

# Technical Data Flame Sensor FFS30

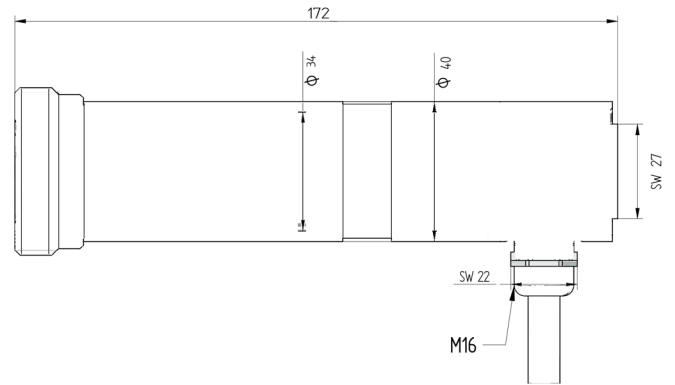
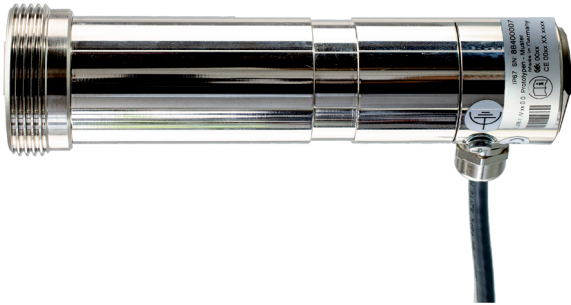


Fig. 1 FFS30 Flame sensor type with cable



Fig. 2 FFS30 Flame sensor type with plug

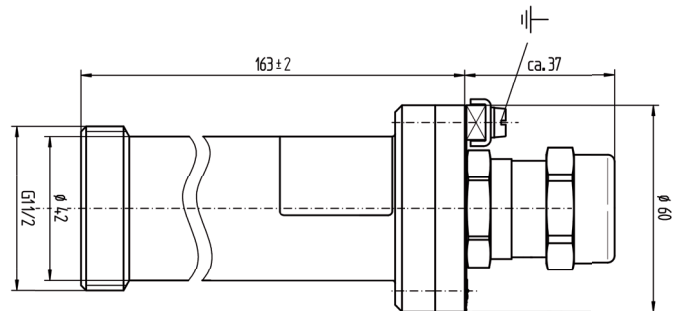


Fig. 3 FFS30 Ex Flame sensor

## Dimensions

Housing variant	FFS30	Explosion proof zone 2/22, in preparation
	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

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

## Measuring output

Voltage	0-2,5 VDC
Internal resistance	10 K $\Omega$
intrinsic error	$\leq 2\%$ above measuring range


## 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

## Use in Potentially Explosive Atmospheres Zone 1/21:

Certification	EPS 14 ATEX 1 696 IECEX EPS 14.0042
Marking	 II 2G Ex d IIC T6 Gb  II 2D Ex tb IIIC T80°C Db

## Use in Potentially Explosive Atmospheres Zone 2/22:

Certification	in preparation
Marking	 Ex ec IIC T6 in preparation

## Operating Condition

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

## Environmental Conditions

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

<sup>1</sup> When the plug is not plugged in, protection against pollution and moisture is required.

# 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 G1/2" Suitable bracket FV30-FO		FO
HOUSING FOR FIBER OPTIC WITH ADAPTER AND SCREW FASTENING G1/2" 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	Length: 3 m   9.84 ft <sup>1)</sup>	3MTP
TP CONNECTION CABLE	Length: 5 m   16.40 ft <sup>1)</sup>	5MTP
TP CONNECTION CABLE	Length: 10 m   32.81 ft <sup>1)</sup>	10MTP
TP CONNECTION CABLE	Length: 15 m   49.21 ft <sup>1)</sup>	15MTP
CAN CONNECTION CABLE	Length: 3 m   9.84 ft <sup>2)</sup>	3MCAN
CAN CONNECTION CABLE	Length: 5 m   16.40 ft <sup>2)</sup>	5MCAN
CAN CONNECTION CABLE	Length: 10 m   32.81 ft <sup>2)</sup>	10MCAN
CAN CONNECTION CABLE	Length: 15 m   49.21 ft <sup>2)</sup>	15MCAN
PLTC-ER CONNECTION CABLE	Length: 3 m   9.84 ft <sup>3)</sup>	3MPLT
PLTC-ER CONNECTION CABLE	Length: 5 m   16.40 ft <sup>3)</sup>	5MPLT
PLTC-ER CONNECTION CABLE	Length: 10 m   32.81 ft <sup>3)</sup>	10MPLT
PLTC-ER CONNECTION CABLE	Length: 15 m   49.21 ft <sup>3)</sup>	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	Length: 3 m   9.84 ft <sup>1)</sup>	3MTP
TP-CONNECTION CABLE	Length: 5 m   16.40 ft <sup>1)</sup>	5MTP
TP-CONNECTION CABLE	Length: 10 m   32.81 ft <sup>1)</sup>	10MTP
TP-CONNECTION CABLE	Length: 15 m   49.21 ft <sup>1)</sup>	15MTP
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- 1) Standard type, pair stranded, shielded PVC data cable, -40 ... +80 °C | -40 ... +176 °F (firmly laid)
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- 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



The information in this publication is subject to technical changes.



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