Technical Data Flame Sensor FFS30

Fig. 1 FFS30 Flame sensor type with cable

Fig. 2 FFS30 Flame sensor type with plug

Fig. 3 FFS30 Ex Flame sensor

Dimensions

Housing variant	FFS30 Ex	Explosion proof zone 1/21
Weight	FFS30	Without cable – 0,3 kg | 0.66 lb
	FFS30 Ex	Without cable – 0,9 kg | 1.98 lb
Material	FFS30	Corrosion-resistant aluminium EN AW 6082 (seawater 2*; atmospheric condition 1*), nickel plated
	FFS30 Ex	Brass EN CW614N, nickel plated

* Relative rating from 1 (very good) to 6 (not suitable)

Input parameter

Power supply	12 VDC
Current consumption	< 110 mA

Measuring output

Voltage	0-2,5 VDC
Internal resistance	10 KΩ
intrinsic error	≤ 2 % above measuring range

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Characteristics

Operation possible with	F350	
Sensitivity minimum	18 mV	
Spectral range	UV-4	215 ... 360 nm
	UV-4.6	215 ... 360 nm
	IR-2	850 … 1200 nm
	IR-3	1000 … 1700 nm
	IR-4	1000 … 2200 nm
	UVIR-1	215 ... 360 nm 1000 … 1700 nm

Application in hazardous areas Ex Zone 1, 21

Device group/category of hazardous area	[Ex] II 2G, Zone 1, [Ex] II 2D, Zone 21	
Certificate	IECEx EPS 14.0042X, EPS 14 ATEX 1 696 X	
Marking	ATEX	⟨Ex⟩ II 2G Ex db IIC T6...T5 Gb
		⟨Ex⟩ II 2D Ex tb IIIC T80°C, T95°C Db
	IECEx	Ex db IIC T6 Gb
		Ex tb IIC T80°C Db
Standards	IEC 60079-0 , EN 60079-0	
Operating Temperature range		
Ambient temperature	T6 -40 °C | -40 °F ... Ta ... +75 °C | +157 °F	

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 FFS30

Operating Condition

Relative humidity	0 ... 95 % non-condensing
Vibration resistance	LR 4g

Environmental Conditions

Operation	Permissible temperature range	-25 ... +85 °C	(internal display, non-condensing)
		-13 ... 185 °F	
		-40 ... +85 °C	(internal display, non-condensing, not moved, not actuated)
		-40 ... 185 °F	
Transport	Permissible temperature range	-40 ... +85 °C	(non-condensing)
		-40 ... 185 °F	
Storage	Permissible temperature range	-40 ... +85 °C	(non-condensing)
		-40 ... 185 °F	
Degree of protection	FFS30 with cable	IP66/67	
	FFS30 with plug	IP67, IP66/67[1]	(not possible for Ex zone 2/22)
	FFS30 Ex	IP66	

[1] When the plug is not plugged in, protection against pollution and moisture is required.

NOTICE

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

Technical Data Flame Sensor FFS30

Order Information

Description/Type	Order no.
Flame sensor FFS30	**659D50...**

A10 - SPECTRUM		Selection
TYPE UV-4	UV-SPECTRAL RANGE 215 ... 360 nm	04
TYPE UV-4.6	UV-SPECTRAL RANGE 215 ... 360 nm	06
TYPE 2 IR-2	IR-SPECTRAL RANGE 850 ... 1.200 nm	10
TYPE 2 IR-4	IR-SPECTRAL RANGE 1.000 ... 2.200 nm	12
TYPE UVIR-1	UV-SPECTRAL RANGE 215 ... 360 nm, IR-SPECTRAL RANGE 1.000 ... 1.700 nm	17

A20 - HOUSING/OPTIC	Selection
HOUSING WITH SCREW FASTENING, IP66/IP67 Suitable bracket FV30-00, FV30-10, FV40-10	0
HOUSING FOR FIBER OPTIC WITH SCREW FASTENING G1$^{1/2"}$ Suitable bracket FV30-FO	FO
HOUSING FOR FIBER OPTIC WITH ADAPTER AND SCREW FASTENING G1$^{1/2"}$ Suitable bracket FV30-FO	FO-A
HOUSING IR FOR Ex ZONE 1 according to ATEX, IP66 Suitable bracket FV30-00, FV30-10, FV40-10	Z1IR
HOUSING UV FOR Ex ZONE 1 according to ATEX, IP66 Suitable bracket FV30-00, FV30-10, FV40-10	Z1UV

A 30 – TYPE CONNECTION CABLE / CABLE/ LENGTH		Selection
M12 plug, female – can't be used for Ex applications Additionally required: connecting cable for FFS30, order no. 659G0901		M12
TP CONNECTION CABLE [1]	Length: 3 m | 9.84 ft	3MTP
	Length: 5 m | 16.40 ft	5MTP
	Length: 10 m | 32.81 ft	10MTP
	Length: 15 m | 49.21 ft	15MTP
CAN CONNECTION CABLE [2]	Length: 3 m | 9.84 ft	3MCAN
	Length: 5 m | 16.40 ft	5MCAN
	Length: 10 m | 32.81 ft	10MCAN
	Length: 15 m | 49.21 ft	15MCAN
PLTC-ER CONNECTION CABLE [3]	Length: 3 m | 9.84 ft	3MPLT
	Length: 5 m | 16.40 ft	5MPLT
	Length: 10 m | 32.81 ft	10MPLT
	Length: 15 m | 49.21 ft	15MPLT

[1]   Standard type, pair stranded, shielded PVC data cable, -40 … +80 °C | -40 ... +176 °F (firmly laid)

[2]   Highly flexible, pair-stranded, shielded PUR bus cable for low-reflection data transmission, -40 … +80 °C | -40 ... +176 °F (firmly laid)

[3]   Pair stranded, shielded high performance data cable made of PVC, resistant to UV radiation, -30°…+105°C | -22 ... +221 °F (UL), AWM 80 °C | +176 °F (firmly laid)

A 40 – CONDUIT	Selection
WITHOUT	0
CONDUIT VARIANTE 1	C1

Technical Data Flame Sensor FFS30

Description/Type	Order no.
Connection cable FFS30 with M12 plug, male – straight	**659G0901...**

A 20 – TYPE CONNECTION CABLE / CABLE/ LENGTH		Selection
TP-CONNECTION CABLE [1]	Length: 3 m | 9.84 ft	3MTP
	Length: 5 m | 16.40 ft	5MTP
	Length: 10 m | 32.81 ft	10MTP
	Length: 15 m | 49.21 ft	15MTP
CAN-CONNECTION CABLE [2]	Length: 3 m | 9.84 ft	3MCAN
	Length: 5 m | 16.40 ft	5MCAN
	Length: 10 m | 32.81 ft	10MCAN
	Length: 15 m | 49.21 ft	15MCAN
PLTC-ER CONNECTION CABLE [3]	Length: 3 m | 9.84 ft	3MPLT
	Length: 5 m | 16.40 ft	5MPLT
	Length: 10 m | 32.81 ft	10MPLT
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[1] Standard type, pair stranded, shielded PVC data cable, -40 … +80 °C | -40 ... +176 °F (firmly laid)

[2] Highly flexible, pair-stranded, shielded PUR bus cable for low-reflection data transmission, -40 … +80 °C | -40 ... +176 °F (firmly laid)

[3] Pair stranded, shielded high performance data cable made of PVC, resistant to UV radiation, -30°…+105°C | -22 ... +221 °F (UL), AWM 80 °C | +176 °F (firmly laid)

Approvals

UL CERTIFIED
SAFETY US·CA
SÉCURITÉ US·CA
MH48669

CE

The information in this publication is subject to technical changes.