



System overview

Flame Monitoring Device F130I

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Ionisation-based flame monitoring.

As an ionisation flame sensor, the F130I flame monitoring device is a safety system for monitoring the ignition or main flames of gaseous fuels. It uses ionisation in continuous and intermittent operation. Optical flame sensors can also be connected to the device. In this case, only intermittent operation is possible.

Used exclusively as an ionisation flame sensor and due to its measurement method, the F130I flame monitoring device can be used for the selective monitoring of individual flames on single and multiple burner systems. In combination with optical flame sensors, however, it can only be used on single burner systems.

Set-up and function

The F130I flame monitoring device consists of a housing with integrated control electronics and is designed for din rail mounting in the control cabinet.

Optical flame sensor

The F130I is equipped with three inputs, which can either be used individually or in combination. These are the ionisation input (ION), and the UV or LDR input for optical flame sensors. Depending on the optical flame sensor selected, different spectra are used to monitor the flame, to determine the status of the flame and its intensity and to convert it into an electrical signal which can then be evaluated.

Field of application

The F130I flame monitoring device provides operators of industrial firing systems, the chemical industry and power plants with a reliable flame monitoring device which complies with the requirements of SIL 3.

Approvals



CE 0085

EU Gas Appliances Regulation (EU) 2016/426 CE0085

CE 0036

Pressure Equipment Directive 2014/68/EU, CE0036

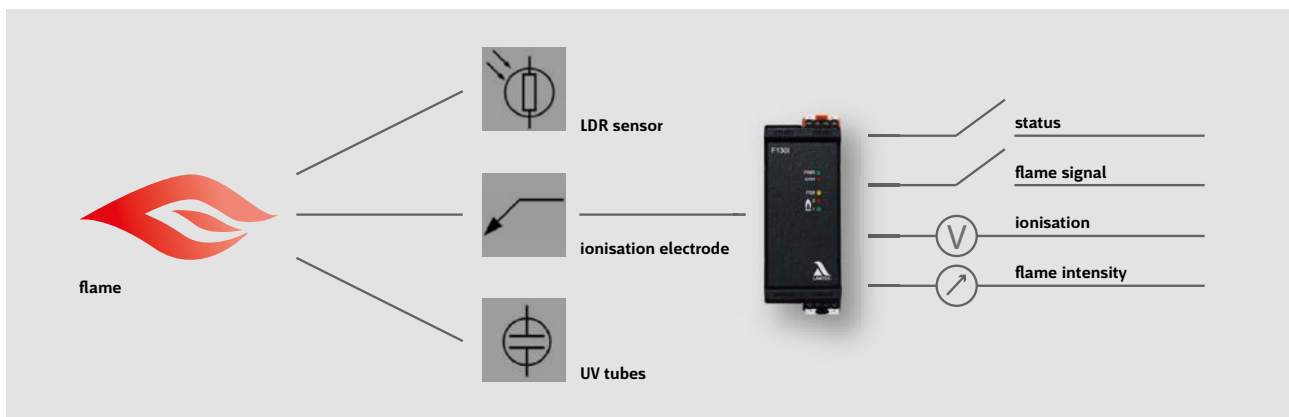
SIL 3

SIL 3 Confirmation, DIN EN 61508 Parts 1-7



Specialities

The evaluation device may only be operated with the approved optical flame sensors. The F130I is not designed for the direct cut-off of fuel valves. Further signal processing of the secure output contact must be carried out in the superior control system of the respective combustion system.



Overview of functions.

Flame sensor

The evaluation device is equipped with three inputs:

- Ionisation input (ION)
- UV input
- LDR input

The inputs can be used individually or in combination. As soon as a flame is detected via one of the inputs, the flame relay output is switched and signals "Flame ON." The spectral sensitivity of the optical flame sensors determines their suitability for specific fuels. The table below offers an overview of possible fields of application.

For an overview of approved optical flame sensors, see the operating instruction of the F130I.

The suitability of the device types may differ from that indicated in the table depending on particular circumstances.

LAMTEC guarantees that the flame scanner is in perfect working order but cannot offer any guarantees if it is used improperly. Please observe the specific requirements of your plant when selecting the flame scanner. We would be happy to answer any questions you may have about LAMTEC products.

Sensor type	F130I input	For fuel	Continuous operation	Wavelength range
UV tubes	UV	Gas / oil	No	190 ... 270 nm
LDR, visible	LDR	Oil	No	450 ... 800 nm
LDR, visible	LDR	Oil	No	400 ... 800 nm
Ionisation	ION	Gas	Yes	-

Summary:

- Suitable for single burners in heating stations and process furnaces
- Approved for continuous operation with ionisation
- UV tubes and LDR sensors, approval for intermittent operation
- Suitable for fuels such as oil, gas, biomass, dust and process gases
- Plug-in module for din rail mounting
- Two-channel system with electronic self-monitoring
- The F130I flame monitoring device is designed for installation in control cabinets
- LED status displays
- SIL 3 to DIN EN 61508-1-7
- Meets the requirements of DIN EN 298 for operation with gas and oil as well as DIN EN 746-2 for process burners
- Complies with 2014/68/EU (Pressure Equipment Directive) and (EU) 2016/426 (Gas Appliances Regulation)
- No adaptation to country-specific mains frequencies necessary, masking takes place on a dynamic basis
- Available ex works with power supply voltage 230 VAC or 115 VAC

Inputs.





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