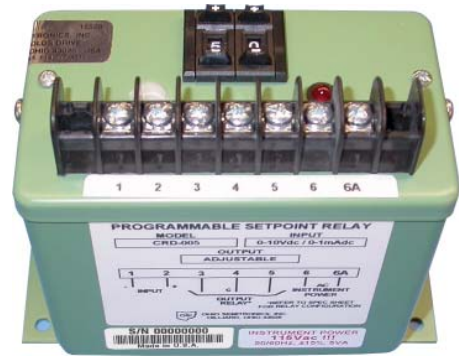


## PROGRAMMABLE AS A PERCENT OF RANGE

### FEATURES

- Programmable settings for either current or voltage input, threshold levels, and over- or under-relay alarms.
- Internal DIP-switches may be set for either 0-1mAdc or 0-10Vdc, and may be set for under-alarm or over-alarm relay operation.
- Factory setting “0-1mA and over-range alarm mode”
- Lid-mounted two-digit numerical push-button switch calibrated as percent of full scale with a threshold range of 1-99%.
- Red LED lamp lights to indicate when threshold level has been obtained.

**5 YEAR WARRANTY**



INPUT RANGE	INTERNAL SWITCH POSITIONS							
	1	2	3	4	5	6	7	8
	UNDER RANGE*							
0-1mA <sub>dc</sub>	ON	ON			ON	ON		
0-10V <sub>dc</sub>	ON	ON				ON		
	OVER RANGE**							
0-1mA <sub>dc</sub> *			ON	ON	ON	ON		
0-10V <sub>dc</sub>			ON	ON		ON		

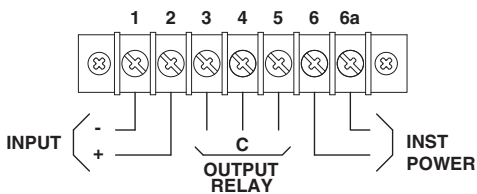
Highlighted area indicates Factory Setting. Unit is set at factory for the 0-1mA input and in the over-range alarm mode.

\*The output relay will energize when instrument power is applied and the current is above the set point threshold. It will remain in a “Fail Safe” mode until either the input current drops below the set point threshold or instrument power is removed.

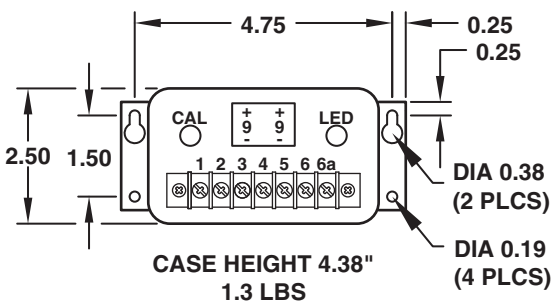
OUTPUT TERMINAL CONNECTIONS & LED OPERATION								
MODE OF OPERATION	UNDER RANGE*				OVER RANGE**			
	3	4	5	LED	3	4	5	LED
INST. POWER OFF	N/C	Com	N/O	OFF	N/C	Com	N/O	OFF
INST. POWER ON	N/C	Com	N/O	ON	N/O	Com	N/C	OFF
INST. PWR. ON INPUT BELOW SET POINT	N/C	Com	N/O	ON	N/O	Com	N/C	OFF
INST. PWR. ON INPUT ABOVE SET POINT	N/O	Com	N/C	OFF	N/C	Com	N/O	ON

\*\* The output relay will energize when instrument power is applied and will remain in a “Fail Safe” mode until either the instrument power is removed or the input exceeds the set point threshold level.

### CONNECTION DIAGRAM



### CASE DIMENSIONS



All dimensions in inches

### SPECIFICATIONS

#### INPUT

Current ..... 1mA<sub>dc</sub>  
 Current Burden ..... 1kΩ  
 Voltage ..... 0-10V<sub>dc</sub>  
 Voltage Burden ..... 10kΩ  
 Set Point (Digital) ..... 1-99%, 1% minimum

#### DIELECTRIC TEST

Input to Output and Case ..... 1500Vac

INSTRUMENT POWER ..... 85-135Vac, 50-400Hz, 2.5VA

#### OUTPUT

Relay ..... Form C, SPDT  
 Rating ..... 120Vac, 3A  
 Response Time ..... 10ms

#### ACCURACY

Accuracy ..... Setpoint ±2 digits  
 Resolution ..... ±1 Digit  
 Hysteresis ..... ±1 Digit  
 Temperature Effect (-10°C to +60°C) ..... ±0.1%/°C

#### MECHANICAL

Mechanical Operations ..... 1 Million

## RANGES UP TO 20Aac CURRENT INPUT

### FEATURES

- Programmable set-point relay setting for input current, threshold levels, over- and under-current operation.
- Internal DIP-switches may be set for current ranges of either 0-5, 0-10, 0-15, or 0-20 Amperes, and the relay mode for under- or over-current operation.
- Lid-mounted two-digit numerical push-button switch calibrated as percent of full scale with a threshold range of 1-99%.

- Red LED lamp lights to indicate when the threshold level has been obtained.

**5 YEAR WARRANTY**



INPUT RANGE (AMPS)	INTERNAL SWITCH POSITIONS							
	1	2	3	4	5	6	7	8
	<b>UNDER CURRENT*</b>							
5	ON	ON						ON
10	ON	ON						ON
15	ON	ON				ON		
20	ON	ON			ON			ON
	<b>OVER CURRENT**</b>							
5			ON	ON				ON
10			ON	ON				ON
15			ON	ON		ON		
20			ON	ON	ON			ON

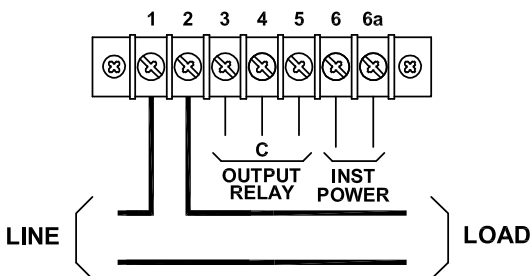
OUTPUT TERMINAL CONNECTIONS & LED OPERATION								
MODE OF OPERATION	UNDER RANGE*				OVER RANGE**			
	3	4	5	LED	3	4	5	LED
INST. POWER OFF	N/C	Com	N/O	OFF	N/C	Com	N/O	OFF
INST. POWER ON	N/C	Com	N/O	ON	N/O	Com	N/C	OFF
INST. PWR. ON, CURRENT BELOW SET POINT	N/C	Com	N/O	ON	N/O	Com	N/C	OFF
INST. PWR. ON, CURRENT ABOVE SET POINT	N/O	Com	N/C	OFF	N/C	Com	N/O	ON

Highlighted area indicates Factory Setting. Unit is shipped from the factory with a 0-5 Amp input and in an over-current relay mode. The set point relay can be set to provide any one of the four current ranges and modes of operation.

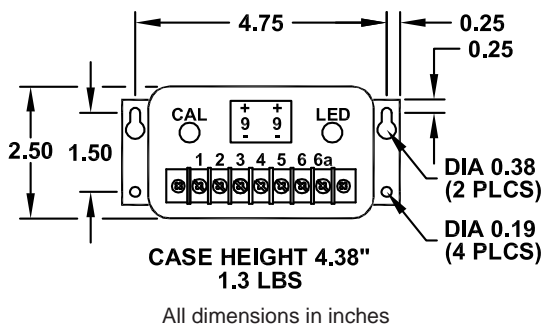
\* The output relay will energize when instrument power is applied and the current is above the set point threshold. It will remain in a "Fail Safe" mode until either the input current drops below the set point threshold or instrument power is removed.

\*\* The output relay will energize when instrument power is applied and will remain in a "Fail Safe" mode until either the instrument power is removed or the input current exceeds the set point threshold level.

### CONNECTION DIAGRAM



### CASE DIMENSIONS



### SPECIFICATIONS

#### INPUT

- Current Ranges..... (Selectable)
- Operation.....5A Range.....80mA to 5A
- 10A Range.....160mA to 10A
- 15A Range.....200mA to 15A
- 20A Range.....220mA to 20A
- Burden (Any Range) .....0.5VA, max.
- Over-current (Any Range)
  - Continuous .....25Aac
  - Transient .....50Aac (10s/Hr)
  - Transient .....250Aac (1s/Hr)
- Frequency ..... 50-425Hz, 60Hz Nom.

#### DIELECTRIC TEST

Input/Output/Instrument Power/Case..... 1500Vac

INSTRUMENT POWER .....85-135Vac, 50-400Hz, 2.5VA

#### OUTPUT

- Relay..... Form C, SPDT
- Rating.....120Vac, 3A
- Mechanical Operations.....1 Million
- Response Time to 90%...5A Range..... 200ms
- 10A Range..... 250ms
- 15A Range..... 350ms
- 20A Range..... 550ms

#### ACCURACY

- Setpoint.....±2 digits
- Resolution.....±1 digit
- Hysteresis .....±1 digit

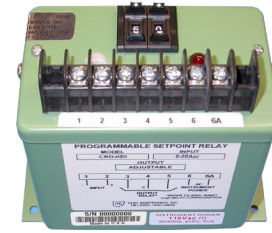
#### TEMPERATURE

Effect (-10°C to +60°C)..... ±0.1%/°C, ±0.1% F.S.

# OSI PROGRAMMABLE CURRENT RELAY MODEL CRD-020-TP

## FEATURES

- Complies with IEEE standard for Surge Withstand Capability (SWC) tests.
- User selectable input current ranges, threshold settings and over or under-current modes of operation.
- Internal, 8-position, DIP-switch selects input current ranges of 0-5, 0-10, 0-15, or 0-20 amperes as well as over or under-current modes of operation.
- Lid-mounted, two-digit, push-button switch to adjust threshold setpoint from 1-99 per-cent of input current range.
- Lid-mounted, red LED indicates when the threshold level has been reached.



**5 YEAR WARRANTY**

INPUT CURRENT RANGE	INTERNAL DIP-SWITCH POSITIONS							
	1	2	3	4	5	6	7	8
<b>UNDER-CURRENT OPERATION*</b>								
0-5A	ON	ON						ON
0-10A	ON	ON					ON	
0-15A	ON	ON				ON		
0-20A	ON	ON			ON		ON	
<b>OVER-CURRENT OPERATION**</b>								
0-5A			ON	ON				ON
0-10A			ON	ON			ON	
0-15A			ON	ON		ON		
0-20A			ON	ON	ON		ON	

Highlighted row indicates Factory Settings for a 0-5A current range and over-current operation.

\* The output relay energizes when instrument power is applied with input current above the threshold. It will remain energized ("fail-safe" mode) until input current drops below the threshold or instrument power is removed.

\*\* The output relay energizes when instrument power is applied with input current below the threshold. It will remain energized ("fail-safe" mode) until input current exceeds the threshold or instrument power is removed.

	RELAY OUTPUT TERMINALS and LED STATUS							
	UNDER-CURRENT*				OVER-CURRENT**			
	3	4	5	LED	3	4	5	LED
Inst. Power = OFF	N/C	Com	N/O	OFF	N/C	Com	N/O	OFF
Inst. Power = ON Current is Below Threshold	N/C	Com	N/O	ON	N/O	Com	N/C	OFF
Inst. Power = ON Current is Above Threshold	N/O	Com	N/C	OFF	N/C	Com	N/O	ON

## SPECIFICATIONS

### INPUT

- Current Ranges.....Selectable - see table
- Threshold settable Ranges ..... 0-5A = 0.080 - 5A  
0-10A = 0.160-10A  
0-15A = 0.200-15A  
0-20A = 0.220-20A
- Burden .....Any range ..... 0.5VA max.
- Over-range.....Continuous (all ranges) ..... 25A  
Transient..... 50A, 10s/Hr  
Transient..... 250A, 1s/Hr
- Frequency.....Nominal ..... 60Hz  
Range..... 50-425Hz Range

### DIELECTRIC TEST

Input/Output/Instrument Power/Case..... 1500Vac

INSTRUMENT POWER ..... 115Vac ±15%, 50-400Hz, 2.5VA

### OUTPUT

- Relay Contacts.....Arrangement..... Form C, SPDT
- Electrical Rating..... 115Vac / 24Vdc, 3A
- Mechanical Operations..... ≥1 Million
- Response Time..... 0-5A Range..... 200ms  
0-10A Range..... 250ms  
0-15A Range..... 350ms  
0-20A Range..... 550ms

### ACCURACY

- Threshold ..... Setpoint ..... ±2 digits  
Resolution..... ±1 digit  
Hysteresis..... ±1 digit

### TEMPERATURE

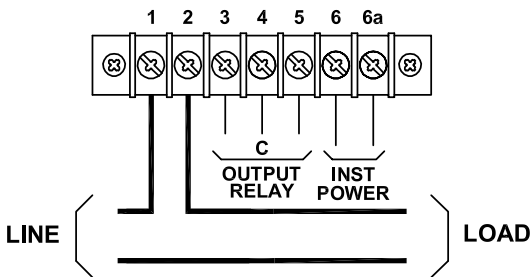
- Range ..... Operating..... -10°C to +60°C  
Effect ..... ±0.1%/°C, ±0.1% F.S.

### COMPLIANCE

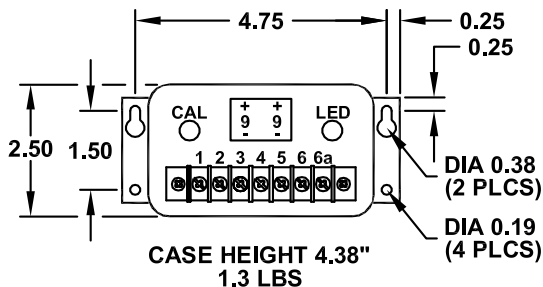
This unit complies with the IEEE standard for Surge Withstand Capability (SWC) tests.

Standard ..... IEEE C37.90.1 - 2012

## CONNECTION DIAGRAM



## CASE DIMENSIONS



Dimensions are in inches