

## SC-FF Series

## 2-Wire 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 a 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 kΩ  
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 mSec, 50 uSec (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 Hz

### 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

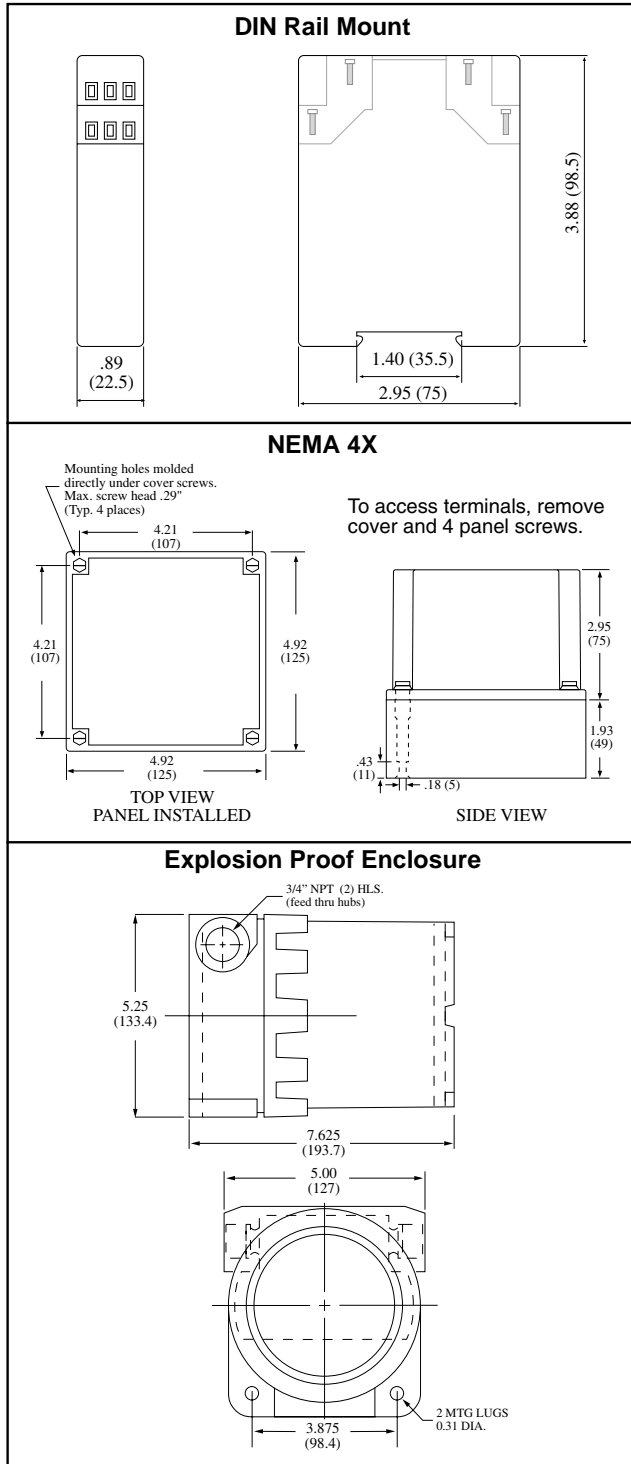
DIN Rail Mount: Plastic enclosure with a snap fastener for fitting to DIN 46 277 and DIN EN 50 022 assembly rails.

NEMA 4X: 4.92" x 4.92" NEMA 4X Enclosure for wall mounting.

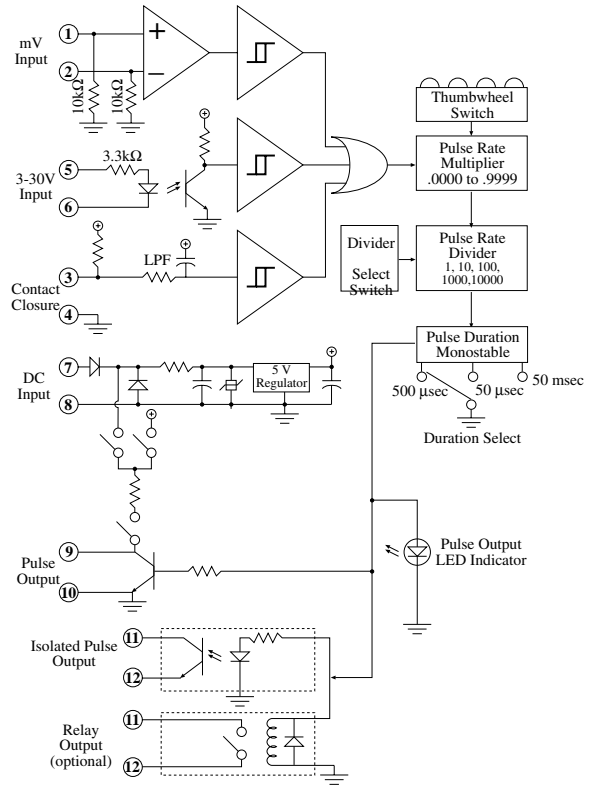
Explosion Proof: Aluminum enclosure for:  
Class I, Division 1, Groups B, C & D  
Class II, Division I, Groups E, F & G.

Listing: CE Approved, UL/CSA Pending

**Dimensions**



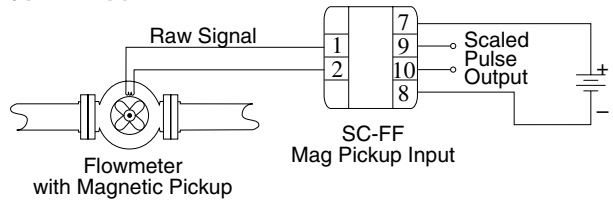
**Simplified Block Diagram**



**Wiring:**

Shield (common)	4	4	Magnetic pickup
Opto-isolator In (+)	5	5	Magnetic pickup
Opto-isolator In (-)	6	6	Contact Closure
Pulse Output Common	10	10	(+) DC Power Input
Isolated Pulse (+) / Relay Output	11	11	DC Power Input Common
Isolated Pulse(-) / Relay Output	12	12	Pulse Output (+)

**Typical Application:**



**Ordering Information**

**Series** SC-FF 1 B ET

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)

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

- DR-4= 4" DIN Rail