

ST100L -

				0	0	0	
--	--	--	--	---	---	---	--

 -

				E
--	--	--	--	---

 -

--	--	--	--	--

 -

--

Block No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

INSTRUCTIONS: To order an **ST100L**, please fill in each numbered block above by selecting required codes from the corresponding categories below. Use of any "W" or "*" codes requires prior approval from FCI. For special data, documentation, test reports or required quality reports, refer to FCI's Engineering and Quality Assurance Order Information Sheets (OIS).

Flow Element			
Code	[BLOCK 1] Flow Element: Temperature Service, Type and Materials of Construction		
4	-F style, 316L stainless steel,	to 250 °F [121 °C]	
D	-F style, Hastelloy C276,	to 250 °F [121 °C]	
7	-S style, 316L stainless steel,	to 250 °F [121 °C]	
G	-S style, Hastelloy C276,	to 250 °F [121 °C]	
W	Agency approved, customer specified		
*	Other, not agency approved		
Code	[BLOCK 2] In-Line Body Material of Construction		
1	316L Stainless Steel		
2	Hastelloy C276 ^{15,18}		
Code	[BLOCK 3] In-Line Body Type / Diameter / Length		
A	1 inch tubing ¹⁸	9 inch [229 mm]	
B	1 inch tubing with 1/8 inch injection tube reducer ¹⁸	9 inch [229 mm]	
C	1 inch tubing with 1/4 inch injection tube reducer ¹⁸	9 inch [229 mm]	
D	1 inch tubing with built-in Vortab flow conditioner ¹⁸	9 inch [229 mm]	
E	1 inch pipe, schedule 40	9 inch [229 mm]	
F	1 inch pipe, schedule 40 with built-in Vortab flow conditioner	9 inch [229 mm]	
G	1 1/2 inch pipe, schedule 40	13 1/2 inch [343 mm]	
H	1 1/2 inch pipe, schedule 40 with built-in Vortab flow conditioner	13 1/2 inch [343 mm]	
J	2 inch pipe, schedule 40	18 inch [457 mm]	
K	2 inch pipe, schedule 40 with built-in Vortab flow conditioner	18 inch [457 mm]	
W	Agency approved, customer specified		
*	Other, not agency approved		
Code	[BLOCK 4] In-Line Body Type / Diameter		
7	NPT, male		
8	NPT, female		
Table A	Flanged ¹⁵		
Z	Butt weld preparation		
W	Agency approved, customer specified		
*	Other, not agency approved		
Code	Code	Code	[BLOCKS 5-7]
BLOCK 5	BLOCK 6	BLOCK 7	
0	0	0	<i>Block 5, 6, 7 Codes are always "0" with Model ST100L</i>
Code	[BLOCK 8] Pipe Mounting and Flow Direction		
1	Horizontal, flow right-to-left or vertical up		
2	Horizontal, flow left-to-right or vertical down		

Transmitter and Electronics	
Code	[BLOCK 9] Transmitter Mounting, Enclosure Material and Cable Entry Threading
1	Integral mount, aluminum, NPT cable entries ⁶
A	Integral mount, aluminum, metric cable entries ⁶
2	Remote mount, aluminum, NPT cable entries ⁶
B	Remote mount, aluminum, metric cable entries ⁶
3	Integral mount, stainless steel; NPT cable entries ⁶
C	Integral mount, stainless steel; metric cable entries ⁶
4	Remote mount, stainless steel; NPT cable entries ⁶
D	Remote mount, stainless steel; metric cable entries ⁶
W	Agency approved, customer specified
*	Other, not agency approved

(continued next page)

Table A – Flange [BLOCK 4]			
CS ¹⁵	316L SS	Hast C	Material
	9		ANSI 3/4 inch 150 lb
D	1	C	ANSI 1 inch 150 lb
E	A	G	ANSI 1 inch 300 lb
F	2	H	ANSI 1 1/2 inch 150 lb
K	B	J	ANSI 1 1/2 inch 300 lb
P	3	M	ANSI 2 inch 150 lb
R	L	N	ANSI 2 inch 300 lb
			DIN DN25 PN40
			DIN DN40 PN40
	6		DIN DN50 PN16
	Y		DIN DN50 PN40
			Agency approved, customer specified

Notes

6. Transmitter enclosure has four (4) conduit ports, NPT = 1/2", metric = M20x1.5. Local enclosure (attached to flow element) conduit ports vary by base model and process connection selected:

Model	Process Connection	NPT	Metric
ST100, ST100L, ST102	All, except with medium pressure packing gland, stainless steel enclosure, or 850 °F [454 °C] temperature service	(2) 1/2"	(2) M20x1.5
ST100, ST102	With medium pressure packing gland, stainless steel enclosure and/or 850 °F [454 °C] temperature service	(1) 1"	(1) M20x1.5
ST110, ST112, all STP	All	(1) 1"	(1) M20x1.5
7. Remote cable in an ST100 Series model is 8-conductor; remote cable in an STP100 Series model is 10-conductor. For user-supplied cable, overall shielded conductor type is required and wire resistance must be less than 8 Ohms.
8. Cable suitable for conduit and some cable gland systems. For other cable gland system choices, see ST100 accessories list or contact FCI to supply separately. PVC cable maximum temperature 176 °F [80 °C]; Teflon cable maximum temperature 392 °F [200 °C].
15. Carbon steel flanges available only with 316L stainless steel body type (Code 1, Block 2). Cannot select carbon steel flange when Hastelloy is selected in Block 2.
18. With 1" inch tubing:
 - a) Not available in Hastelloy; Block 2 must be Code 1 only
 - b) If NPT selected in Block 4 (Code 7 or 8), NPT will be 3/4"
 - c) If flanged, connection must be 3/4" or 1" only and Block 4 Codes 9, D, 1, E or A

(continued from previous page)

Code [BLOCK 10] Interconnecting Cable Length for Remote Configuration	
0	Not required <i>Specify with integral configurations, user supplied cable, or if cable ordered as separate line item from ST100 series accessories</i> ^{7,16}
A	10 feet [3 meters] PVC jacketed ⁸
B	25 feet [7,6 meters] PVC jacketed ⁸
C	50 feet [15 meters] PVC jacketed ⁸
D	100 feet [30 meters] PVC jacketed ⁸
1	10 feet [3 meters] Teflon jacketed ⁸
2	25 feet [7,6 meters] Teflon jacketed ⁸
3	50 feet [15 meters] Teflon jacketed ⁸
4	100 feet [30 meters] Teflon jacketed ⁸
W	Other
*	Non agency approved cable type or length other than above

Code [BLOCK 11] Transmitter Power Supply and Display	
A	24 Vdc power (19.2 Vdc to 28.8 Vdc); no digital display
B	24 Vdc power (19.2 Vdc to 28.8 Vdc); with display
C	85 Vac to 265 Vac power; no display
D	85 Vac to 265 Vac power; with digital display

Code [BLOCK 12] Transmitter Outputs and Communications	
1	(3) 4-20 mA outputs, one with HART; (1) frequency/pulse output
F	FOUNDATION™ fieldbus H1 ⁹
M	Modbus 485 ⁹
P	PROFIBUS-PA ⁹
W	Other
*	Other, not agency approved

Code [BLOCK 13]	
E	Always "E"

Calibration^{10, 11, 12}

Code [BLOCK 14] Calibration Application <i>Description for reference only; actual Code must be obtained using FCI AVAL</i> ^{10,11,12}	
B	Air, standard
C	Custom, specific gas equivalency (digester gas, flue gas, etc.)
E	Nitrogen, helium, CO ₂ , nitrous oxide
1	Natural gas (90% or greater methane content)
2	Natural gas (90% or greater methane content); line sizes smaller than 1 1/2 inch
F	Hydrocarbon (methane, ethane, propane)
G	Hydrogen or hydrogen mixture
H	Air, standard
J	Custom, specific gas equivalency (digester gas, flue gas, etc.)
K	Nitrogen, argon
L	CO ₂ , ethelene, argon
M	Propylene or propane to 100 psig [7 bar (g)] maximum
N	Butane, pentane to 15 psig [1 bar (g)] maximum
P	Helium or methane
R	Hydrogen
S	Low flow calibration
W ⁸	Agency approved, customer specified

Code [BLOCK 15] Calibrations, Setup and Conditions	
0	Standard
A	Extended temperature compensation
B	Extended range (> 100:1 turndown)
C	Vortab
E	Extended temperature compensation and extended range
F	Extended temperature compensation and Vortab
H	Extended range and Vortab
K	Extended temperature compensation, extended range and Vortab

Code [BLOCKS 16-17] Second Calibration	
0 0	Not required
<input type="checkbox"/> <input type="checkbox"/>	Select from Codes shown in Blocks 14-15

Code [BLOCK 18] Additional Calibration Groups	
0	Not required
X	More than two calibrations ^{10, 11, 12, 14}
S	SR2x Split-range, double calibration points, max. 5% rdg accuracy; see specifications

General

Code [BLOCK 19] Agency Approval	
<i>CE Mark always included</i>	
0	Not required
1	FM, FMc
3	ATEX, IECEx ¹⁶
5	GOST
6	Inmetro
7	NEPSI
*	Other <i>Contact FCI for other approvals and conditions of use</i>

Notes

- Cable suitable for conduit and some cable gland systems. For other cable gland system choices, see ST100 accessories list or contact FCI to supply separately. PVC cable maximum temperature 176 °F [80 °C]; Teflon cable maximum temperature 392 °F [200 °C].
- No analog, frequency/pulse, relay outputs or other digital bus communications.
- FCI standard conditions are 14.7 psia [1,01 bar(a)] and 70 °F [21.1 °C].
- Calibration codes must be selected using FCI's proprietary AVAL application evaluation software.
- Transmitter setup, changes to factory supplied standard settings, verification or modification to calibration parameters or diagnostics requires external source communication with the transmitter.
- Customer specified calibration must not exceed temperature and pressure limitations of the ST100 Series product specifications.
- May specify up to three (3) additional calibrations for a total of five (5). Contact FCI for instructions on how to specify third, fourth and/or fifth calibration.
- ATEX/IECEx rated remote requires cable glands or conduit fittings which meet or exceed the installation area's required rating. When rated cable glands, armored cables and non-armored cable supplied are user supplied or selected from ST100 accessories list and ordered separately, enter Code 0 in Block 10.

Accessories

Part Number	Description
Sun Shield Kits Shades main transmitter, electronics, and/or display from direct sunlight; 316L stainless steel; attached directly to housing; kit includes shield, all hardware for attachment and instruction sheet	
023241-01	For use with integral mount transmitter
023237-01	For use with remote mount transmitter

Refer to separate ST100 Series Accessories List for a complete listing of all accessories such as cabling, ball valves, documentation test and QA documents and certificates, and spare parts.

