

Product Guide

Remote Time Delay Switch  
3-wire version

today, tomorrow and in the future

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Issue 1.0

## Product Overview

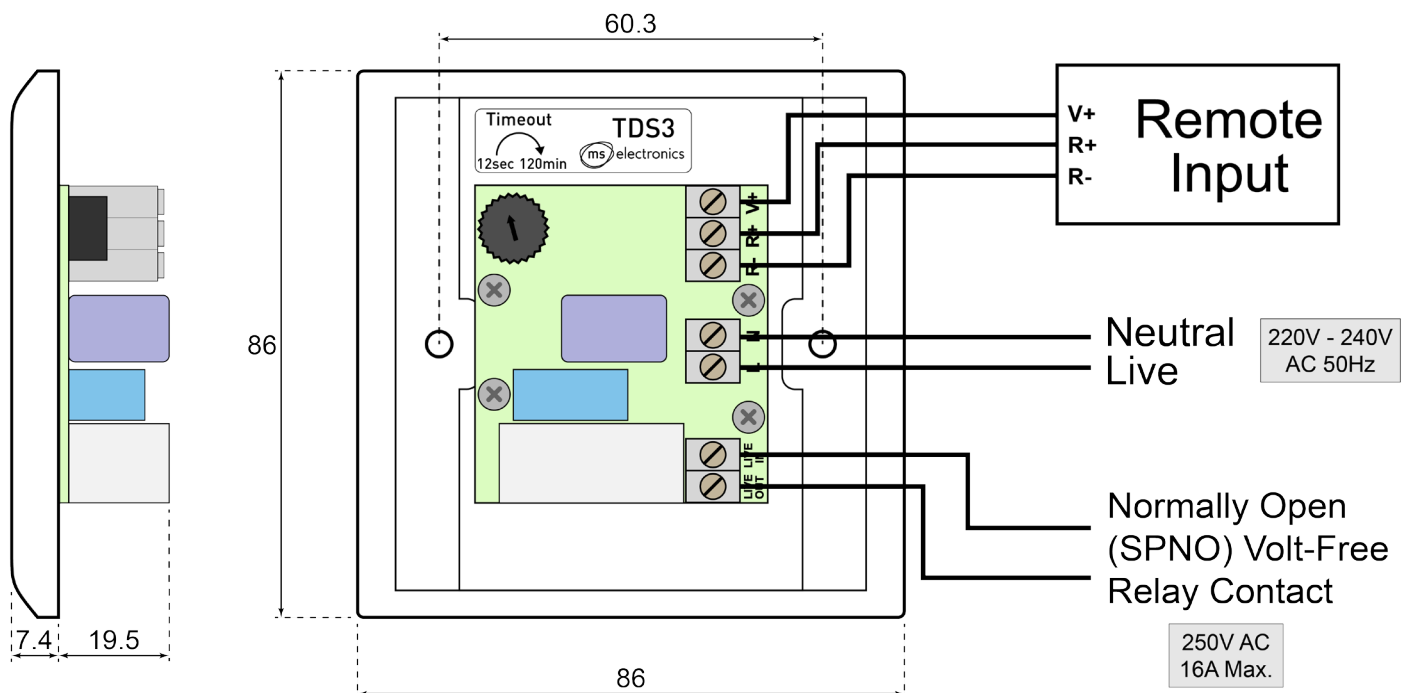
The RTDS3 Remote Time Delay Switch provides timed switching for lighting, heating, air conditioning and ventilation equipment, to be used with a separate switch or interfaced to a control system such as a building management system (BMS). Housed behind a vandal-resistant bare faceplate, the unit is operated by a momentary contact closure input, offering remote activation of the connected load whilst saving energy by switching it off automatically when not required (after an adjustable period). At any time, the activation period may be extended with a further brief contact closure, or cancelled by an extended closure. The unit is available with different time delay ranges (see *Technical Specification*).

The unit is simple to install and fits a standard single-gang UK pattress or back box (20mm min. depth). Ideal applications include small booths or rooms, workshops, entrance halls, staircases, toilets, store cupboards, hired sports courts and rooms plus many more.

**Figure 1** RTDS3



**Figure 2** Typical wiring example and dimensions (in millimetres)



## Electrical Requirements

Before attempting to install the unit, ensure that the intended load and wiring arrangement comply with the following requirements. Figure 2 shows a typical wiring example.

- **3-wire (live/neutral + volt-free switch) connection:** The unit requires a permanent live/neutral connection, and as such is *not* suitable for replacing an existing light switch with no neutral conductor at the switch location. A volt-free relay output is provided, which can be used to switch a load on the same mains supply (by connecting across from **L** to **LIVE IN**, making **LIVE OUT** a switched live), or to provide a contact closure to a separate load or control signal. There is no minimum load requirement.

*Also available: RTDS2 (2-wire version)* – Suitable for ‘inline’ connection with the load to be switched (no neutral required), such as to replace a standard light switch. A minimum load of **20W (per switch unit)** applies; a load capacitor is required for smaller loads.

- **Maximum load:** The maximum load rating is **16A (4000W)**, however for high inrush loads (such as most types of lighting), a lower limit applies: see *Technical Specification*.
- **Remote Input:** The unit is operated by momentary contact closures across the **R+/R-** terminals (see Figure 2) according to the operating sequence (see *Operation*). At least one appropriate switch or relay must be connected in accordance with the *Remote Input Wiring* section. All wiring must be rated for mains voltages, and relay operation must conform to the specified timings (see *Technical Specification*).



The remote input connections are referenced to the mains supply of the unit and are therefore *not* safe to touch when the unit is powered. All switches and cables must be rated for mains voltages.

# Remote Input Wiring

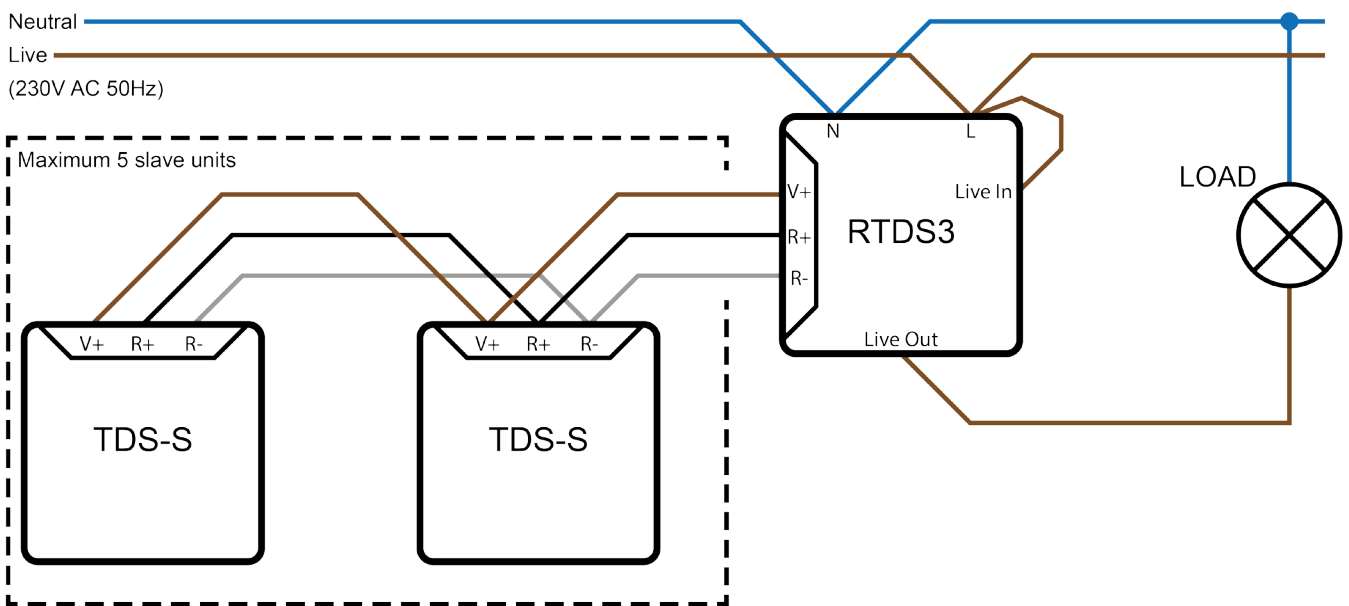
Up to five inputs may be connected in parallel to control the unit. Each input device may be either a volt-free relay output, a normally-open mechanical switch (such as a pushbutton or retractive rocker), or a TDS-S slave unit, which provides a touch-sensitive button.

- ⚠ Do not apply any voltages to the remote input terminals.
- ⚠ The following wiring example is intended only as a recommendation. Proper wiring practice must be observed with relevance to the particular installation.

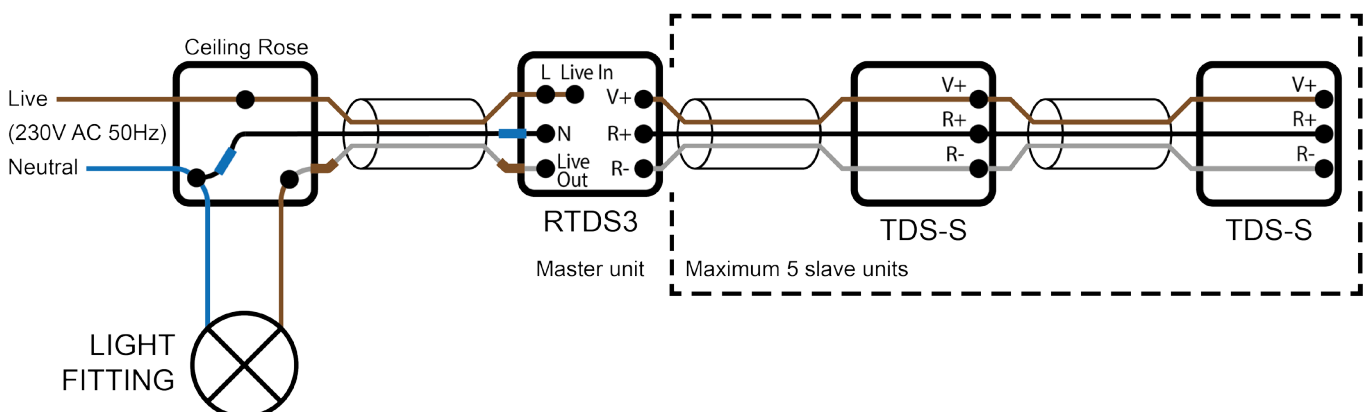
Referring to the steps under *Installation*, connect the remote input(s) as follows.

- **TDS-S:** Use 3-core mains-rated cable and connect as shown below. Figure 3 illustrates a typical wiring example using two TDS-S slave units; Figure 4 represents the same configuration as applied to a typical ceiling rose lighting circuit.
- **Relays and other switches:** Use 2-core mains-rated cable and connect to the **R+** and **R-** terminals only (polarity does not matter); do not use the **V+** terminal.


**Figure 3** Typical wiring schematic using two TDS-S slave units




**Figure 4** Typical ceiling rose plan using two TDS-S slave units



# Installation

 All electrical installation and maintenance must be carried out by a competent person. If in doubt, consult a qualified electrician. Any new wiring must be carried out by qualified personnel in accordance with the current edition of the IET Wiring Regulations (BS7671).

 Ensure the electrical supply is isolated before making any connections or adjustments.

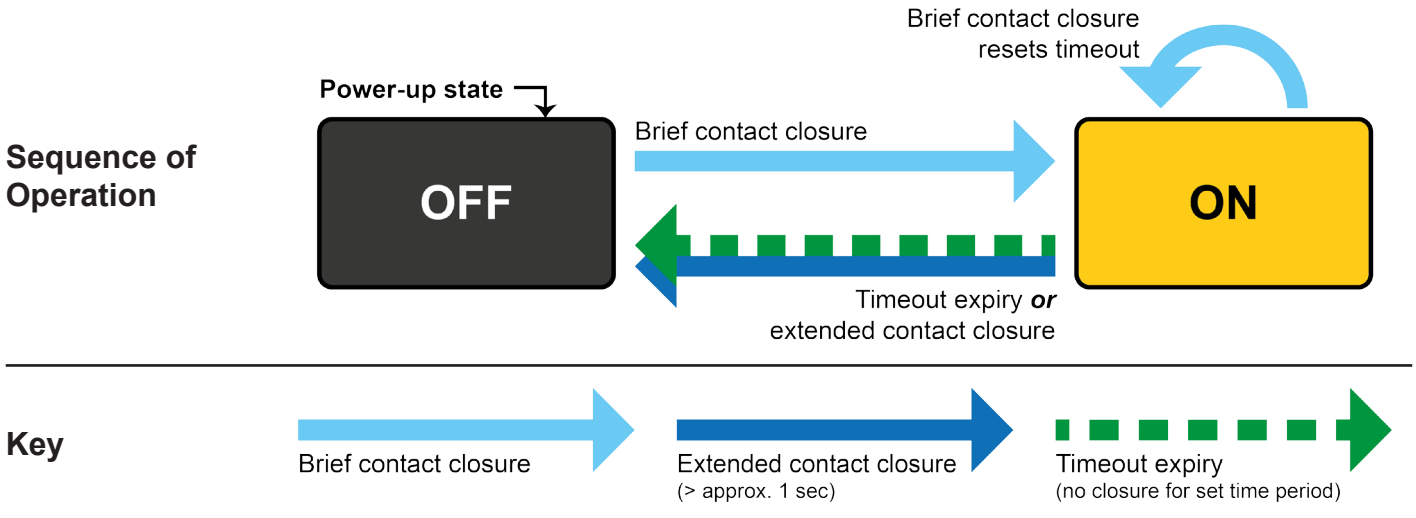
1. Prepare a single-gang pattress or back box as necessary.
2. Rotate the **Timeout** thumbwheel (referring to the accompanying label) to set the period of time for which the load should remain switched on after a contact closure trigger.
3. Connect the wiring as shown in Figure 2 (or in any suitably appropriate form).
  - **Supply connections (L, N):** Use appropriate mains cable to power the unit. If the load is also powered via this wiring, ensure the current rating is adequate. Otherwise (i.e. if the output is independently powered), low-current cable may be used.
  - **Load connections (LIVE IN, LIVE OUT):** Use cable rated for the load current and voltage.
  - **Remote input connections (V+, R+, R-):** Low-current cable may be used but **must be rated for mains voltages**. Refer to *Remote Input Wiring* for wiring details for different input devices.
4. Fix the unit into position with the two screws and caps supplied.

## Additional Guidelines

- The screw caps may be removed at a later date with the aid of an adhesive putty such as Blu-Tack.

# Operation

The diagram below illustrates the sequence of operation for the unit.



## Fault Finding



Ensure the electrical supply to the unit is isolated before making any adjustments.

### Load will not switch on

#### a) *Unit is not powered*

- Ensure the unit is correctly connected to an active mains supply.

#### b) *Load is not connected correctly*

- Ensure the load is connected appropriately. The relay output is volt-free so must be connected suitably to a supply in order to power a load.
- Check that the load works on its own by bypassing the time delay switch.

#### c) *Remote input is not recognised*

- Ensure the input device in use is supported and is correctly connected: see *Remote Input Wiring*.
- Check that the input device (switch or relay output) operates correctly without the time delay switch connected. For relays, ensure that the contact closure action conforms to the specified timings (see *Technical Specification*).

### Load switches on, but does not switch off (or lighting load flickers)

- Ensure the set period has elapsed since the last remote input contact closure.
- If attempting to cancel the activation period, ensure that the remote input contact closure action conforms to the specified timings (see *Technical Specification*).

Technical Specification	
Power supply	220V - 240V AC 50Hz (live/neutral)
Output switch type	Volt-free SPST (normally open) relay
Output switch rating	16A, 250V AC (resistive)
Maximum lighting load	Incandescent: 12A (3000W) Fluorescent: 10A (2500W) Compact Fluorescent: 10A (2500W)
Remote input type	Non-isolated, momentary (normally open)
Remote input contact closure timing	Brief (on/reset): 50ms < t < 700ms Extended (off): t > 1000ms
Time delay selection	3 seconds to 30 minutes or 6 seconds to 60 minutes or 12 seconds to 120 minutes
Mounting hardware	20mm (min.) single-gang UK pattress box
Operating temperature	-10°C to +40°C
Guarantee	5 Years
Weight	87g
Dimensions	86mm x 86mm x 27mm

## Technical Support

For further help or information on this and other products in the MS Electronics range visit [www.mselectronics.co.uk](http://www.mselectronics.co.uk) or call 0333 666 1176.

Alternatively, email [techsupport@mselectronics.co.uk](mailto:techsupport@mselectronics.co.uk)  
Additional copies of this product guide can be downloaded from our website.

## Product Warranty

MS Electronics guarantees all their products against manufacturing defects for 5 years from the purchase date. If your product is found to be faulty, MS Electronics will, at their discretion, repair or replace the product free of charge.

## Note

Any modification or damage to the product including damage due to abuse or incorrect wiring may invalidate the guarantee.



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