

FSW-410 Series Thermal Flow Switches

INSTRUCTION
SHEET

M-4623/0208

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FSW-410 SERIES INSTALLATION & INSTRUCTION SHEET

- 1.0 Install the FSW-410 by inserting the 1/2" MNPT threaded sensor tip into a tapped pipe or T fitting. Use Pipe Tape or Plumbers Putty 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 side of the load is now connected to the ground. **NOTE:** Be sure that the common (ground) of the FSW-410 and the LOAD are the same. The white wire (if present) is not used.
- 3.0 Upon initial power-up the unit will provide a temporary output as the unit is adjusting to the zero flow rate of the media. After approximately 10-15 seconds the output will turn off. Once the unit output has turned off, the unit is ready for operation. Once the threshold of the unit set point (approx. .3-.4 meters/second) is reached the output will turn on.
- 4.0 As the FSW-410 unit also monitors the media temperature, the unit will provide a loss of signal if the temperature of the media goes above the threshold of the unit temperature set point (typically 50 or 70 Deg. C.), even with proper media flow.

NOTE:

Use caution while installing the FSW-410 so as not to damage the tip of the sensor. The electronics are embedded just behind the tip of the FSW-410 and denting or bottoming out of the tip could cause damage.

Maintenance is not required, as the FSW-410 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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TECHNICAL INFORMATION

FSW-410 SERIES

The safe sensing solution for industrial cooling systems. The FSW-410 utilizes the calorimetric principle and the All-in-One monitoring of flow and temperature of the coolant.

The FSW-410 is especially designed, for all types of cooling systems, as a reliable alternative to failure prone mechanical flow switches.

- Compact electronic unit with no moving parts
- No adjustment or calibration needed
- Maintenance free
- Fail safe normally open switch
- Easy to Install

Technical Data

Type	FSW-410
Medium	Water based liquid

Sensor Data

Low Flow Set Point	0.3 m/s (.9 fps) (water related)
Hi Temp Set Point	50°C (122°F) or 70°C (158°F), other settings possible on OEM
Medium temperature	-20°C (-4°F) to + 80°C (176°F)
Response time	5 – 10 seconds
Repeatability	< 0.5 %
Hysteresis	approx. 20% of setpoint value
Pressure	10 bar (150 PSI)

Mechanical Data

Protection class	IP 67 (NEMA6)
Housing Material	Stainless Steel 1.4301 (303)
Thread	½" -14 NPT (NPT)
Connection	M12 male socket, 4 pin + 2m connection cable with M12 connector

Electrical Data

Operating voltage	18 to 30 V DC, incl. residual ripple
Switching current	<input type="checkbox"/> 200 mA
Power Consumption	4 W max.
Initial Operation	after 15 seconds
Electrical Output	PNP n.o. (switch closed with flow)

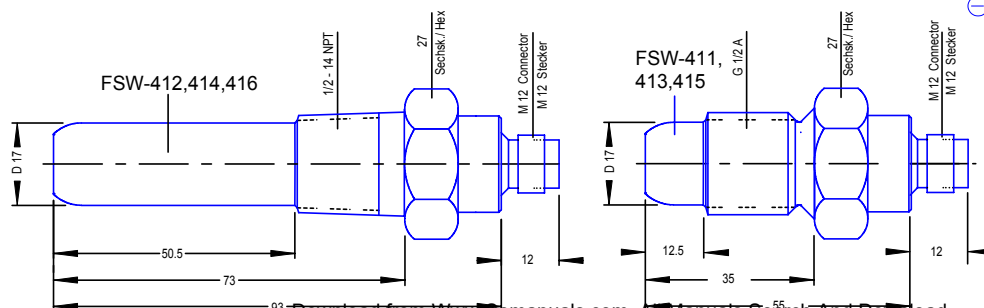
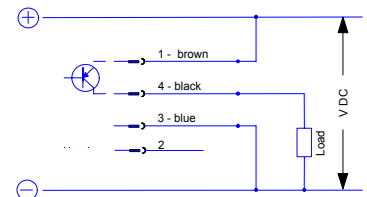
Part Number Key:

Example: FSW-414

Temp Setpoint (°C),
 Flow Set Point (m/s),
 Sensor Head Length,
 Thread

code: **50nc**
 code: **.3no**
 code: **50.5mm**
 code: **1/2" NPT**

Connection diagram





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omega.com

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U.S.A.:
ISO 9001 Certified
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e-mail: info@omega.com

Canada:
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Laval (Quebec) H7L 5A1, Canada
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Toll Free: 0800-1-66342
e-mail: info@omegashop.cz

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FAX: +49 (0)7056 9398-29
Toll Free in Germany: 0800 639 7678
e-mail: info@omega.de

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ISO 9002 Certified
Northbank, Irlam, Manchester
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