

# SC-FF Series

## Frequency to Frequency Pulse Isolator and Scaler

### Features:

- Pulse Scaler with Isolation
- Pulse, Contact Closure or Magnetic Pickup Inputs
- Two Year Warranty
- Various Mounting Styles
- Output LED Indicator

### Description:

The model SC-FF is a signal conditioner which permits the user to condition and scale the input pulses from a pulse producing sensor into a high level output where each pulse represents an engineering unit of measure.

Several pulse input types are supported including magnetic pickup, contact closure, and an isolated pulse input.

The pulse scaling permits a user to apply a scaling multiplier with a value of .0001 to .9999 with additional multipliers of 1, .1, .01, .001 and .0001. Pulse scaling is accomplished by rotary encoded and dip switch selections.

The pulse output is available in isolated, non-isolated and relay versions. User selections include output pulse duration and internal pullup resistors. The user may select his pulse output configuration by means of a dip switch.

The unit is powered to 8 - 35 VDC. Reverse polarity protection is provided. Power and Pulse input/output indicators are provided.

The unit is available in enclosures intended for either DIN rail, NEMA4X or Explosion Proof.

### Specifications:

#### Pulse Input:

##### Isolated Pulse:

Logic 1 (high): 3 - 30 VDC  
 Logic 0 (low): 0-0.4 VDC  
 Input Frequency Range: 0-10000 Hz  
 Input Impedance: 3.3 k  $\Omega$   
 Reverse Polarity Protection  
 Isolation Voltage: 500 V

##### Contact Closure:

Switch Debounce: 40 CPS maximum count rate  
 10000 ohm internal pullup to 5 VDC

##### Magnetic Pickup:

Sensitivity: 30 mV p-p  
 Bandwidth: 0-3500 Hz  
 Over Voltage Protection to 30 VDC  
 10 Kohm input resistance



### Pulse Output:

Pulse Duration: 50 uSec, 500 uSec 50 mSec (Switch selectable)

#### Open Collector Pulse:

Maximum Voltage: 48 VDC  
 Maximum Current: 100 mA @ .7V max  
 Max. Output Speed: 10 kHz  
 Reverse Polarity Protection  
 Overcurrent Protection  
 Jumper selectable for 5 V and 24 V pulse output

#### Isolated Pulse:

Maximum Voltage: 30 VDC  
 Maximum Current: 10 mA  
 Max. Output Speed: 1 kHz  
 Isolation Voltage: 500 VDC  
 Reverse Polarity Protected

#### Output Relay (optional):

Contact Rating: 0.5 amps 240 VAC  
 Output Form: Form A (SPST)  
 Max. Output Speed: 10 KHz

### Power Input:

Input Voltage Range: 8.5 to 35 VDC  
 Supply Current: 25 mA (nominal)  
 Reverse Polarity Protection  
 Transient Protection

### Pulse Scaling:

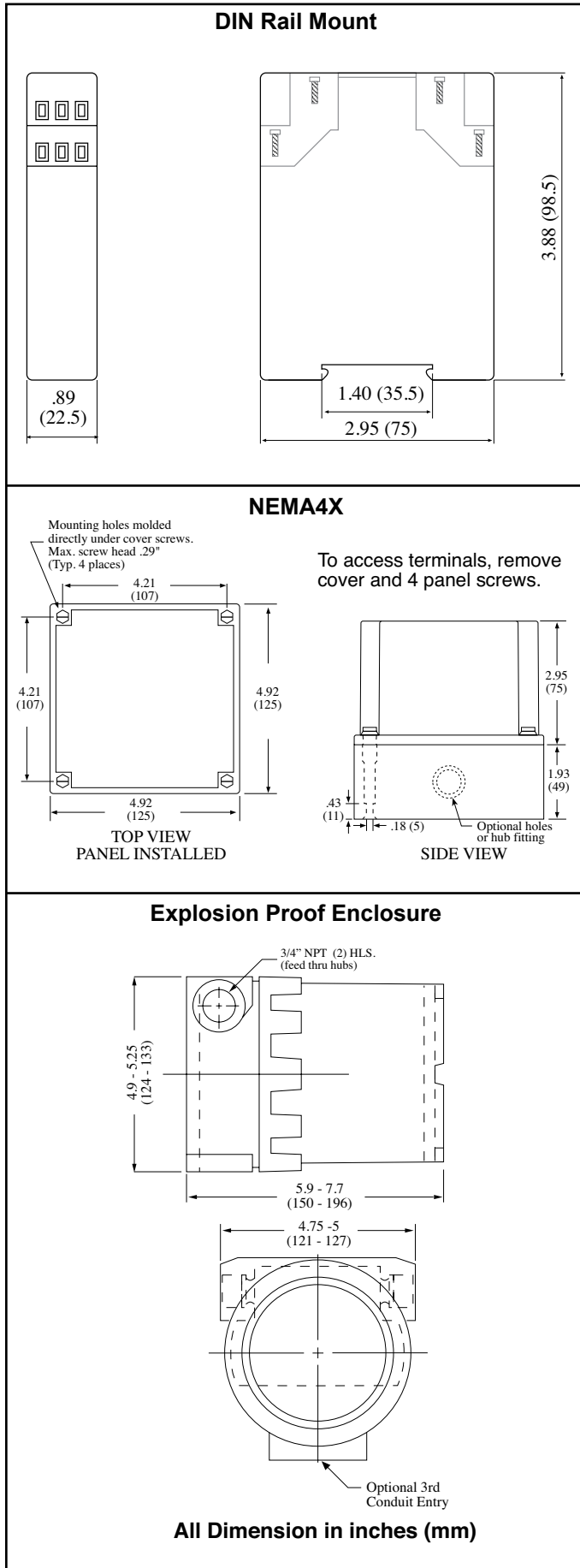
Scaler: 0.0001 to .9999  
 Multiplier: X1, X0.1, X0.01, X0.001, X0.0001

### Mounting Styles

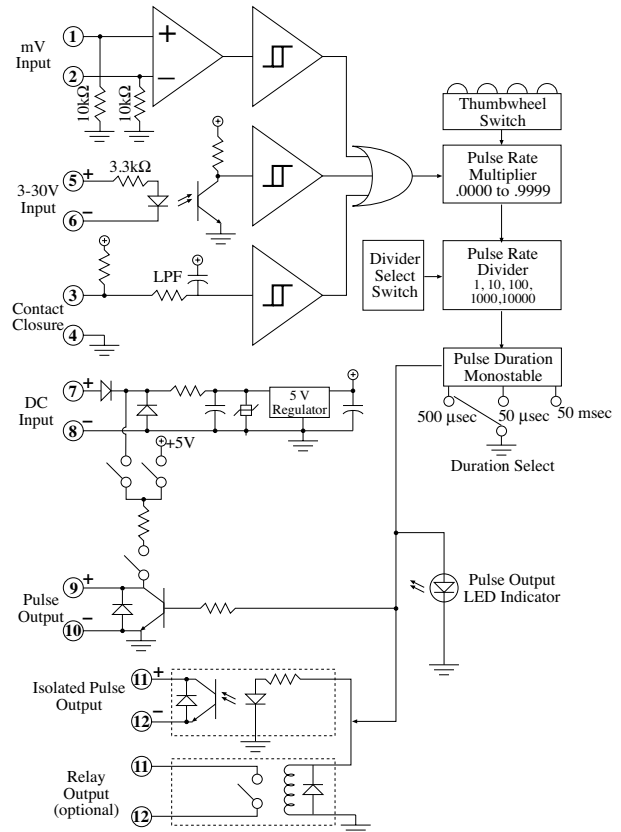
- DIN Rail Mount: Plastic enclosure with a snap fastener for fitting to DIN 46 277 and DIN EN 50 022 assembly rails.
- NEMA 4X: 4.92" x 4.92" NEMA 4X Enclosure for wall mounting.
- Explosion Proof: Aluminum enclosure for:  
 Class I, Division 1, Groups B, C & D  
 Class II, Division I, Groups E, F & G.

**Listing:** CE Compliant

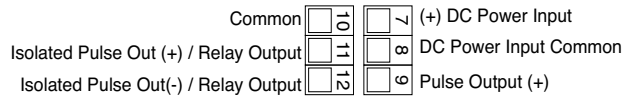
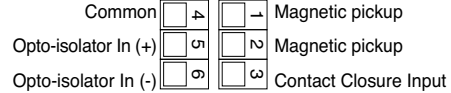
## Dimensions



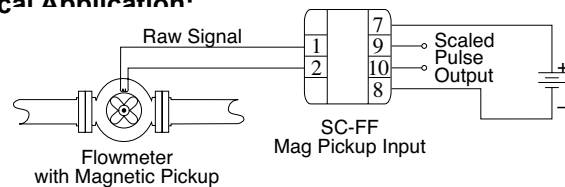
## Simplified Block Diagram



## Wiring:



## Typical Application:



## Ordering Information

**Example** SC-FF 1 B ET

### Series

FF= Frequency to Frequency

### Output Type

1 = Open Collector & Isolated Pulse (STD)

2 = Open Collector & Relay Output

### Mounting:

B= Nema 4X

C= Explosion Proof

D= DIN Rail

### Options:

ET= Extended Temp: -4° to 185°F (-20° to 85° C)

T = Third 3/4" conduit entry for Explosion Proof Housing

H2 = 0.875" Hole for NEMA4 mounting style

HF2 = 0.5" Female NPT Hub fitting

H3 = 1.125" Hole for NEMA4 mounting style

HF3 = 0.75" Female NPT Hub fitting

### Accessories: (add to end of part number)

DR-4= 4" DIN Rail