

FLT93 L

FlexSwitch™ In-Line for Flow, Level & Temperature

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Block No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14

INSTRUCTIONS: To order an **FLT93L**, please fill in each numbered box above with the appropriate code from the categories below. Once you have determined all the specifications, contact an FCI representative or FCI directly for price information or additional options not shown. Consult FCI on the cost of special data and documentation. Final acceptance of the part number is subject to FCI's approval.

[Block 1] Agency Approval	Code
Not required	0
Factory Mutual (FM)	1
Factory Mutual (FM) (T4 rated) ¹	2
ATEX, CE marking ³⁰	3
FMc	4
FMc (T4 rated) ¹	5
IEC ^{14, 30}	6
Inmetro ³⁰	7
EAC/TR CU ³⁰	8
Other	*

[Block 2] Identification Tag ²	Code
Mylar	A
316L stainless steel ³⁰	B
Agency approved, customer specified	W
Other	*

[Block 3] Process Temperature	Code
-40 °F to 350 °F [-40 °C to 177 °C]	1
-100 °F to 500 °F ^{4, 29} [-73 °C to 260 °C]	2

[Block 4] Sensor Element Configuration ^{5, 6}	Code
For S-Style Sensor	
Without orifice (S)	A
With orifice (SO)	B
For F-Style Sensor	
Without orifice (F)	C
With orifice (FO)	D
Agency approved, customer specified	W
Other	*

[Block 5] All Welded Material of Construction	Code
316L Stainless steel	1
Hastelloy C	2
Monel 400	3
Titanium grade 2 (S-Style only)	4
Agency approved, customer specified	W
Other	*

[Block 6] Process Connection ^{7, 22}	Code
3/4" Female NPT	A
1" Male NPT	B
1 inch Flanges^{8, 9}	
150 lb carbon steel ¹⁰	E
150 lb per Block 5	F
300 lb carbon steel ¹⁰	G
300 lb per Block 5	H
DIN DN25 Flange⁹	
#PN40, 316L stainless steel	2
Agency approved, customer specified	W
Other	*

[Block 7] Local Enclosure ¹²	Code
Aluminum	
NPT: One (1) 1" NPT cable entry; agency approvals for hazardous location Groups B, C, D, E, F, G, and Eex d IIC	C
NPT: Two (2) 1/2" NPT cable entries; agency approvals for hazardous location Groups B, C, D, E, F, G, and Eex d IIC	H
Metric: Two (2) M20 cable entries; agency approvals for hazardous location Groups B, C, D, E, F, G, and Eex d IIC	J
Stainless Steel	
NPT: One (1) 1" NPT cable entry; agency approvals for hazardous location Groups B, C, D, E, F, G, and Eex d IIC	E
Other	
No enclosure; sensor element only with wire pigtailed ¹⁵	B
Other, agency approved, customer specified	W
Other, not agency approved	*

[Block 8] Configuration ²¹	Code
Single channel dual alarms with standard epoxy sealed, gold plated contacts 6 amp at 115 Vac relays	4
Single channel dual alarms with hermetically-sealed, 0.5 amp at 115 Vac relays	5
Agency approved, customer specified	W
Other	*

[Block 9] Alarm No. 1: Application ¹⁶	Code
For Flow Service	
Gas	A
Liquid	B
For Level Service	
Wet/Dry	C
For Temperature Service	
Temperature	E

[Block 10] Alarm No. 2: Application ¹⁶	Code
Not required	0
For Flow Service	
Gas	A
Liquid	B
For Level, Interface Service	
Wet/Dry	C
For Temperature Service	
Temperature	E

[Block 11] Application-Specific Setup & Calibration ¹⁷	Code
Not required	0
Jumper selection only	1
Jumper selection and adjustment of 1 alarm setpoint in Air or Water	3
Jumper selection and adjustment of 2 alarm setpoint in Air or Water	4
Jumper selection, Air flow curve and adjustment of 2 alarm setpoints	8
Air Flow Curve Range:	
• S-Style with orifice 0 - 1,500 scc/sec	
• S-Style without orifice 0 - 20,000 scc/sec	
• F-Style with orifice 0 - 400 scc/sec	
• F-Style without orifice 0 - 2,500 scc/sec	
Jumper selection, Water flow curve and adjustment of 2 alarm setpoints	9
Water Flow Curve Range:	
• S-Style with orifice 0 - 15 cc/sec	
• S-Style without orifice 0 - 50 cc/sec	
Agency approved, customer specified	W

[Block 12] Remote Enclosure	Code
Not required	0
Aluminum	
NPT: Two (2) 1" NPT cable entry; agency approvals for hazardous location Groups B, C, D, E, F, G, and Eex d IIC	B
<i>Not recommended for cable gland installations</i>	
NPT: Two (2) 1/2" and one (1) 1" cable entries; agency approvals for hazardous location Groups B, C, D, E, F, G, and Eex d IIC	H
Metric: Two (2) M20 and one (1) 1" NPT cable entries; agency approvals for hazardous location Groups B, C, D, E, F, G, and Eex d IIC	J
Stainless Steel	
Two (2) 1" NPT cable entries; agency approvals for hazardous location Groups B, C, D, E, F, G, and Eex d IIC	C
<i>Not recommended for cable gland installations</i>	
Other	
No enclosure; panel mount CB	F
Other, agency approved, customer specified	W
Other, not agency approved	*

[Block 13] Cable Jacket	Code
Not required	0
PVC; 190 °F [90 °C] maximum temperature	1
Teflon; 300 °F [150 °C] maximum temperature	2
Agency approved, customer specified	W

[Block 14] Cable Length	Code
Not required	0
10' [3 m]	1
25' [7.5 m]	2
50' [15 m]	3
Agency approved, customer specified ²⁰	W

- Notes**
- ◀ Shorter manufacturing lead times are available when this is selected in every option.
 - * Voids Agency Approvals. Contact FCI.
 - 1. Field selectable heater power disabled.
 - 2. Customer specified tag data field maximum 3 lines by 20 characters/line and must be supplied at time of order. All other require "W" or "*" in Block 2.
 - 4. Not available with cable pigtail in Block 7, Code B.
 - 5. Setpoint ranges for specific sensing element configurations can be found in the FLT93 product literature.
 - 6. Inside diameter without orifice is 0.815". Inside diameter with orifice is 0.094".
 - 7. Inlet to outlet lengths:
Threaded process connections: 3.375" [86 mm]
Flanged process connections: 12" [305 mm].
 - 8. Flange material will be identical to that selected in Block 5, Codes 2, 3 and 4.
 - 9. ASME/ANSI B16.5 2009 flanges with photographic serrated raised face. DIN flanges per EN 1092-1 2007, Type B1 (serrated).
 - 10. Carbon steel flanges are available with 316L stainless steel sensor construction only in Block 5, Code 1.
 - 12. Local enclosure required for agency approval. Metal enclosure required for CE mark.
 - 13. Select cable jacket and length in Blocks 13 and 14.
 - 14. IEC approval: 350 °F [177 °C] maximum, Block 3 must be Code 1. Local enclosure, Block 7, must be Code C, H, J, or E. Remote enclosure, Block 12, must be Code 0, B, H, J, or C.
 - 15. Without 19" rack or mating connector. Also available in dual channel version.
 - 16. Refer to application matrix on Page 2 for valid alarm combinations.
 - 17. For all codes except "0" a completed FLT application data sheet must accompany the order. Application requirements are subject to FCI review and approval.
 - 18. Customer specified calibration shall not exceed temperature and pressure limitations of the FLT93L product specifications.
 - 19. Remote enclosure required for FM and CSA approval.
 - 20. Wire resistance must be less than 1.5 ohms for the S-Style sensors in Block 4, Codes A or B and less than 7 ohms for the F-Style sensors in Block 4, Codes C or D.
 - 21. FCI default setting for input power is 115 Vac for FM units and 230 Vac for all other agency approvals listed in Block 1.
 - 22. Mounting bracket is a standard feature.
 - 28. Requires selection of stainless steel tag, Code B in Block 2.
 - 29. If electronics installation will exceed 140 °F [60 °C], remote enclosure (Block 13) is required.
 - 30. ATEX and IECEx based approvals require a stainless steel tag. If Block 1 is Code 3, 6, 7, or 8, then Block 2 must be Code B.

