

Product Facts

- Phase sensor for 115 or 208Vac, 60 or 400 Hz.
- Up to 2A loads
- Static and motor load types
- Hermetic package
- Built to MIL-R-83726 environmental standards
- Various applications
 - Motor protection
 - Brown-out protection
 - Power supply sequencing
 - Air conditioner protection
 - Ground support equipment protection
- Many customizing options
 - 50 Hz. input types
 - Contact ratings to 10A
 - Higher voltages
 - Different packages, headers and mounting



CII 1400 series phase sensors combine solid state sensing circuits with electromechanical output relays in robust hermetically sealed enclosures.

P-Type models are for static loads. With the line voltage and frequency are within operating limits, P-Type units will energize only when input phases are in sequence A-B-C. They will de-energize only when power is removed. The P-Type unit is

best suited to applications where static loads are used and where regenerated voltage will not be present if a phase opens.

Q-Type units perform the same function as the P-Type since they will energize only when input phases are in sequence A-B-C. In addition, the Q-Type unit will de-energize when any phase is disconnected or grounded, provided

the voltage input to the unit is below 50% of the nominal phase-to-phase voltage input. Q-Type units are suitable for motor loads where regenerated voltage is produced.

Neither P-Type nor Q-Type units require connection to the neutral leg.

For high-current applications, phase sensors are used with slave relays having heavy duty contact ratings.

Electrical Specifications

Input Data:

Voltage: 115 or 208Vac.
Frequency: 60 or 400 Hz.

Operate Time (Max.): 75 ms.

Release Time (Max.): 100 ms.

Contact Arrangement: 1 Form C (SPDT).

Contact Ratings:

2A resistive @ 30Vdc.
0.5A inductive @ 30Vdc.
0.25A resistive or inductive @ 115 Vrms, 60 or 400 Hz.

Environmental Specifications

Temperature Range:

-55°C to +85°C.

Vibration: 20 G's, 10 - 2,000 Hz.

Shock: 50 G's, 11 ± 1ms duration.

Insulation Resistance: 1,000 megohms, min., at 500Vdc.

Dielectric Strength: 1,000Vrms, 60 Hz., at sea level, all terminals to case.

Sealing: Hermetic, 1.3 in. (33.0mm) of mercury.

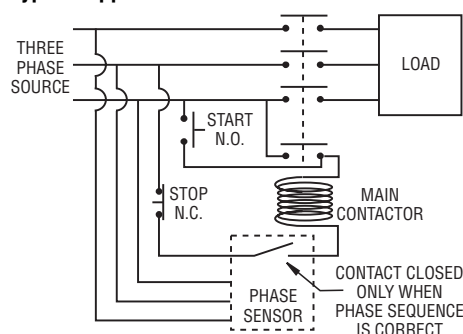
Life: 100,000 operations, min.

Weight: 12 oz (340g) max.

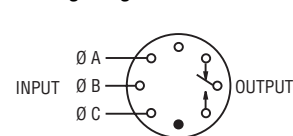
Specifications by Model Number

Fixed Timer Model Number	Load Type	Line to Line Voltage ±10%	Frequency ±10%	Max. Power Required	Mounting Style Figure
1407	P	115V	60 Hz.	4 Watts	3
1408	P	115V	400 Hz.	4 Watts	1 or 3
1409	P	208V	60 Hz.	6 Watts	3
1410	P	208V	400 Hz.	6 Watts	3
1437	Q	115V	60 Hz.	6 Watts	2
1438	Q	115V	400 Hz.	6 Watts	3
1439	Q	208V	60 Hz.	9 Watts	4
1440	Q	208V	400 Hz.	9 Watts	4

Typical Applications Connections



Wiring Diagram



Part Numbering System

Typical Part Number

Model Number:

Four digit code from table above.

Output:

1 = 1 Form C (SPDT)

Mounting (see outline dimension drawings):

A = Studs on bottom B = Studs on top, except bracket on bottom for 1439 and 1440 C = Studs on side

A typical part number would be 1408-1A. This is a 115Vac, 400 Hz., "P" type phase sensor with a 1 form C (SPDT) contact arrangement in a style "A" mounting.

1400 Series Phase Sensors (Continued)

Outline Dimensions

Figure 1
Applicable to 1408

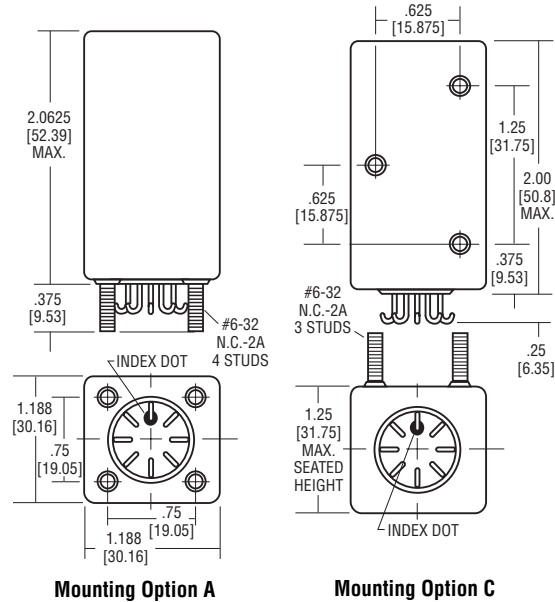


Figure 2
Applicable to 1437

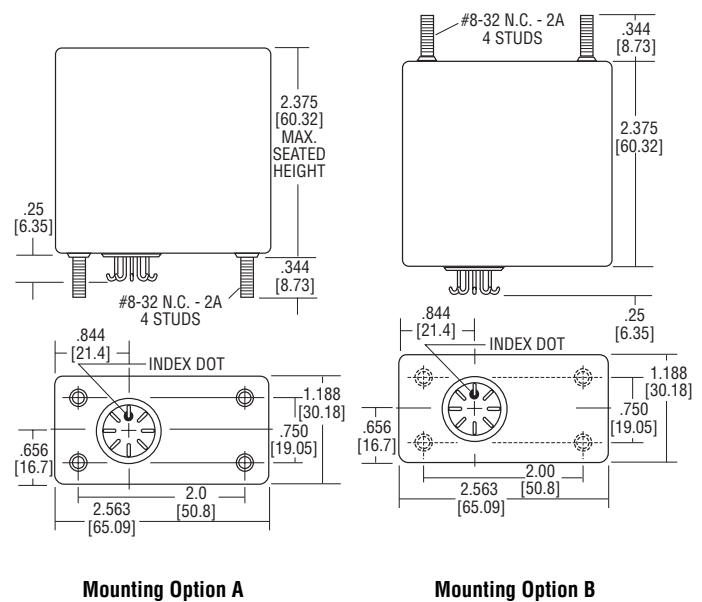


Figure 3
Applicable to 1407, 1409, 1410, 1438 and 1408 "B" revision only

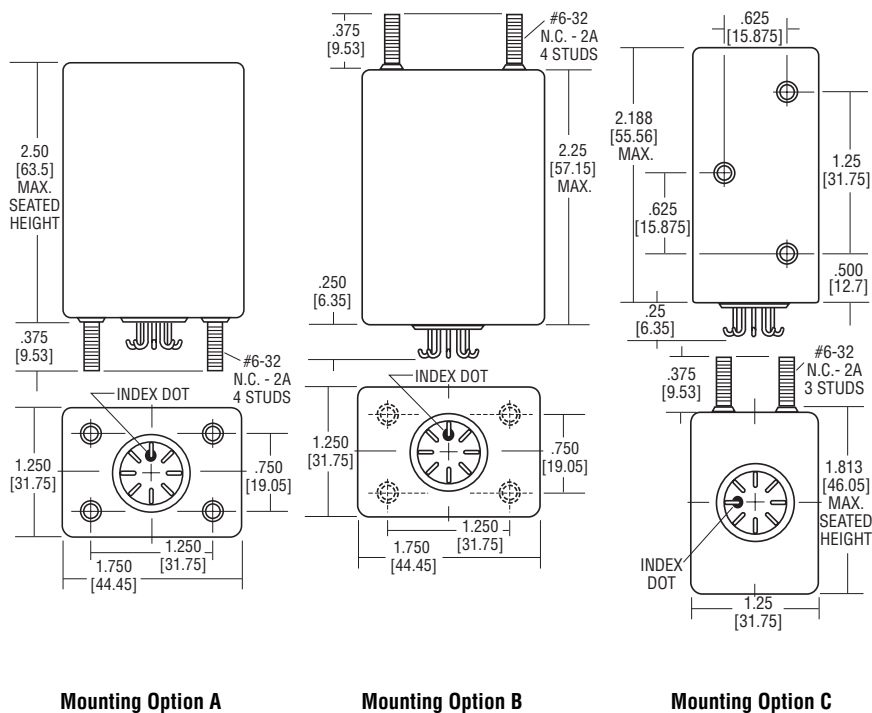


Figure 4
Applicable to 1439 and 1440

