



System overview

Flame Monitoring Device F130I

Flame Monitoring Device F130I.

Ionisation-based flame monitoring.

The F130I is LAMTEC's new safety flame monitoring device designed specifically for pilot and main flames. The F130I supports flame rod for ionisation detection, UV tubes, and optical flame sensors.

The F130I flame monitoring device is especially impressive when used for more demanding monitoring requirements, such as monitoring in combustion systems with single burner flames. The F130I flame monitoring device is particularly suited for use in single burner systems.

Set-up and function

The F130I is a DIN rail mounted device and has been designed for installation within a control panel. The unit houses an integrated electronic control system designed specifically for use with ionisation flame rods, UV tubes and optical flame sensors.

Flame sensor

The F130I includes three flame sensor inputs that are either used individually or in combination with one another. The three inputs are the ionisation input (ION), the UV input, and the LDR input. Depending on the flame sensor, different properties of the flame are used 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 by LAMTEC provides operators of industrial combustion systems and power plants with a reliable high-tech device for flame monitoring. The F130I flame sensor is especially impressive when used for more demanding monitoring requirements,

Approvals

DVGW
CERT
CE 0085
EU Gas Appliances Regulation (EU) 2016/426 CE0085

TUV
SUD
CE 0036
Pressure Equipment Directive 2014/68/EU, CE0036

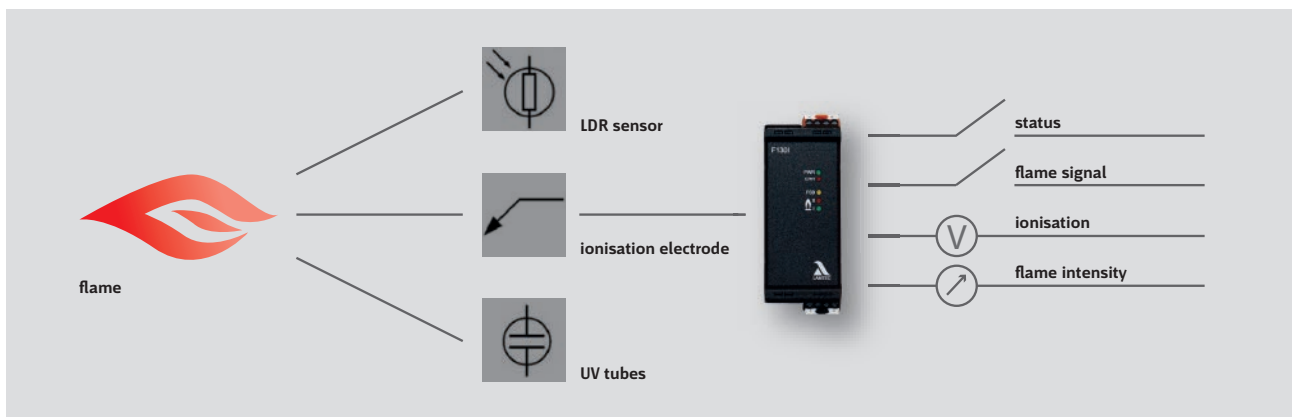
TUV
SUD
SIL 3
SIL 3 Confirmation, DIN EN 61508 Parts 1-7

SAGA
Southern African Gas Association

such as monitoring in combustion systems with single burner flames. The ionisation-based F130I flame monitoring device has been approved for permanent operation.

Specialities

The evaluation device may only be operated with the approved flame sensors. The F130I is not designed for the direct switch-off of fuel valves. The subsequent signal processing must be carried out in the control system, which is adapted to suit the combustion system in question.



Overview of functions.

Flame sensor

The F130I includes three sensor inputs:

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

The sensor inputs can be used individually or in combination. If one of the flame sensors detects a flame, the flame relay output is switched on and the flame is signalled. The spectral sensitivity of the flame sensors determines their suitability for specific fuels. The following table lists all approved flame sensors for the device and their application areas.

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	-

In special circumstances, the suitability of the device types may differ from that indicated in the table.

LAMTEC can only guarantee the correct operation and functionality of the F130I when it has been installed and commissioned in accordance with the relevant documented guidelines. Operators are advised to observe specific plant requirements when selecting the flame monitor. Please contact LAMTEC for application if necessary.

Summary:

- Suitable for single and multi-burner systems in industrial, process and power generation application
- Approved for continuous operation with ionisation
- UV tubes and LDR sensors, approval for intermittent operation
- Suited for fuels such as oil, gas, biomass, dust and process gases
- Plug-in module for top hat rail mounting
- Two-channel system with electronic self-monitoring
- The F130I flame monitoring device is designed for installation in control panels
- LED based status display
- SIL 3 according to DIN EN 61508-1-7
- Meets DIN EN 298 for operation with gas and oil as well as DIN EN 746-2 for process burners
- Corresponds to 2014/68/EU (pressure equipment directive) and EU Gas Appliances Regulation (EU) 2016/426
- No modifications needed for country-specific mains frequencies, cut-out occurs on a sliding scale
- Separate models available for 115 VAC or 230 VAC power supplies

Inputs.



Outputs.



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