



DS-TRD-01

FOR EASYLAB FUME CUPBOARD CONTROLLERS

Sash distance sensor for the variable, demand-based control of extract air flows in fume cupboards

- Sash distance measurement
- For fume cupboards with vertical sashes only; also for walk-in fume cupboards
- Ideal for rooms with high airflow velocities or levels of turbulence
- Multiple possibilities to couple the sensor with the sash movement
- Measuring range 0 – 1750 mm or 350 – 2100 mm

Application

Application

- Sash distance sensor Type DS-TRD-01 for fume cupboard controllers EASYLAB TCU3
- For the demand-based control of variable volume flows in fume cupboards, based on the sash distance
- For linear control (FH-DS) and safety-optimised control (FH-DV) by the EASYLAB controller
- For fume cupboards with vertical sashes only; also for walk-in fume cupboards
- Ideal for rooms with high airflow velocities or levels of turbulence (measurement of the sash distance, the volume flow rate measurement is therefore not affected)
- For use in laboratories and in clean rooms in the pharmaceutical and semiconductor industries

Special characteristics

- Suitable for sashes with 1750 mm maximum opening
- Suitable for EASYLAB controller TCU3
- Can be used with different control strategies (FH-DS and FH-DV)
- Ideal for rooms with high airflow velocities or levels of turbulence
- Replaces a separate contact for sash distance monitoring according to EN 14175

Description

Parts and characteristics

- Measuring wire sensor in a closed casing with integral rewind and precise resistance measurement
- Measuring wire with fixing eye, maximum length 2100 mm
- Mounting bracket for various application situations
- 3 m connecting cable

Useful additions

- EasyConnect: Configuration software for the commissioning and diagnosis of EASYLAB components

Construction features

- A draw wire is used to measure the sash distance

Materials and surfaces

- Plastic casing, black
- Measuring wire made of stainless steel, with a polyamide jacket
- Mounting bracket made of galvanised sheet steel

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Functional description

The sash distance is recorded with a draw wire that is linked to the sash movement. The output signal is proportional to the sash distance. The sensor can

be used only with vertical sashes.

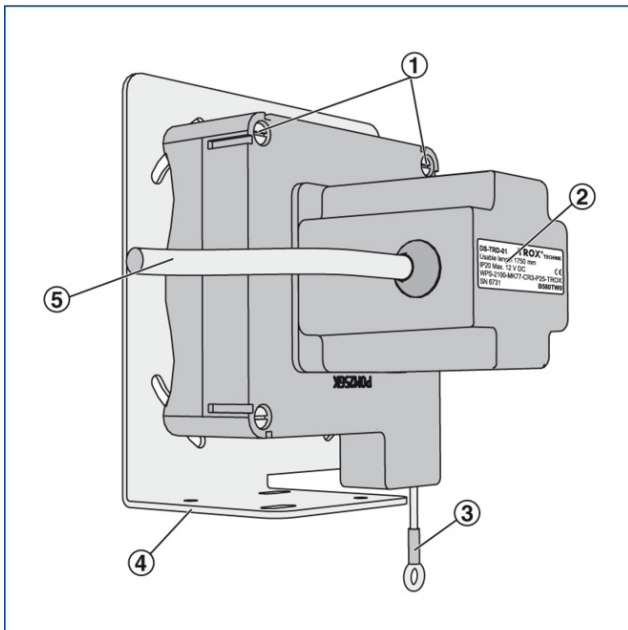
DS-TRD for fume cupboard control – linear control strategy

- EASYLAB controller TCU3: Equipment function FH-DS
- Variable volume flow control based on the measured sash distance
- Volume flow rate is linear to the sash position: OPEN corresponds to V_{max} , CLOSED corresponds to V_{min}
- Sash opening can be monitored according to EN 14175, without additional switch contact

DS-TRD for fume cupboard control – safety-optimised control strategy

- EASYLAB controller TCU3: Equipment function FH-DV
- Safety-optimised volume flow control based on the measured sash distance
- The volume flow rate is linear to the sash distance; the aim is to maintain a constant safe face velocity (0.5 m/s) even if the sash is fairly wide open
- Sash opening can be monitored according to EN 14175, without additional switch contact

DS-TRD-01 sash distance sensor



- ① Fixing screws
- ② Unit label
- ③ Measuring wire
- ④ Mounting bracket
- ⑤ Connecting cable

Supply voltage	12 V AC/DC from the controller
Measuring range	0 – 1750 mm or 350 – 2100 mm
Measurement accuracy	± 0.25 % of the reading
Actual value signal output	0 – 10 V DC, max. 0.5 mA
Operating temperature	–20 to +40 °C
IEC protection class	III (protective extra-low voltage)
Protection level	IP 40
EC conformity	EMC according to 2004/108/EG

Electronic sash distance sensor for the EASYLAB system, used to capture the sash distance of fume cupboards.

Suitable for sashes with 1750 mm maximum opening.

The sash distance is measured using a draw wire. A 0 – 10 V DC voltage signal that is proportional to the sash distance is emitted. If the sensor is connected to a fume cupboard controller, the volume flow is controlled based on demand.

Simple installation in several installation positions on the fume cupboard; simple linking to the sash movement.

Special characteristics

- Suitable for sashes with 1750 mm maximum opening
- Suitable for EASYLAB controller TCU3
- Can be used with different control strategies (FH-DS and FH-DV)
- Ideal for rooms with high airflow velocities or levels of turbulence
- Replaces a separate contact for sash distance monitoring according to EN 14175

Materials and surfaces

- Plastic casing, black
- Measuring wire made of stainless steel, with a polyamide jacket
- Mounting bracket made of galvanised sheet steel

Technical data

- Supply voltage 12 V DC from the controller
- Measuring range: 0 – 1750 mm or 350 – 2100 mm
- Measurement accuracy: $\pm 0.25\%$ of the reading
- Output: Actual value signal: 0 – 10 V
- Protection level: IP 40

Order code for control component ELAB and EASYLAB fume cupboard controllers with linear control strategy (FH-DS) or safety-optimised control strategy (FH-DV)

ELAB / FH – DS / ...
ELAB / FH – DV / ...

Sensor EASYLAB DS-TRD-01 for retrofit or as replacement part

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