Technical Data Flame Sensor FFS07

Fig. 1 Flame sensor FFS07 plug-in version
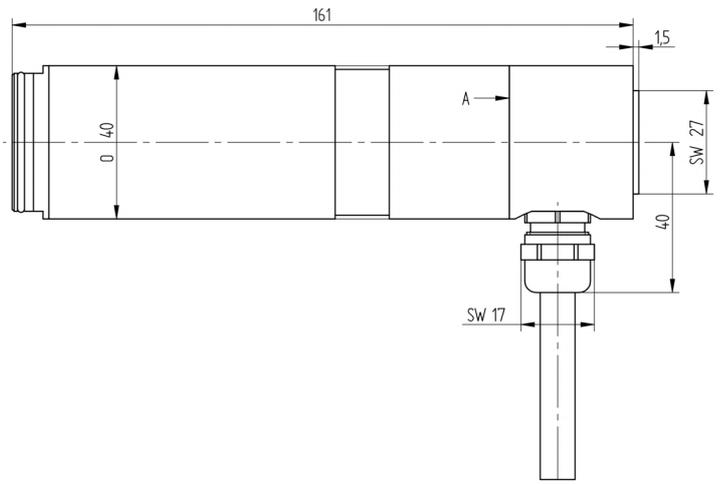

Fig. 2 Dimensional drawing flame sensor FFS07 plug-in version

Fig. 3 Flame Sensor FFS07 threaded connection version
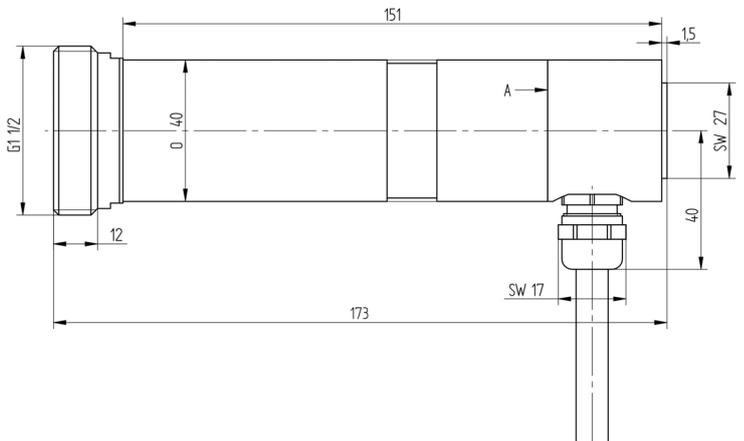

Fig. 4 Dimensional drawing flame sensor FFS07 threaded connection version
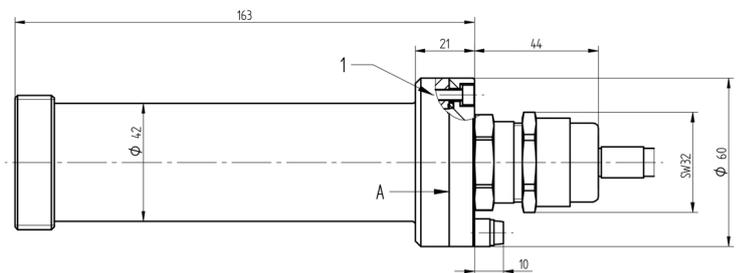

Fig. 5 Flame sensor FFS07 for Ex zone 1

Fig. 6 Dimensional drawing flame sensor FFS07 for Ex zone 1

Technical Data Flame Sensor FFS07

Dimension

Housing type	plug-in version (standard) V = threaded connection version Ex = potentially explosive area zone 1, zone 2

Weight	0.40 kg | 0.88 lb	Standard version with 3 m | 9.84 ft cable
	0.45 kg | 0.99 lb	V-version with 3 m | 9.84 ft cable
	0.50 kg | 1.10 lb	Ex-version with 3 m | 9.84 ft cable

Material	FFS07 (plug-in version and threaded connection version): Corrosion-resistant aluminium EN AW 6082 (seawater 2*; atmospheric condition 1*), nickel plated
	FFS07 Ex: Brass EN CW614N, nickel plated

* Comparative evaluation from 1 (very good) to 6 (unsuitable)

Characteristics

Operation possible with	F152, ETAMATIC, MCC CMS, MCC BC400	
Compatible	FFS07 UV	successor type of FFS05 UV - ...
	FFS07 IR	successor type of FFS05 IR - ...
Viewing angle	UV-1, -4	approx. 8°
	UV-6	approx. 16°
	IR	approx. 60°
Sensitivity measuring output	IR	> 10 mVAC
Spectral range	UV-1	260 ... 400 nm
	UV-4	215 ... 360 nm (replace UV-2)
	UV-6	215 ... 360 nm
	IR-1	1.200 ... 2.800 nm
	IR-1 T	1.200 ... 2.800 nm

Input variable flame scanner

Auxiliary power

Voltage	max. 42 VDC
	min. 24 VDC
Current consumption	≤ 20 mA

Pulse

Current	High > 0,8 mA
	Low < 0,4 mA

Sensitivity (measuring output)

FFS07 IR	> 10 mVAC
FFS07 UV	> 10 mVAC

Output parameters

Signal canal A + B

Frequency	min. approx. 7 Hz
Signal delay	negligible

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Connection/extension cable

Type	6 x 0,34/0,5 mm² | 6 x 20 AWG shielded,
	e.g. LiYCY cross section 0,5 mm² | 20 AWG
	Category: AVLV2, ≥ 300V,≥ 80 °C
Cable length	< 300 m | 984,25 ft

Wear Parts

	none

Technical Resilience

Operating mode	continuous operation
	72 h operating according with TRD 604
Safety integrity level	DIN EN 61508 part 2 - SIL 3 in conjunction with F152
Overvoltage category	DIN EN 60730-1 ÜKIII
susceptibility to interference	DIN EN 60730-1
emitted interference	DIN EN 55022, class B
Protection class	III

Application in hazardous areas of zone 1, 21

Device group/category, Ex area	II 2G, Zone 1
	II 2D, Zone 21
Certificate	IECEx EPS 14.0042X
	EPS 14 ATEX 1696 X
Marking	Ex db IIC T6...T5 Gb
	Ex tb IIIC T80°C Db
Standards	IEC 60079-0, EN 60079-0
Operating temperature range*	
Ambient temperature	T6 -40 °C ... + 75 °C

Certification for Ex zone 2 is currently in preparation.

NOTICE
The section 'Special instructions for explosion protection' in the manual must be observed.

Technical Data Flame Sensor FFS07

Operating Condition

Relative humidity	0 % ... 95 % non-condensing

Environmental Conditions

Operation	permissible temperature range	IR	-20 ... +60 °C | -4 ... +140 °F
		UV-1	-30 ... +80 °C | -22 ... +176 °F
		UV-4	-40 ... +80 °C | -40 ... +176 °F
		UV-6	-40 ... +80 °C | -40 ... +176 °F
Transport	permissible temperature range	-20 ... +60 °C | -4 ... +140 °F	
Storage	location	in enclosed spaces	
Degree of protection	according to DIN EN 60529	IP66/67 for Ex-Zone 2	
		IP66 for Ex-Zone 1	

NOTICE

The limits of the technical data must be strictly adhered to.

Technical Data Flame Sensor FFS07

Order Information

Description / Type	Order no.
Flame sensor FFS07, light incidence aperture is in line with the axis, IP66/IP67 For usage at CMS, ETAMATIC, F152 (SIL3 in acc. to IEC 61508-2 in combination with F152	659D21...

A 10 – SPECTRUM	Selection
TYP UV-4 UV-SPECTAL RANGE 215 ... 360 nm	04*
TYP IR-1 IR-SPECTAL RANGE 1.200 ... 2.800 nm	10
TYP IR-1 T IR-SPECTAL RANGE 1.200 ... 2.800 nm	20

A 20 – HOUSING **Housing for hazardous area II in accordance to ATEX and IECEx**	Selection
HOUSING FOR PLUG-IN, IP67, NEMA 4X Suitable bracket FH30-00, FH30-10, FH40-10	0
HOUSING WITH THREADED CONNECTION, IP67, NEMA 4X Suitable bracket FV30-00, FV30-10, FV40-10	V*
HOUSING IR WITH THREADED CONNECTION FOR EX-AREA 1 in acc. to ATEX and IECEx, IP66 Suitable brackets FV30-00, FV30-10, FV40-10	Z1 IR/V
HOUSING UV WITH THREADED CONNECTION FOR EX-AREA 1 in acc. to ATEX and IECEx, IP66 Suitable brackets FV30-00, FV30-10, FV40-10	Z1 UV/V

A 30 – CABLE LENGTH*	Selection
Length 10 m | 33 ft	10
SILICON, length 10 m | 33 ft[1]	10/Si
Length 3 m | 10 ft	3*
SILICON, length 3 m | 10 ft[1]	3/Si
Length 5 m | 16 ft	5
SILICON, length 5 m | 16 ft [1]	5/Si
Length 0.3 m | 1 ft, only available with plug	OE
SILICON, length 0.3 m | 1 ft, only available with plug [1]	OE/Si

[1] not valid for flame scanners EX zone 1

A 40 – PLUG	Selection
WITHOUT PLUG	0*
WITH PLUG	STE

The information in this publication is subject to technical changes.