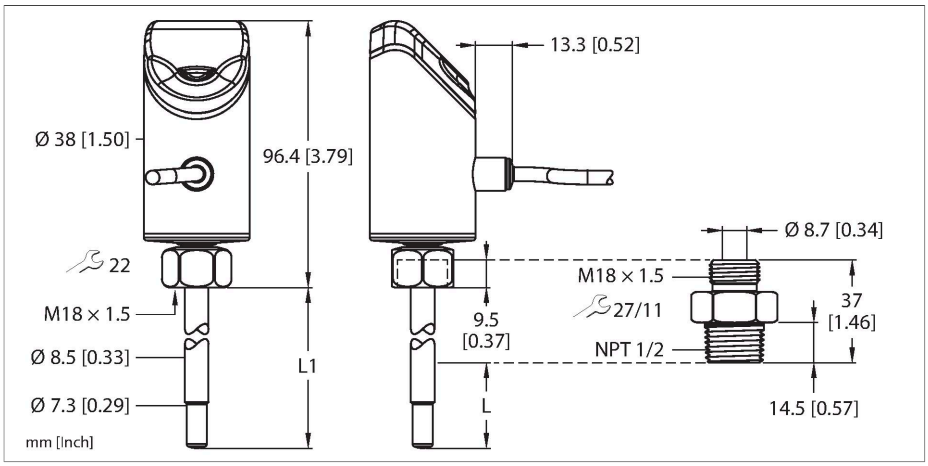
FS101-300L-16-AR32-2M
Flow Sensor



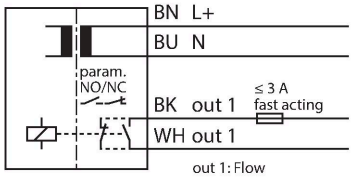
Technical data

Type	FS101-300L-16-AR32-2M
ID	100030884
Medium temperature	-25…+85 °C
Application area	
Mounting conditions	Immersion sensor
Application area	liquids
Bar length (L1)	45 mm
Immersion depth (L)	16.9 mm, When using the supplied adapter
Pressure resistance	300 bar
Flow Monitoring	
Standard flow range	3…300 cm/s
	Any axial alignment of the sensor rod in the medium
Extended flow range	1…300 cm/s
Extended flow range comment	Directed Inflow to Punch Mark ±20 °
Switching point accuracy	1…30 cm/s; For Water 3…300 cm/s
Reproducibility	1 ..5 cm/s; For Water 3…100 cm/s; 10…80 °C
Response time T09	6 s
Response time T05	3 s
Temperature gradient	≤ 300 K/min
Hysteresis	3…25 % of the switching point
Electrical data	
Operating voltage U_B	85…265 VAC
Operating voltage (UL)	100…240 VAC (50/60 Hz)
Load type at relay	resistive
Contact rating	3 A at 250 VAC/resistive

Features

- Screw-in adapter with process connection NPT 1/2" male thread included in delivery
- Electronics housing material/media-contacting 1.4404 (316L)/1.4571 (316Ti)
- Immersion depth 16.9 mm
- 4-digit, 12-segment display, rotatable by 180°
- Flow monitoring for liquid media
- Protection class IP64, IP65
- Adjustment of flow rate via teach function
- 85…265 VAC, 50/60 Hz
- NO/NC contact, relay output
- Cable connection

Wiring diagram



Functional principle

The flow sensor functions according to the calorimetric principle. The distinctive feature of this principle is that the flow rate correlates directly to the thermal loss of energy in the probe. The increased loss of energy is therefore a direct measure of an increased flow rate.

Technical data

Short-circuit/reverse polarity protection	no / yes
Power consumption	≤ 1.7 W, Typ. 1.4 W
Overload protection	No
Insulation class	II
Outputs	
Output 1	Flow: Relay output
Output function	NO/NC programmable, Relay output
Programming	
Programming options	Easy switchpoint adjustment via touch-pad on the device
Mechanical data	
Housing material	Stainless-steel/Plastic, 1.4404 (AISI 316L)/Grilamid TR90 UV
Adapter material	Stainless steel 1.4571 (316Ti)
Materials (contact with media)	Stainless steel 1.4571 (AISI 316Ti), FKM O-ring
Process connection	1/2" NPT male thread
Process connection sensor	M18 x 1.5 female thread
Process connection adapter	M18 × 1.5 male thread; 1/2" NPT male thread
Electrical connection	Cable
Cable length	2 m
Protection class	IP64 IP65, Not assessed by UL
Electromagnetic compatibility (EMC)	DIN EN 60947-5-9: 2007
Environmental conditions	
Ambient temperature	-40…+80 °C
	(UL: -25…+80 °C)
Storage temperature	-40…+80 °C
Relative humidity	10…95 %
Altitude	Max. 2000 m
Shock resistance	50 g (11 ms) DIN EN 60068-2-27
Vibration resistance	20 g (55…2000 Hz)DIN EN 60068-2-6
Tests/approvals	
Approvals	CE cULus
UL registration number	E516036
Display	LED display functions for status of supply voltage, switching states, units and teach processes. Process display via 12-segment display.
MTTF	120 years acc. to SN 29500 (Ed. 99) 40 °C

LED display

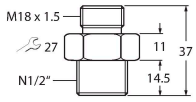
LED	Color	Status	Description
PWR	Green	On	Operating voltage applied Device is operational
FLT	Red	On	Error displayed (For error pattern in combination with LEDs see manual)
		Off	No errors displayed
LOC	Yellow	On	Device locked
		Off	Device unlocked
		Flashing	Locking/unlocking process active
%	Yellow	On	Display: Max. flow in percent (%)
FLOW	Yellow	On	NO: Flow switchpoint exceeded (output "high") NC: Flow below minimum switchpoint (output "high")
		Off	NO: Flow below minimum switchpoint (output "low") NC: Flow switchpoint exceeded (output "low")
		Flashing	Teach mode/display of diagnostic data (see manual for specification)

For a detailed description of the display patterns and flashing codes see manual/operating instructions FS101 — Compact flow sensors (D100002086)

Accessories

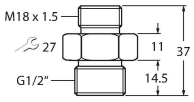
FAA-A1-1.4571 100001987

Screw-in adapter for immersion sensors from the series FS.. , FP..; material: Stainless steel 1.4571 (316Ti); process connection: N1/2"



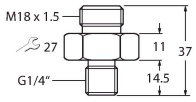
FAA-80-1.4571 100001988

Screw-in adapter for immersion sensors from the series FS.. , FP..; material: Stainless steel 1.4571 (316Ti); process connection: G1/2"



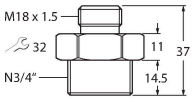
FAA-04-1.4571 100001989

Screw-in adapter for immersion sensors from the series FS.. , FP..; material: Stainless steel 1.4571 (316Ti); process connection: G1/4"



FAA-34-1.4571 100001990

Screw-in adapter for immersion sensors from the series FS.. , FP..; material: Stainless steel 1.4571 (316Ti); process connection: N3/4"



FAA-81-1.4571 100001991

Screw-in adapter for immersion sensors from the series FS.. , FP..; material: Stainless steel 1.4571 (316Ti); process connection: G3/4"