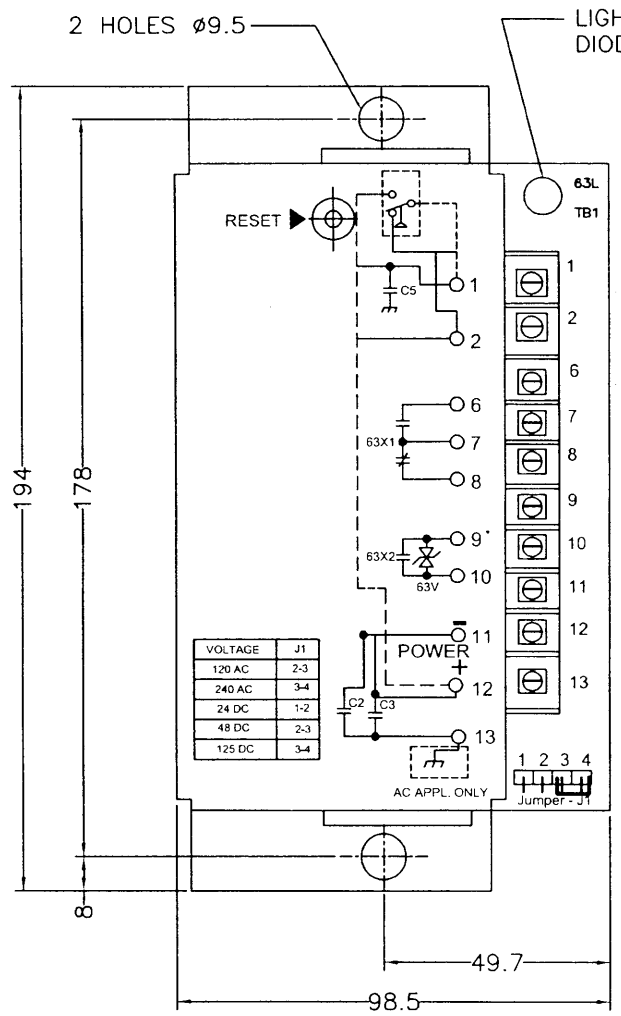

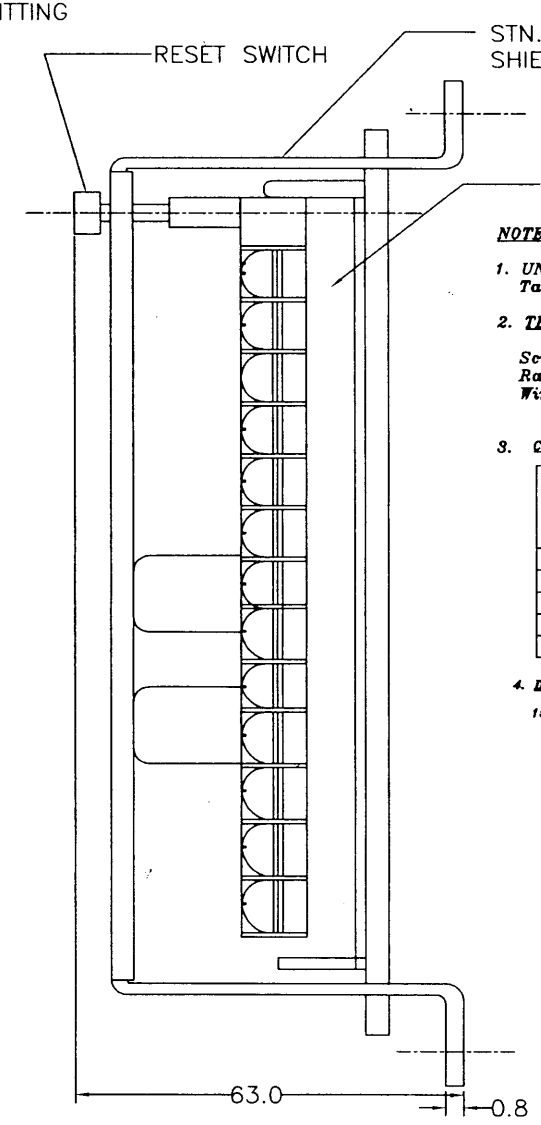

NOTES:-

1. *UNIT IS SHOWN WIRED FOR 240V AC. See Schematic Table for different Voltage inputs.*
2. ***TERMINAL BLOCK:***

   Screw: M3 Nickel plated steel
   Rating: 15A @ 1100V, rms
   Wire Range: 14-22 AWG

3. ***CONTACT RATING:***

VOLTAGE (VOLTS)	MAKE (AMPS)	CARRY (AMPS)	BREAK (AMPS)	
			RESISTIVE	INDUCTIVE*
24 DC	20	10	5	3
48 DC	20	10	2	1
125 DC	20	10	0.5	0.25
120 AC	20	10	10	5
240 AC	20	10	5	2.5

4. ***DIELECTRIC STRENGTH :***

   1500V-All terminals to shield.

INSTALLATION WIRING:

TERMINAL NUMBER(S)	PURPOSE
1	Common
2	Normally Closed Contact
12	Normally Open Contact
6,7 & 8	Alarm Contact
9 & 10	Trip Contact
11 & 12	Supply Power
13	Earth Ground Connector (FOR VAC ONLY) FOR VDC, DO NOT CONNECT TO EARTH GROUND

Seal in Relay AC / DC Current	REVISION 00
SCALE: NONE	REVISION DATE: 3 MAR 2010
HEARTLAND SOLUTIONS, INC.	DRAWING NO. TW-10102295
PH: 800.957.3493 FAX: 877.779.4567	
info@hland.com www.heartlandsolutionsinc.com	

Heartland
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1. DESCRIPTION

Seal-in Relays are designed for use with Rapid Pressure Rise Relays (Sudden Pressure Relay) and other instruments employed as protective equipment on transformers. The Seal-In Relay automatically maintains alarm and trip circuits when the momentary contacts of the protective device operate. These signals are held electronically until the reset button is manually depressed.

2. OPERATION

2.1. Operating Voltage:

The Seal-in Relay can be connected to 120 or 240 volts AC, 50 or 60 hertz. It also operates at standard substation DC voltages of 24, 48 or 125 Volts. The voltage selection can be easily made by using "jumper plug".

External connections are made on screw-type terminal blocks capable of accepting up to 12-22 SWG wire.

2.2. Operation of Seal-In Relay:

The operation of Seal-In Relay is designed to be used in conjunction with the 950 & 960 series Rapid Pressure Rise Relays which have a form C (single pole double throw snap switch). By design, the seal-In Relay provides a short across the relay coil to prevent false operation should the wiring to the Rapid Pressure Rise Relay fail, causing the common, normally open, and normally closed contacts to short.

The normally open contact must close, and the normally closed contact must open for the seal-in function to occur. A form C contact is required for proper operation.

When the switch operates normally, the Seal-In Relay coil is energized, operating and latching the alarm and trip circuit contacts.

These remain latched until the reset switch is manually depressed.

A red light emitting diode turns "on" when the seal-in circuit is latched and turns 'off' when the circuit is reset, returning all contacts to their normal positions.

2.3. Connections to RPRR & Alarm & Trip Circuit:

The common, normally closed, and normally open contacts of the initiating and protective device are wired to terminals 1,2 & 12, respectively. The alarm contacts (SPDT) and trip contacts (SPSTNO) are wired to terminals 6,7,8 and 9 & 10, respectively. Supply power is connected to terminals 11 & 12. For C applications, pin 13 should be connected to earth ground. Filter capacitors are located on the circuit board to filter out high frequency, high voltage spikes. They are present for the purpose of meeting the SWC test (surge withstand capability). For DC applications, it is important to not connect pin 13 to earth ground. The DC voltage going to the unit is considerably much "cleaner" than the AC voltage. The ground plane, during breaker switching, can cause significant voltage differences between earth ground and the DC input voltage. The SWC filter capacitors can under these conditions cause that voltage to back feed through the circuit and cause a false trip on Seal-In Relay.

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3. PRODUCT PERFORMANCE SPECIFICATIONS

INSTALLATION	:	**Any position**
SHIELD	:	**Stainless Steel 304 polished.**
WIRING DIAGRAM	:	**Black itched drawing on shield surface.**
VOLTAGE CONVERSION CHART	:	**Black itched diagram on shield surface.**
RELAY TYPE	:	**OEN C-12 volts- Unsealed.**
CONTACT LIFE	:	**Mechanical: 5 Million operations minimum.** **Electrical: 100,000 operations minimum.**
INDICATOR LIGHT	:	**Light emitting diode.**
MAXIMUM RELAYS AVAILABLE	:	**2**
ELECTRICAL CONNECTIONS	:	**Screw type terminal block.** **RATING: 20 A @ 600V** **WIRE RANGE: 12-22 AWG**
MOUNTING	:	**Surface mounting**
STANDARD VOLTAGES	:	**120/240 VAC** **+/- 15%, 24 +25% -0%, 48 +20% -0%** **AND 125 +/-20% VDC**
CURRENT DRAW	:	**Unlatched: 38mA** **During switch operation: 30mA** **While latched: 48mA**
STANDARD OPERATING TEMPERATURE	:	**10 to 40°C**
AMBIENT HUMIDITY	:	**95% Non-condensing.**
RESISTANCE TO SHOCK	:	**10g's Horizontal plane.**