

# ENGINEERING DATA SHEET

# SERIES F410

## FREQUENCY SENSOR

### 2PDT OR 4 PDT, 10 AMP



APPLICABLE SOCKETS:

[SO-1021-7127](#)

[SO-1021-7126](#)

### FEATURES AND CHARACTERISTICS

- Frequency sensor
- Contacts: 2 PDT or 4 PDT
- Hermetically sealed
- Weight: 10 oz. max.
- Sensing range: 320 to 480 Hz
- Temperature range: -55°C to +125° C
- Custom units available

### GENERAL SPECIFICATIONS

Input voltage	90 to 124 Vac, line to neutral 10% Max. Harmonic distortion
Frequency sensing range	320 to 480 Hz
Pick-up time	50 ms, max.
Drop-out time	50 ms, max.
Sensing point accuracy	±2% through ±10%
Configuration and contact rating	2 PDT, 2 Amps or 10 Amps; 4 PDT, 10 Amps
Temperature range	-55° C to + 125° C
Maximum operating current	75 milliamperes
Voltage transients	PER MIL-STD-704A, CAT.B
Operating cycles at rated resistive load	100,000 cycles min.
Vibration	0.06" D.A., 5 to 80 Hz, 20 g, 80 to 2000 Hz
Shock	50 g, 11 ± 1 ms, 1/2 sine, 3 axes
Acceleration	20 g in any axis
Finish	Tin Plate PER MIL-T-10727
Detailed ordering information	See next page



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Data sheets are for initial product selection and comparison. Contact Esterline Power Systems prior to choosing a component.

## NUMBERING SYSTEM

## SERIES F410

	F410	-	K	-	380	-	C	A
Basic series: Frequency sensor, F410								
1-Output Configuration: K series relay, 4 PDT, 10 Amps Res, @28 Vdc								
2-Sensed frequency: 380Hz								
3-Temperature And Accuracy: -55° C to +85° C, ±10%								
4-Mounting Style And Terminals: StyleA								

### 1. SERIES NUMBER

Indicates physical dimensions and weight  
F410 1.53 x 1.53 x 2.34 wt 10 oz. max

### 2. OUTPUT CONFIGURATION, CONTACT RATINGS

MIL-PRF-83536 TYPE

J 2 PDT, Leach series J relay, 10 Amp resistive,  
@28 Vdc and 115 Vac, 400 Hz

K 4 PDT, Leach series K relay, 10 Amp resistive,  
@28 Vdc and 115 Vac, 400 Hz

NOTE: For additional data on contact ratings, contact  
the factory.

### 3. VOLTAGE TRIP POINT

Sensing range: 320 to 480 Hz

Specify trip point within indicated sensing range,  
specify by using three digits, e.g.

Trip Point: 380 Hz

Specify: 380

### 4. TEMPERATURE RANGE AND ACCURACY

Code Letter	Temp, Range	Trip Point Accuracy
A	-55° To +85°C	±2%
B	-55° To +85°C	±5%
C	-55° To +85°C	±10%
D	-55° To +125°C	±5%
E	-55° To +125°C	±10%

### 5. MOUNTING STYLES AND TERMINALS

See next page

## NOTES

#### 1. Operating Mode

The output relay energizes when the frequency is above the specified limit and de-energizes when the frequency is below the specified limit.

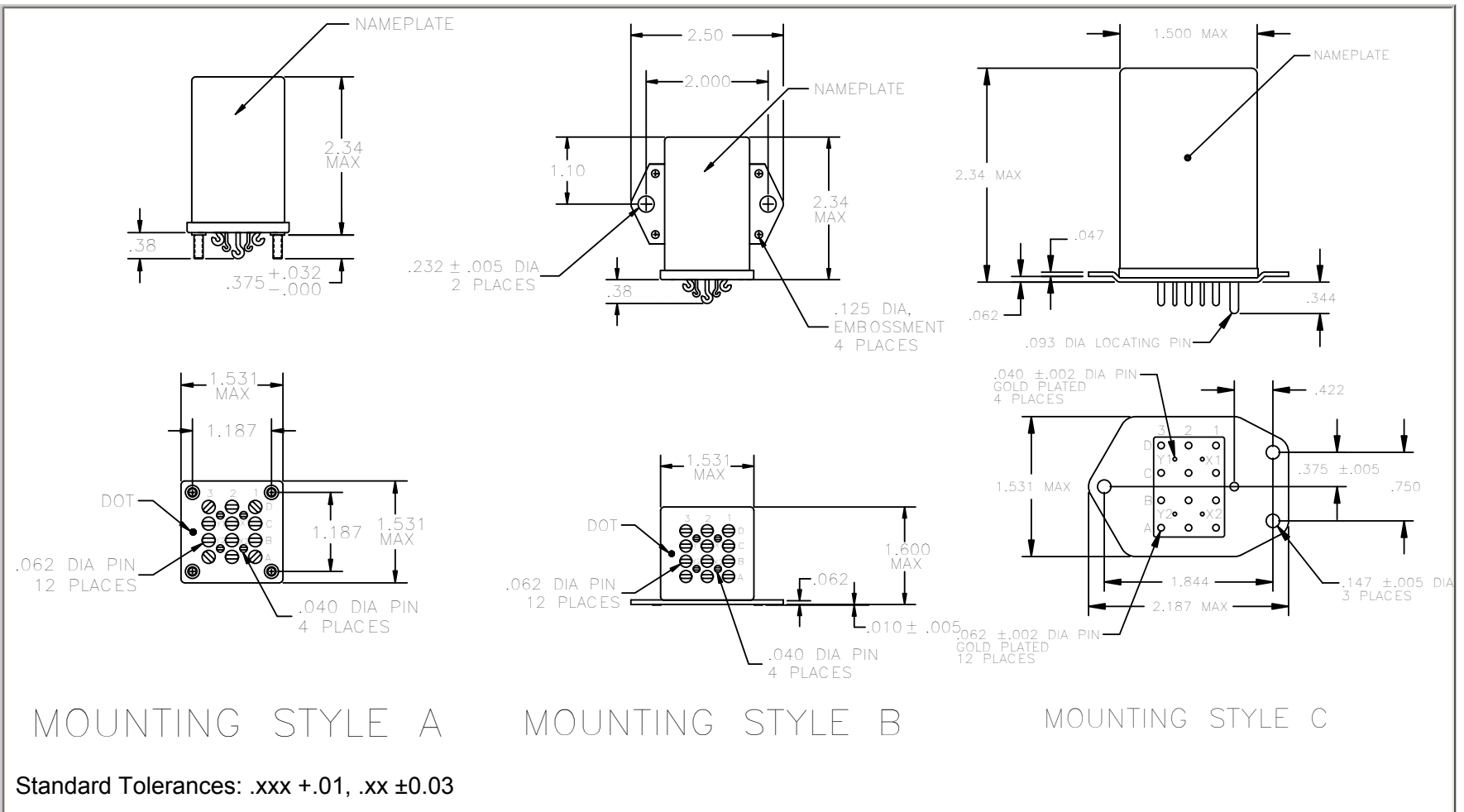
#### 2. Dielectric Strength

Input to case	1,000 Vrms
2 Amp contacts contacts to case	1,000 Vrms
Across open contacts	500 Vrms
10 Amp contacts contacts to case	1,250 Vrms
Across open contacts	1,250 Vrms

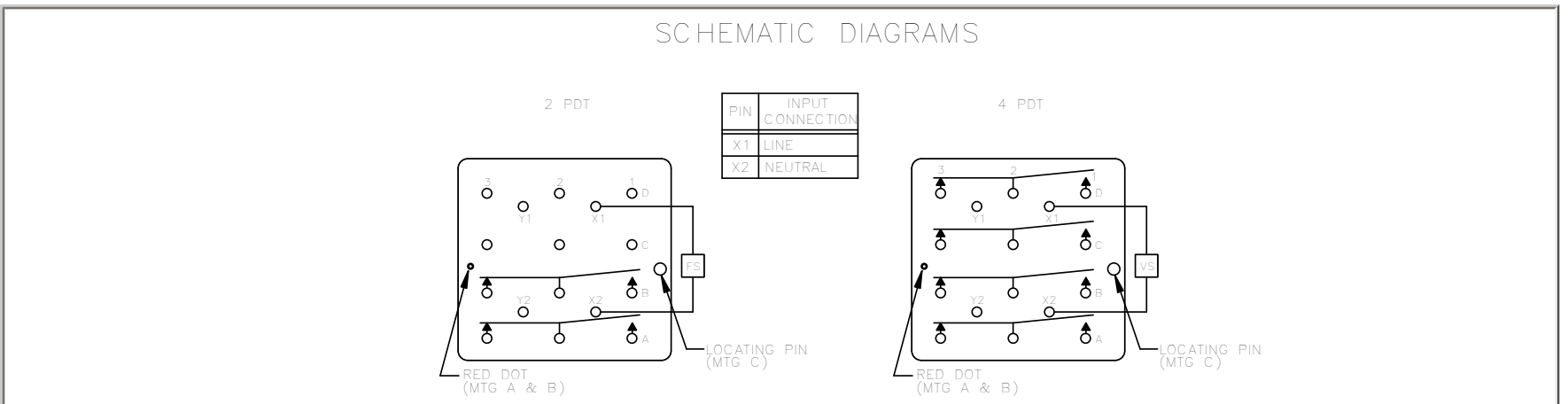
#### 3. Hysteresis

Units have a typical hysteresis of 0.5% to eliminate cycling due to small changes in voltage at the trip point.

#### 4. Contact factory for voltage sensor requirements not covered in this publication.



**SCHEMATIC DIAGRAM**



**MOUNTING DIMENSIONS**

