

Flame sensor

Flame sensor for the monitoring of gas, oil and coal flames, primarily in multi-burner furnaces.

Features

- Self-monitoring and fail-safe in conjunction with a control unit/burner control
- Flame sensors for every spectral range from UV to IR
- Connection to the D-UG 120 control unit, D-UG 660 control unit as well as to the D-GF 150 burner control
- Uniform output signal thus mutually interchangeable
- Adjustable to different combustion technologies such as exhaust gas recirculation
- Compliance to general safety regulations
- ATEX approved (D-LE 603 .../94 Ex for zone 1 and D-LE 603.../97 Ex for zone 2).

Applications

- Power stations
- Chemical industry
- Refineries
- Cement plants
- Waste incinerators
- Steam generators
- Heating plants.

Certifications

- DVGW
- APAVE
- UL 372
- FM Class 7610
- AGA: AG 210
- GOST-R
- PTB (ATEX).



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DURAG smart solutions for GROUP combustion and environment



D-LE 603

Functional description

The photo element in the flame sensor generates a signal which is proportional to the flame radiation intensity. The output signal of the flame sensor is used as an input signal to a control unit or a burner control.

The D-LE 603 flame sensor is available with different photo elements for maximum selectivity when using various fuels.



D-LE 603 / 94 Ex
D-LE 603 / 95 Ex

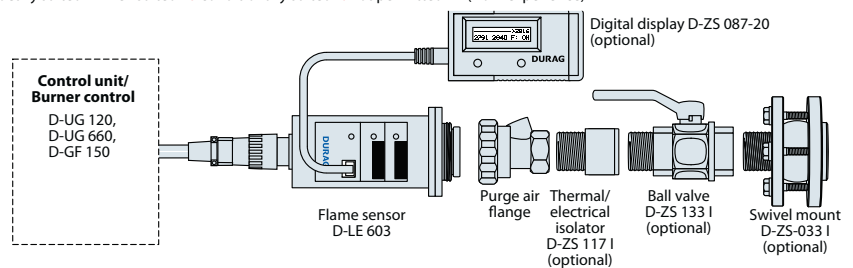
Accessories

- **Digital display** for optimal alignment of flame sensors (D-ZS 087 - 20)
- **Optical adjustment** aid for alignment of the swivel mount on the sighting tube (D-ZS 118)
- **UV-C test light source** 230 V / 50 Hz (D-ZS 077-10)
- **UV-A, UV-B and IR test light source** 230 V/50 Hz (D-ZS 093)
- **Swivel mount** for the alignment of the flame sensor (D-ZS 033-I)
- **Thermal isolator** with electrical insulation (D-ZS 117 - I)
- **Ball valve** for closing the sighting tube (D-ZS 133 - I)
- **Terminal box** for connecting flame sensor (D-ZS 140).

Flame sensor selection

| Flame sensor | Suitable for fuels | | | | Features |
|--------------|--------------------|-----|------|------|--|
| | Gas | Oil | Coal | Wood | |
| D-LE 603 UH | ++ | o | | | selective single burner monitoring in multiple-burner plants |
| D-LE 603 US | ++ | + | | | at low UV radiation |
| D-LE 603 UAF | o | ++ | | | with intensive ambient light (neighbouring burners), gain switchover |
| D-LE 603 UA | + | ++ | + | o | at low NO _x component, gain switch-over |
| D-LE 603 UI | ++ | ++ | + | + | remote changeover of spectral sensitivity |
| D-LE 603 IS | ! | + | ++ | + | selective single burner monitoring (coal, oil) |
| D-LE 603 IG | o | + | ++ | ++ | selective single burner monitoring (coal, oil, wood) |
| D-LE 603 ISE | ! | | ++ | | dual-channel flame sensor (LOG/LOG) |
| D-LE 603 ISO | ! | | ++ | | dual-channel flame sensor (LIN/LOG) |

++ ideally suited + well suited o conditionally suited ! not permitted (from experience)



| | | | |
|---------------------------|--|--------------------------|------------------------------------|
| Operational mode | Intermittent operation, continuous operation and 72-hour operation without permanent supervision | Dimensions | 90x92 mm, length approx. 350 mm |
| | | Weight | approx 1.8 kg |
| Safety | Self-monitoring and fail-safe in conjunction with a control unit/burner control | Sighting tube connection | G 1¼" |
| Protection class | with cable gland (D-LE 603...-CG) IP65, with axial plug (D-LE 603...-P) IP67 | Purge air connection | G ½" |
| Gain | four settings | D-LE 603 Ex | |
| High-pass filter | three settings | Ex-protection optional | II 2G Ex de IIC T5/T6 |
| Spectral ranges | UV, VIS, IR | optional | Class I, Div. 1, Group B, C & D |
| Viewing angle | 6° | optional | Class I, Div. 2, Group A, B, C & D |
| Perm. ambient temperature | -20...+60°C | optional | II 3G Ex nAnC IIC T6 |
| | | Weight | approx. 4.3 kg |
| | | Sighting tube connection | G 1" |
| | | Protection class | IP65 |

