APPLICATIONS

The F-Series is your first and safest choice for fieldmount indicators. Especially in harsh weather conditions like rain, snow, salty atmospheres and temperatures between -40°F up to +176°F (-40°C up to 80°C) for safe and hazardous area applications.

Applications where net flow calculation at base conditions is desired without the influence of thermal product expansion.

Liquid flow measurement with mechanical flowmeters where a precise calculation over the full measurement range is required. Also continuous flow rate monitoring is required.

For batching small up to very large quantities. Single or repeating batches.

Fuel consumption calculation for diesel engines on board of ships or trains. Sum function: where flows are split-up in two pipe-lines and total flow has to be calculated.

PRODUCT CONFIGURATION

STANDARD CONFIGURATION

F018 = Flow Rate Monitor / Totalizer - Linearization & Alarms
F115 = Flow Rate Monitor / Totalizer - Bi-Directional - Quadrature
F127 = Differential / Sum Flow Computer - Net Use - Temp Correction
F130 = Batch Controller - Two Stage

FLOWMETER INPUT SIGNAL

P = Pulse input: Coil, NPN, PNP, Namur, Reed-switch

ANALOG OUTPUT SIGNAL

AP = Passive 4-20mA output, loop powered unit (F115 & F127)
AH = Galvanically isolated, loop powered 4-20 mA output (F018)
AX = No analog output (F130)

COMMUNICATION

CR = HART Communication (F018)
CX = NO communications (F115, F127 & F130)

FLOW EQUATIONS

EL = Corrected Liquid Volume (F127)
EX = No flow equations (F115 & F130)
= None on F018

ENCLOSURE

HE = Cable Enter: 2-16 mm & 1-20 mm

ADDITIONAL INPUTS

IR = Remote control input to start, pause or stop (F130)
IX = No additional inputs (F018, F115 & F127)
= None for F018

OUTPUTS

OT = Two passive transistor outputs - standard configuration
(F018 only has 1 not 2)

POWER SUPPLY

PD-PB = 8 - 24 V (ac/dc) + sensor supply - with XI: 16 - 30 V (dc) & Lithium battery powered (F018*, F115 & F127)
PD-PC = 8 - 24 V (ac/dc) + sensor supply - with XI: 16 - 30 V (dc) & Lithium battery powered - Intrinsically Safe (F018* & F130)

*F018 does not have the 8 - 24 V (ac/dc)

TEMPERATURE INPUT SIGNAL

TP = PT100 input (F127)
TX = No temperature input signal (F115 & F130)
= None on F018

HAZARDOUS AREA

XI = Intrinsically Safe, according to ATEX & IECEx (F018 & F127)
XX = Safe area only (F018, F115, & F130)

OTHER OPTIONS

ZB = Backlight (F018, F115 & F127)
ZX = No options (F130)

F SERIES (REMOTE PANEL MOUNT ELECTRONICS)

Top of the line specialty electronics by FLOMEC® F Series Electronics are designed with several different input and output options. Rugged and dependable, the F Series offers:

- Field-mountable
- Easy programming with a sensible menu-driven structure
- Large 0.67” (17 mm), 7 digit display
- Accepts several different input signals

FEATURES / BENEFITS

- Batching
- Net Use
- 4-20 mA Output
- HART Protocol
- High Low Alarms
- Linearization
- Two Stage Valve Control
- Temperature Compensation

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APPROVALS

IECEx

FM

ATEX
SPECIFICATIONS

Display:
- Type: High intensity reflective numeric and alpha-numeric LCD, UV resistant
- Dimensions: 3.5 in. x 1.6 in. (90 mm x 40 mm)
- Digits: Seven 0.67 in. (17 mm) and eleven 0.31 in. (8 mm) digits. Various symbols and measuring units.
- Refresh rate: User definable: Fast, 1 s, 3 s, 15 s, 30 s, Off
- Option ZB: Transflective LCD with green LED backlight. Good readings in full sunlight and darkness.

Operating Temperature:
- -40°F to +176°F (-40°C to +80°C)

Power Requirements:
- 8 - 24 V (ac/dc) ± 10%. Power consumption maximum 10 Watt.
- 16 - 30V (dc). Power consumption maximum 1 Watt.

Sensor Excitation:
- 1.2 / 3.2 / 8.2 / 12 / 24V (dc) - maximum 400mA @ 24V (dc)

Terminal Connections:
- Removable plug-in terminal strip. Wire maximum 1.5 mm² and 2.5 mm²

Data Protection:
- Type: EEPROM backup of all settings. Backup of running totals every minute. Data retention at least 10 years.
- Pass-code: Configuration settings can be pass-code protected.

Enclosure:
- Dimensions: 5.12" x 4.72" x 2.95" (130 x 120 x 75 mm) W x H x D
- Type HE: GRP panel mount enclosure IP65 / NEMA 4X. UV-resistant and flame retardant.
- Weight: 1.32 lbs (600g)

Environment:

Signal Input (Flowmeter):
- Coil / sine wave (minimum 20mVpp or 80mVpp - sensitivity selectable), NPN / PNP, open collector, reed switch, Namur, active pulse signals 8 - 12 and 24V (dc)
- Frequency: Minimum oHz - maximum 7kHz for total and flow rate internal low-pass filter. E.g. reed switch with low-pass filter: maximum frequency 120Hz
- K-Factor: 0.000010 - 9,999,999 with variable decimal position
- Low-pass filter: Available for all pulse signals

Signal Output (Analog):
- Function: Transmitting differential / sum flow rate
- Accuracy: 10 bit. Error < 0.05%. Analog output signal can be scaled to any desired range.
- Update time: Ten times per second
- Type AP: Passive 4-20mA output - not isolated. Unit will be loop powered.
- Type AH: Galvanically isolated, loop powered 4-20mA output

Signal Output (Pulse):
- Function: Pulse output according to differential or sum accumulated total and indication negative pulse output.
- Frequency: Maximum 64 Hz. Pulse length user definable between 7.8 ms up to 2 seconds
- Type OT: Two passive transistor outputs (NPN) - not isolated. Maximum 50V (dc) - 300mA per output

Communication option:
- Function: Reading display information, reading / writing all configuration settings
- Protocol: HART

Total - 7 digits, 0 - 1 - 2 or 3 decimals:
- Units: L, m³, GAL, USGAL, kg, lb, bbl, no unit
- Note: Total can be reset to zero

Accumulated Total - 11 digits:
- Units / Decimals: According to selection for total
- Note: Can not be reset to zero

Flow rate - 7 digits, 0 - 1 - 2 or 3 decimals:
- Units: mL, m³, Gallons, kg, Ton, lb, bl, cf, RND, ft³, scf, Nm³, Nl, igal - no units
- Time units: /s - /min - /hr - /day

Alarm values - 7 digits:
- Units / Decimals: According to selection for total
- Time units: According to selection for total
- Type of alarm: Low and high flow rate alarm. Includes alarm delay time and configurable alarm outputs.

Line temperature - 6 digits, 1 decimal:
- Units: °C, °F or K

DIMENSIONS

ACCESSORIES

1522056  F-Series Wall Mount Kit
1522052  F-Series Pipe Mount Kit
1519011  M16 Cable Gland Kit
1519012  M20 Cable Gland Kit