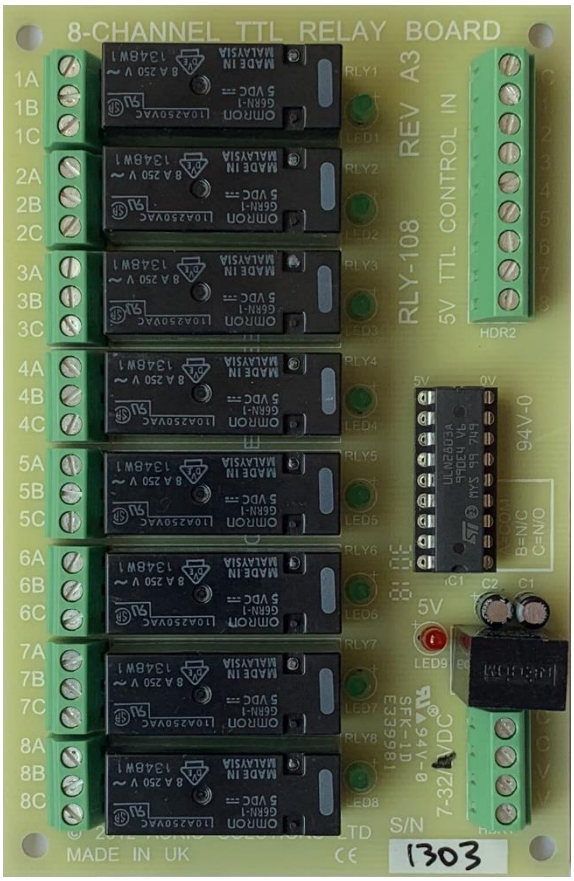

RLY-108 8-Channel TTL Relay Board

Operating Instructions

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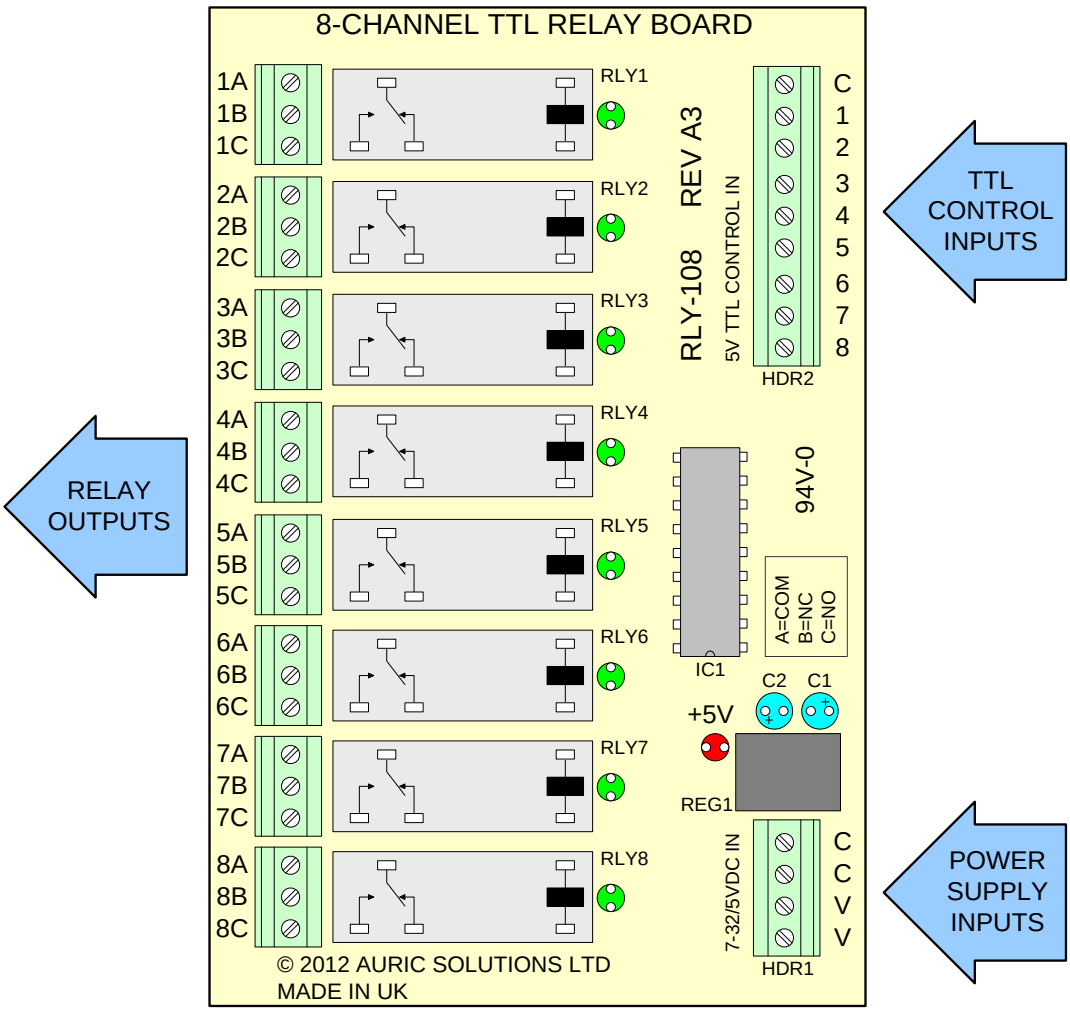
Contents

Features

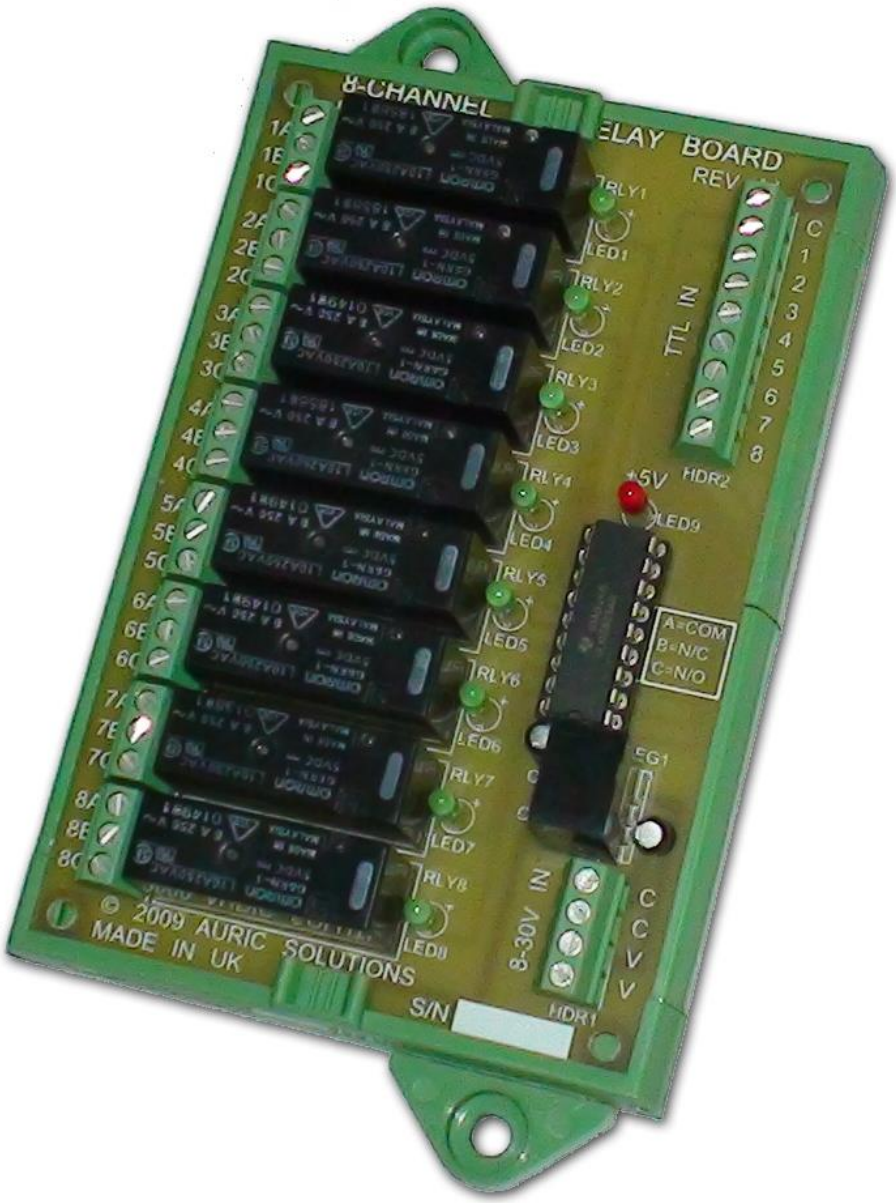
- The RLY-108 provides 8 independently-controlled SPDT relays.
- Control signals for switching the relays use +2V to +5V logic levels and are TTL compatible.
- The RLY-108 requires an external DC power supply with a voltage range of 7 to 32 VDC, or optionally a fixed 5V supply (the onboard regulator is replaced by a link).
- LEDs are provided for clear indication of power and relay operation.
- All field wiring connections are by means of screw terminals for stranded wires up to maximum size of 1 mm².
- The RLY-108 may be mounted directly to a panel using appropriate length insulating standoffs.
- Alternatively, the RLY-108 may be mounted on a panel or DIN rail using the optional universal mounting base.



Component layout on the RLY-108 relay board.

Universal Mounting

- The RLY-108 may be mounted on a panel or DIN rail using the optional universal mounting base, as shown below.
- The universal mounting base has a screw mount at each end, which may simply be removed if not required.
- The underside of the base has slots to mount two DIN rail feet. These may simply be removed if not required.



Connections

Power Supply

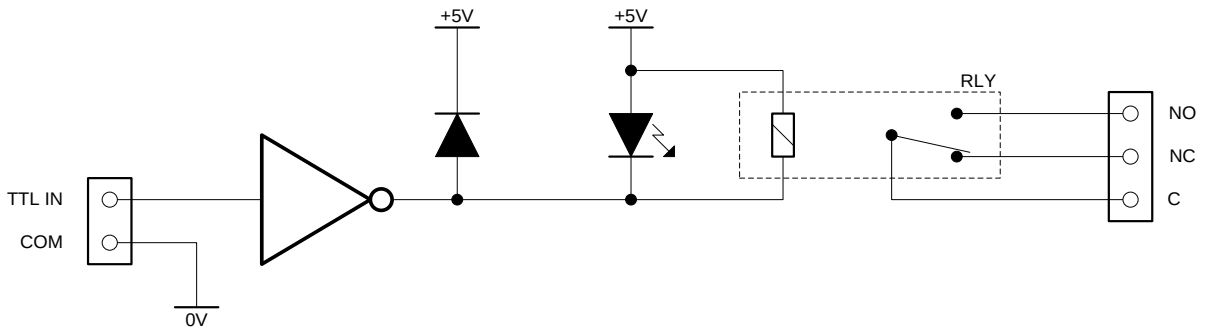
- The external DC power supply *must* be connected to HDR1.
- The standard board has a +7 to +32VDC supply voltage range.
- The 5V supply version requires only +5VDC.
- The positive supply input connects to either of the V terminals.
- The 0V supply input connects to either of the C terminals.
- The spare V and C terminals are intended to loop the power to/from other equipment.

Control Signals

- Control signal inputs *must* be connected to HDR2.
- The C terminal is the signal common, or logic 0V reference.
- Each of the other terminals number 1 to 8 provides the input for a TTL signal corresponding to the equivalently numbered relay.
- A TTL or 5V CMOS or +2-5VDC logic high on an input will energise the corresponding relay coil.

SPDT Relays

- Each SPDT relay has its own 3-terminal connector.
- The A terminal is the COMMON.
- The B terminal is the NORMALLY CLOSED (NC).
- The C terminal is the NORMALLY OPEN (NO).
- The relay's LED will illuminate when the relay is energised.



Electrical circuit diagram for a single relay channel.

Safety Guidelines

- The RLY-108 has a galvanic isolation barrier between relay contacts and the control circuitry to protect the control system and power supply from potentially hazardous voltages.
- The RLY-108 is intended for indoor use only and *must* be mounted inside a suitable UL-rated enclosure.
- Make sure that all field wiring and connections meet applicable electrical codes of practice for safety and ease of identification.
- Mount the RLY-108 in an area and position that prevents accidental or unauthorised access to wiring that carries hazardous voltages.

Specifications

Electrical

- Number of channels 8
- Switching control signal type ..... +5V/TTL/5V CMOS
- Minimum switching control voltage ..... +1.7 VDC
- Relay type ..... SPDT (SPCO)
- Relay contact material ..... AgNi + gold plating
- Relay maximum switching voltage ..... 250 VAC; 30 VDC
- Relay maximum switching current ..... AC 8 A; DC 5 A
- Relay life expectancy (at full AC load) 100,000
- Relay operate time ..... 15 ms max.
- Supply voltage ..... 7 to 32 VDC (5 VDC option)
- Supply power requirement ..... 2.1 W max.
- Supply current at 5V ..... 420 mA
- Supply current at 7V ..... 280 mA
- Supply current at 32V ..... 65 mA

Mechanical

- Weight ..... 122 g
- Weight (with universal mounting) ..... 186 g
- PCB dimensions ..... 110 x 72 mm
- Overall dimensions (with universal mounting) ..... 139 (L) x 77 (W) x 44 (H)
- Relay life expectancy (operations) ..... 10,000,000 min.

Environmental

- Storage temperature .....-40 to 85 °C
- Operating temperature .....-40 to 70 °C
- Humidity .....85% RH max.

Safety

This product is designed to meet the requirements of the following standards of safety of electrical equipment for measurement, control, and laboratory use:

- EN601010-1:2001 Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements

Electromagnetic Compatibility

This product is designed to meet the requirements of the following standards of EMC of electrical equipment for measurement, control, and laboratory use:

- EN61326-1:2006 Electrical equipment for measurement, control and laboratory use — EMC requirements Part 1: General requirements

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

- The Low Voltage Directive 2006/95/EC
- The EMC Directive 2014/30/EC
- The RoHS 2 Directive 2011/65/EU

Support

For technical support, contact Auric Solutions Ltd using one of the following methods:

- Web.....www.auricsolutions.com
- Email .....support@auricsolutions.com
- Telephone (UK) .....+44 7968 470945