

D-LX 200

Compact Flame Monitor



- Wide sensitivity range
- For ambient temperatures from -40 °C up to +85 °C
- Dual channel design throughout
- Measurement of flame flicker frequency
- Selective to individual burners and fuels

SIL 3 certified

Compact flame monitor D-LX 200

Selective and failsafe flame monitoring combined with high availability



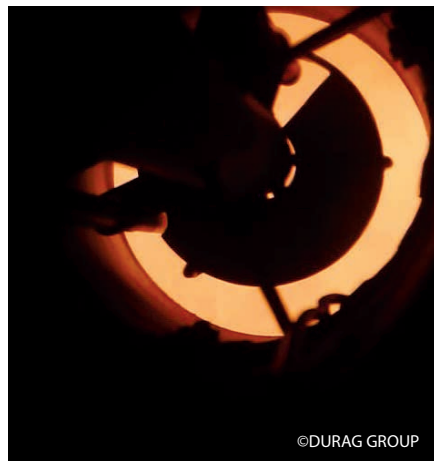
Basic version for safe zones



Ex-version for zone 2 & 22

Flexibility

The D-LX 200 is a compact flame monitor for the monitoring of industrial flames in continuous operation. Through different sensors the models reliably detect flames of all fuels, especially gas, oil, coal, biomass, waste as well as flames of the most variable combustion techniques (low NOx, recirculation mode, dual-purpose burners).



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The flickering of the flame radiation is analysed for its frequency and intensity. In doing so, the device continuously and automatically adjusts the amplification to the signal strength of the flame – this ensures a wide dynamic range.

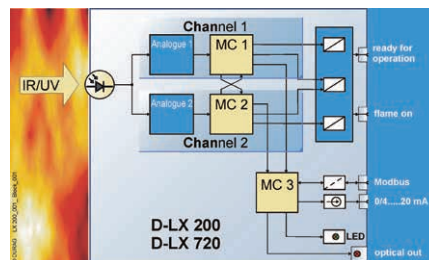
Thresholds for flame intensity as well as flame flicker frequency and further parameters can be selected differently for two ranges. This makes the D-LX 200 ideally suited for operation in plants with multiple burners and complex process sequences.

Permitted ambient temperatures from -40 °C up to +85 °C enable the flexibility to make use of this performance in all regions of the world.

Certifications (depending on version)



Dual channel design



Block diagram D-LX 200

Safety and availability

The D-LX 200 is failsafe and self-monitoring. It conforms to the standards for continuous mode operation worldwide.

With its consequent dual channel design the D-LX 200 became the first flame monitor to receive a complete SIL3 certification according to EN 61508. This is achieved with a



Cement plant



Waste incinerators



Power plant

hardware failure tolerance (HFT) of 1, which is determined by superior system architecture, enabling highest safety together with high availability. This facilitates integration into safety chains within the framework of Functional Safety.

Communication

- Important signals and parameters can be observed directly on the device during operation via LEDs and switch settings
- The flame monitor settings and the flame signal can be checked locally or remotely
- Standard communication interfaces: Modbus RTU (RS485) or IrDA
- Integration of up to 64 flame monitors per Modbus (daisy chain)

Optional software solutions

- D-LX 200 InformationCentre for the recording of the flame signal and parameters as ideal complement for the commissioning of up to six flame monitors simultaneously
- D-IAS 2010 AX with integrated D-LX 200 OperationCentre for long time recording of the flame signals and parameters of up to 48 flame monitors – remote access via web browser with customary tablets or PCs possible



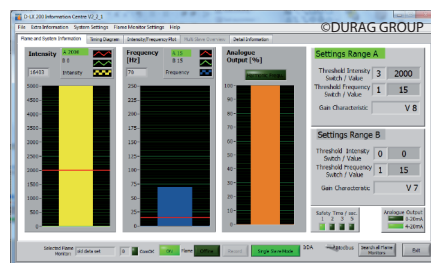
Software D-LX 200 InformationCentre

Diversity and compatibility

- All models of the D-LX 200 are available as type D-LX 720 for the use with flexible or rigid fibre optic systems – for example for tilting burners or rotary kilns
- Connection cables can be either preinstalled or are available with a robust metal plug connector (/MP3)
- Certified versions for gas and dust explosive environments compliant to ATEX or NEC
- Variants with numerous different local certifications
- Simple retrofitting: The connection flange is compatible to standard installations of the devices D-LE 603 and D-LX 100

Additional components and equipment

- Comprehensive installation accessory like swivel mounts, adapters, valves and heat insulators
- Orifice plates of different sizes, mountable without tools, for very intensive flames
- D-LX 200 Test Kit for software supported tests of the device including printed output of protocols



Applications

- Chemical industry
- Refineries
- Cement plants
- Waste incinerators
- Power plants
- Steam generators
- Claus plants

Technical data

Spectral sensitivity	...UAF 280 – 410 nm ...UA 190 – 520 nm ...IG 780 – 1800 nm
Operating voltage	24 VDC ±20 %
Power consumption	5 W
Ambient temperature	-40 °C up to +85 °C; /86Ex, /87Ex: -40 °C up to +65 °C
FFDT	1, 2, 3, 5 s
Flame relay contact	1x closing contact 24 VDC, 0,5 A
Status relay contact	1x closing contact 24 VDC, 0,5 A
Analogue output	0/4 ... 20 mA, max. load 750 Ohm
Protection	IP66/ IP68 IP65 (/MP3) IP66 (Ex-versions)
Sighting tube connection	G1¼" or NPT1¼" F
Purge air connection	G½" or NPT ½" F
Viewing angle	6°
Dimensions	Standard 85x85 mm, length appr. 250 mm /8xEx Ø120 mm, length appr. 310 mm
Weight	Standard appr. 1,25 kg ../8xEx appr. 3,2 kg



Refineries



Steel industry



Marine

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