FLUID COMPONENTS INTERNATIONAL LLC
a **DwyerOmega** brand

Order Information Sheet (OIS)
FS10A Series
Flow Switch / Flow Monitor
– Integral Configuration

1755 La Costa Meadows Drive | San Marcos, California 92078 USA
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FS10A - ☐ ☐ ☐ **0** ☐ ☐ **0** ☐ ☐

Block No. 1 2 3 4 5 6 7 8 9

INSTRUCTIONS: To order an **FS10A** in an integral configuration, 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).

Code	[BLOCK 1] Base Unit Type and Flow Orientation
1	Integral configuration with flow direction in tube tee = horizontal right-to-left or vertical up; in SP76 adapter, flow side-to-center port
2	Integral configuration with flow direction in tube tee = horizontal left-to-right or vertical down; in SP76 adapter, flow center-to-side port

Code	[BLOCK 2] Flow Element Material and Temperature Service
A	316L stainless steel probe with Hastelloy-C22 thermowells; -40°F to 250°F [-40°C to 121°C]; integral [10]
E	All Hastelloy-C22 probe and thermowells; -40°F to 250°F [-40°C to 121°C]; integral [10]
W	Other, agency approved, customer specified

Code	[BLOCK 3] Process Connection / Adapter
0	None, not required [1]
1	1/4″ tube tee; 316L stainless steel
2	3/8″ tube tee; 316L stainless steel
3	1/2″ tube tee; 316L stainless steel
4	SP76 adapter base plate; 316L stainless steel
5	1/8″ tube adapter in 1/4″ tube tee with 0.0940″ ID injection tube *Increases low flow rate sensitivity to 25 cc/min (gas)*; 316 stainless steel
6	1/8″ tube adapter in 1/4″ tube tee with 0.0625″ ID injection tube *Increases low flow rate sensitivity to 10 cc/min (gas)*; 316 stainless steel
W	Other, agency approved, customer specified

Code	[BLOCK 4]
0	*Block 4 Code is always "0" with FS10A integral version*

Code	[BLOCK 5] Power and Signal Output Connection Type
1	Fixed, watertight cable gland to wire pigtail; 15′ [5 m] [13]
2	M12 connector only *No cable supplied; connecting cable supplied by customer*
3	M12 at FS10A and supplied with mating M12 to cable pigtail; 6′ [2 m]
4	M12 at FS10A and supplied with mating M12 to cable pigtail; 15′ [5 m]
5	M12 at FS10A and supplied with mating M12 to cable pigtail; 30′ [10 m]
6	1/2″ (male) conduit adapter with fixed, watertight cable gland to wire pigtail; 15′ [5 m] [13]
W	Agency approved, customer specified

Code	[BLOCK 6] Outputs *All models include RS232C Serial I/O*
D	Open collector [11] + 4-20 mA trending output flow monitor [6]
E	Relay output + 4-20 mA trending output flow monitor [6]
W	Agency approved, customer specified

Code	[BLOCK 7] Media Service
0	*Block 7 Code always "0"*

Code	[BLOCK 8] Factory Set-Up and Calibration
0	Not required *User field set*
B	Switch configuration and set-up for air or water + factory pre-setting of trip point (on air or water) [3]

Code	[BLOCK 9] Agency Approvals *CE marking always included*
0	Not required
1	FM, FMc (CSA)
2	ATEX, IECEx [13]
5	EAC / TR CU
∗	Other *Contact FCI for other approvals and conditions of use*

Notes

1. Code 0 in Block 3 is not recommended when factory pre set-up is specified (Block 8, Code B). Best accuracy is obtained when calibrated together with factory supplied adapter (Block 3, Codes 1-7 or W)
3. When Code B is specified in Block 8, a completed FCI Application Data Sheet (ADS) must be submitted with order
6. 4-20 mA output may be assigned to temperature. Contact FCI for information on how to order and specify
10. Enclosure/electronics maximum temperature is 160°F [71°C]
11. N-channel, MOSFET
13. Cable gland not available with ATEX/IEC approval

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FS10A - ☐ ☐ ☐ ☐ ☐ ☐ 0 ☐ ☐
Block No. 1 2 3 4 5 6 7 8 9

INSTRUCTIONS: To order an **FS10A** in a remote configuration, 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).

Code	[BLOCK 1] Base Unit Type
A	Remote configuration with panel mount adaptor *P/N 025719-01*
B	Remote configuration with surface mount adaptor *P/N 025442-01*
	With FCI supplied Ex d cable gland and adapter installed on remote flow element; Requires selection of Code H, J, K, E, F, G or W in Block 4
C	Remote configuration with panel mount adaptor *P/N 025719-01* and nickel plated brass cable gland + adapter
D	Remote configuration with surface mount adaptor *P/N 025442-01* and nickel plated brass cable gland + adapter
E	Remote configuration with panel mount adaptor *P/N 025719-01* and 316L stainless steel cable gland + adapter
F	Remote configuration with surface mount adaptor *P/N 025442-01* and 316L stainless steel cable gland + adapter

Code	[BLOCK 2] Flow Element Material and Temperature Service
B	316L stainless steel probe with Hastelloy-C22 thermowells; -40 °F to 250 °F [-40 °C to 121 °C]; remote
C	316L stainless steel probe with Hastelloy-C22 thermowells; extended temperature -40 °F to 500 °F [-40 °C to 260 °C]; remote [2]
F	All Hastelloy-C22 probe and thermowells; -40 °F to 250 °F [-40 °C to 121 °C]; remote
G	All Hastelloy-C22 probe and thermowells; extended temperature -40 °F to 500 °F [-40 °C to 260 °C]; remote [2]
W	Other, agency approved, customer specified

Code	[BLOCK 3] Process Connection / Adapter
0	None, not required [1]
1	1/4 ″ tube tee; 316L stainless steel
2	3/8 ″ tube tee; 316L stainless steel
3	1/2 ″ tube tee; 316L stainless steel
4	SP76 adapter base plate; 316L stainless steel
5	1/8 ″ tube adapter in 1/4 ″ tube tee with 0.0940 ″ ID injection tube *Increases low flow rate sensitivity to 25 cc/min (gas)*; 316 stainless steel
6	1/8 ″ tube adapter in 1/4 ″ tube tee with 0.0625 ″ ID injection tube *Increases low flow rate sensitivity to 10 cc/min (gas)*; 316 stainless steel
W	Other, agency approved, customer specified

Code	[BLOCK 4] Flow Element to Electronics Cable and Connections				
	Length	Connection at Flow Element	Connection at Electronics	Temp Service	Jacket Type
B	6 ′ [2 m]	Potted	Molded M12	176 °F [80 °C]	Polyurethane
C	15 ′ [5 m]	Potted	Molded M12	176 °F [80 °C]	Polyurethane
D	30 ′ [10 m]	Potted	Molded M12	176 °F [80 °C]	Polyurethane
H	6 ′ [2 m]	Potted	Removable [12] M12	176 °F [80 °C]	Polyurethane
J	15 ′ [5 m]	Potted	Removable [12] M12	176 °F [80 °C]	Polyurethane
K	30 ′ [10 m]	Potted	Removable [12] M12	176 °F [80 °C]	Polyurethane
E	6 ′ [2 m]	Potted	Removable [12] M12	500 °F [260 °C]	PTFE [2]
F	15 ′ [5 m]	Potted	Removable [12] M12	500 °F [260 °C]	PTFE [2]
G	30 ′ [10 m]	Potted	Removable [12] M12	500 °F [260 °C]	PTFE [2]
W	Agency approved, customer specified				

Code	[BLOCK 5] Power and Signal Output Connection Type
1	Fixed, watertight cable gland to wire pigtail; 15 ′ [5 m] [13]
2	M12 connector only *No cable supplied; connecting cable supplied by customer*
3	M12 at FS10A and supplied with mating M12 to cable pigtail; 6 ′ [2 m]
4	M12 at FS10A and supplied with mating M12 to cable pigtail; 15 ′ [5 m]
5	M12 at FS10A and supplied with mating M12 to cable pigtail; 30 ′ [10 m]
W	Agency approved, customer specified

Code	[BLOCK 6] Outputs *All models include RS232C Serial I/O*
D	Open collector [11] + 4-20 mA trending output flow monitor [6]
E	Relay output + 4-20 mA trending output flow monitor [6]
W	Agency approved, customer specified

Code	[BLOCK 7] Media Service
0	*Block 7 Code always "0"*

Code	[BLOCK 8] Factory Setup
0	Not required *User field set*
B	Switch configuration and set-up for air or water + factory pre-setting of trip point (on air or water) [3]

Code	[BLOCK 9] Agency Approvals *CE marking always included*
0	Not required
1	FM, FMc (CSA)
2	ATEX, IECEx [13]
5	EAC / TR CU
*	Other *Contact FCI for other approvals and conditions of use*

Notes

1. Code 0 in Block 3 is not recommended when factory pre set-up is specified (Block 8, Code B). Best accuracy is obtained when calibrated together with factory supplied adapter (Block 3, Codes 1-7 or W)
2. Extended temperature unit (Block 2, Code C or G) requires selection of PTFE jacketed, potted cable at flow element (Block 4, Code E, F, G)
3. When Code B is specified in Block 8, a completed FCI Application Data Sheet (ADS) must be submitted with order
6. 4-20 mA output may be assigned to temperature. Contact FCI for information on how to order and specify
10. Enclosure/electronics maximum temperature is 160 °F [71 °C]
11. N-channel, MOSFET
12. Removable M12 connector is required to facilitate use of Ex d cable gland or small diameter conduit in Ex D Zone 1/Div 1 installations
13. Cable gland not available with ATEX/IEC approval

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Order Information Sheet (OIS)
FS10 A Series
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– Accessories

Tube Tees and Adapters

Part Number	Description
021736-01	1/4″ tube tee X 1/4″ NPTF, 316L stainless steel
021736-02	3/8″ tube tee X 1/4″ NPTF, 316L stainless steel
021736-03	1/2″ tube tee X 1/4″ NPTF, 316L stainless steel
019897-01	SP76 adapter base plate
019524-01	1/4″ tube tee X 1/4″ NPTF, 316L stainless steel *Swagelok® brand*
019524-02	3/8″ tube tee X 1/4″ NPTF, 316L stainless steel *Swagelok brand*
019524-03	1/2″ tube tee X 1/4″ NPTF, 316L stainless steel *Swagelok brand*
021865-94	Pair of 1/8″ tube adapters, fits into 1/4″ tube tee (not included) with 0.094 ID injection tube
021865-63	Pair of 1/8″ tube adapters fits into 1/4″ tube tee (not included) with 0.063 ID injection tube
019524-10	6 mm tube X 1/4″ NPTF; 316L stainless steel *Swagelok brand*
019524-11	8 mm tube X 1/4″ NPTF; 316L stainless steel *Swagelok brand*
019524-12	12 mm tube X 1/4″ NPTF; 316L stainless steel *Swagelok brand*
025569-94	Pair of 3 mm tube adapters, fits into 6 mm tube tee (not included) with 0.094 ID injection tube
025569-63	Pair of 3 mm tube adapters, fits into 6 mm tube tee (not included) with 0.063 ID injection tube
022172-01	PTFE tee, 1/4″ NPT female branch X 1/4″ tube connections; nuts and branch band are PVDF

Cable Gland Accessories for Use with Ex d Remote Probe

Part Number	Description
024499-01	Adapter, 1/2″ X 1/2″, 316L stainless steel
016341-14	Cable gland, 316L stainless steel
024499-02	Adapter, 1/2″ X 1/2″, nickel plated brass; 212°F [100°C] maximum
016341-02	Cable gland, nickel plated brass; 212°F [100°C] maximum

Power and Output Connection Cables For Use With M12 Interface

Part Number	Description	For Use With	Length
022474-A02	M12(f)-to-pigtail w/wire markers, polyurethane jacketed	Relay output	2 m [6′]
022474-A05	M12(f)-to-pigtail w/wire markers, polyurethane jacketed	Relay output	5 m (15′]
022474-A10	M12(f)-to-pigtail w/wire markers, polyurethane jacketed	Relay output	10 m (30′]
022474-B02	M12(f)-to-pigtail w/wire markers, polyurethane jacketed	Open collector N-channel output	2 m [6′]
022474-B05	M12(f)-to-pigtail w/wire markers, polyurethane jacketed	Open collector N-channel output	5 m (15′]
022474-B10	M12(f)-to-pigtail w/wire markers, polyurethane jacketed	Open collector N-channel output	10 m (30′]
021806-01	Field wireable M12(m) connector for use on remote probe cable connection to electronics *Removal allows adaptor and cable gland to be assembled on the probe*	Remote cable interface	n/a
021806-02	Field wireable M12(f) connector to mate with power/output connector on electronics	Power/output cable	n/a
024625-XXX	Power/output cable with removeable M12() connector to pigtails with wire markers, polyurethane jacketed; select length (XXX) in feet (i.e. 20 feet = 020)	Power/output cable	Per P/N

Remote Mounting Adapters and Miscellaneous

Part Number	Description
025719-01	Remote electronics panel mount adapter for FS10X – A through – F; includes O-ring seal at panel and tube enclosure
025442-01	Remote electronics surface mount adapter (Polyamide PA-12) for FS10X – A through – F
021391-01	Remote electronics surface mount bracket; metal – requires panel mount configuration FS10X – 3 through – 8 or panel adapter *P/N 025719-01* with FS10X – A, – C, or – E
025529-01	Silicon protection boot

RS232C-to-PC Interface

Part Number	Description
022083-02	**RS232C-to-PC Interface Complete Kit** includes: Power supply and interface box *P/N 022083-01* DB9-to-USB converter with USB PC driver disk *P/N 021712-05* 2.5 mm stereo plug-to-DB9(f) connector *P/N 021712-04* Interconnecting cable; M12(m)-to-M12(f), 6′ [2 m] *P/N 021438-06E02* Power connection cable, M12(m)-to-pigtail, 6′ [2 m] *P/N 022411-01* Connectors and wiring, RS232C-to-2.5 mm stereo jack *P/N 022421-01* (3) AC power cords. One each compatible for N. America, EU, and UK use

Individual Parts and Adapters for RS232C-to-PC Interfacing
Refer to FS10A Operator's Manual for diagrams and installation recommendations

Part Number	Description
022083-01	Power supply and interface box
021712-02	2.5 mm stereo plug jack-to-USB plug *On remote models*
021712-04	2.5 mm stereo plug-to-DB9(f) connector
022726-01	2.5 mm stereo jack extension cable, 1 m [3′]
021712-05	DB9-to-USB converter with USB PC driver disk
022411-01	Power connection cable, M12(m)-to-pigtail, 2 m [6′]
021438-06E02	Interconnecting cable; M12(m)-to-M12(f), 2 m [6′]
022421-01	Connectors and wiring, RS232C-to-2.5 mm stereo jack

Speciality Connector / Adapters for OEMs

Part Number	Description
021712-01	FS10A circuit board's RS232C 4-pin terminal-to-USB plug *Includes P/N 021712-05 and 021712-03*
021712-03	FS10A circuit board's RS232C 4-pin terminal connector-to-DB9(f) *OEM*
022542-A	FS10A circuit board's 6-pin power and output connector-to-pigtail *For use with relay output configurations*
022542-B	FS10A circuit board's 6-pin power and output connector-to-pigtail *For use with MOSFET-to-gnd configurations*