

TEMPERATURE CONVERTERS – RS 485

022.05en

DESCRIPTION AND APPLICATION

ST 485 and STD 485 converters are intended for converting the signal of Pt 1000/3850 resistance-type temperature sensing elements to the digital signal of RS485 serial bus. The standard temperature range is -50 to 150°C. Communication inputs are protected to overvoltage. In case the module is placed as terminal on the line, a terminating resistor can be attached to the wiring by shorting the contacts (the switch SW placed next to terminals for communication lines connection). All settings are stored in EEPROM memory. The electronic module is equipped with the WATCHDOG circuit, which safeguards proper program functioning in the microprocessor. These converters can be utilised in any control system compatible with communication protocol MODBUS RTU. Easy mounting of the converters is ensured by the unique "S head" design invented by SENSIT s.r.o. The converters are designed to be operated in a chemically non-aggressive environment. The converters are made in basic variant:

ST 485C – the command structure corresponds with the ModBus RTU communication protocol.

DECLARATION, CERTIFICATES, CALIBRATION

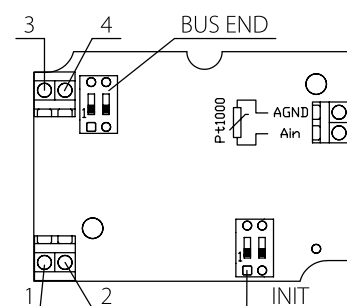
Manufacturer provides **EU Declaration of Conformity**.

Calibration – The final metrological inspection – comparison with standards or working instruments – is carried out for all the products. Continuity of the standards and working measuring instruments is ensured within the meaning of the Section 5 of Act no.505/1990 on metrology. The manufacturer offers a possibility to supply the sensors calibrated in SENSIT s.r.o.'s laboratory (according to requirements of the EN ISO/IEC 17025 standard) or in an Accredited laboratory.

SPECIFICATIONS

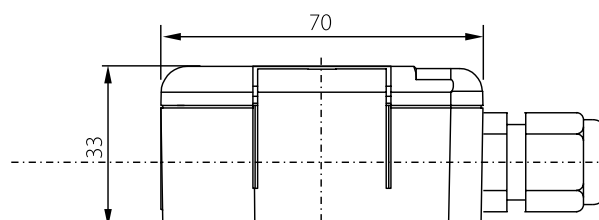
Converter type	ST 485C STD 485C
Input signal	Pt 1000/3850
Power supply (U)	10 to 35 V DC (unstabilized) 14 to 24 V AC
Power consumption	max. 1000 mW
Measuring range	-50 to 150 °C
Communication properties	communication via RS 485, maximum segment length is 1200 m, asynchronous transfer preset transfer speed 9600 Bd optional transfer speeds 1200, 2400, 4800,19200, 57600, 115200 Bd - DIP switch 247 modules / 1 serial port protocol ModBus RTU 1 stop bit, without parity
Accuracy of electronics	0.05 %
Accuracy of sensing element	± 0.5 °C
Resolution	0.01 °C
Ingress protection	IP 65 in accordance with EN 60529, as amended
Recommended wire cross section	0.14 to 1.5 mm ²
Material of the sensor stem	stainless steel DIN 1.4301
Material of the connection head	POLYAMIDE
Operating conditions	ambient temperature: -10 to 70 °C relative humidity: max. 85 % (at the ambient temperature 25 °C) atmospheric pressure: 87 to 107 kPa
Weight	0.2 kg

WIRING DIAGRAM



Marking	Description
1	power supply
2	power supply
3	+ data bus RS 485
4	- data bus RS 485
INIT	INIT mode initialization
BUS END	connection for bus ending

DIMENSIONAL DRAFT



CE