

Assembly, Installation and Commissioning Instructions
Maintenance, Repairs and Spare Parts

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










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1. Explanations about the operating instructions

1.1. General symbols used

	Tasks to be performed by the staff
	Response to tasks
	Notes and recommendations
	WARNING
	Warning of dangerous live voltage
	Warning of danger of explosion - protection

1.2. Multi-functional LED symbols used (RGB)

	Multi-functional LED (RGB) Solid light
	Multi-functional LED (RGB) Blinking = clock ratio ON/OFF 1 : 1
	Multi-functional LED (RGB) Flashing = clock ratio ON/OFF 1 : 4
	Multi-functional LED (RGB) Solid light
	Multi-functional LED (RGB) Blinking = clock ratio ON/OFF 1 : 1
	Multi-functional LED (RGB) Flashing = clock ratio ON/OFF 1 : 4
	Multi-functional LED (RGB) Solid light
	Multi-functional LED (RGB) Blinking = clock ratio ON/OFF 1 : 1
	Multi-functional LED (RGB) Flashing = clock ratio ON/OFF 1 : 4
	Multi-functional LED (RGB) Flashing = clock ratio ON/OFF 1 : 4
	Multi-functional LED (RGB) OFF = is not illuminated

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





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UV Flame Detector








Type: FL (Ex) d 07-...-...

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1.3. Relay symbols used (K1 - K3)




	Relay – K1 (fire alarm) Ready
	Relay – K1 (fire alarm) Fire alarm
	Relay – K2 (general fault) Ready
	Relay – K2 (general fault) General fault
	Relay – K3 (max. temperature) Ready
	Relay – K2 (max. temperature) Max. temperature

1.4. Fieldbus symbols used (FB)


	Data word: Current status UV flame detector (bit 4 deleted = 0) Ready
	Data word: Current status UV flame detector (bit 4 set = 1) Fire alarm
	Data word: Current status UV flame detector (bit 5 deleted = 0) ready
	Data word: Current status UV flame detector (bit 5 set = 1) General fault
	Data word: Current status UV flame detector (bit 6 deleted = 0) Ready
	Data word: Current status UV flame detector (bit 6 set = 1) Max. temperature
	DP - Slave Failed

1.5. Structure of the warning messages, general notes

Warning messages

	WARNING
Description of the danger!	
	Tasks to be performed by the staff
	Response to tasks

General notes

	Notes and recommendations
---	---------------------------

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2. General safety instructions

2.1. Safety instructions for staff




The operating instructions contains basic safety instructions that must be observed for assembly, commissioning, testing, maintenance, repairs and for trouble. Failure to observe them may result in injuries or damage.






	WARNING
Unauthorized work on UV flame detector!	
	May result in injuries or damage.
	Work such as: Assembly, installation, commissioning, testing, maintenance, repairs and troubleshooting must only be performed by trained personnel.

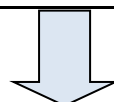
2.2. Prior to assembly, installation and commissioning, work

	Read operating instructions completely.
	If anything is unclear, please contact Egon Harig GmbH .
	The national erection and installation regulations apply.
	such as IEC/EN 60079-14

2.3. When operating the UV flame detector

	WARNING
Never operate the UV flame detector without a protective grille or if the grille is damaged!	
	May result in injuries or damage.
	The UV flame detector must not be put into operation or operated without a protective grille or if the grille is damaged, risk to the explosion protection.

	Observe the safety instructions in the operating manual.
	Observe all national safety and accident prevention regulations.
	Only operate the UV flame detector in accordance with the output data as shown on the name plate and in the corresponding datasheets.
	Drawing no.: 4.09262.10-1 or 4.09262.13-1 or 4.09262.14-1 or 4.09262.15-1
	Any work not described in this operating manual require our consent in advance.



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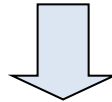
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UV Flame Detector

Type: FL (Ex) d 07-.-.-.-.

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	Damage to the UV flame detector may override the explosion protection.
	Alterations or changes made to the UV flame detector that impact the explosion protection are prohibited.
	Only assemble and operate the UV flame detector in undamaged, dry and clean state

2.4. Intended scope of application

	WARNING
Only operate the UV flame detector as intended!	
	Failure to do so will void the manufacturer's liability and warranty.
	Only use the UV flame detector in compliance with the operating conditions defined in this operating manual.
	The UV flame detector may only be operated in potentially explosive atmosphere in accordance with these operating instructions.



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UV Flame Detector

Type: FL (Ex) d 07-.-.-.-.

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3. Assembly

3.1. Defining the assembly location

	If exposed to all weather conditions, we recommend to equip the UV flame detector with a Weather protection hood, type: WH d 07, part ID: 80621.
	For dimensions and mounting measurements of the UV flame detector, refer to:
	Drawing no.: 3.09262.1-1 or 3.09262.10-1
	When defining the installation location of the UV flame detector, account for the visual viewing angle of the device, vertically / horizontally, it is: $\alpha = 90^\circ$
	However, the response sensitivity reduces towards the sides. For this reason, face the UV flame detector directly towards the object to be monitored.
	Because the flame detection depends on the intensity of the flame and its distance to the UV flame detector, it must be installed as close as possible to the object to be monitored.
	For space monitoring, account for the visual viewing angle of the detector.
	If the device is to be installed in outside areas or in roof-covered halls (tank storage monitoring, gas stations or similar), please be advised that even such gas flaring flames, gas and welding flames as well as electric arcs of electric welding devices and electric railway overhead lines that are far away can trigger the detector. In cases such as these, it is critical to coordinate the sensitivity setting of the detector with the plant in advance.
	In rooms with a high level of dirt content (dusty atmosphere or with high oil content), install the UV flame detector so that it is preferably ventilated with fresh air and so that no oil deposits or dust can form on the viewing pane.



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

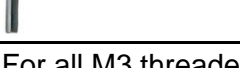



UV Flame Detector

Type: FL (Ex) d 07-...-...

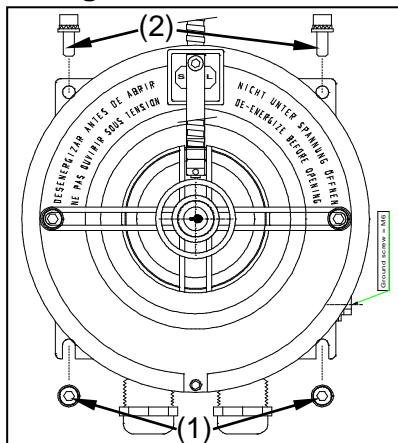
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3.2. Tools for assembly

The standard tool set of a mechatronics engineer are sufficient for assembly. We recommend to also carry the following tools.

	For mounting the UV flame detector type:when using M6 DIN 912 socket head cap screws, DIN 6798 serrated lock washers and DIN 125 plain washers.
	For removing and mounting the protective grille to the UV flame detector for the M6 DIN 912 socket head cap screws, DIN 6798 serrated lock washers and DIN 125 plain washers. Material: V2A
	 Allen wrench (Allen key) with ball head, 5.0 mm
	For all other socket head cap screws on and in the UV flame detector.
	 Allen wrench (Allen key) with ball head, 2.5 mm
	For all M3 threaded studs (slotted) on the UV flame detector and for all connecting terminals in the push-in direct plug technology.
	 Screw driver, slotted, Size: 0,5 x 3,0 x 80 mm

3.3. Mounting of the UV flame detector



	We recommend the use of M6 DIN 912 socket head cap screws in suitable length, DIN 6798 serrated lock washers and DIN 125 plain washers.
	(1) Set the UV flame detector onto both screws.
	(2) Fasten the UV flame detector with two more screws.
	Tighten all screws.

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4. Installation

4.1. General installation

		WARNING
Installation work by skilled personnel only!		
	Installation work must only be performed by authorized personnel with the relevant training.	
	Observe any national provisions that apply in the country of operation.	

		WARNING
Danger as a result of unacceptable screwed cable glands!		
		If unacceptable screwed cable glands are used, EX protection is no longer guaranteed.
		Only use screwed cable glands that are approved for the ignition protection type and the type of cable routing.
	Observe the package insert with technical information for the installed screwed cable glands.	

		WARNING
Danger as a result of open drill holes or unused screwed cable glands!		
		The EX protection can no longer be guaranteed if there are any open drill holes or unused screwed cable glands on the UV flame detector.
		Close any open drill holes or unused screwed cable glands using blind plugs certified according to Directive 2014/34/EU. Do not forget to install a Seal between the enclosure and the blind plug. Observe the temperature resistance of the Seal of -40°C to +125°C.

		WARNING
Danger as a result of damaged threads that lead into the pressure tight interior of the UV flame detector!		
		If threads are damaged, the ignition transmission resistant gap is no longer guaranteed.
		Carefully set down the enclosure cover or rather carefully set it onto the enclosure.
	Replace any enclosure cover or enclosure with damaged threads immediately!	

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UV Flame Detector

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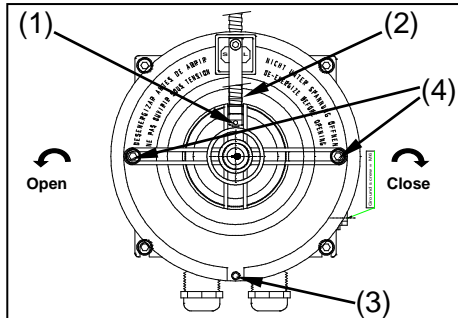
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	WARNING
Never operate the UV flame detector without a protective grille or if the grille is damaged!	
	May result in injuries or damage.
	The UV flame detector must not be put into operation or operated without a protective grille or if the grille is damaged, risk to the explosion protection.

4.2. Opening / closing enclosure cover



	WARNING
Do not open the enclosure of the UV flame detector under power!	
	May result in injuries or damage.
	Prior to opening the enclosure of the UV flame detector, make sure that power is disconnected.

	In this regard, also refer to the section " Tools for assembly "
	(1) Loosen any threaded studs on the UV-Fiber-Optic Cable container.
	(2) Pull out any UV-Fiber-Optic Cable from the UV-Fiber-Optic Cable container and carefully place it aside.
	(3) Loosen the threaded stud.
	(4) Grab the M6 socket head cap screws on the protective grilles with both hands and unscrew the enclosure cover (open).
	Carefully set the enclosure cover down.
	Follow the steps in reverse order to screw on (close) the enclosure cover.

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UV Flame Detector












Type: FL (Ex) d 07-.-.-.-.

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4.3. Connecting the protective conductor to the UV flame detector

	It is critical to connect the exterior "M6 protective conductor connection" to the enclosure using a ring cable lug. Use a plain washer in front of and behind the ring cable lug and lock the screw using a serrated lock washer or a spring washer to keep it from loosening unintentionally.
	The cable must be fixed firmly near the enclosure to prevent the cable from becoming loose.

4.4. Connecting the connector cable to the UV flame detector

	Only use screwed cable glands that are approved for the ignition protection type and the type of cable routing.
	Observe the package insert with technical information for the installed screwed cable glands.
	Open the enclosure.
	Lead the connection cable with the complete exterior insulation through the screwed cable gland into the pressure-resistant interior of the UV flame detector.
	(1) Observe the adhesive label when connecting.
	When using crimp sleeves, it is critical that they are processed gas-tight using suitable tools.
	(2) Connecting terminals are designed based on push-in direct plug technology for rigid or flexible conductors with crimp sleeve. When connecting flexible conductors without a crimp sleeve, the connecting point is opened with a standard screw driver. In this regard, also refer to the section " Tools for assembly "
	Rigid conductor cross-section.....min. 0.2 mm ² stripping length 10 mm Rigid conductor cross-section.....max. 4.0 mm ² stripping length 10 mm Flexible conductor cross-section.....min. 0.2 mm ² stripping length 10 mm Flexible conductor cross-section.....max. 2.5 mm ² stripping length 10 mm Flexible conductor cross-section with crimp sleeve without plastic sleeve.....min. 0.25 mm ² stripping length 8 mm Flexible conductor cross-section with crimp sleeve without plastic sleeve.....max. 2.5 mm ² stripping length 8 mm Flexible conductor cross-section with crimp sleeve with plastic sleeve.....min. 0.25 mm ² stripping length 8 mm Flexible conductor cross-section with crimp sleeve with plastic sleeve.....max. 1.5 mm ² stripping length 8 mm
	(3) For shielded connection cables, place the cable underneath the "grounding clamp = M3" and screw it tight.
	Remove the plastic foil from the shield harness.
	If necessary, remove any loose metal particles, dirt and traces of moisture from the pressure-resistant interior of the UV flame detector.



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UV Flame Detector

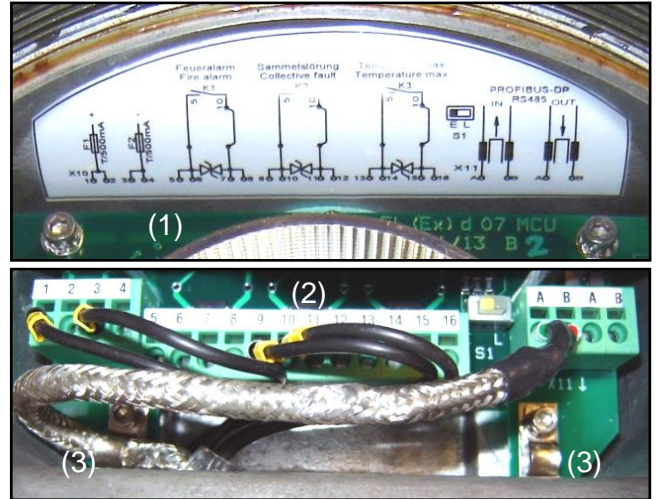
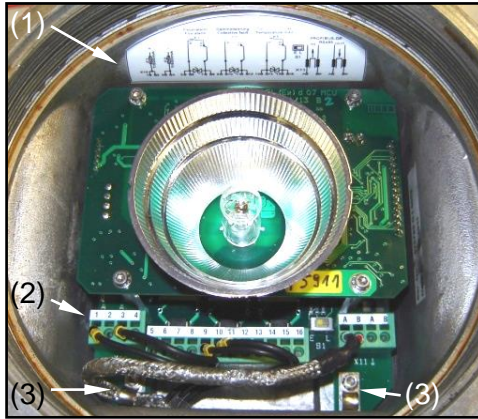
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	Once the work has been completed, carefully close the UV flame detector with the enclosure cover. In this regard, also refer to the section " Closing / opening enclosure cover "
	Conduct an insulation test according to IEC/EN 60439-1.



Example: With a PROFIBUS hybrid cable 1 x 2 x 0.64 diam. + 4 x 1.5 mm²

	WARNING
Incorrectly performed installation!	
	May result in injuries or damage.
	It must be ensured with a suitable selection of the connection cables used and with the type of installation that EX protection is guaranteed.
	It must be ensure that after stripping the conductor insulation reaches up to the connection terminals.
	The conductors must not be damaged during stripping.

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


UV Flame Detector

Type: FL (Ex) d 07-.-.-.-.













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5. Commissioning

5.1. Prior to commissioning the UV flame detector type: FL (Ex) d 07-.-RE-..

	Make sure that the UV flame detector is not damaged.
	Make sure that the UV flame detector is properly installed.
	Make sure that no foreign particles are in the pressure-resistant interior of the UV flame detector.
	Make sure that any open drill holes or unused screwed cable glands are closed using blind plugs certified according to Directive 2014/34/EU. Do not forget the Seal between the enclosure and the blind. Observe the temperature resistance of the Seal between -40°C and +125°C.
	Check the screwed cable glands and blind plugs for a tight fit.
	Check the screwed cable glands and blind plugs for any damage.
	Once the work has been completed, ensure that the UV flame detector has been carefully closed with the enclosure cover. In this regard, also refer to the section " Closing / opening enclosure cover "

5.2. Functions test of the UV flame detector type: FL (Ex) d 07-.-RE-..

	Switch on operating voltage.
	UV test started.
	Only for UV flame detector design type: FL (Ex) d 07-T-.-.-.
	UV test running.
	Only for UV flame detector design type: FL (Ex) d 07-T-.-.-.
	UV test completed = OK for 20 sec. max.
	Only for UV flame detector design type: FL (Ex) d 07-T-.-.-.
	UV flame detector ready.
	Relay – K2 (general fault) Ready (pulled)
	Only for UV flame detector design type: FL (Ex) d 07-.-RE-..
	Relay – K3 (max. temperature) Ready (pulled)
	Only for UV flame detector design type: FL (Ex) d 07-.-RE-..

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



























UV Flame Detector

Type: FL (Ex) d 07-.-.-.-.

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 WARNING	
UV flame detector not ready type: FL (Ex) d 07-.-RE-.. (Fault)!	
 + 	Operating voltage too low or reversed at the (+) and (-) connection terminals.
 	Check operating voltage at the end terminals.
 + 	Internal Voltage +12V: $\geq 11.0 \text{ V}$ or $\leq 12.5 \text{ V}$
 	PCB type: Replace FL (Ex) d 07 IO-RE, part ID: 80632.
 + 	Internal Voltage -12V: $\geq 11.0 \text{ V}$ or $\leq 12.5 \text{ V}$
 	PCB type: Replace FL (Ex) d 07 IO-RE, part ID: 80632.
 + 	DC/DC transformer, voltage monitoring +17.5V: $\geq 16.5 \text{ V}$ or $\leq 18.5 \text{ V}$
 	PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569.
 + 	Reference voltage Vrefh +2.048V: $\geq 2.026 \text{ V}$
 	PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569.
 + 	Reference voltage Vrefl 0.000V: $\leq 0.020 \text{ V}$
 	PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569.
 + 	Max. temperature: "OFF" +120 °C / "ON" +118 °C) $\pm 3 \text{ °C}$ after 10 sec. the UV flame detector is switched to standby.
 + 	UV flame detector at standby.
 	CAUTION! Check application temperature range.
 	Otherwise, the EX protection is no longer guaranteed.

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UV Flame Detector

Type: FL (Ex) d 07-.-.-.-.

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	WARNING
UV flame detector not ready type: FL (Ex) d 07-T-RE-.. (Fault)!	
+	UV test fault: e.g. visual pane dirty, UV-Fiber-Optic Cable defective, UV - Transmitter defective.
	<ol style="list-style-type: none"> (1) Clean visual pane. (2) Check the UV-Fiber-Optic Cable for any fiber breakage. (3) Shut off operating voltage briefly and switch it back on. (4) See beginning of test item 5.2 (5) Is the UV - test fault still there? (6) UV - Transmitter type: TE d 07, part ID: 80567. (7) Shut off operating voltage briefly and switch it back on. (8) See beginning of test item 5.2 (9) Is the UV - test fault still there? (10) PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569. (11) Shut off operating voltage briefly and switch it back on. (12) See beginning of test item 5.2

5.3. Prior to commissioning the UV flame detector type: FL (Ex) d 07-.-FB-..

	Make sure that the UV flame detector is not damaged.
	Make sure that the UV flame detector is properly installed.
	Make sure that no foreign particles are in the pressure-resistant interior of the UV flame detector.
	Make sure that any open drill holes or unused screwed cable glands are closed using blind plugs certified according to Directive 2014/34/EU. Do not forget the Seal between the enclosure and the blind. Observe the temperature resistance of the Seal between -40°C and +125°C.
	Check the screwed cable glands and blind plugs for a tight fit.
	Check the screwed cable glands and blind plugs for any damage.
	Make sure that the fieldbus system is configured.
	Make sure that the fieldbus node address is configured in the fieldbus system .
	Refer to nameplate of UV flame detector e.g. "PROFIBUS, DP slave, Address no.: 10 (Hex), 16 (Dec)"
	Ensure the position that the UV flame detector has in the fieldbus system, line detector or end detector.
	See "S1" switch in the UV flame detector / factory default setting = "E" Please set according to the position: "E" = end detector or "L" = line detector
	Once the work has been completed, ensure that the UV flame detector has been carefully closed with the enclosure cover. In this regard, also refer to the section " Closing / opening enclosure cover "

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










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UV Flame Detector

Type: FL (Ex) d 07-.-.-.-.

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5.4. Functions test of the UV flame detector type: FL (Ex) d 07-.-FB-..

	Switch on operating voltage.
	UV test started.
	Only for UV flame detector design type: FL (Ex) d 07-T-.-.-.
	UV test running.
	Only for UV flame detector design type: FL (Ex) d 07-T-.-.-.
	UV test completed = OK for 20 sec. max.
	Only for UV flame detector design type: FL (Ex) d 07-T-.-.-.
	UV flame detector ready.
	Data word: Current status UV flame detector (bit 5 deleted = 0) ready
	Only for UV flame detector design type: FL (Ex) d 07-.-FB-..
	Data word: Current status UV flame detector (bit 6 deleted = 0) Ready
	Only for UV flame detector design type: FL (Ex) d 07-.-FB-..



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























UV Flame Detector

Type: FL (Ex) d 07-.-.-.-.

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 WARNING	
UV flame detector not ready type: FL (Ex) d 07-.-FB-.. (Fault)!	
 + 	Operating voltage too low or reversed at the (+) and (-) connection terminals.
 	Check operating voltage at the end terminals.
 + 	Internal Voltage +12V: $\geq 11.0 \text{ V}$ or $\leq 12.5 \text{ V}$
 	PCB type: Replace FL (Ex) d 07 IO, part ID: 80571.
 + 	Internal Voltage -12V: $\geq 11.0 \text{ V}$ or $\leq 12.5 \text{ V}$
 	PCB type: Replace FL (Ex) d 07 IO, part ID: 80571.
 + 	DC/DC transformer, voltage monitoring +17.5V: $\geq 16.5 \text{ V}$ or $\leq 18.5 \text{ V}$
 	PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569.
 + 	Reference voltage Vrefh +2.048V: $\geq 2.026 \text{ V}$
 	PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569.
 + 	Reference voltage Vrefl 0.000V: $\leq 0.020 \text{ V}$
 	PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569.
 + 	Max. temperature: "OFF" +80 °C / "ON" +78 °C) $\pm 3 \text{ °C}$
	after 10 sec. the UV flame detector is switched to standby.
 + 	UV flame detector at standby.
 	CAUTION! Check application temperature range.
 	Otherwise, the EX protection is no longer guaranteed.

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UV Flame Detector

Type: FL (Ex) d 07-.-.-.-.

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WARNING

UV flame detector not ready type: FL (Ex) d 07-T-FB-.. (Fault)!



UV test fault:

e.g. visual pane dirty, UV-Fiber-Optic Cable defective, UV - Transmitter defective.



- (1) Clean visual pane.
- (2) Check the UV-Fiber-Optic Cable for any fiber breakage.
- (3) Shut off operating voltage briefly and switch it back on.
- (4) See beginning of test item 5.2
- (5) Is the UV - test fault still there?
- (6) UV - Transmitter type: TE d 07, part ID: 80567.
- (7) Shut off operating voltage briefly and switch it back on.
- (8) See beginning of test item 5.2
- (9) Is the UV - test fault still there?
- (10) PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569.
- (11) Shut off operating voltage briefly and switch it back on.
- (12) See beginning of test item 5.2



WARNING

UV flame detector not ready type: FL (Ex) d 07-T-FB-.. (Fault)!



The date and time are not set in the UV flame detector.



Set the date and time via the configured fieldbus system.
Functional code: \$70 + send data content.



Fieldbus module hardware test or fieldbus type or node address error in the UV flame detector.



CAUTION!

Only if the error is active for a longer period of time.

- (1) Check the fieldbus system configuration.
- (2) Replace the fieldbus module in the UV flame detector.



Fieldbus module node is offline or no power in the UV flame detector



CAUTION!

Only if the error is active for a longer period of time.

- (1) Check the fieldbus system configuration.
- (2) Replace the fieldbus module in the UV flame detector.

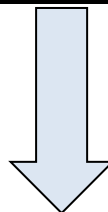


Fieldbus module Initialization of PROFIBUS ASIC in the UV flame detector or Configuration Data and/or User Parameterizations data



(1) Check the fieldbus system configuration.

(2) Replace the fieldbus module in the UV flame detector.



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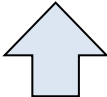












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UV Flame Detector







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	Maximum number of Txd repetitions exceeded in the UV flame detector modbus system.
	<p>CAUTION!</p> <p>Only if the error is active for a longer period of time.</p> <p>(1) Replace the fieldbus module in the UV flame detector. (2) PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569. (3) PCB type: Replace FL (Ex) d 07 IO, part ID: 80571.</p>
	
	Parity or Framing or Noise or Overrun error in the UV flame detector modbus system.
	<p>CAUTION!</p> <p>Only if the error is active for a longer period of time.</p> <p>(1) Replace the fieldbus module in the UV flame detector. (2) PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569. (3) PCB type: Replace FL (Ex) d 07 IO, part ID: 80571.</p>
	
	Data length overrun or Rxd data length at minimum in UV flame detector modbus system.
	<p>CAUTION!</p> <p>Only if the error is active for a longer period of time.</p> <p>(1) Replace the fieldbus module in the UV flame detector. (2) PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569. (3) PCB type: Replace FL (Ex) d 07 IO, part ID: 80571.</p>
	
	Rxd Crc checksum error or evaluation error slave address or functional code in the UV flame detector modbus system.
	<p>CAUTION!</p> <p>Only if the error is active for a longer period of time.</p> <p>(1) Replace the fieldbus module in the UV flame detector. (2) PCB type: Replace FL (Ex) d 07 MCU, part ID: 80569. (3) PCB type: Replace FL (Ex) d 07 IO, part ID: 80571.</p>
	

←

5.5. Fire alarm test of the UV flame detector type: FL (Ex) d 07-.-RE-.

	WARNING
Incorrectly performed fire alarm test!	
	May result in injuries or damage.
	With a suitable selection of UV test sensor (ATEX) that are approved for the EX atmosphere . See marking on the UV test sensor (ATEX).
	Observe the operating instructions for the central fire alarm system. Which further consequences come about during a fire alarm test, they must be suppressed during the test.
	
	e.g. triggering fire extinguishing, forwarded to the fire department, etc.

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UV Flame Detector

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	Direct the UV test sensor (ATEX) to the UV flame detector to be tested and switch it on.
	The time until an alarm is signaled depends on (1) the intensity of the UV radiation (UV test sensor (ATEX)) (2) the distance between the radiation source and the sensor (3) the response sensitivity of the UV flame detector (Setting of the evaluation function) (4) how soiled the visual pane of the UV flame detector is (if necessary, clean the visual pane prior to the fire alarm test)
	Minor UV radiation (intensity) detected.
	This message is not mandatory. Does not trigger a fire alarm, is active for 30 sec. max.
	Medium UV radiation (intensity) detected.
	This message is not mandatory. Does not trigger a fire alarm, is active for 30 sec. max.
	Sufficient UV radiation (intensity) exists, fire alarm detected.
	Relay – K1 (fire alarm) Fire alarm (pulled)
	Intensity of the UV radiation depends on the settings of the evaluation function.
	Check that the fire alarm on the central fire alarm system is detected based on the operating manual of the central fire alarm system.
	Reset the fire alarm. (1) For a continuous alarm, in order to reset, interrupt the operating voltage of the UV flame detector for approx. 1 sec. (2) For automatic resetting, wait for the time to elapse until the UV flame detector resets.
	Depends on the settings of the evaluation function.
	Interrupt the resetting the operating voltage of the UV flame detector for approx. 1 sec.
	OFF = is not illuminated
	Relay – K2 (general fault) Fault (tripped)
	Relay – K3 (max. temperature) Fault (tripped)
	Ready after resetting?

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	UV flame detector ready.
	Relay – K2 (general fault) Ready (pulled)
	Relay – K3 (max. temperature) Ready (pulled)
	Check the operation readiness of the central fire alarm system based on the operating manual of the central fire alarm system.

5.6. Fire alarm test of the UV flame detector type: FL (Ex) d 07-.-FB-..

	WARNING
Incorrectly performed fire alarm test!	
	May result in injuries or damage.
	With a suitable selection of UV test sensor (ATEX) that are approved for the EX atmosphere . See marking on the UV test sensor (ATEX).
	Observe the operating instructions for the central fire alarm system. Which further consequences come about during a fire alarm test, they must be suppressed during the test.
	e.g. triggering fire extinguishing, forwarded to the fire department, etc.

	Direct the UV test sensor (ATEX) to the UV flame detector to be tested and switch it on.
	The time until an alarm is signaled depends on (1) the intensity of the UV radiation (UV test sensor (ATEX)) (2) the distance between the radiation source and the sensor (3) the response sensitivity of the UV flame detector (Setting of the evaluation function) (4) how soiled the visual pane of the UV flame detector is (if necessary, clean the visual pane prior to the fire alarm test)
	Minor UV radiation (intensity) detected.
	This message is not mandatory. Does not trigger a fire alarm, is active for 30 sec. max.
	Medium UV radiation (intensity) detected.
	This message is not mandatory. Does not trigger a fire alarm, is active for 30 sec. max.

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	Sufficient UV radiation (intensity) exists, fire alarm detected.
	Data word: Current status UV flame detector (bit 4 set = 1) Fire alarm
	Intensity of the UV radiation depends on the settings of the evaluation function.
	Check that the fire alarm on the central fire alarm system is detected based on the operating manual of the central fire alarm system.
	Reset the fire alarm. (1) For a continuous alarm, in order to reset via the configured fieldbus set Reset fire alarm. Functional code: \$71send. (2) For automatic resetting, wait for the time to elapse until the UV flame detector resets.
	Depends on the settings of the evaluation function.
	Reset via the configured fieldbus system Reset fire alarm. Functional code: \$71send.
	Data word: Current status UV flame detector (bit 4 deleted = 0) Ready
	Ready after resetting?
	UV flame detector ready.
	Data word: Current status UV flame detector (bit 5 deleted = 0) ready
	Data word: Current status UV flame detector (bit 6 deleted = 0) Ready
	Check the operation readiness of the central fire alarm system based on the operating manual of the central fire alarm system.

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6. Maintenance

6.1. Regular maintenance tasks

	WARNING
Unauthorized work on UV flame detector!	
	May result in injuries or damage.
	Work such as: Assembly, installation, commissioning, testing, maintenance, repairs and troubleshooting must only be performed by trained personnel.
	Refer to the relevant national regulations (e.g. IEC/EN 60079-17) for the type and scope of tests.
	Measure the deadlines so that any occurring defects on UV flame detector that can be expected are determined in due time.
	Maintenance tests include:
	(1) Check lines to ensure they fit tightly. (2) Check the UV flame detector for visible damage. (3) Check that permissible temperatures pursuant to IEC/EN 60079-0 are adhered to. (4) Check that the UV flame detector functions properly.

6.2. Cleaning tasks

	In dusty environment
	The visual pane must be clean enough that the UV pipe can be clearly seen during the visual inspection. Otherwise, the visual pane must be cleaned with a clean oil and grease free, anti-static, soft cloth. If necessary, also clean the light entry and exit areas of the fiber optic cables and the small visual pane of the UV-Fiber-Optic Cable opening.
	In a greasy and oily atmosphere
	There must be no oil film on the visual pane, because even thin oil films may have a significant impact on the response sensibility of the UV flame detector. For this reason, clean the visual pane with a clean oil and grease free, anti-static, soft cloth often. If necessary, also clean the light entry and exit areas of the fiber optic cables and the small visual pane of the UV-Fiber-Optic Cable opening.
	Condensation on the visual pane
	Condensation on the visual pane only has a minimum impact on the response sensitivity of the UV flame detector.

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7. Repairs and Spare Parts

7.1. Repairs

		WARNING
Unauthorized work on UV flame detector!		
		May result in injuries or damage.
		Work such as: Assembly, installation, commissioning, testing, maintenance, repairs and troubleshooting must only be performed by trained personnel.

		WARNING
Do not carry out repairs on flameproof joints columns!		
		May result in injuries or damage.
		Repairs to flameproof joints may only be carried out by the manufacturer
		e.g. Return the UV flame detector to the manufacturer for repair

		WARNING
Do not open the enclosure of the UV flame detector under power!		
		May result in injuries or damage.
		Prior to opening the enclosure of the UV flame detector, make sure that power is disconnected.
		In this regard, also refer to the section " Closing / opening enclosure cover "

		WARNING
Observe the work instructions on replacing components!		
		May result in injuries or damage.
		Observe the enclosed work instructions for the components.

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








UV Flame Detector

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For safety reasons, repairs should be limited to replacing the following components:	
	(1) O-ring for enclosure cover size 2.
	(2) Cable gland connection ATEX M20x1.5.
	(3) Plug screw ATEX M20x1.5.
	(4) Optical fibre aperture M25x1.5.
	(5) Plug screw ATEX M25x1.5.
	(6) Seal 27x20x1,5mm, Klingersil C-4400 -190°C to +400°C
	(7) Seal set for 1 Each 35x25x1,5mm, 35x25x1,0mm, 35x25x0,5mm, Klingersil C-4400 -190°C to +400°C
	(8) M6 ground screw complete.
	(9) UV-Fiber-Optic Cable Holder incl. screws
	(10) FOC-Mounting ring MOC 95/HT incl. screws.
	(11) UV-Fiber-Optic Cable 280 mm long.
	(12) PCB FL (Ex) d 07 MCU.
	(13) UV - Transmitter TE d 07.
	(14) PCB FL (Ex) d 07 IO.
	(15) Fieldbus module PROFIBUS-DP (slave).
	(16) PCB FL (Ex) d 07 IO-RE.
	(17) RE module (ext. UV test activation).
	(18) 1 set of fastening material for the circuit boards and the UV sensor FL (Ex) d 07 MCU, FL (Ex) d 07 IO... and TE d 07.
	(19) Protective grilles and fastening material for FL (Ex) d 07-.-.-.-.
	(20) Swiveling console for FL (Ex) d 07-.-.-.-.
	(21) Weather protection hood for FL (Ex) d 07-.-.-.-.

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7.2. Spare parts

Ordering details incl. images to determine the components		
	(1) O-ring for enclosure cover size 2. Type: O-ring 8265/2 from -40°C to +125°C. Part ID: 61466	
	(2) Cable gland connection ATEX M20x1.5. Type: Cable connection M20x1.5 (EX) Part ID: 50383	
	(3) Plug screw ATEX M20x1.5. Type: Plug screw EEX e/d M20x1.5 Part ID: 50404	
	(4) Optical fibre aperture M25x1.5. Type: Q07/18-14 Part ID: 80278	
	(5) Plug screw ATEX M25x1.5. Type: Plug screw EEX e/d M25x1.5 Part ID: 50396	
	(6) Seal 27x20x1,5mm Type: Seal 27x20x1,5mm, Klingersil C-4400 -190°C to +400°C Part ID: 50385	
	(7) Seal set for 1 Each 35x25x1,5mm, 35x25x1,0mm, 35x25x0,5mm Type: Seal set for 1 Each 35x25x1,5mm, 35x25x1,0mm, 35x25x0,5mm, Klingersil C-4400 -190°C to +400°C Part ID: 80304	
	(8) M6 ground screw complete. Type: PE d 07 Part ID: 80623	
	(9) UV-Fiber-Optic Cable Holder incl. screws Type: HOC d 07 Part ID: 80624	
	(10) FOC-Mounting ring MOC 95/HT incl. screws Type: MOC 95/HT Part ID: 80625	
	(11) UV-Fiber-Optic Cable 280 mm long Type: UVK 280 MC Part ID: 70004	
	(12) PCB FL (Ex) d 07 MCU. Type: FL (Ex) d 07 MCU Part ID: 80569	
	(13) UV - Transmitter TE d 07 Type: TE d 07 Part ID: 80567	
		

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	(14) PCB FL (Ex) d 07 IO Type: FL (Ex) d 07 IO Part ID: 80571
	(15) Fieldbus module PROFIBUS-DP (slave) Type: AB6000-B Part ID: 40256
	(14) PCB FL (Ex) d 07 IO-RE Type: FL (Ex) d 07 IO-RE Part ID: 80632
	(15) RE module (ext. UV test activation) Type: RE module Part ID: 80633
	(16) 1 set of fastening material for the circuit boards and the UV sensor FL (Ex) d 07 MCU, FL (Ex) d 07 IO... and TE d 07 Type: BEF d 07 Part ID: 80626
	(17) Protective grilles and fastening material for UV flame detector FL (Ex) d 07-...-... Type: SG d 07 Part ID: 80635
	(18) Swiveling console for UV flame detector FL (Ex) d 07-...-... Type: SK d 07 Part ID: 80628
	(19) Weather protection hood for UV flame detector FL (Ex) d 07-...-... Type: WH d 07 Part ID: 80621

7.3. Threaded versions of housing top and bottom

	Housing top = 1x "M25x1,5" Thread shape and grade: Medium or Fine, according to ISO 965-1 and ISO 965-3
	Housing top = 2x "M20x1,5" Thread shape and grade: Medium or Fine, according to ISO 965-1 and ISO 965-3

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