

ENGINEERING DATA SHEET

SERIES V610

AC POWER MONITORING SENSOR
2 PDT OR 3 PDT, 10 AMP



FEATURES AND CHARACTERISTICS

- Contacts: 2 PDT or 3 PDT
- Hermetically sealed
- Weight: 27 oz. max.
- Sensing range: 90 to 150 Vrms
- Temperature range: -55°C to +125° C
- Custom units available

GENERAL SPECIFICATIONS

Input voltage	90 to 150 Vrms, line to neutral 3 phase WYE
Input frequency	44 to 480 Hz
Pick-up time delay	50 to 10 ms ±10%
Drop-out time delay	50 to 10 ms ±10%
Sensing accuracy	Voltage ±2% to ±10% Frequency: ±2% based on a true sinusoidal input wave form
Phase sequence sensing	ABC
Configuration and contact rating	2 PDT, 2 Amps or 10 Amps; 3 PDT, 10 Amps
Temperature range	-55° C to + 125° C
Maximum operating current per phase	75 milliamperes RMS
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.

Options

V610 - B J A C - 100 / 120 - C A

Basic series designation: AC power monitoring sensor _____

1-Frequency trip points: 380 Hz and 420 Hz _____

2-Output Configuration: 2 PDT, 10 Amps Res, @28 Vdc _____

3-Time delay on pickup: .05 second ±10% _____

4-Time delay on dropout: 1 second ±10% _____

5-Under voltage trip point: 100 VRMS _____

6-Over voltage trip point: 120 VRMS _____

7-Temperature And Accuracy: -55° C to +85° C, ±10% _____

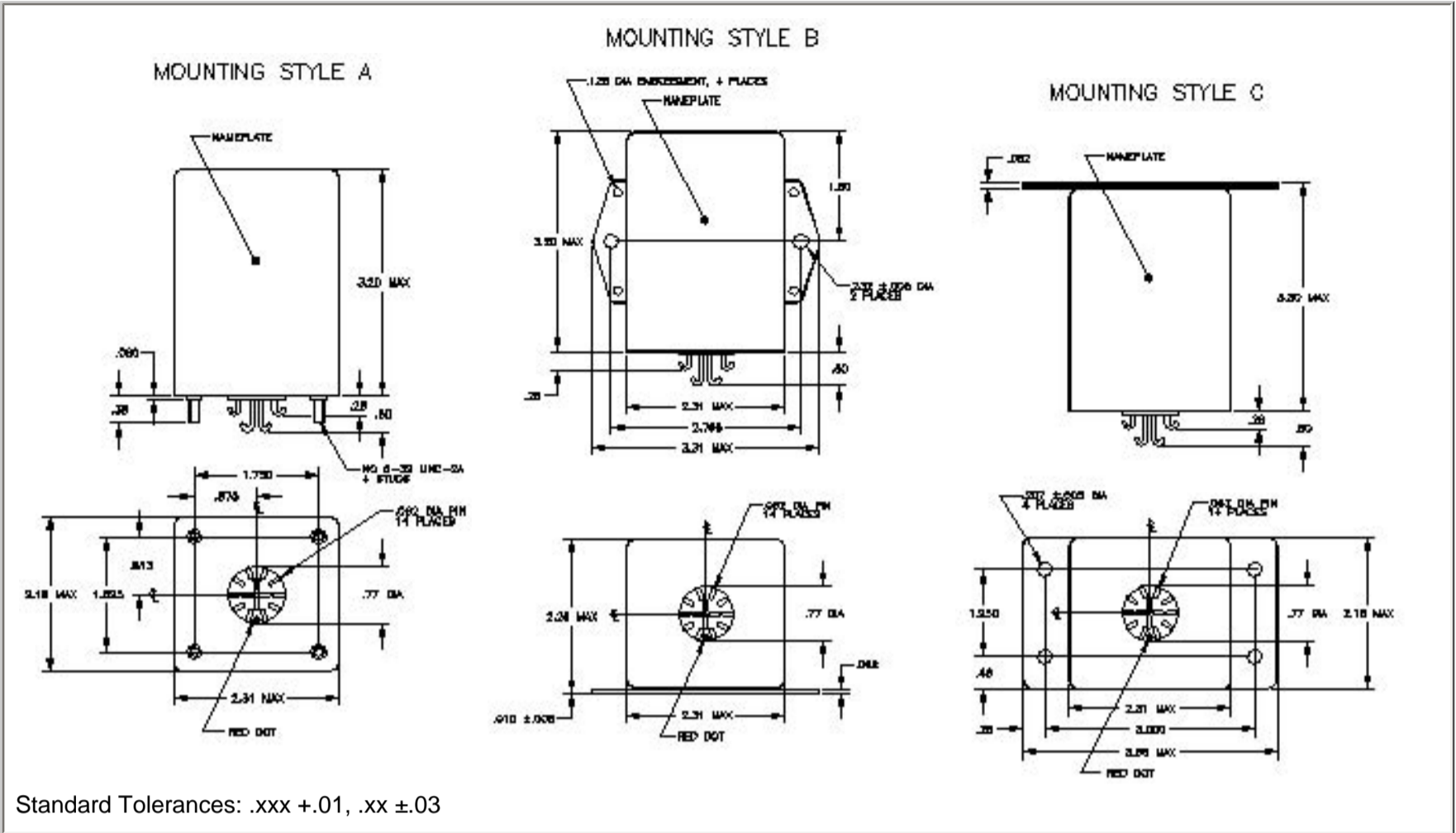
8-Mounting Style And Terminals: Style A _____

<p>1. SERIES NUMBER Indicates function, physical dimensions and weight V610-AC Power monitoring sensor, 2.18 x 2.31 x 3.20 wt 27 oz. max.</p>	<p>4. TIME DELAY ON PICKUP _____</p> <p>5. TIME DELAY ON DROPOUT _____</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 30%;"></td> <td style="width: 20%;">Code Letter</td> <td style="width: 30%;">Seconds</td> <td style="width: 20%;">Seconds</td> </tr> <tr> <td></td> <td>A</td> <td>.05</td> <td>.05</td> </tr> <tr> <td></td> <td>B</td> <td>.50</td> <td>.50</td> </tr> <tr> <td></td> <td>C</td> <td>1</td> <td>1</td> </tr> <tr> <td></td> <td>D</td> <td>2</td> <td>2</td> </tr> <tr> <td></td> <td>E</td> <td>5</td> <td>5</td> </tr> <tr> <td></td> <td>F</td> <td>10</td> <td>10</td> </tr> </table>		Code Letter	Seconds	Seconds		A	.05	.05		B	.50	.50		C	1	1		D	2	2		E	5	5		F	10	10																								
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<p>3. OUTPUT CONFIGURATION, CONTACT RATINGS MIL-R-39016 TYPE</p> <p>MIL-PRF-83536 TYPE J 2 PDT, Leach series J relay, 10 Amp resistive, @28 Vdc and 115 Vac, 400 Hz K 3 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.</p>	<p>8. TEMPERATURE RANGE AND ACCURACY</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 30%;"></td> <td style="width: 30%;">Code Letter</td> <td style="width: 20%;">Temp, Range</td> <td style="width: 20%;">Trip Point Accuracy</td> </tr> <tr> <td></td> <td>A</td> <td>-55° To +85° C</td> <td>±2%</td> </tr> <tr> <td></td> <td>B</td> <td>-55° To +85° C</td> <td>±5%</td> </tr> <tr> <td></td> <td>C</td> <td>-55° To +85° C</td> <td>±10%</td> </tr> <tr> <td></td> <td>D</td> <td>-55° To +125° C</td> <td>±5%</td> </tr> <tr> <td></td> <td>E</td> <td>-55° To +125° C</td> <td>±10%</td> </tr> <tr> <td></td> <td>F</td> <td>-55° To +71° C</td> <td>±5%</td> </tr> <tr> <td></td> <td>G</td> <td>-55° To +71° C</td> <td>±10%</td> </tr> </table>		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%		F	-55° To +71° C	±5%		G	-55° To +71° C	±10%																				
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	<p>9. MOUNTING STYLES AND TERMINALS See next page</p>																																																				

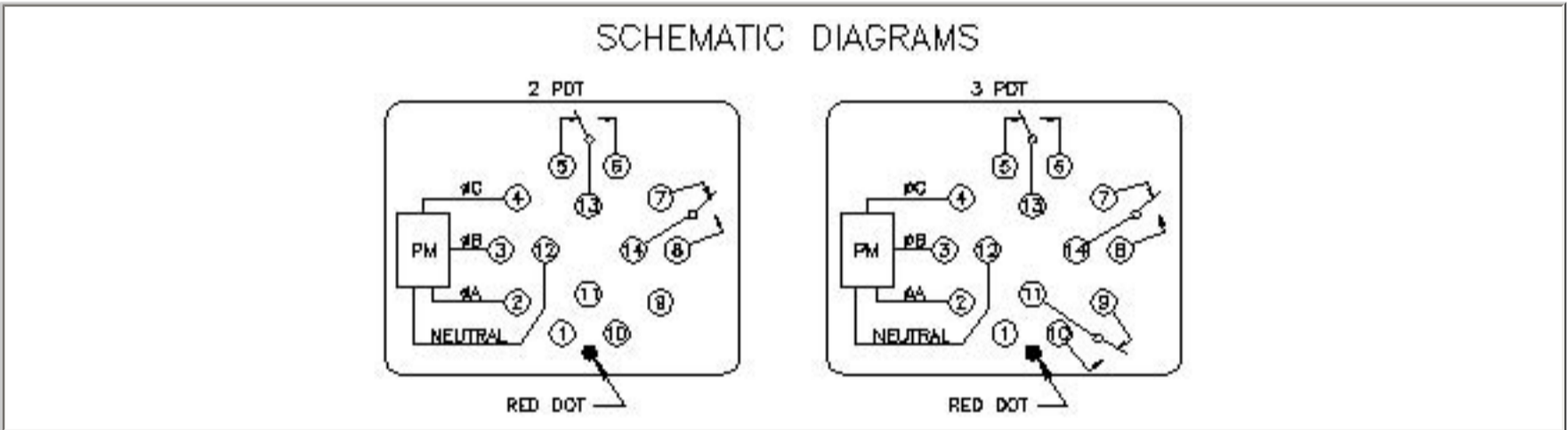
NOTES

1. Operating Mode
 - A. The output relay will energize when all of the following conditions exist:
 1. Each of the three phase voltages is within the under and over trip point limits
 2. The frequency is within the selected under and over trip point limits
 3. The phase rotation is ABC
 4. The pickup time delay period is completed
 - B. The output relay will change to or remain in the de-energized state when any or all of the above conditions are not met (including an open circuit phase)
 - C. The output relay will change state (energize or de-energize) after the selected time delay ±10%
 - D. The time delays for pickup and dropout are independent and an internal signal from the sensing circuit to change the state of the relay always initiates a full time delay period
2. Dielectric Strength

Input to case	1,000 VRMS	
2 Amp contacts		10 Amp contacts
contacts to case	1,000 VRMS	contacts to case
1,250 VRMS		
Across open contacts	500 VRMS	Across open contacts
1,250 VRMS		
3. Hysteresis
Units have a typical voltage hysteresis of 1% maximum and frequency hysteresis of 1 Hertz maximum to eliminate cycling due to small changes in voltage and/or frequency at each trip point.
4. Contact factory for power monitor sensor requirements such as frequency and voltage trip points and time delay values not covered in this publication.



SCHEMATIC DIAGRAM



MOUNTING DIMENSIONS

