EHS

EHSD

Electronic temperature control system EHS for electric heating elements

- Electronic temperature control system for controlling electric heating elements in rectangular ducts or round ducts in ventilation systems. The heat output of the heating element is controlled depending on the difference between the setpoint and actual value for supply air temperature, which serves as a reference variable.
- The controllers are continuously variable through time-proportional pulse width control. The ratio between activation time and deactivation time is adjusted to the existing power requirement. The max. switching cycles per time unit stipulated by the electricity suppliers are thus maintained even for high switching capacities.

- Contactless power switching via electronic power switch.
- Control using setpoint adjuster (internal or external, room sensor TFR) or using external control signal 0 – 10 V DC (only for EHSD types).

- **Application**
- ☐ The controllers are suitable for constant supply air control and constant room control. In case of rapid temperature changes in the supply air, a PI control behaviour is achieved; in case of slow changes in room air, the control behaviour corresponds to a P-controller. Automatic night-time reduction can be achieved using an external, on-site timer.
- ☐ An air flow monitoring system is also stipulated for safety reasons.

Flow monitor, electronic
SWE   Ref. no. 00065
– mechanical, from NW 315
SWT   Ref. no. 00080
see product page.

Electronic temperature controller for electric heating elements up to 3.6 kW (230 V) / 6.4 kW (400 V)
EHS   Ref. no. 05002
Temperature-controlled, semi-conductor-controlled controller. Elegant, white plastic casing for wall installation. Constant supply air or room control via built-in temperature sensor for temperature detection at the installation location. Can be switched to external duct sensors or room sensors (TFK or TFR, Accessories). Has a minimum and maximum limit for the supply air temperature.
Measurement range   0 – 30 °C
Voltage   230 V, 1~ / 400 V, 2~
(automatic detection)
Load capacity   16 A
Protection category   IP20
Dim. in mm   H 150 x W 94 x D 43
Weight   approx. 0.3 kg
Wiring diagram no.   531.1

Electronic temperature controller for electric heating elements up to 17 kW
EHSD 16   Ref. no. 05003
Temp.-controlled, semi-conductor-controlled controller. Robust aluminium casing for wall or switch cabinet installation. Constant supply air or room control via external duct or room sensor (TFK/TFKB or TFR, Accessories). Remote control possible via external setpoint adjuster TFR or external control voltage 0 – 10 V DC.
Voltage   400 V, 3~
Load capacity   25 A
Protection category   IP40
Dim. in mm   H 207 x W 160 x D 95
Weight   approx. 1.7 kg
Wiring diagram no.   550.2

Electronic temperature controller for electric heating elements up to 34 kW
EHSD 30   Ref. no. 05004
Design like EHSD 16; but max. power 34 kW. The total heat output is divided into a controlled portion (max. 17 kW) and a basic output portion (17 kW). If the heat output requirement of approx. 17 kW is exceeded, the basic output of 17 kW will be permanently activated using the provided switch contactor. The remaining heat output will be temperature-controlled.
Voltage   400 V, 3~
Load capacity   25 A
Protection category   IP40
Dim. in mm   H 207 x W 160 x D 95
Weight   approx. 1.7 kg
Switching relay   Voltage 230 V~
Current   max. 5 A
Switch contactor   Volt. 400 V, 3~
Current   max. 25 A
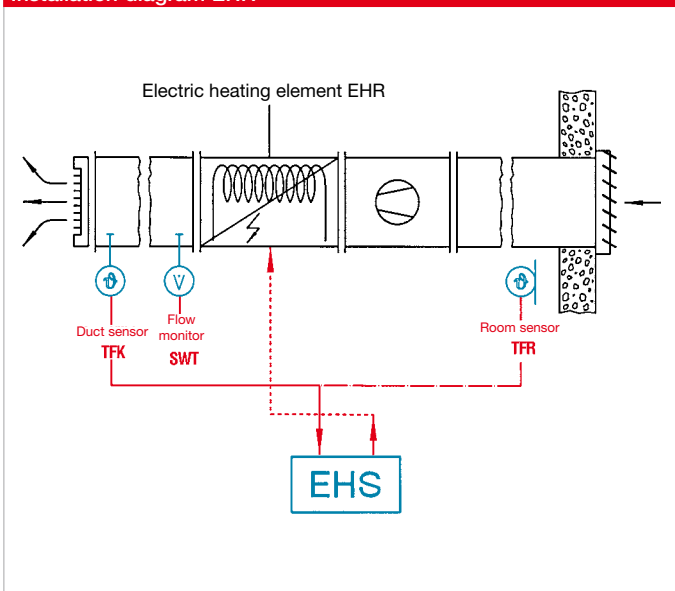Wiring diagram no.   550.2

- **Other access. for EHSD**
Duct temperature sensor for limiting function.
TFKB   Ref. no. 05009

- **Reference**
Integration in the system control required on site must be carried out according to the specified wiring diagrams.

Installation diagram EHR

Electric heating element EHR

Duct sensor
TFK
Flow monitor
SWT
Room sensor
TFR

EHS

TFK

TFR

Duct sensor (Accessory for EHS)
TFK   Ref. no. 05005
Temperature sensor for detecting the air temperature in air ducts with installation kit for installation in duct wall.
Temperature range   0 – 30 °C
Protection category   IP20
Length intern./extern. 130 / 50 mm
Ø 10 mm
Weight   approx. 0.1 kg

Room sensor (Access. for EHS)
TFR   Ref. no. 05006
Temperature sensor with integrated setpoint adjuster for surface mounting. Also suitable simply as a temperature sensor or simply as a setpoint adjuster. Elegant plastic casing.
Temperature range   0 – 30 °C
Protection category   IP20
Dim. in mm   H 85 x W 85 x D 30
Weight   approx. 0.1 kg

Air treatment

491