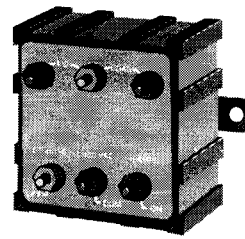




SSRL Series

Solid State Relays

Operator's Manual: M0991/1189



GENERAL DESCRIPTION

The OMEGA SSRL Series are latching 5 amp SPST NO relays with a small output current to sense the closing of dry mechanical relay contacts. They are ideal for converting non-latching mechanical relay outputs into latching alarm outputs, or to allow low power reed relay switches to control high amperage or high voltage devices, such as pumps or motors.

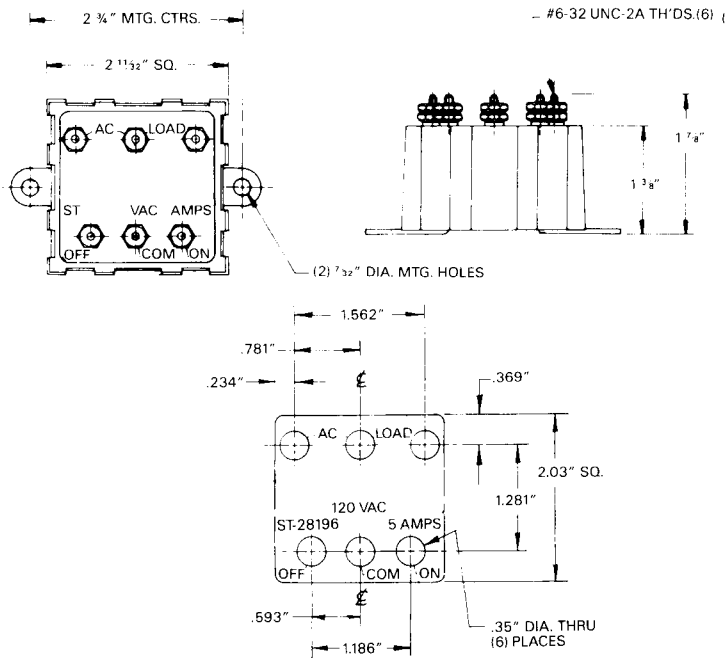
The SSRL also permits differential level control for pump-up or pump-down applications when combined with any two level switches with dry relay contact closures, such as two of the OMEGA LV-10 switches or LV-230 switches.

Latching operation is reset by making a momentary contact between the COM and OFF terminals. The SSRL holds its operational state for up to 1/2 second during momentary power loss to avoid nuisance shutdowns. A short between the COM and OFF terminals shuts the relay off, regardless of the switch status at the ON terminal.

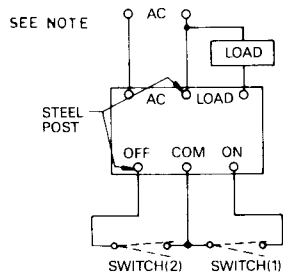
There are two models available:

- SSRL2 Switches 100 to 120 Vac loads, 50/60 Hz
- SSRL3 Switches 200 to 250 Vac loads, 50/60 Hz

MOUNTING DIMENSIONS



WIRING



NOTE

Switch closure (1) will cause current to flow thru the load even if SW (1) opens (latch). A momentary closure of SW (2) turns load current off.

WARNING

Switches can ONLY be dry mechanical or reed relay contacts. DO NOT use solid state or open collector switches. (Load can be a solid state relay with a dropping resistor.)

The use of a special Fast-Acting fuse is recommended, similar to the AMP-TRAP manufactured by Chase-Shawmut Co., per the following table:

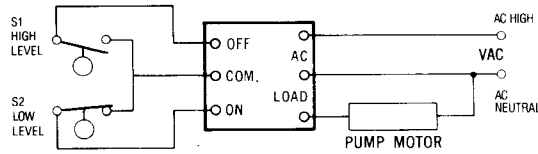
UNIT RATING AMP	AMP TRAP	
	CURRENT RATING AMP	FORM 101 P/N
2	15	A25 x 15
5	15	A25 x 15
10	20	A25 x 20
15	25	A25 x 25

SPECIFICATIONS

- OPERATING VOLTAGE: SSRL2: 100-130 Vac; SSRL3: 200-250 Vac
- BLOCK VOLTAGE, MAX: SSRL2: ± 200 V; SSRL3: ± 400 V
- LOAD SIDE VOLTAGE LOSS: 2 Vac
- MAXIMUM RELAY CLOSURE SENSE CURRENT/VOLTAGE: 20 mA @ 11 Vdc nominal
- LEAKAGE CURRENT: SSRL2: 2 mA; SSRL3: 4 mA
- MINIMUM LOAD: 10 times the leakage current
- MAXIMUM "ON" VOLTAGE: 2 V RMS
- MAXIMUM RMS LOAD CURRENT: 5 AMPS
- MAXIMUM SWITCH CURRENT: 20 mA
- TURN ON TIME: 5 msec

MAXIMUM TURN OFF TIME: 10 msec
AMBIENT TEMPERATURE: 0° to 120°F
WEIGHT: Approx. 6 oz
HOUSING MATERIAL: Polysulfone
INSULATION RESISTANCE FROM HOUSING/OR BRACKET TO ANY TERMINAL: 100 MΩ
DIELECTRIC STRENGTH FROM HOUSING/OR BRACKET TO ANY TERMINAL: 1000 V
INTERRUPTION OF POWER: With SSRL "ON", will cause a time delay of 0.3 to 0.7 seconds
INRUSH CURRENT: 50 AMPS for .010 seconds;
 20 AMPS for 1.0 seconds;
 10 AMPS for 10 seconds

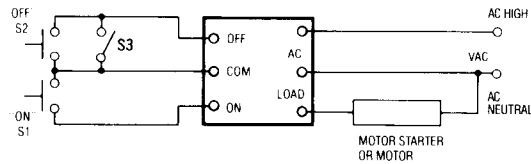
TYPICAL WIRING DIAGRAMS



SSRL providing pump up/pump down control:

REFILL: Low level permits S2 to close, starting refill pump. Rising level allows S2 to open, and eventually closes S1 to actuate the SSRL "OFF" circuit and stop the pump motor. The SSRL "OFF" override assures pump shut-down even if S2 failed to open.

PUMP DOWN: With "ON" and "OFF" connections of S1 and S2 transposed at the SSRL, the pump is started by S1 and stopped by S2 at low level. The same "OFF" override prevails.



With two normally open, momentary contact push buttons (S1 and S2), the SSRL provides solid state control of the motor starter or the motor itself, if load requirements are within the SSRL ratings. S3 provides a safety shut-down. With S3 closed, the "ON" push button (S1) is rendered ineffective by the "OFF" override feature of the SSRL.



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Customer Service: 1-800-622-2378 / 1-800-622-BEST™
Engineering Service: 1-800-872-9436 / 1-800-USA-WHEN™
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LE9 6TU, England
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WARRANTY

OMEGA warrants this unit to be free of defects in materials and workmanship and to give satisfactory service for a period of **13 months** from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that our customers receive maximum coverage on each product. If the unit should malfunction, it must be returned to the factory for evaluation. Our Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective it will be repaired or replaced at no charge. However, this WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear or which are damaged by misuse are not warranted. These include contact points, fuses, and triacs.

We are glad to offer suggestions on the use of our various products. Nevertheless, OMEGA only warrants that the parts manufactured by it will be as specified and free of defects.

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Every precaution for accuracy has been taken in the preparation of this manual; however, OMEGA ENGINEERING, INC. neither assumes responsibility for any omissions or errors that may appear nor assumes liability for any damages that result from the use of the products in accordance with the information contained in the manual.

SPECIAL CONDITION: Should this equipment be used in or with any nuclear installation or activity, buyer will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the equipment in such a manner.

RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA ENGINEERING Customer Service Department. Call toll free in the USA and Canada: 1-800-622-2378, FAX: 203-359-7811; International: 203-359-1660, FAX: 203-359-7807.

BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, YOU MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OUR CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. P.O. number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems you are having with the product.

FOR **NON-WARRANTY** REPAIRS OR **CALIBRATION**, consult OMEGA for current repair/calibration charges. Have the following information available BEFORE contacting OMEGA:

1. P.O. number to cover the COST of the of the repair/calibration,
2. Model and serial number of product, and
3. Repair instructions and/or specific problems you are having with the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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