D-LE 701 D-LE 703

DURAG

Flame sensor with fibre optic system

Systems for flame monitoring:

D-LE 701 flame sensor with
– flexible fibre optic system D-LL 701
– rigid fibre optic system D-LL 702

D-LE 703 flame sensor with
– flexible fibre optic system D-LL 703
– rigid fibre optic system D-LL 704

Features

● Self-monitoring and fail-safe flame sensor with a fibre-optic connection in conjunction with a control unit/ burner control
● Monitoring of gas, oil and coal flames
● Connection to the D-UG 120, D-UG 660 control unit and the D-GF 150 (-MB) burner control
● Spectral range from UV to IR
● Uniform output signal thus mutually interchangeable
● Adjustable to different combustion technologies such as exhaust gas recirculation

Applications

● Burners with difficult installation conditions for conventional flame sensors or on those where ambient temperature near the sighting tube is very high
● Power stations
● Chemical industry
● Refineries
● Cement plants
● Waste incinerators
● Steam generators
● Heating plants

Certifications

● DVGW
● EAC
● SIL3

D-LE 701   D-LE 703

Functional description

The fibre optic system may be integrated directly into the hot area of the burner. It transfers the radiation from the flame over a fibre optic bundle to the flame sensor installed outside the burner. It is available in different lengths.
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.

Accessories

● **Digital display** for measuring the pulse rate and its extreme values (D-ZS 087-20)
● **UV-A, UV-B and IR test light source** 230 V/ 50 Hz (D-ZS 093)
● **Terminal box** for connecting flame sensor (D-ZS 140)
● **Installation flange** for D-LL 702 for fibre optic system (D-ZS 702)
● **Welding flange** for D-LL 702 for fibre optic system (D-ZS 704)

Flame sensor selection

Flame sensor	Suitability for fuels				Features
	Gas	Oil	Coal	Wood	
D-LE 701 / 703 UAF	o	++			with intensive ambient light (neighbouring burners), gain switchover
D-LE 701 / 703 UA	+	++	+		with low NO$_x$ component, gain switchover
D-LE 701 / 703 IS	!	+	++	+	selective single burner monitoring (coal, oil)
D-LE 701 IGA / 703 IG	o	+	++	++	selective single burner monitoring (coal, oil, wood)

++ ideally suited + well suited o conditionally suited ! not permitted   (from experience)
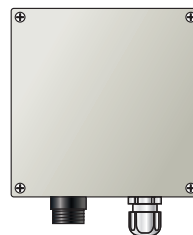
Flame sensor D-LE 701
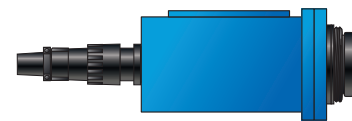
Flame sensor D-LE 703

D-LE 701 flame sensor		D-LE 703 flame sensor	
Operation mode	Intermittent operation, continuous operation and 72-hour operation without permanent supervision	Operation mode	Intermittent operation, continuous operation and 72-hour operation without permanent supervision
Safety	Self-monitoring and fail-safe in conjunction with a control unit/ burner control	Safety	Self-monitoring and fail-safe
Protection	with cable gland (D-LE 701 ... -CG) IP65 with axial plug (D-LE 701 ... -P) IP67	Protection	with cable gland (D-LE 703 ... -CG) IP65 with axial plug (D-LE 703 ... -P) IP67
Gain	four settings	Gain	four settings
High-pass filter	three settings	High-pass filter	three settings
Spectral ranges	UV, VIS, IR	Spectral ranges	UV, VIS, IR
Perm. ambient temperature	-20 °C to +60 °C	Perm. ambient temperature	-20 °C to +60 °C
Dimensions Weight	160x185x100 mm (WxHxD) approx. 1.2 kg	Dimensions Weight	90x92 mm, length approx. 270 mm approx 1.2 kg

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