <b>5 V to 60 V DC</b>  typ. 1.4 W
<b>Dimensions (W x H x D)</b>  Weight	approx. <b>93 x 30 x 46 mm</b> (approx. 3.66 x 1.18 x 1.81 inch) approx. <b>120 x 37 x 50 mm</b> (approx. 4.72 x 1.46 x 1.97 inch) (Slide Case)  approx. 230 g (approx. 8.11 oz) / approx. 300 g (approx. 10.58 oz) (Slide Case)
<b>Operating temperature</b> Storage temperature  Humidity / Protection	<b>-40 °C to +85 °C (-40 °F to +185 °F)</b> -50 °C to +90 °C (-58 °F to +194 °F)  5 % to 95 % / <b>IP67</b>
<b>Connector CAN / Voltage</b>	LEMO 0B 5-pole
Connector signal inputs	LEMO 0B 6-pole
<b>Housing</b>	Aluminium – gold anodized
<b>Conformity</b>	

<sup>1)</sup> CANopen see separate data sheet

**Shipping content:** CAN bus MiniModule, CSM ConfigTool, Documentation, Calibration certificate

Part numbers:

**PTMM 4** ART0201030

**PTMM 4** ART0200926 (Slide Case)

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