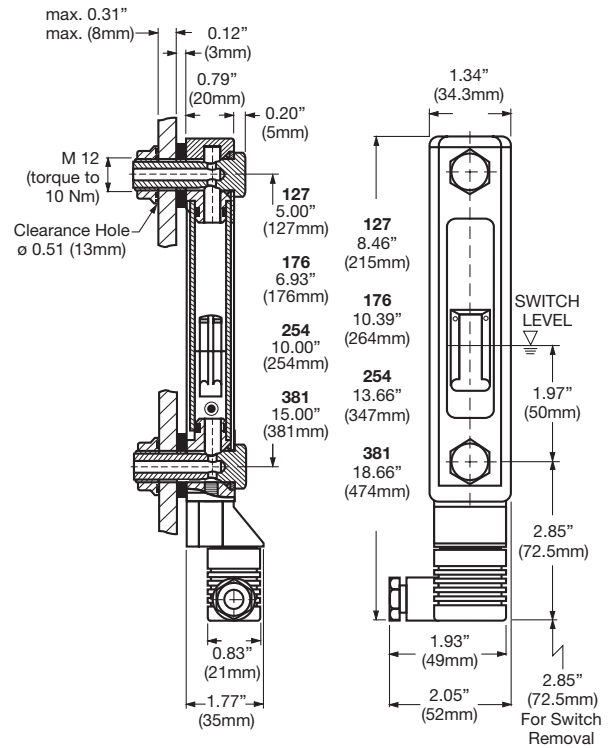


FSK Series

Fluid Level Indicator with Electric Level Switch



Dimensions



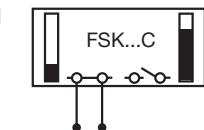
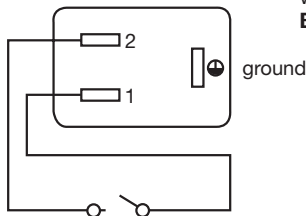
Notes:

- Dimensions are in inches (mm).
- Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print.

Electric Level Switch

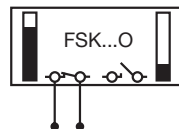
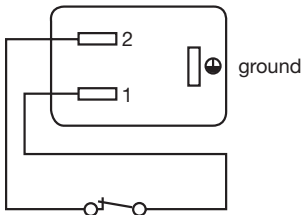
FSK...C (open at normal level)

Contacts **CLOSE** when fluid level drops **BELOW** switching level



FSK...O (closed at normal level)

Contacts **OPEN** when fluid level drops **BELOW** switching level



Electrical Specifications

Contact Ratings

- Max. 8W

Maximum Voltage

- 50V AC or DC

Maximum Current

- 200 mA

Magnetic Float inside tube trips switch when fluid level drops within 50mm of lower bolt. (see illustration)

Fluid Level Indicators are compatible with water and mineral oils. Exposure to cleaners and rust inhibitors can cause cracking of the tube and leaks. Contact HYDAC if your application could be exposed to cleaners or rust inhibitors.

Model Code

FSK - 127 - 2 . 4 / 0 / / 12

Fluid Level Indicator

FSK = Electrical and visual level indicator

Size (Mounting Hole Centers)

- 127 = 5 inches
- 176 = 7 inches
- 254 = 10 inches
- 381 = 15 inches

Seals

- 2 = Fluorocarbon

Modification Number

- 4 = FSK (Determined by Manufacturer)

Electrical Switch

- C = Open at Normal Level
- O = Closed at Normal Level

Thermometer

- (omit) = No Thermometer (standard)
- FT 100 = Probe Thermometer (100mm-3.94"LG)
- FT 200 = Probe Thermometer (200mm-7.87"LG)
- FT 300 = Probe Thermometer (300mm-11.87"LG)
- TS... = Thermo Switch (see chart on page 141)

Hex Head Bolt

- 12 = M12 x 1.75 Bolt
- 1/2 = 1/2-20 Bolt

Sight Tube

- (omit) = Polyamide construction (not suitable for water glycols or high water-based fluids)
- SO14 = Glass tube construction

FLUID LEVEL INDICATORS

FSA Series

Fluid Level Indicator



Model Code

FSA - 0076 - 0 . 00000 / H - / M12 . 000

Designation _____
FSA = fluid level gauge

Nominal size NG _____
(= bolt centre spacing in mm)
0076, 0127, 0176, 0254, 0381

Seal material _____
0 = NBR (Perbunan)
2 = FKM (Viton)

Design of riser tube / materials _____
Design of riser tube
0 = elliptical tube
1 = round tube $\phi 19$
Material - tube
0 = high quality plastic
1 = glass
Material - connectors
0 = PA
Material - housing frame
00 = Aluminium natural
03 = Stainless steel
06 = Aluminum, natural, cut-out on right
07 = Aluminum, natural, cut-out on left

Options _____
Contrast inlay
H = contrast inlay HYDAC
N = contrast inlay neutral
O = w/o contrast inlay
O1 = w/o contrast inlay, w/blue hollow ball
O2 = w/o contrast inlay, w/green hollow ball

Additional thermometer function
- = no additional function (standard)
T = thermometer in display tube
FF = prepared for thermometer probe
FT100 = temp. probe 100 mm
FT200 = temp. probe 200 mm
FT300 = temp. probe 300 mm
TS60-O = temp. switch NC, nom. temp. 60 °C
TS70-O = temp. switch NC, nom. temp. 70 °C
TS80-O = temp. switch NC, nom. temp. 80 °C
TFP100 = temp. sensor -40 °C to +125 °C

Note: The combination of temperature switch TS with temperature sensor FT is not possible.

Type of Connection
U12 = 1/2 X 20
M12 = M12 (standard)
M10 = M10 (not with TS and TFP)

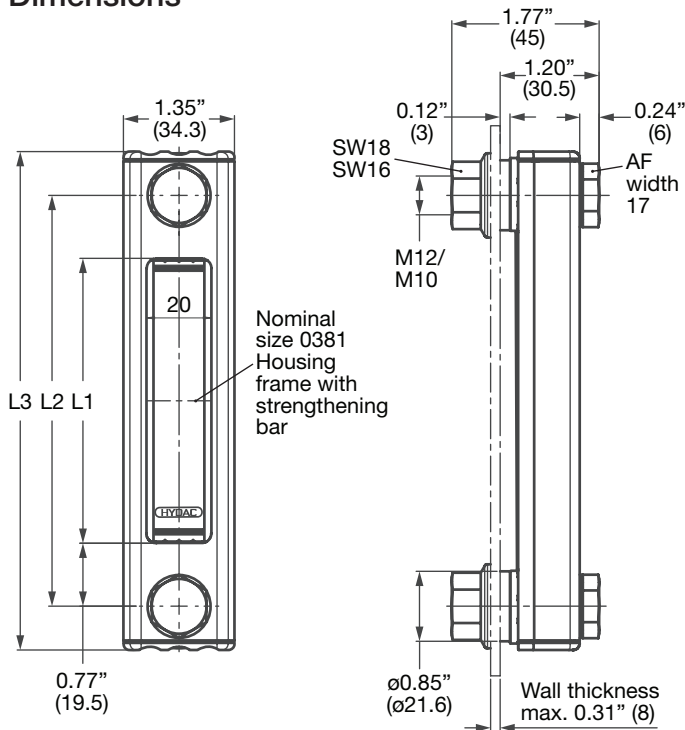
Connecting Elements _____
Material bolts / nuts
0 = bolt and, if applicable, nut Steel
(surface protection galvanised, chromium(VI)-free)
1 = bolt and, if applicable, nut Steel
(surface protection zinc-nickel, chromium(VI)-free)
2 = Bolt and, if necessary, nut Stainless steel
(only for size M12)

Sealing washer
0 = with sealing washer
1 = without sealing washer
Attachment nuts
0 = with attachment nuts
1 = without attachment nuts

Model Codes Containing RED are non-stock items — Minimum quantities may apply – Contact HYDAC for information and availability

Fluid Level Indicators are compatible with water and mineral oils. Exposure to cleaners and rust inhibitors can cause cracking of the tube and leaks. Contact HYDAC if your application could be exposed to cleaners or rust inhibitors.

Dimensions

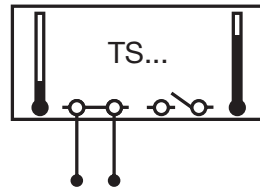
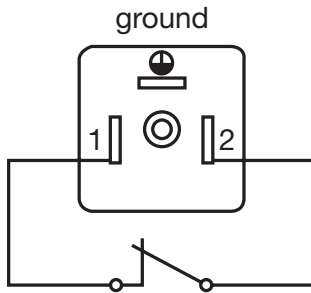


Size	L	L1	L2
76	4.25" (108)	1.46" (37)	2.99" (76)
127	6.26" (159)	2.99" (76)	5.00" (127)
176	8.19" (208)	4.92" (125)	6.93" (176)
254	11.26" (286)	7.99" (203)	10.00" (254)
305	10.5" (266)	12" (305)	13.1" (332)
381	16.26" (413)	12.99" (330)	15.00" (381)

Notes:
 1. Dimensions are in inches (mm).
 2. Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print.

Options

Electric Thermo Switch / TS



Contacts **OPEN**
when fluid temperature rises
ABOVE switching temperature

Electrical Specifications

Maximum Voltage

- 50 VAC or DC

Minimum Current

- 50 mA

Contact

- Normally Closed

Switching Tolerance

- $\pm 10^\circ\text{F}$

Hysteresis

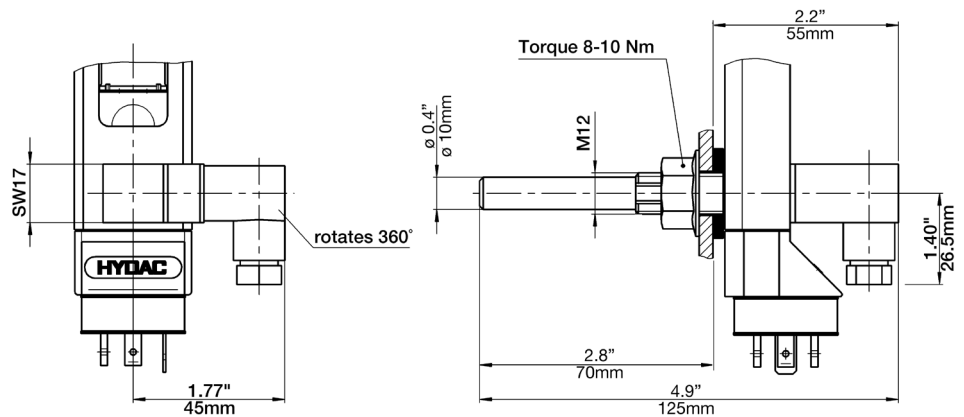
- TS 60/70 27°F (15°C)
- TS 80 36°F (20°C)

Expected Life Cycle

- at 25 A / 50 V 10,000 cycles
- at 0.5 A / 50 V 100,000 cycles

Thermo Switch - TS...

Detail of Lower Connection
for Probe Thermometer (FT...) see chart below



Thermo Switches (Normally Closed Contact)

Thermo Switch Code	Model Code	Part Number	Switch Opens @	Switch Closes @	Mounting Thread
TS60	TS-L-60/X/12 THERMO-SWITCH	03252752	60°C/140°F	45°C/113°F	M 12
TS70	TS-L-70/X/12 THERMO-SWITCH	03252766	70°C/158°F	55°C/131°F	M 12
TS80	TS-L-80/X/12 THERMO-SWITCH	03252767	80°C/176°F	60°C/140°F	M 12

Probe Thermometer / FT Features

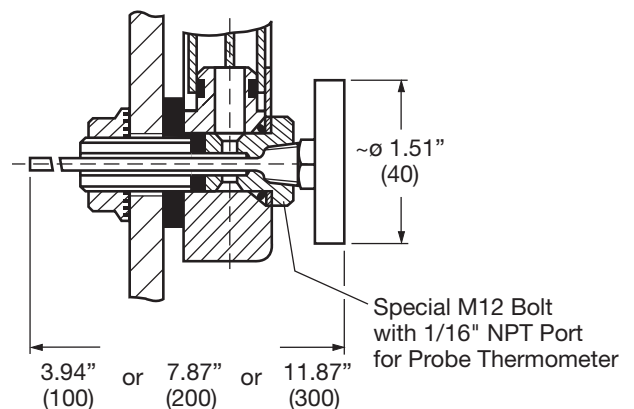
- Analog dial type thermometer for visual temperature indication

Temperature Range (Dual Scale)

- 0° to 212°F
- 0° to 100°C



Detail of Lower Connection



Probe Thermometers (Temperature Range 32° to 212°F (0° to 100°C))

Thermo Switch Code	Model Code	Part Number	Mounting Thread
FT100	FT-100 TEMP PROBE W/M12 BOLT	02067556	M 12
FT200	FT-200 TEMP PROBE W/M12 BOLT	00086740	M 12
FT300	FT-300 TEMP PROBE W/M12 BOLT	00086741	M 12

FLUID LEVEL INDICATORS

Technical Data

Material	
Housing	Anodized Aluminum or ABS Plastic
Sight Tube	Polyamide or Glass
Seals	Fluorocarbon, NBR
Nuts / Bolts	Steel, Zinc plated
Fluid Temperature	
-4° to 176°F (-20° to 80°C)	
Maximum Pressure	
14.5 PSI (1 BAR)	
Thermometer Range	
Type T (FSA only)	14° to 176°F (-10° to 80°C)
Type FT100	32° to 212°F (0° to 100°C)
Type FT200	32° to 212°F (0° to 100°C)
Type FT300	32° to 212°F (0° to 100°C)
Bolting Torque	
Max. 8 LB-FT+1 (10 Nm +2) see installation instructions below	

Recommended Installation Process

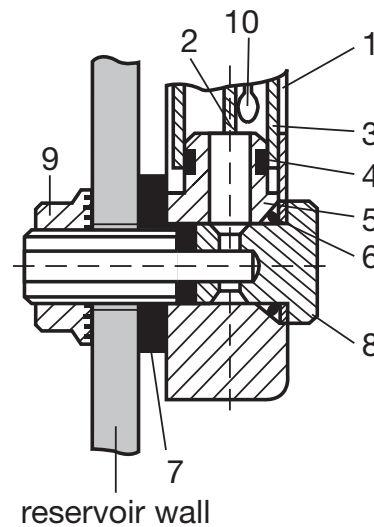
1. Drill mounting holes (13 mm) according to dimension L2.
2. Torque the Nut, item 9, to 8+ 1 LB-FT. If it is not possible to torque the nut, the bolt head must be torqued.
To avoid damaging the indicator a washer is recommended to be used under the bolt head.
This washer is available from HYDAC: Part Number 00001689.
Washer Dimensions: øD 18.8 mm, ID 13.10 mm, 0.5 mm thick

Component Parts

Item	Description	Part No.	Quantity	
			FSA	FSK
1	Housing	-	1	1
2	Name Plate	-	1	-
3	Tube	-	1	1
4*	O-ring 13X2.5	FPM-70 (Fluorocarbon)	00601916	2
		NBR-70 (Buna)	00601047	
5	Tube Connector	-	2	2
6*	O-ring 12.3X2.4	FPM-70 (Fluorocarbon)	00601531	2
		NBR-70 (Buna)	00601045	
7*	Washer FSA/FSK	FPM (Fluorocarbon)	22183158	2
		NBR (Buna)	00271948	
8*	Bolt M12 SW17 FSA	22183153	2	2
9*	Nut Hex M12 FSA	22183151	2	2
10	Thermometer (In Tube)	-	1	-
11*	Probe Thermometer	See pg. C2-11	1	1
12*	Bolt FSA/K M12 SW17 for FT Temp Probe	03126743	1	1
13	Magnetic Float	-	-	1
14	Base Assembly w/Type "C" Switch	-	-	1
15	Base Assembly w/Type "O" Switch	-	-	1
16*	Washer FSA/FSK Steel	00001689	2	2

* items may be purchased individually.

FSA & FSK



FSK Only

