



# FSW-120 Series Molded Flow Switch



**M-5170/1112**

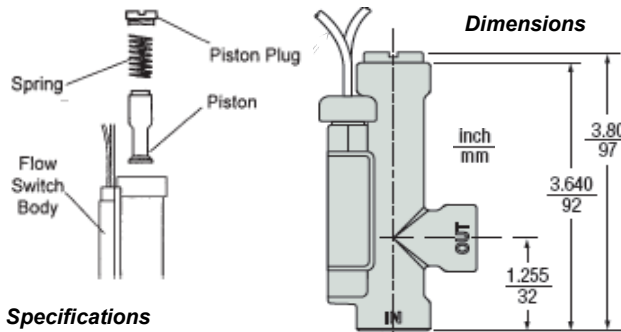
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**Installation:** FSW-120 units are factory-calibrated with water in vertical position, with lead wires up. Observe proper direction of liquid flow, as marked "IN" and "OUT" on housing. Can be installed in any orientation. Be careful to keep foreign material out of units during installation. Use of 50 micron filtration is recommended. All plastic NPT threads should be installed using a suitable thread sealant. (Such as Teflon tape or Permatex "No More Leaks.") Sealant must be kept out of unit during installation. Avoid over-tightening when connecting piping to unit, which is constructed of plastic material. Connection of metallic piping to plastic units is not recommended.

**WARNING: FSW-120 flow switches are plastic, straight-thread, "O" ring sealed instruments. Over-tightening will result in breakage.**

**Port Adapter Fittings:** Install plastic adapters with O-rings (supplied) directly into "IN" and "OUT" ports before installing unit. CAUTION: Do not exceed 20 inch-pounds maximum torque when installing adapter fittings. Hold wrench flats on adapters as indicated below when installing unit in piping to prevent additional torque accumulation between adapter and body. **(Note: Port adapter fittings must be purchased separately.)**

**Maintenance:** The only maintenance normally required is occasional cleaning when excessive contamination is present in the liquid. To disassemble the unit for cleaning: With system shut down and no liquid in piping, remove (1) Piston Plug, (2) Spring, and (3) Piston. It is not necessary to remove the unit from the system. Reassemble unit in reverse order (#3 to #1). Use care when handling spring to prevent distortion.

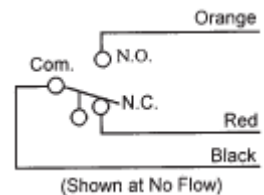


### Specifications

<b>Wetted Parts</b> Housing and Piston	PPS Resin - R4
<b>O-Ring</b>	FKM
<b>Other Wetted Parts</b>	Epoxy
<b>Spring</b>	316 Stainless Steel
<b>Operating Pressure</b>	250 psig at 70° F
<b>Operating Temperature</b>	-0° to +225°F (-17°C to +100°C)
<b>Set Point Accuracy</b>	15%, Maximum
<b>Set Point Differential</b>	20%, Maximum
<b>Switch</b>	SPDT, 20 VA
<b>Inlet/Outlet</b>	9/16" - 18 UNF - 2B Thread
<b>Electrical Termination</b>	18 AWG, 24" L., PVC Lead Wires

Adapter	Size
	1/8" NPT
Part Number FSW-120-18	
	1/4" NPT
Part Number FSW-120-14	

### Wiring Diagram



### Switch Ratings Maximum Resistive Load

VA	Volts	Amps AC	Amps DC
20	0 - 30	.4	.3
	120	.17	.13
	240	.08	.06

NOTE: The switch mechanism is an hermetically sealed reed switch for pilot duty only.

**Important Points:** Omega products must be maintained and installed in strict accordance with the National Electrical Code and the applicable Omega product instruction Bulletin that covers installation, operation and proper maintenance. Failure to observe this information may result in serious injury or damages.

For hazardous area applications involving such things as, but not limited to, ignitable mixtures, combustible dust and flammable materials, use an appropriate explosionproof enclosure or intrinsically safe interface device.

Please adhere to the pressure and temperature limitations shown throughout this catalog for our level and flow sensors. These limitations must not be exceeded. These pressures and temperatures take into consideration possible system surge pressures/ temperatures and their frequencies.

Selection of materials for compatibility with the media is critical to the life and operation of Omega products. Take care in the proper selection of materials of construction, testing is required.

Life expectancy of switch contacts varies with application.

Ambient temperature changes do affect switch set points, since the gravity of a liquid can vary with temperature.

Our sensors have been designed to resist shock and vibration. However, shock and vibration should be minimized.

Filter liquid media containing particulate and/or debris to ensure the proper operation of our products.

Electrical entries and mounting points in an enclosed tank may require liquid/vapor sealing.

Our sensors must not be field-repaired.

Physical damage sustained by product may render it unserviceable.

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**WARNING:** These products are not designed for use in, and should not be used for, human applications.

**WARRANTY/DISCLAIMER**

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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