

# KELCO

## F Series Corrosion Resistant Flow Switches

### Features

- 0 - 500V 15Amp S.P.D.T switch or;
- Low Voltage model also available ('RL' model)
- Polypropylene or 316 Stainless models
- Switches available with 3/4" & 1" BSP & NPT threads
- Manual override built in to all 'F-H' models
- Modular construction
- High pressure 400 Bar 5800 psi models available
- Seal-less magnetic drive
- Weatherproof IP67 housing
- Easily serviceable

### Outline

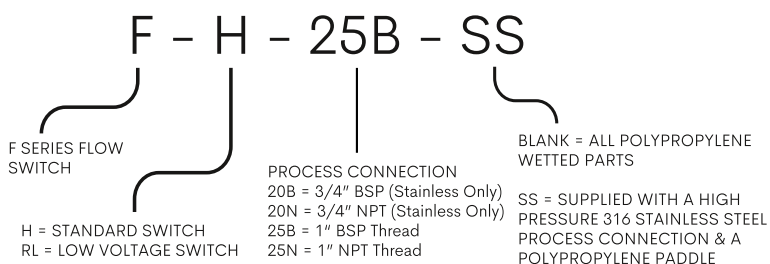
The F Series flow switch is a tough, but highly sensitive paddle switch suitable for a wide range of flow control applications in both hot and cold liquids. The electrical housing of the switch is a separate assembly that is locked onto the wet end of the switch with a single, externally accessible screw. It can be easily and safely removed for servicing, without disturbing electrical wiring. This design allows the flow switch to be disassembled and unscrewed from pipework without the need to disturb electrical wiring, making the F Series switches highly user-friendly.

All F Series flow switches are supplied with a glass fibre reinforced paddle. The paddle can be cut and shaped as required to suit pipework 25 mm (1") or larger.

A unique feature of the all the 'F-H' type switches (see ordering section below) in the F Series flow switch is its built in manual override. The manual override allows the flow switch to be switched on at any time at the press of a button regardless of lack of flow. Using the manual override allows pumps to be manually started at any time by simply pressing the button. It also makes the testing and commissioning of systems very simple.

### Ordering

The below shows the different switch models available in the F Series:



Please note: 20mm fittings are only available in 316 Stainless, not Polypropylene



Our well-proven magnetic repulsion system is built into each F Series flow switch. This couples the paddle's movement to the high compliance switch through a double wall of solid material. The result is a high-pressure flow switch with no seals, diaphragms or bellows or other points of potential failure. The F Series flow switch is available with either a Polypropylene or 316 Stainless Steel high pressure process connection. There are models to suit most applications including use in seawater, bore water, acids, and alkalis and in many chemical solutions.

# F SERIES DATA

## Electrical Data for the 'H' Switch

The 'F-H' type switches house a S.P.D.T (Single Pole Double Throw) switch. These switches are suitable for all general control circuit applications up to 500V AC. It is ideal for the control of pump starters, relay logic circuits, and for the direct control of contactors and timers.

### IMPORTANT

The standard 'H' switch can operate at ANY voltage from 5 to 500VAC. It can be used to directly control pump motors up to 375 Watts (0.5HP) at 240VAC. For larger motors always use an interposing contactor or relay between the flow switch and the motor.

RATED VOLTAGE	NON INDUCTIVE LOADS				INDUCTIVE LOADS			
	RESISTIVE LOAD		LAMP LOAD		INDUCTIVE LOAD		MOTOR LOAD	
	NO	NC	NO	NC	NO	NC	NO	NC
125 VAC	15A	3A	1.5A	15A	5A	2.5A		
250 VAC	15A	2.5A	1.25A	15A	3A	1.5A		
500 VAC	10A	1.5A	0.75A	6A	1.5A	0.75A		
8 VDC	15A	3A	1.5A	15A	5A	2.5A		
14 VDC	15A	3A	1.5A	10A	5A	2.5A		
30 VDC	6A	3A	1.5A	5A	5A	2.5A		
125 VDC	0.5A	0.5A	0.25A	0.05A	0.05A	0.05A		
250 VDC	0.5A	0.5A	0.25A	0.03A	0.03A	0.03A		

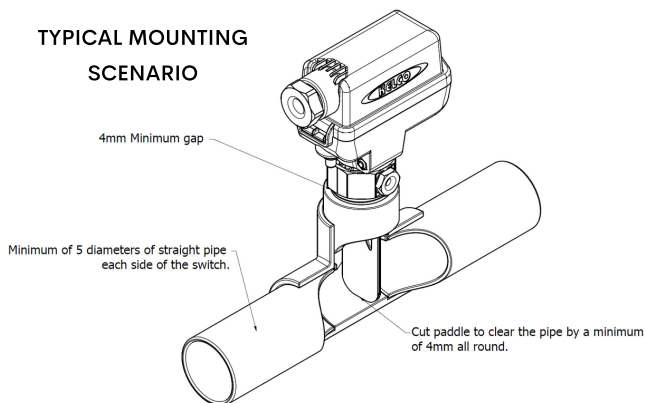
## Electrical Data for the 'RL' Switch

The 'F-RL' reed switch models are supplied with a high compliance single pole double throw reed switch suitable for all low wetting current and low voltage applications. Such applications include PLC control, signaling in telemetry systems and relay logic circuits.

**Please note:** the reed switch models are not suitable for use with inductive loads such as contactors or high wattage relays.

Switch Type:	Dry Contact Reed Switch
Contact Configuration:	S.P.D.T Break Before Make
Switched Power:	20W / VA Maximum
Switch Voltage Maximum:	140V AC 150V DC
Switched Current (Resistive):	1 Amp Maximum
Carry Current:	2 Amp Maximum
Breakdown Voltage:	200V Minimum
Typical Applications:	PLC, Telemetry & General Low Voltage Control

### TYPICAL MOUNTING SCENARIO

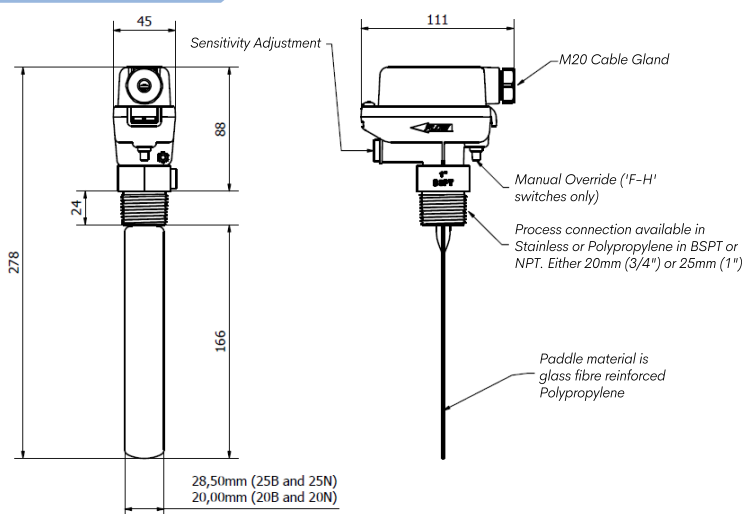


## Operating Limitations

**Please note:** Maximum operating pressure of the all Polypropylene F Series switch must be linearly de-rated as operating temperature is increased so that at 60°C (140°F) the maximum permissible operating pressure for the switch does not exceed 1 Bar (15 psi) absolute.

Parameter	All Polypropylene model	With Stainless Steel Process Connection
Maximum operating pressure (static or dynamic) at ambient temperature	18 Bars (261 psi)	400 Bars (5800 psi)
Minimum burst pressure at ambient temperature	45 Bars (652 psi)	500 Bars (7215 psi)
Maximum operating temperature	60°C (see note above)	80°C (176°F)
Minimum operating temperature	-20°C (-4°F)	-20°C (-4°F)
Ingress protection rating	IP67	IP67

## Dimensions



## Flow Sensitivity

The flow rates required to actuate the F Series flow switch depends on many variables such as turbulence, liquid viscosity and the exact area of the paddle face exposed to the flow. For an accurate estimate of the switch performance and to determine the effect of paddle trimming, an online flow calculator is available at:

<http://www.kelco.com.au/paddle-trimming-calculator>

## Hazardous Applications

The F-RL flow switches can be used in hazardous areas. The flow switch is classed as a 'simple device' and does not contain components capable of storing or producing an electric charge. As a simple device the F-RL can be used in hazardous applications provided it is isolated by an intrinsically safe barrier, a Zener barrier.

The standard single pole double throw switch used in the F Series flow switch is approved to the following international standards:

UL (File No.E32667), CSA (File No. LR21642) SEV (File No. S20/163) and CE.

## Approved Standards

## Kelco Engineering Pty Ltd

ABN 20 002 834 844

Head Office & Factory  
9/9 Powells Road,  
Brookvale 2100 NSW Australia

Postal Address  
PO Box 7485 Warringah Mall  
Brookvale 2100 NSW Australia

Phone: +61 2 99056425  
Fax: +61 2 9905 6420

Email: Sales@kelco.com.au  
Web: www.Kelco.com.au

PLEASE NOTE: Kelco Engineering Pty Ltd reserves the right to change the specification of this product without notice. Users will use their own judgment to determine the appropriateness of using Kelco Products in an application, any safety measures required and that the product is properly installed for that application. To the extent permitted by law Kelco Engineering Pty Ltd disclaims and excludes all and any liability for the use of this product in any particular application or for defective installation. Kelco switches are warranted against malfunction by a 12 month return to base manufacturer's warranty. Full details of our warranty and limitation of liability can be found in this document or downloaded from: <http://www.kelco.com.au/warranty>

All rights reserved copyright Kelco Engineering Pty Ltd © 2022