

# Model RLY7 - Three Phase DIN Rail Mount Solid State Relay

- INTEGRATED HEAT SINK
- SOLID STATE SWITCHING
- 25 A THREE PHASE OUTPUT RATING
- SWITCHING: 48 TO 660 VAC
- CONTROL SIGNAL: 4 TO 32 VDC
- ZERO VOLTAGE TURN-ON
- MOUNTS ON DIN RAIL OR DIRECTLY TO PANEL
- 4000 VOLT ISOLATION
- LED "ON" INDICATOR
- CAGE CLAMP TERMINATIONS



## DESCRIPTION

The RLY7 is a three phase solid state relay that switches load currents up to 25 A. The unit features zero voltage turn-on to minimize radiated RFI when switching. A low level DC control signal of 4 to 32 VDC is all that is needed for the switching operation. This unit provides a greatly increased operational life over a mechanical relay by avoiding the usual relay contact problems such as: arcing, bouncing, and mechanical failure.

## SAFETY SUMMARY

All safety related regulations, local codes and instructions that appear in the literature or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Do not use this unit to directly command motors, valves, or other actuators not equipped with safeguards. To do so, can be potentially harmful to persons or equipment in the event of a fault to the unit.

 <b>CAUTION: Risk Of Danger.</b> Read complete instructions prior to installation and operation of the unit.	 <b>CAUTION: Risk of electric shock.</b>
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## ORDERING INFORMATION

MODEL NO.	DESCRIPTION	PART NUMBERS
RLY7	25 A Three Phase Solid State Relay, DIN Rail Mount	RLY70100



Do not dispose of unit in trash - Recycle

## SPECIFICATIONS

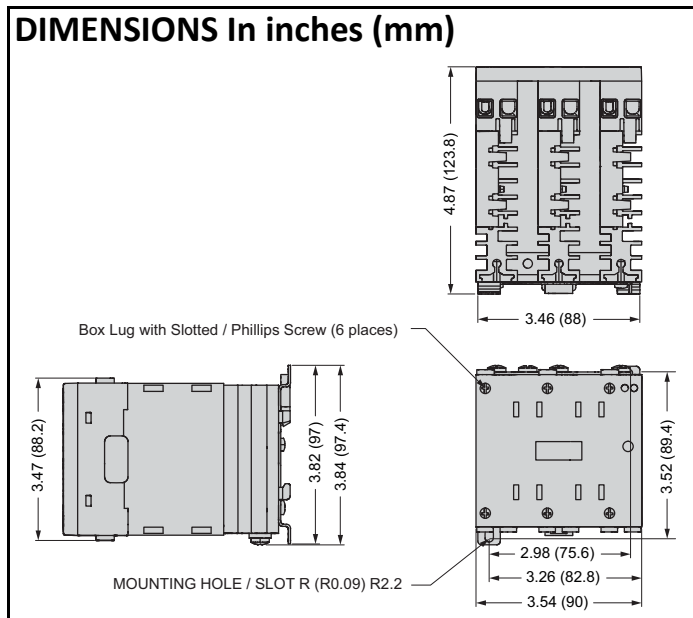
1. **CONTROL CIRCUIT VOLTAGE:** 4 to 32 VDC
2. **SWITCHING VOLTAGE:** 1 VDC turn-off; 4 VDC turn-on
3. **INPUT CURRENT:** 22-28 mA
4. **MAXIMUM CAPACITANCE:** ≤ 8 pf for input/output
5. **INSULATION RESISTANCE:** 1000 MΩ

6. **LOCAL SIGNALING:** Green LED indicates active input/output status
7. **SOLID STATE OUTPUT TYPE:** Zero voltage switching
8. **CONTACT TYPE:** 3 NO
9. **OUTPUT VOLTAGE:** 48 to 600 VAC  
Allowable Frequency On Output: 47 – 63 Hz
10. **VOLTAGE DROP:** 1.35 V on-state
11. **TRANSIENT OVERVOLTAGE:** 1100 V
12. **LOAD CURRENT:** 0.1-25 A
13. **SURGE CURRENT:** ≤300 A for 16.6 msec at 60 Hz; ≤286 A for 20 msec at 50 Hz
14. **LEAKAGE CURRENT:** ≤ 0.25 mA off-state
15. **MOTOR POWER HP:**  
3 hp at 40 °C 480 VAC  
2 hp at 40 °C 380 VAC  
1 hp at 40 °C 240 VAC
16. **MAXIMUM I<sup>2</sup>T FOR FUSING:**  
374 A<sup>2</sup>.s for 8.3 msec at 60 Hz half cycle  
410 A<sup>2</sup>.s for 8.3 msec at 50 Hz half cycle
17. **DV/Dt:** 500 V/μsec pff-state at maximum voltage
18. **RESPONSE TIME:** 0.5 cycle turn-off; 0.5 cycle turn-on
19. **POWER FACTOR:** 0.5 with maximum load
20. **OVERVOLTAGE CATEGORY:** III
21. **CONNECTIONS (terminals):**  
1.3 - 5.3 mm<sup>2</sup> (AWG 16-10) for output  
0.2 - 1.3 mm<sup>2</sup> (AWG 24-16) for input
22. **TIGHTENING TORQUE:**  
Output: 1.36-1.7 N.m  
Input: 0.6-0.7 N.m
23. **MOUNTING SUPPORT:** Symmetrical DIN rail
24. **PRODUCT WEIGHT:** 26.1 oz (0.74 kg)

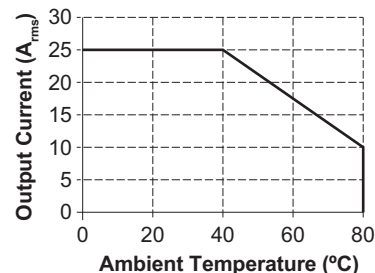
## ENVIRONMENTAL SPECIFICATIONS

25. **DIELECTRIC STRENGTH:** 4 kVAC for input or output to case  
4 kVAC for input/output
26. **POLLUTION DEGREE:** 2
27. **STANDARDS:** UL 508, IEC 60950-1, CSA C22.2 No 14
28. **PRODUCT CERTIFICATIONS:** CSA File: 269719, UL File: E137808
29. **MARKING:** CE, CSA, UL
30. **IP DEGREE OF PROTECTION:** IP20
31. **AMBIENT AIR TEMPERATURE FOR OPERATION:** -20 to 80 °C
32. **AMBIENT AIR TEMPERATURE FOR STORAGE:** -40 to 100 °C

## DIMENSIONS In inches (mm)

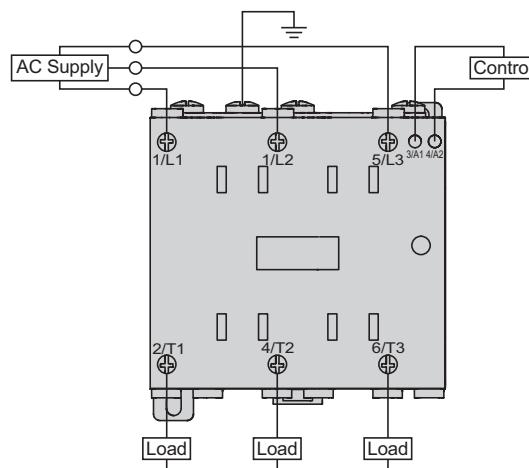


## DERATING CURVE



## WIRING

Maximum wire size of AWG #16 (1.3 mm<sup>2</sup>) on input and AWG #10 (5.3 mm<sup>2</sup>) output terminals. Ensure that wire ends are stripped to a minimum length of 0.4 in (10 mm). Recommended screw torque range is 4.4 in-lbs (0.5 N-m) on input and 12 in-lbs (1.3 N-m) on output.

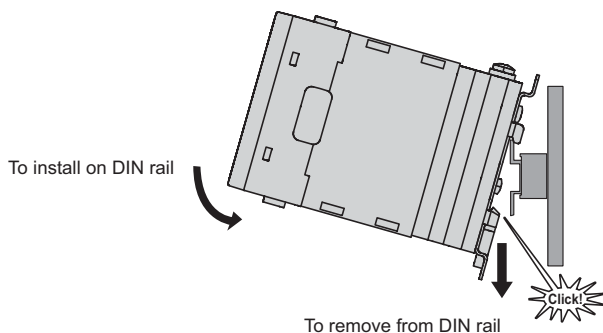


## MOUNTING

### DIN Rail Mounting

1. Locate rail and align with non movable end of RLY7 DIN clip.
2. With reasonable force, push RLY7 in the direction of the arrow shown in the figure below.
3. For removal, pull release tag in direction of arrow using the blade of a screwdriver and pull it away from the DIN rail.

Note: To achieve maximum ratings if multiple units are installed, there must be a minimum air gap of 0.8 inch (20 mm) between the devices (horizontally) and of 3.15 in (80 mm) measured between DIN clip tabs (vertically).



## LIMITED WARRANTY

(a) Red Lion Controls Inc. (the "Company") warrants that all Products shall be free from defects in material and workmanship under normal use for the period of time provided in "Statement of Warranty Periods" (available at [www.redlion.net](http://www.redlion.net)) current at the time of shipment of the Products (the "Warranty Period"). **EXCEPT FOR THE ABOVE-STATED WARRANTY, COMPANY MAKES NO WARRANTY WHATSOEVER WITH RESPECT TO THE PRODUCTS, INCLUDING ANY (A) WARRANTY OF MERCHANTABILITY; (B) WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE; OR (C) WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY; WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE.** Customer shall be responsible for determining that a Product is suitable for Customer's use and that such use complies with any applicable local, state or federal law.

(b) The Company shall not be liable for a breach of the warranty set forth in paragraph (a) if (i) the defect is a result of Customer's failure to store, install, commission or maintain the Product according to specifications; (ii) Customer alters or repairs such Product without the prior written consent of Company.

(c) Subject to paragraph (b), with respect to any such Product during the Warranty Period, Company shall, in its sole discretion, either (i) repair or replace the Product; or (ii) credit or refund the price of Product provided that, if Company so requests, Customer shall, at Company's expense, return such Product to Company.

**(d) THE REMEDIES SET FORTH IN PARAGRAPH (c) SHALL BE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDY AND COMPANY'S ENTIRE LIABILITY FOR ANY BREACH OF THE LIMITED WARRANTY SET FORTH IN PARAGRAPH (a).**