



FPR120 Series Visual Flow Indicator with Switch



M-1960/1112

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Description:

FPR120 units monitor dynamic fluid flow. The rotor reacts to turbulence, pulsation, entrained air, and other flow abnormalities induced in the flow stream by other process hardware. For optimum performance, install units where nominal flow conditions exist, with ports located at the top. Incoming flow may be placed to either port. A minimum of 8" of straight pipe on the inlet side is required.

Installation: FPR120 series sensors connect to piping via NPT mating thread forms. The following guidelines are provided to assist with installation for a leak-free seal, without damage to the unit: 1. Apply pipe thread sealant to male pipe threads. 2. Thread unit onto male pipe thread until hand-tight. 3. Tighten pipe 1 to 1-1/2 additional turns. 4. If improper seal results, continue turning pipe into unit in 1/4 turn increments. Do not exceed one additional turn. Recommended Pipe Sealant: PFA Thread Tape.

Panel Mounting:

Any FPR120 series sensor may be panel mounted using holes integrated into the bodies. Two (2) mounting ears are provided at the body centerline to receive #8 self-tapping screws. NOTE: ANSI T Type 23 self-tapping screws are recommended. They may be replaced with standard machine screws if reinstallation should be required.

Filtration and Cleaning: 150 micron filtration is recommended. However, should foreign particles enter the FPR120 sensor, accumulation is easily cleared by removing the lens from the body. The lens is removed by turning its center rib 45° counter-clockwise and then pulling it out. To reinstall the lens, simply reverse the process. Pressure must be relieved from the system prior to sensor clean-out.

Switch Set Point Calibration with LED Signal:

With the unit installed in the line and power supplied, complete the following steps to calibrate switch actuation point with proper flow rate. A small flat-blade screwdriver is all that is required. 1. Adjust liquid flow in the line to the rate at which actuation is desired. 2. Insert screwdriver into opening on backside of housing and fit blade into the potentiometer adjustment screw inside. 3. If LED is not illuminated, slowly turn screwdriver counter-clockwise and stop as soon as LED illuminates. 4. If LED is illuminated, turn screwdriver clockwise until LED light goes out. Then, slowly turn screwdriver counter-clockwise and stop as soon as LED illuminates.

NOTES:

Product must be maintained and installed in strict accordance with the National Electrical Code and Omega product catalog and instruction bulletin. Failure to observe this warning could result in serious injuries or damages. An appropriate explosion-proof enclosure or intrinsically safe interface device must be used for hazardous area applications involving such things as (but not limited to) ignitable mixtures, combustible dust and flammable materials. Pressure and temperature limitations shown on individual catalog pages and drawings for the specified flow switches 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 flow switches. Take care in the proper selection of materials of construction; particularly wetted materials. Life expectancy of switch contacts varies with applications. Ambient temperature changes do affect switch set points, since the specific gravity of a liquid can vary with temperature. Flow switches have been designed to resist shock and vibration; however, shock and vibration should be minimized. Liquid media containing particulate and/or debris should be filtered to ensure proper operation of Omega products. Electrical entries and mounting points may require liquid/vapor sealing if located in an enclosed tank. Flow switches must not be field repaired. Physical damaged sustained by the product may render it unserviceable.



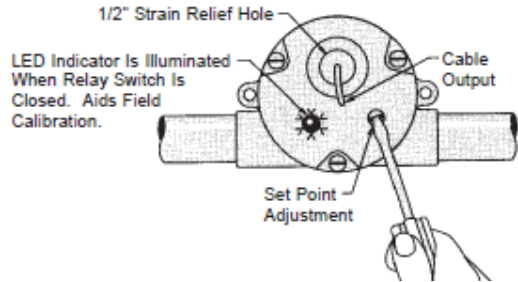
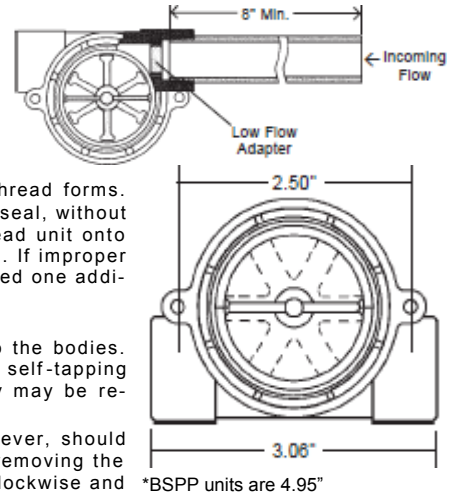
This product is suitable for Class I and Class II applications only, per the requirements of standard EN60730 and any additional specific requirements for a particular application or medium being sensed. Class I compliance of metal bodied units requires a ground connection between the metal body and the earthing system of the installation. Class II compliance of plastic bodied units in contact with a conductive medium requires that the medium be effectively earthed so as to provide an earthed barrier between the unit and accessible areas. For Class III compliance, a supply at safety extra-low voltage (SELV) must be provided. Please consult the Factory for compliance information on specific part numbers.

Electrical Data

Input Power and output are connected via a multi-conductor, PVC-jacketed 24" cable. Color codes are shown below:

+VAC/VDC	Red
-Power	Black
N.O. Contact	White
N.C. Contact	Brown
Common	Green

					Flow Range—GPM		
					Standard	Low Flow	
Body Material	Port Size	Input Power	Part Number NPT Threads	Part Number BSPP Threads	Range	Range	Adapter Part Number
Polypropylene	.25	24 VDC	FPR 122	FPR 122-BSP	0.5 - 5.0	0.1 - 1.0	152147
		110 VAC	FPR 123	FPR 123-BSP			
	.50	24 VDC	FPR 125	FPR 125-BSP	4.0 - 20.0	1.5 - 12.0	151832
		110 VAC	FPR 126	FPR 126-BSP			





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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.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS / INQUIRIES

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.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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