

BA_W5-002.01_EN



• General

The electric temperature switch TS16 is equipment and protective system intended for use in potentially explosive atmospheres. The temperature switch 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 switch TS16 is for switching an electrical device on or off and is sensitive to the surrounding temperature. The temperature switch point is dependent on the built-in bimetallic thermostat (set-point and function must be given at ordering time and this set-point value is fixed during the manufacturing phase). An internal thermal cut-off fuse prevents the switch 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

- C : Close on temperature rise
 e.g. setpoint: 35°C OFF / 40°C ON (+/-3°K)
- O : Open on temperature rise
 e.g. setpoint: 15°C OFF / 10°C ON (+/-3°K)

Setpoints from -15°C up to 140°C. Armoured cable, stainless steel cable glands, terminal box application or other options on request.

• Technical Data

Rated voltage: 250VAC
 Rated current: 16A
 Connection cable: SIHF 3 x 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 switch plate must always be taken in account.

• Mounting

The hexagonal M25 enclosure of the electric temperature switch TS16 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.

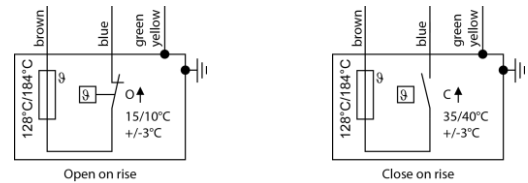
Attach the Temperature Switch in an area with a regulated

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 switch TS16 is delivered operable from the manufacture. The connecting cable of the TS16 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 TS16 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 TS16 to the entire system.



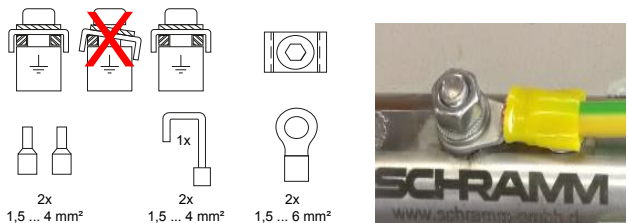
• Electrical Protection

Line and short circuit protection

The switch-off and electrical isolation of all circuit power supply conductors including the neutral should be done by Miniature Circuit Breaker (MCB) in a switchgear. The rated current must be limited to 16A. In a TT or TN system also a compact protection device (RCBO) which combine the overcurrent function of a MCB with the earth fault functions of a RCD can be used.

Potential equalization

At the metallic housing of the TS16 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 switches, but send it back to SCHRAMM. Unauthorized repairs and disassembly will automatically eliminate warranties and liabilities.

BA_W5-002.02_EN



• General

The electric temperature switch TS16K is equipment and protective system intended for use in potentially explosive atmospheres. The temperature switch 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
 2004 II 2 D Ex tb IIC T135°C / T200°C Db

• Function

The electric temperature switch TS16K is for switching an electrical device on or off and is sensitive to the surrounding temperature. The switch is integrated into the device cable. The temperature switch point is dependent on the built-in bimetallic thermostat (set-point and function must be given at ordering time and this set-point value is fixed during the manufacturing phase).

An internal thermal cut-off fuse prevents the switch from exceeding the maximum allowable surface temperature defined by the specified temperature class.

The following types are available:

C : Close on rise – e.g. setpoint: 35°C OFF / 40°C ON (+/-3°K)
 O : Open on rise – e.g. setpoint: 15°C OFF / 10°C ON (+/-3°K)
 Setpoints from -15°C up to 140°C, armoured cable or other options on request.

• Technical Data

Rated voltage: 250VAC
 Rated current: 16A
 Connection cable: SIHF 3 x or 5 x 2,5 mm², 3 m long
 Dim.: L x W x H 180 x 38 x 32 mm
 Weight: 0,8 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 switch plate must always be taken in account.

• Mounting

The enclosure of the electric temperature switch TS16K has two 6,5mm holes for attachment to a mounting plate or a cross assembly. Attach the Temperature Switch 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.

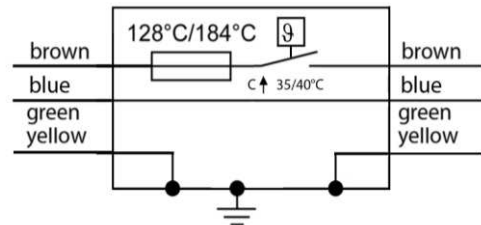
During disassembly, turn off the power supply, remove the electrical connections and remove the mounting screws.

• Commissioning

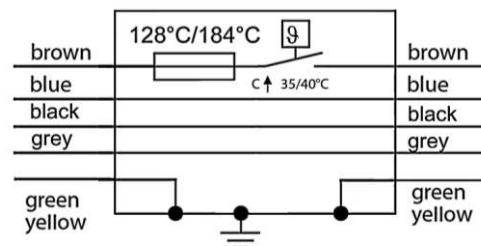
The electric temperature switch TS16K is delivered with the electrical device operable from the manufacture. The connecting cable of the TS16K is foreseen to be joined in a junction box according to wiring diagram. The junction box must comply with the requirements of an approved type of protection according to IEC 60079-0, if the connection is in a hazardous area.

The TS16K 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 TS16K to the entire system.



Close on rise with a 3-core cable



Close on rise with a 5-core cable

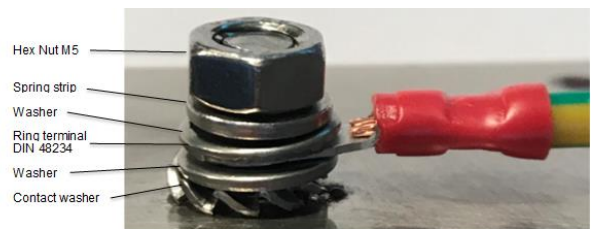
• Electrical Protection

Line and short circuit protection

The switch-off and electrical isolation of all circuit power supply conductors including the neutral should be done by Miniature Circuit Breaker (MCB) in a switchgear. The rated current must be limited to 16A. In a TT or TN system also a compact protection device (RCBO) which combine the overcurrent function of a MCB with the earth fault functions of a RCD can be used.

Potential equalization

At the metallic housing of the TS16K is a protective conductor connection M5 with nut and washers for connecting to the external potential equalization. The potential bonding conductor shall be connected as shown.



Tightening torque for protective conductor connection 3,2 Nm

• 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 switches, but send it back to SCHRAMM. Unauthorized repairs and disassembly will automatically eliminate warranties and liabilities.