

CERTIFICATE

valid until: 23.05.2032

Type examination (Module B) - production type

Certificate No.: Z-IS-TAF-MUC-22-06-2652141-02121548

Name and address of manufacturer: Siemens AG, SI BP
76437 Rastatt

We herewith certify that the production type mentioned below meets the requirements of the Pressure Equipment (Safety) Regulations 2016 as amended.

Certification based on report No.: P-IS-TAF-MUC-C-F 1548-05/22


Scope of certification: Independent flame detector device for permanent or non-permanent operation as safety accessory
Type LFS1...
Models and details see page 3.
Basis of test see page 3.

Manufacturing plant: Siemens AG, SI BP
76437 Rastatt

24.05.2022
(Date of issue)

Verification of Certificate by TÜV SÜD App Verify

TUV SUD B A B T Unlimited
Approved Body for pressure equipment


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Details of manufacturer:

Siemens AG, SI BP, 76437 Rastatt,

Notes on the certificate

The right to use the symbol depicted in the certificate only applies to the product named in the certificate.

All necessary operating and safety instructions according to Schedule 2, Paragraph 21 and 22. have to be supplied with each product. For transportation purposes, the approved body may allow the holder of the certificate to disassemble the products marked with the symbol in such a way as is usual for product assembly in an installation.

The holder of the certificate is obliged to monitor the fabrication of the products marked with the symbol in order to ensure that production is carried out in accordance with the examination specifications. The holder of the certificate is particularly obliged to carry out monitoring examinations which are laid down in the examination specifications or required by the approved body. If this certificate expires or is declared invalid it has to be returned to the approved body immediately.

A certificate can be declared invalid or terminated by the approved body, if any flaws appear after the examination which were not detectable or not found during the examination, or if the symbol is used for the purpose of misleading or in any other way illicit advertising, or due to facts which were not clearly detectable at the time of certification, further use of the symbol is not justifiable.

The holder of the certificate is obliged to report any damage to or incurred by certified products to the approved body.

The holder of the certificate is only allowed to pass on examination reports and certificates by using the full text and by stating the date of issue. Publication of excerpts or duplication of the documents requires prior consent by the approved body.

With the certificate holder's consent, the approved body reserves the right to publish a list of certified products for the purpose of consumer information.

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Basis of examination:

DIN EN 298:2012-11, DIN EN 13611:2011-12

Pressure Equipment Safety Regulations, UKSI 2016:1105 (as amended by UKSI 2019:696)

Subject of test Independent flame detector device
with UV flame sensor type QRA2../4../10..
or with ionisation flame sensor,
or with flame sensor type RAR9

Safety time (FFDT) 1 second (max. 12 seconds, configurable)

Electrical supply data: 120 V, 50/60 Hz (LFS1...A1)
230 V, 50/60 Hz (LFS1...A2)

Model	Flame sensor	Operation mode	SFF	PFH _D	SIL _{max}
LFS1.11A1/A2	RAR9 ¹⁾	permanent	99,4 %	1,72·10 ⁻⁸ 1/h	SIL 3
LFS1.21A1/A2	Ionisation	permanent	99,4 %	1,67·10 ⁻⁸ 1/h	SIL 3
LFS1.21A1/A2	QRA2../4../10..	non-permanent	99,6 %	2,17·10 ⁻⁷ 1/h	SIL 2
LFS1.21A1/A2	Ionisation + QRA2../4../10..	non-permanent	99,6 %	2,17·10 ⁻⁷ 1/h	SIL 2
LFS1.21A1/A2	QRA2../4../10.. with external test logic	non-permanent	99,9 %	3,67·10 ⁻⁸ 1/h	SIL 3

¹⁾ only to be used with oil burners

Depending on the hardware configuration, the independent flame detector device is capable to fulfil the requirements of DIN EN 13611:2011-12, Annex J, for safety functions up to safety integrity level **SIL 2** or **SIL 3** with the safety parameters *SFF* and *PFH_D* mentioned in the table above.

These safety parameters have been calculated under the assumption of a Diagnostic Test Interval $T_2=1$ hour for permanent operation, resp. 24 hours for non-permanent operation, and of a Proof Test Interval $T_1=10$ years, which is equivalent to the specified life time of the flame detector device.

The external test logic as described in the manufacturer's instructions has not been part of the type-examination.

The conditions and requirements in clause 7 of test report C-F 1548-05/22 shall be considered for installation, adjustment operation and maintenance of thi independent flame detector device.

In particular:

If necessary, possible hazards resulting from external fire or from traffic, wind and earthquake loading shall be examined separately depending from the installation situation of the pressure equipment.