

Technical Data Compact Flame Scanner F300K



Fig. 1 F300K with integrated display



Fig. 2 F300K with LED

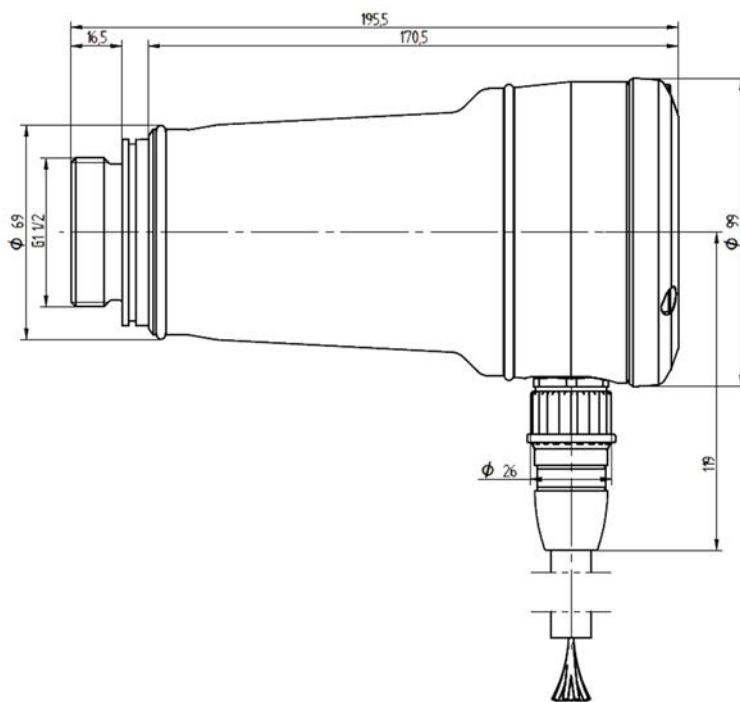


Fig. 3 Dimensional drawing F300K

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Housing

Material	Corrosion-resistant aluminium EN AW 6082, anodised or stainless steel V4A
Dimensions	195.5 x 99 mm / 3.9"x7.7" in
Weight	1.05 kg / 2.3 lb in Al, 3.6 kg / 7.9 lb in stainless steel

Input parameters

Auxiliary power	
Power supply voltage ¹	24 VDC ± 20 %
Power consumption	≤ 3.7 W
Digital inputs – mode switching	
Control voltage ¹	24 VDC ± 20 %
Control current	Approx. 6 mA
Signal input	
Responsiveness	≥ 18 mVAC

¹ The product must not be transported, stored or operated outside the specified range. All promises regarding safety-relevant functions otherwise lose their validity.

Spectral ranges

UV-4	215 ... 360 nm	UV-spectral range
UV4.6	220 ... 360 nm	UV-spectral range
IR-2	850 ... 1.200 nm	IR-spectral range
IR-4	1.00 ... 2.200 nm	IR-spectral range
UVIR-1	215 ... 360 nm 1.000 ... 1.700 nm	UV-spectral range IR-spectral range
UV-4.6 FO (fibre optic)	220 ... 360 nm	UV-spectral range
UVIR-1 FO (fibre optic)	215 ... 360 nm 1.000 ... 1.700 nm	UV-spectral range IR-spectral range

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Output parameters

Flame signal output contact	Normally open contact (potential-free)
Permissible switching voltage ¹	Max. 50 VAC/DC Min. 13 VAC/DC
Permissible switching current	Max. 0.5 A cosφ 0.4 at ≤ 60 °C / +140 °F Max. 0.4 A cosφ 0.4 at ≤ 80 °C / +176 °F Min. 10 mA (for a critical load of 50 mA) ² Provide spark suppression externally for inductive loads, do not switch capacitive loads.
Fuse protection	Internal self-resetting circuit breaker 900 mA plus fuse 2,5 A
Safety time (FFDT) Response time in the event of the flame going out	t _{VAus} adjustable via factory password to 1, 2, 3, 4, 5 seconds (default: 1 s)
Start-up delay	t _{VEin} adjustable up to 5 s
Output contact stand-by	Switch NC (floating)
Permissible switching voltage ¹	Max. 50 VAC/DC Min. 13 VAC/DC
Permissible switching current	Max. 0.5 A Min. 10 mA (for a critical load of 50 mA) ²
Fuse protection	Required externally

Output parameters

Measuring output for intensity	No galvanic isolation
Output current	Setting range: 4 ... 20 mA, 0 ... 20 mA
Maximum load	240 Ω
Open Circuit Voltage	Approx. 6.5 V
Basic error	± 2 %

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² If the critical load is exceeded (e.g. as a result of a protective load), the specified minimum value is no longer guaranteed. The minimum value is important for PLC-type applications.

Communication

Bus	No galvanic isolation
Driver	High-speed
Speed	500 kbit/s
Cable length	80 m / 262.46 ft, TP (twisted pair) recommended

Connecting/extension cable

Type	14-wire, shielded (e.g. LiYCY)
Cable length	Maximum extension after 3 m / 9.84 ft of connecting cable at a supply voltage of 20.4 V: Cross-section 0.5 mm ² / 20 AWG → length 100 m / 328.08 ft Cross-section 1,0 mm ² / 17 AWG → length 200 m / 656.17 ft
	Deviating cable lengths such as: Cross-section: 0.5 mm ² / 20 AWG → length 150 m / 492.12 ft 150 : 0.5 x 0.0059 + 19.2 = 21.0 V The supply voltage must be > 21.0 V.

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Wear parts

None

Technical capacity

Operating mode	Continuous operation 72 hours of operation in accordance with TRD 604
Safety integrity level	DIN EN 61508:2011, SIL 3 part 1 to 7
Overvoltage category	IEC 60730-1:2010, ÜKIII
Susceptibility to interference	IEC 60730-1:2010
Emitted interference	DIN EN 55022:2006, Class B

Operating Condition

Relative humidity	0 ... 95 % non-condensing
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Use in potentially explosive atmospheres

Device group/category, potentially explosive area, standard	II 3G, Zone 2, 22 IEC60097-0, DIN EN 60079-0 Class I Division 2 ANSI/ISA-12.12.01, CAN/CSA C22.2 No. 213
Identification marking	Ex nA nC ic IIC T6...T5 Gc X, Ex tb IIIC 85°C Dc X, CI I Div2 GrA T5
Operating temperature range	
Ambient temperature ¹	T5 -40 °C ... + 80 °C / -40 °F ... 176 °F T6 -40 °C ... + 70 °C / -40 °F ... 158 °F
Additional specifications	Read the section entitled "Important information on protection in potentially explosive atmospheres".

Environmental Conditions ¹

Operation	Perm. temperature range	-40 ... +85 °C / -40 ... +185 °F (device-internal display)
Transport	Perm. temperature range	-40 ... +85 °C / -40 ... +185 °F
Storage	Perm. temperature range	-40 ... +85 °C / -40 ... +185 °F (storage in enclosed spaces)
Degree of protection	DIN EN 60529:2000	IP66/67, NEMA 4X

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NOTICE

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

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Order Information

NOTICE

All options marked with * correspond to the standard selection.

Description / Type	Order no.
Compact Flame Monitor F300K, power supply voltage 24 VDC / 3,7 W, IP66/67, NEMA 4X	659A50...

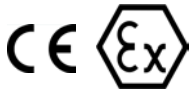
A 10 – SPECTRUM				Selection
TYPE UV-4		UV-SPECTRAL RANGE	215 ... 360 nm	04*
TYPE UV-4.6		UV-SPECTRAL RANGE	220 ... 360 nm	06
TYPE IR-2	chamber / pyrolysis	IR-SPECTRAL RANGE	850 ... 1.200 nm	10
TYPE IR-4	grate firing	IR-SPECTRAL RANGE	1.000 ... 2.200 nm	12
TYPE UVIR-1		UV-SPECTRAL RANGE IR-SPECTRAL RANGE	215 ... 360 nm 1.000 ... 1.700 nm	17
TYPE UV-4.6	for fibre optic	UV-SPECTRAL RANGE	220 ... 360 nm	26
TYPE UVIR-1	for fibre optic	UV-SPECTRAL RANGE IR-SPECTRAL RANGE	250 ... 360 nm 1.000 ... 1.700 nm	37

A 20 – HOUSING		Selection
WITH INTEGRATED USER-INTERFACE		UI*
WITH INTEGRATED USER-INTERFACE WITH EFA (ADVANCED FLAME EVALUATION) Additionally required: Gateway for further evaluation - FSB / Modbus-TCP/ Modbus-RTU - FSB / Profibus-DP - FSB / Profinet		UIE
WITH LED-DISPLAY		0
STAINLESS STEEL 1.4404 WITH LED-DISPLAY		V4A

A 30 – UL CERTIFICATION		Selection
WITH UL CERTIFICATION		0*
WITH UL CERTIFICATION, INCL. CLASS I DIVISION 2		D2

A 40 – CUSTOMER PARAMETER		Selection
STANDARD PARAMETERISATION		0*
SPECIAL CONFIGURATION		0006

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PESO

UK
CA



The information in this publication is subject to technical changes.

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