F261 Series Fluid Flow Switches Catalog Page

LIT-1900948

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Description

The F261 Series Flow Switches respond to fluid flow in lines that carry water, ethylene glycol, or other nonhazardous fluids. These models also work in applications with swimming pool water and lubricating oils.

F261 Series Standard Flow Switches use a variety of paddle sizes to respond to fluid flow rates in applications with pipe sizes greater than 1 inch trade size.

Refer to the *F261 Series Fluid Flow Switches Product Bulletin (LIT-12011987)* for important product application information.

Features

- Type 3R (NEMA) or Type 4 (NEMA) enclosure allows use in indoor or outdoor applications.
- Viton® diaphragms facilitate use in fluid lines that carry chlorinated water, treated water, or other nonhazardous fluids.
- Low-flow operation on low-flow models actuates switch with less than 2.0 GPM (7.6 L/min) flow for water applications or 11.0 GPM (41.6 L/min) flow for steam applications.
- Maximum fluid pressure of 290 psig (20 bar) facilitates use in a wide range of pressure flow conditions.

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Repair information

Do not make field repairs, except for replacement of the flow paddle. For a replacement control or paddle kit, contact the nearest Johnson Controls®/Penn® distributor. For more information, contact Johnson Controls/Penn application engineering at 1-800-275-5676 or 1-414-524-5535.

⚠ WARNING

Risk

This product is made of a copper alloy, which contains lead. The product is therefore not to be used on drinking water.

Selection chart

Table 1: F261 Series Standard Model Flow Switches

Product code	Description
F261KAH-V01C	Standard model flow switch with Type 3R (NEMA) enclosure; 1 in., 2 in., 3 in., and 6 in. stainless steel paddles, lock-tooth washer, and stainless steel paddle screw supplied uninstalled
F261MAH-V01C	Standard model flow switch with Type 4 (NEMA) enclosure; 1 in., 2 in., 3 in., and 6 in. stainless steel paddles, lock-tooth washer, and stainless steel paddle screw supplied uninstalled
F261MAL-V01C	Standard model flow switch with Type 4 (NEMA) enclosure; 1 in., 2 in., 3 in., and 6 in. stainless steel paddles, lock-tooth washer, and stainless steel paddle screw supplied uninstalled ⓘ **Note:** This model is a low-energy flow switch with gold-plated electrical contacts.

Table 2: F261 Series Low-Flow Model Flow Switches

Product code	Description
F261KEH-V01C	Low-flow model flow switch with Type 3R (NEMA) enclosure; 1/2 in. x 1/2 in. female NPTF inlet and outlet
F261KFH-V01C	Low-flow model flow switch with Type 3R (NEMA) enclosure; 3/4 in. x 3/4 in. female NPTF inlet and outlet
F261KFH-V02C	Low-flow model flow switch with Type 3R (NEMA) enclosure; 3/4 in. x 3/4 in. female NPTF inlet and outlet
F261MEH-V01C	Low-flow model flow switch with Type 4 (NEMA) enclosure; 1/2 in. x 1/2 in. female NPTF inlet and outlet
F261MFH-V01C	Low-flow model flow switch with Type 4 (NEMA) enclosure; 3/4 in. x 3/4 in. female NPTF inlet and outlet

Table 3: Replacement paddle parts

Product code	Description
PLT69-11R	Stainless steel 6 in. paddle
KIT21A-602	Stainless steel 6 in., 3 in., 2 in., and 1 in. paddles

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F261 electrical ratings

Table 4: F261xxH Series standard controls electrical ratings

Volts 50/60 Hz	UL 60730/UL 1059				EN 60730	
	24	120	208	240	24	230
Horsepower	–	1	1	1	–	–
Full load amperes	–	16	10	10	–	8
Locked rotor amperes	–	96	60	60	–	48
Resistive amperes	16	16	10	10	16	16
Pilot duty VA	125	720	720	720	77	720

Table 5: F261xxL Series low energy controls electrical ratings, AC current

Volts AC, 50/60 Hz	UL 60730/UL 1059EN 60730		
	4 VAC	24 VAC	120 VAC
Resistive amperes[1]	10	10	10
Pilot duty VA[2]	12	72	360

1 Maximum dry circuit rating: Resistive only, 400 mW at 28 VAC/VDC. After you use a relay at the general rating level, the dry circuit rating is no longer valid.

2 Meets UL 100,000 cycle UL endurance test requirement at switch with T_{min} greater than or equal to 32°F (0°C).

Table 6: F261xxL Series low energy controls electrical ratings, DC current

Volts DC	UL 60730/UL 1059/EN 60730		
	4 VDC	24 VDC	48 VDC
Resistive amperes[1]	1	1	1

1 Maximum dry circuit rating: Resistive only, 400 mW at 28 VAC/VDC. After you use a relay at the general rating level, the dry circuit rating is no longer valid.

F261 Series flow switches technical specifications

Table 7: UL conformity declaration information

Information	Description
Purpose of control	Operating liquid flow switch, automatic action
Construction of control	Electronic independently mounted control
Number of cycles	100,000 cycles
Method of mounting control	Mounting to sensed media vessel/orientation
Type 1 or Type 2 action	Type 1.C (Microinterruption)
External pollution situation	Pollution degree 4
Internal pollution situation	Pollution degree 2
Rated impulse voltage	4,000 VAC
Ball pressure temperature	Enclosure: 266°F (130°C) Switch component: 252°F (122°C)

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Table 7: UL conformity declaration information

Information	Description
Control adjustment instruction	-
Field wiring rating	Wire/cord temperature ratings: • 140°F (60°C) only permitted when ambient air and media are less than 113°F (45°C) • 167°F (75°C) only permitted when ambient air and media are less than 140°F (60°C) • 194°F (90°C) only permitted when ambient air is less than 140°F (60°C) and media is less than 167°F (75°C) • 302°F (150°C) permitted when ambient air is less than 140°F (60°C) and media is less than 249°F (121°C)
Vessel pressure	F261 Fluid Flow Switch: 290 psi (20 bar)

Table 8: F261 Series fluid flow switches technical specifications

Specification	Description
Switch	single-pole, double-throw (SPDT)
Enclosure	UL: Type 3R or Type 4 CE: IP43 (IP23 with drain hole plug removed) or IP67
Wiring connections	Three color-coded screw terminals and one ground terminal
Conduit connection	One 7/8 in. (22 mm) hole for 1/2 in. trade size (or PG16) conduit
Pipe connector	Standard: 1 in. 11-1/2 NPT Threads Low-Flow: 1/2 in. x 1/2 in. Female NPTF; 3/4 in. x 3/4 in. Female NPTF

Table 8: F261 Series fluid flow switches technical specifications

Specification	Description
Maximum fluid pressure	290 psi (20 bar)
Minimum fluid temperature	-20°F (-29°C) ⓘ **Note:** Ensure that the low liquid temperature combined with the low ambient temperature does not lead to freezing the liquid inside the body or, if applicable, the bellows. Observe the liquid freezing point.
Maximum fluid temperature	250°F (121°C) ⓘ **Note:** At higher ambient temperatures, the maximum liquid temperature becomes lower. The temperature of the electrical switch inside should not exceed 158°F (70°C).
Ambient conditions	-40°F to 140°F (-40°C to 60°C)
Compliance	North America: cULus Listed; UL 60730, File E6688; FCC Compliant to CFR47, Part 15, Subpart B, Class B Industry Canada (IC) Compliant to Canadian ICES-003, Class B limits
CE	Europe: CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive and the Low Voltage Directive.
	Australia/New Zealand: Mark: RCM Compliant

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult Johnson Controls/Penn Refrigeration Application Engineering at 1-800-275-5676. Johnson

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Controls shall not be liable for damages resulting from misapplication or misuse of its products.

Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Single point of contact

APAC	Europe	NA/SA
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