

FSW-420/430

Thermal Flow Switches

INSTRUCTION
SHEET

M-4586/1007

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FSW-420/430 INSTALLATION & INSTRUCTION SHEET

- 1.0 Install the FSW-420/430 by inserting the ½" MNPT threaded sensor tip into a tapped pipe or T-fitting. Use Pipe Tape or Plumbers Putter on NPT threads to aid in sealing. Tighten firmly, but do not over tighten as this could damage the NPT threads and prevent proper sealing.
- 2.0 With provided connection cable disconnected, complete unit wiring by connecting the Brown wire to +24VDC supply and the Blue wire to common. The Black wire is now connected to the + side of your load. The – side or common of your load is now also connected to ground. NOTE: Be sure that the common (ground) of the FSW-420/430 and the LOAD are the same. The white wire (if present) is not used.
- 3.0 Setting unit zero point: With the media flow turned off depress setup button located on the front of the unit with a small instrument (Screwdriver or Paper Clip) and hold while connecting the pre-wired cable to the unit. The setup button is located on the face of the FSW-420/430 just between the Flow OK and the Overflow LED's. The cable would have been pre-wired in step 2 above. Once the unit comes on remove the instrument from the setup button and allow the unit to go through it's zero point calibration. The unit will start with the far right LED and increment to the left. Once finished all LED's should be off except for the blinking set-point indicator.
- 4.0 Setting unit range: Turn on your flow and allow the flow to reach full normal flow rate. Then with the setup instrument used in step 3.0 above, depress the set/range button on the face of the FSW-420/430 (located just between the Flow OK and Overflow LED's). Hold for 5-6 seconds and the FSW-420/430 will range itself to the full flow rate or 5 ft/second whichever is less (this process could take 45-60 seconds). All of the 7 LED's will flash when auto scaling is complete and the Set Point LED will begin to flash (default is set for 50%). The Green Flow OK LED will come on when the flow rate goes above the set point and the output signal of the unit will change states.
- 5.0 Should you wish to set the set-point at a different LED setting (or rage of flow) simply depress the set/range button repeatedly inshore intervals, and the set-point will change clockwise to any LED you wish to choose. When the correct LED is flashing your new set point is established.
- 6.0 The Over Range light (Offset RED LED) will come on if your already established full flow rate were to increase. If you wish to rescale to the new flow rate, simply depress the set button again as you did in Step 3.0 and reset your set-point if desired, using the same procedure as in item 4.0 above. See additional notes.

NOTE: Use caution while installing the FSW-420/430 so as not to damage the tip of the sensor. The electronics are embedded just behind the tip of the FSW-420/430 and denting or bottoming out of the tip could cause damage.

Maintenance is not required, as the FSW-420/430 has no moving parts. However, should the sensor become coated after a period of time in operation due to water or media conditions, simply wipe the probe tip with a soft cloth and alcohol.

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SHEET****M-4586/1007**Shop online at: omega.com e-mail: info@omega.com
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Type	Flow switch FSW-420/430 insertion probe type with relative measurement
Medium	Liquid Media

Sensor Data

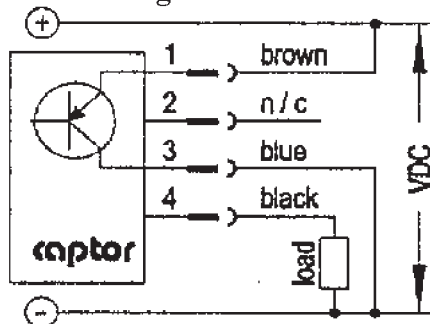
Low Flow Set Point	Auto set @ 50% / Adjustable via 'set' push button
Hi Temp Set Point	N/A
Medium Temperature	-20 C to +80 C
Response time	25 seconds (typical)
Repeatability	1%
Hysteresis	10% of set-point value typical
Range	0-150cm/sec
Pressure	30 BAR (450 PSI)

Mechanical Data

Protection Class	IP 67 (NEMA 6)
Material	Sensor Head: Stainless Steel 303
Thread	½ NPT Thread
Connection	M12 male socket 4pin + 2m cable with M12 connector and pigtail

Electrical Data

Operating Voltage	20-30 VDC (short circuit protected)
Switching current	<200mA
Power Consumption	6 W max
Initial Operation	After 15 seconds
Electrical Output	PNP N.O. (Switch closed with flow) N. C. (Switch open with flow)

Connection Diagram



OMEGAnet® Online Service
omega.com

Internet e-mail
info@omega.com

Servicing North America:

U.S.A.:
ISO 9001 Certified
One Omega Drive, Box 4047
Stamford, CT 06907-0047
Tel: (203) 359-1660
FAX: (203) 359-7700
e-mail: info@omega.com

Canada:
976 Bergar
Laval (Quebec) H7L 5A1, Canada
Tel: (514) 856-6928
FAX: (514) 856-6886
e-mail: info@omega.ca

For immediate technical or application assistance:

U.S.A. and Canada: Sales Service: 1-800-826-6342/1-800-TC-OMEGA®
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Mexico:
En Español: (001) 203-359-7803
FAX: (001) 203-359-7807
e-mail: espanol@omega.com
info@omega.com.mx

Servicing Europe:

Czech Republic: Frystatska 184, 733 01 Karviná, Czech Republic
Tel: +420 (0)59 6311899
FAX: +420 (0)59 6311114
Toll Free: 0800-1-66342
e-mail: info@omegashop.cz

Germany/Austria: Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
Tel: +49 (0)7056 9398-0
FAX: +49 (0)7056 9398-29
Toll Free in Germany: 0800 639 7678
e-mail: info@omega.de

United Kingdom: One Omega Drive, River Bend Technology Centre
ISO 9002 Certified
Northbank, Irlam, Manchester
M44 5BD United Kingdom
Tel: +44 (0)161 777 6611
FAX: +44 (0)161 777 6622
Toll Free in United Kingdom: 0800-488-488
e-mail: sales@omega.co.uk

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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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