



MIDAM

MIDAM 100 Digital Temperature Sensor



The **MIDAM 100** module series represent intelligent microprocessor controlled temperature sensors. The modules were developed by adjusting the PTS 100 temperature sensors within a cooperation with SENSIT HOLDING s.r.o. Rožnov p/Radhoštěm. The sensors consist of the Pt 100 measuring element itself and electronics placed in the sensor casing. The range of measured temperatures is preset to $-50 \div +250\text{ }^{\circ}\text{C}$ and the module is calibrated to this temperature range. This temperature measuring range fits most applications in air-conditioning, heating, etc. The sensors are available in several versions, which are identical with the SENSIT sensor series (various stem and sink dimensions, etc.).

The module communicates and is controlled solely via the RS485 data bus. Its communication protocol is identical with the ADAM 4000 module series produced by ADVANTECH. The MIDAM 100 sensor operates in the

same way as the ADAM 4013 module. This means that a standard actuator used with the ADAM modules can be used to provide control in various programmes.

In order to make the wiring easier, the sensor is fitted with the WAGO automatic terminals with separate outputs available for wiring the input and output lines. Some of the communication cables used with the RS485 include more line conductor pairs in a cable. Therefore the convertor has been designed to allow that the module power supply can be brought via the free conductors in the cable.

The analog module is based on a microprocessor controlled A/D converter. The communication inputs are protected against overvoltage. In case that the module has been installed as a terminal device on the bus, a $120\text{ }\Omega$ terminating resistor may be installed by inducing short-circuit at the contacts on the printed circuit board (the SW switch beside the terminals of the communication conductors).

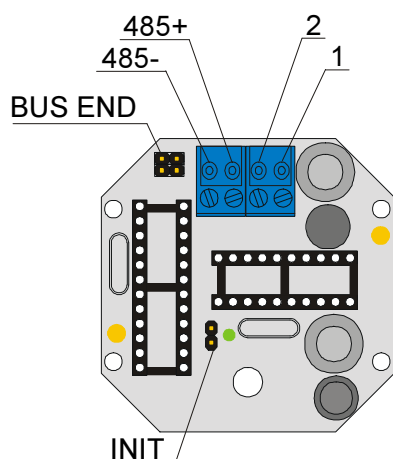
To make easier the identification of the troubles that may occur while putting the module into operation, it is equipped with a LED indicator. When connected to power supply, the indicator puts on light, which means that the sensor is ready to communicate. After having performed the first communication, the LED goes out and flashes whenever the sensor communicates.

All adjustments are saved in an EEPROM memory. The module is fitted with the WATCHDOG circuit which is guarding proper operation of the processor.

Technical data

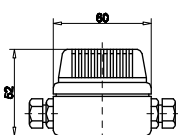
Supply voltage	10 V + 35 V DC non-regulated 14 V + 24 V AC
Power input	300 W
Permissible module inner temperature	$0 \div 70\text{ }^{\circ}\text{C}$
Measuring range	according to configuragion, max. $-50 \div +250\text{ }^{\circ}\text{C}$
Communication properties	data transmission via RS 485 data bus baud rates: 1200, 2400, 4800, 9600, 19200 Bd max. segment lenth: 1200 m, asynchronous transmission up to 256 modules per one serial port communication protocol identical with ADAM 4000 modules
Electronics accuracy	0,05 %
Sensor accuracy	in accord with DIN IEC 751 (class A, B, 1/3B)
Common mode rejection	150 dB
Noise mode rejection	100 dB
Sensitivity	$0,005\text{ }^{\circ}\text{C}$ or $0,01\text{ }^{\circ}\text{C}$ respectively (according to the output data format)

Terminals wiring and the SW switch location (the casing viewed from the side with terminals)

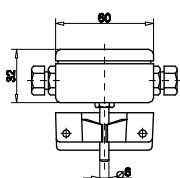


Designation	Description
1	power supply
2	power supply
485+	+ of the RS 485 data bus
485-	- of the RS 485 data bus
INIT	init mode
BUS END	bus end

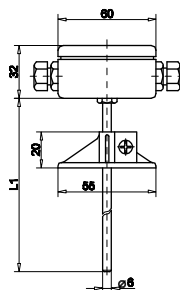
Sensor versions



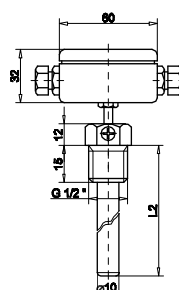
spatial sensor



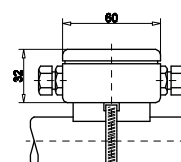
outdoor or spatial
sensor



air conditioning duct
sensor



pipeline sensor
(with a protecting sink G1/2")



sensor applicable
on a circular pipe

As an optional feature available on customer's demand, another communication protocol may be implemented into the module.

Representative



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