

# FC410 Series

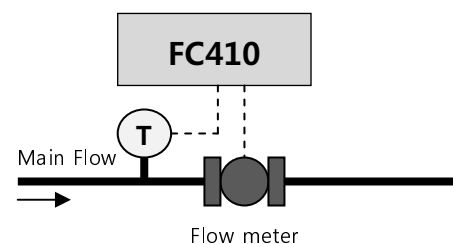
## Flow Controller

### FC410 ►►►



## Feature

- Gross and net total / gross or net accumulated total / gross and net flow rate
- 4-20mA and Pt 100 Ohms Temperature inputs
- Gross or net scaled pulse output
- 4-20mA Analog output
- Alarm output



## Over View

The FC410C series flow controllers are designed to measure volumetric flow for liquids with temperature input. This corrected volume is at standard reference condition. This series are ideally suited to custody transfer applications and include the API/ASTM equations covering general petroleum products and LPG. The FC410C Series have direct RTD input or 4-20mA temperature input.

# Flow Controller

## FC410 ▶▶▶

### General

#### Display

7-digit 14.1mm(0.56Inch) 7-segment LED

**Display Update Rate** 0.25-second  
**Decimal Points**

Fully programmable for Rate and Total

#### Time Base

The Rate can be displayed in unit per second, Per minute, per hour or per day

#### Data Retention

Set up parameters and totals stored in non-volatile memory with 10 years retention.

**Operation Temperature** 0 to 55 °C

**Power** AC 85-264V / DC 24V

**Power Consumption** 10VA

#### Transducer Supply

8V or 12V selectable, 50mA max

### Flow Inputs

#### Frequency (Pulse) Input

Frequency Range 0 to 5kHz

#### Signal Type

Sine wave, open collector, reed switch, Proximity switch, voltage and current pulse

#### K-factor Range

0.0001 – 50000.0000(the pulse per units)

#### Analog Input

Inputs 4-20mA or 1-5V option

#### Input Impedance

Current 250 ohms

Voltage 10K ohms

Accuracy 0.05%

Span 0.0001 to 50000.0000

Zero 0.0000 to 50000.0000

#### Cut-off Point

A low flow rate cut-off can be programmed Below which flow is not registered. The cut-Off is programmed as a percentage of span Relationship Linear, square root or programmable open Channel For open channel flow meters; the power of The input relationship is programmable between 0 and 9.99.

### Temperature Input

#### RTD Input

Type Platinum PT100(DIN)

#### Temperature Range

-50 °C (-58 °F) to +50 °C (122 °F)

(Refer to the ordering information for detail)

Accuracy 0.1 °C

Linearity The non-linearity of the RTD is Internally compensated for.

#### Analog Input(4-20mA)

Input Impedance 250 ohms

#### Measurement Range

-273 °C (-459.4 °F) to 1200 °C (2192 °F)

Accuracy 0.05%

### Pulse Output

#### Function

Open collector output with a pulse produced on each increment of the accumulated total (gross, net, mass or energy).

**Pulse Width** 10ms (negative going pulse)

**Duty Cycle** 49 pulses/sec. Max.

#### Output

Current sinking output transistor 50mA, 30vdc max.(Pulse output is suitable for driving remote counter or PLC's)

### Relay Output

#### Function

High and low, high-high and high or low and low-low flow rate alarms based on the flow rate in energy gross volume, net volume, mass or energy

**Max. Switching Power** 2000VA, 240W

**Max. Switching Voltage** AC250V, DC30V

**Max. Switching Current** 8 Amps

# Flow Controller

## FC410 ▶▶▶

### 4-20mA Output

#### Function

Outputs flow rate in gross volume, net volume, mass or energy, The 4 and 20 mA points can be programmed to provide a fully scaled output.

**Resolution** 12-bit.

**Accuracy** Better than 0.025%

#### Maximum Load

500 ohms internally powered. 950 ohms from external 24V dc.

**Isolation** Output is isolated.

### RS232/422/485

#### Type

Both RS232 and RS422/485 are provided.  
(Note: When using the RS422/485, multi drop communication can be implemented with up to 32 instruments connected to a common bus.)

#### Function

Printer and computer protocols are fully programmable.

#### Printer

A print is initiated on each reset or at a programmable time interval.

#### Computer

An ASCII based protocol enable all display parameters to be read and the totals to be reset.

**Baud Rate** 1200 to 19200 BPS

**Data Bit** 8-bit

**Parity Bit** None

#### Data Logging

Output generated at intervals of once a minute to once every 24 hours. The total can be programmed to reset on each print or at 24:00 hours

#### Time

A real time clock is provided to give time and date on each output.

### Error Output

#### Function

The Error output is out of range, no flow or communication fail indicated.

#### Output

An open collector transistor will sink 50mA max.

### Enclosure

#### Basic Enclosure

##### Dimension

72mm(H) x 144mm(W) x 177mm(D)

**Material** Polycarbonate, Aluminum

**Panel Cutting Size**

67mm x 139mm (±0.2mm)

#### Weather Proof

**Protection** IP65 (Nema 4X)

**Material** Aluminum

#### Outside Dimension

248mm(H) x 162mm(W) x 87mm(D)

#### Explosion Proof

##### Outside Dimension

270mm(H) x 290mm(W) x 280mm(D)

##### Mounting hole Dimension

90mm (H) x 83mm (W) x M8 Bolt

##### Classification

Division 1, Class I Group-A, B, C, D

Class II Group-E, F & G

Class III

Zone 1 or 2, Exd II B T6

### Standards and Approvals

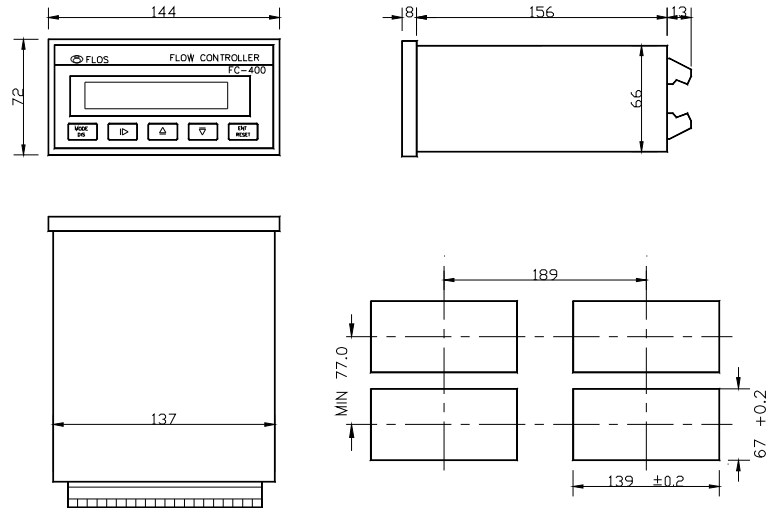
#### CE

Manufactured under **ISO 9001**

# Flow Controller

## FC410 ▶▶▶

### Dimension



### Ordering information

MODEL	Order Code						Description
FC410							Flow Controller with LCD Display (LED-Backlight)
Flow Sensor	P						Frequency Type Flow Meter Input
	A						4-20mA Analog Type Flow Meter Input
Temperature		A					4-20mA Analog Temperature Input
		R					Pt 100 Ohms RTD Input(0~100°C)
In/Output			0				Basic Model(No Option)
			1				4-20mA Analog Output
			2				Remote Switch Input
Communication				0			None Communication
				1			RS-232 Communication
				2			RS-422/RS-485 Communication
Power					A		AC 85-264V(Free Voltage)
					D		DC 24V
Case						0	Only Basic
						1	With Weather Proof
						2	With Explosion Proof

