BA_W5-002.03_EN

• General

The electric temperature sensor TSW, TST is equipment and protective system intended for use in potentially explosive atmospheres.
The temperature sensor can be used in areas in which an explosive atmosphere occurs in operation occasionally (Zone 1). The mixture can either be consisting of air together with flammable substances in the form of gas/vapor or with a cloud of combustible dust (G/D).

EU-Type Examination Certific. :	EPS 15 ATEX 1042
IECEx Certificate of Conformity :	IECEx EPS 15.0056
EAC Ex Certificate :	RU C-DE.EX01.B.00032/19

Marking:	II 2 G	Ex db IIC T4 / T3 Gb
	II 2 D	Ex tb IIIC T135°C / T200°C Db

• Function

The electric temperature sensor TSW, TST is sensitive to the surrounding temperature. The signal is dependent on the built-in resistance or thermocouple (Type must be given at ordering time and is fixed during the manufacturing phase).
The construction of the enclosure prevents the sensor from exceeding the maximum allowable surface temperature defined by the specified temperature class.

The following types are available:
O: Hexagonal aluminum enclosure with M25 cable gland
A: Round aluminum enclosure with M20 cable gland
S: Round stainless steel enclosure with M20 cable gland

Resistance Thermometer TSW:

A: 1xPt100, 2-wire	acc. to EN 60751 class B 1/3 DIN
C: 1xPt100, 4-wire	acc. to EN 60751 class B 1/3 DIN
E: 2xPt100, 2-wire	acc. to EN 60751 class B 1/3 DIN

Thermocouple Thermometer TST

A: Type J, Fe-CuNi	acc. to EN 60584-2 class 1
C: Type K, NiCr-Ni	acc. to EN 60584-2 class 1

Armoured cable, stainless steel cable glands, terminal box application or other options on request.

• Technical Data

Max. voltage:	30 VDC
Max. power:	3 W
Connection cable:	SIHF 3 or 5 x 1 or 2,5 mm², 3 m long
Weight:	0,6 kg
Ambient temp.:	T4: -60°C to +80°C, T3: -60°C to +140°C
Operating temp.:	T4: -60°C to +120°C, T3: -60°C to +180°C
Protection degree:	IP 68

For installation and operation it is essential to follow this Manual and the relevant national regulations in addition to generally accepted good engineering practice and the IEC 60079-14 „Electrical installation design, selection and erection“.
The specified rated data on the type plate of the temperature sensor plate must always be taken in account.

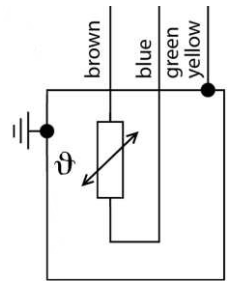
• Mounting

The hexagonal M25 enclosure of the electric temperature sensor TSW, TST has an M5 fastening screw with a distance spacer for attachment to a mounting plate or a cross assembly. The round M20 enclosure type is fixed by a clip.

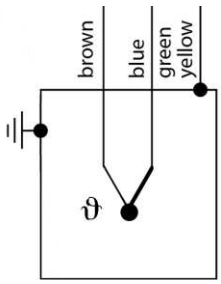
Attach the Temperature sensor in an area with a regulated temperature. Advisable are areas where free air flow is possible. With respect to cabinet dimensions we recommend a position close to the cabinet centre as temperature might slightly vary throughout the cabinet height.
During disassembly, turn off the power supply, remove the electrical connections and remove the mounting screws.

• Commissioning

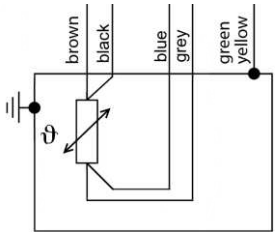
The electric temperature sensor TSW, TST is delivered operable from the manufacture. The connecting cable of the TSW, TST is foreseen to be joined in a junction box according to wiring diagram. The junction box must comply with the requirements of an approved type of protection according to IEC 60079-0, if the connection is in a hazardous area.
The TSW, TST is intended for stationary installation, so the connection cable must be protected against mechanical damage.
The equipotential bonding and earthing shall be ensured by connecting the TSW, TST to the entire system.



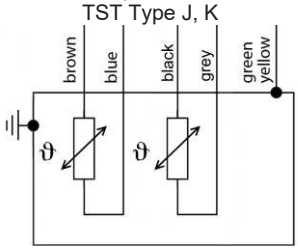
Resistance Thermometer
TSW 1xPt100 2-wire



Thermocouple Thermometer
TST Type J, K



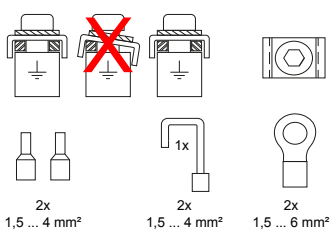
TSW 1xPt100 4-wire



TSW 2xPt100 2-wire

• Electrical Protection

Connection
Resistance thermometers TSW and thermocouples TST can operate with secondary devices (measurement instruments, temperature controllers or transmitters with the output signal 4...20 mA).
Potential equalization
At the metallic housing of the TSW, TST, is a protective conductor connection for connecting to the external potential equalization. The potential bonding conductor shall be connected as shown. When connecting two conductors, they must have the same size.



Hexagonal M25 enclosure

Round M20 enclosure

• Operating, Maintenance

Devices in hazardous area must be installed, supervised, maintained and kept in good conditions by the owner of the plant. For information, refer to IEC 60079-17. Only skilled workers are allowed to do maintenance and the elimination of disturbance work. Do not perform any independent repair of defective temperature sensor, but send it back to SCHRAMM. Unauthorized repairs and disassembly will automatically eliminate warranties and liabilities.