

## Product Guide

# Remote Time Delay Switch 2-wire version

A large, abstract graphic composed of many thin, light blue lines that flow and curve across the middle of the page, creating a sense of motion and energy.

today, tomorrow and in the future

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Issue 1.0

## Product Overview

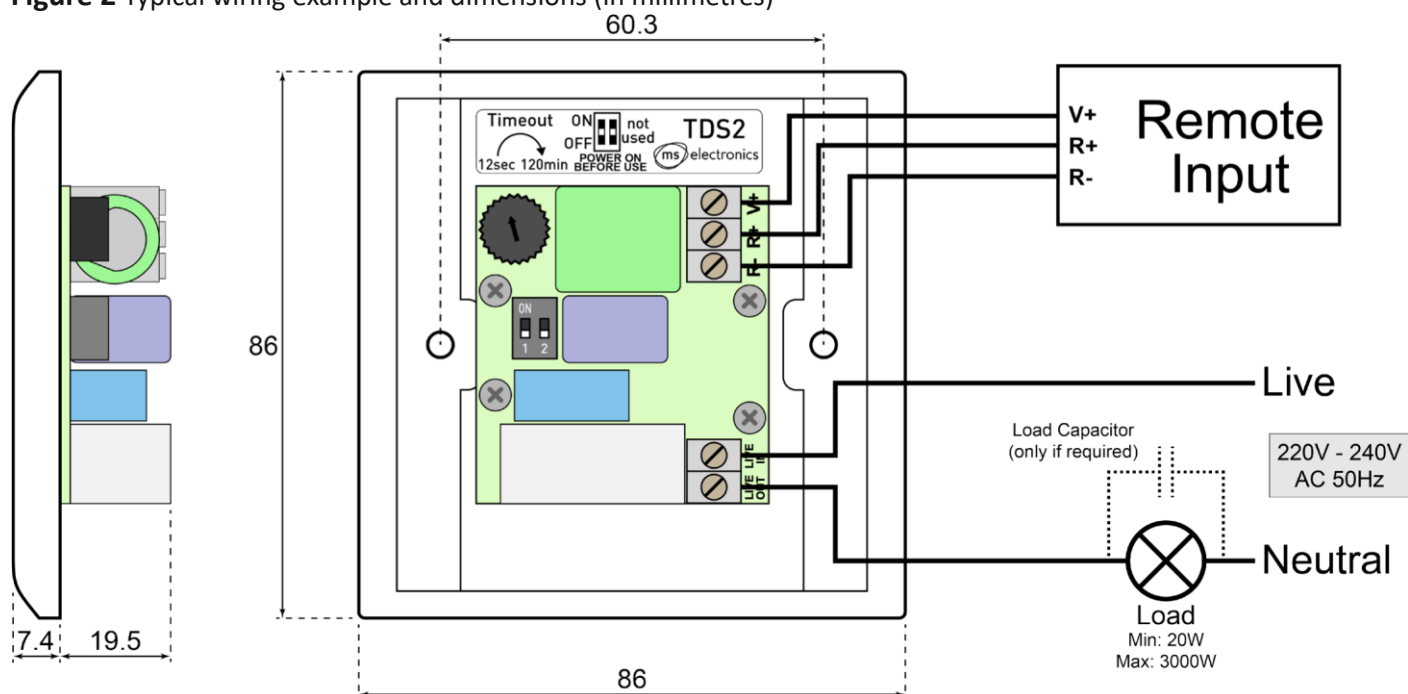
The RTDS2 Remote Time Delay Switch provides timed switching for lighting, heating, air conditioning and ventilation equipment, to be used with a separate switch or interfaced to a control system such as a building management system (BMS). Housed behind a vandal-resistant bare faceplate, the unit is operated 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** RTDS2



**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.

- **2-wire (live/load) connection:** The unit connects 'inline' with the load, and is therefore suited to replacing an existing standard light switch (or similar) with no permanent mains neutral conductor available at the switch location.
- **Minimum load:** This 2-wire model requires a minimum load of **20W (per switch unit)** in order to function correctly. If this is not met, or if faults occur in use (such as the load not switching off), a load capacitor (MS Electronics product code **CAP68**) may be required.

*Also available: RTDS3 (3-wire version) – No minimum load; volt-free relay output (can be used with an independently-powered load or as a contact closure). Requires a permanent mains live/neutral connection.*

- **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.

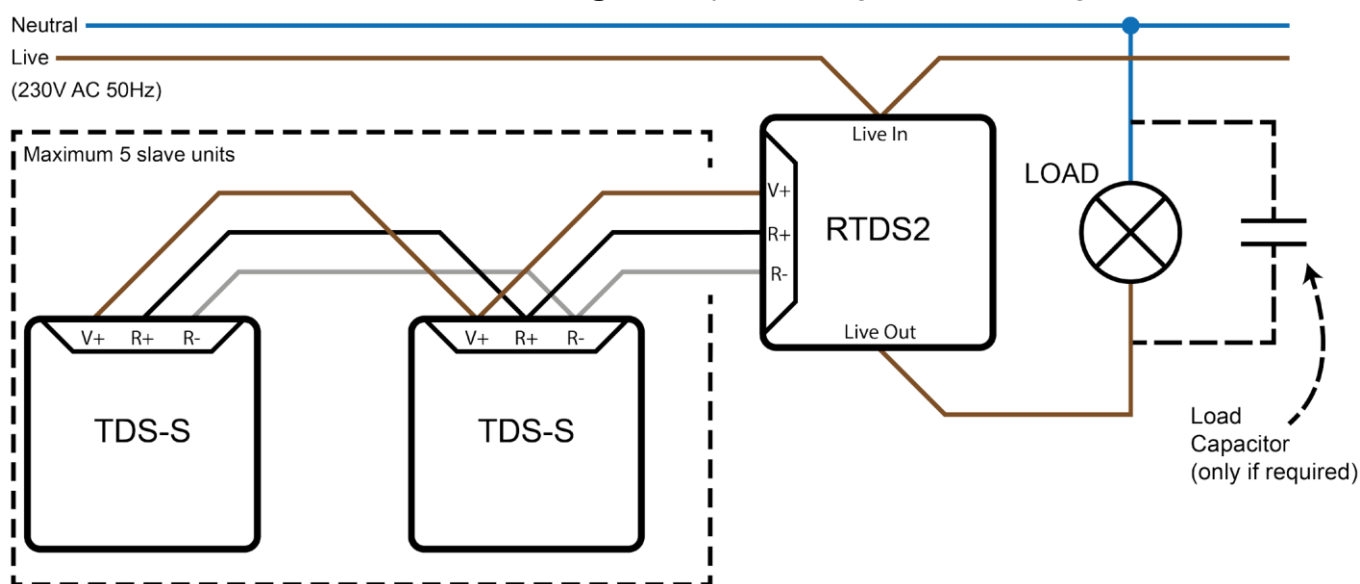


The following wiring example is intended only as a recommendation. Proper wiring practice must be observed with relevance to the particular installation.

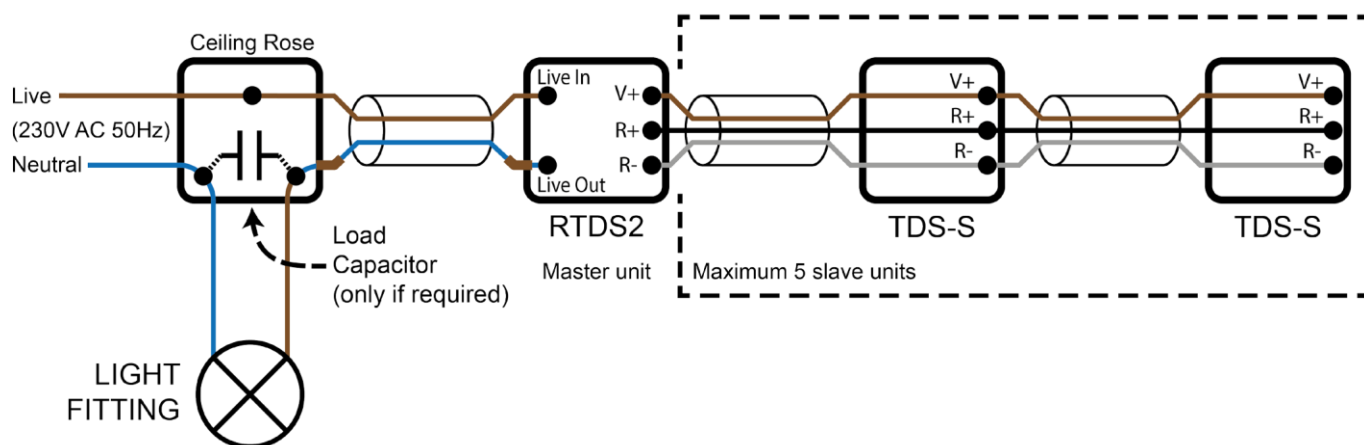
Referring to the steps under *Installation*, connect the remote input(s) as follows.

- **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.

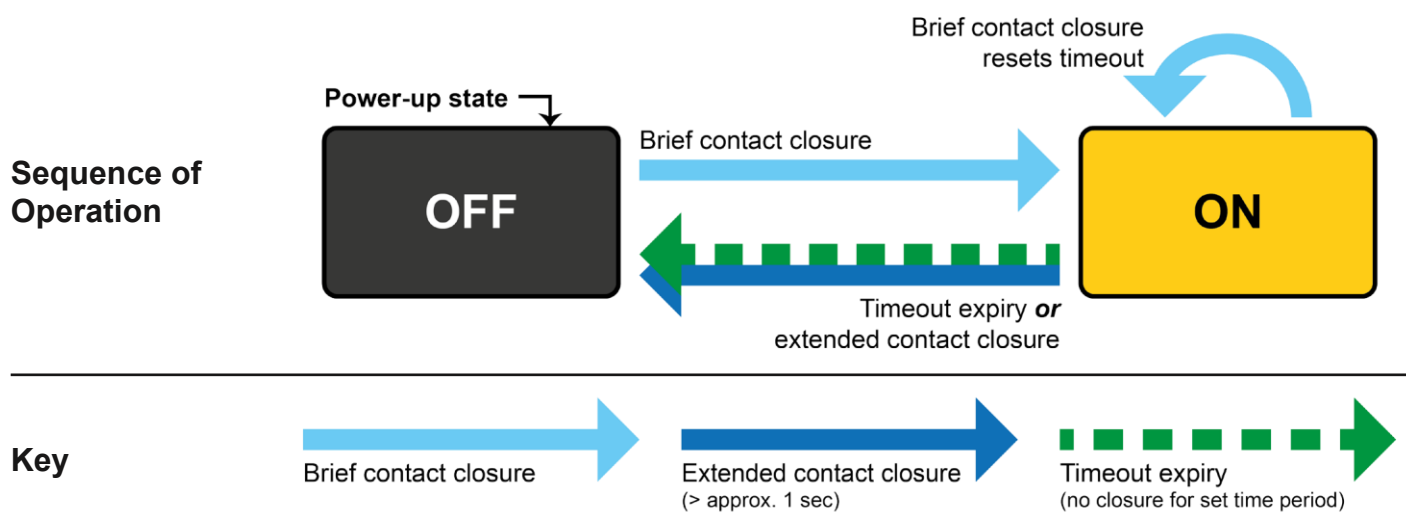
1. Prepare a single-gang pattress or back box as necessary.
2. The unit contains a battery, which must be switched on prior to use. Using e.g. a small screwdriver, move **Switch 1** to the 'ON' position as indicated on the accompanying label.
3. Rotate the **Timeout** thumbwheel (referring to the accompanying label) to set the period of time for which the load should remain switched on after a contact closure trigger.
4. Connect the wiring as shown in Figure 2 (or in any suitably appropriate form).
  - **Supply/load connections (LIVE IN, LIVE OUT):** Use mains cable having a current rating appropriate to the load.
  - **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.
5. Fix the unit into position with the two screws and caps supplied.

### Additional Guidelines

- **Switch 2** is not used on this model and should not be adjusted.
- If the unit will be disconnected from the mains supply for an extended period, return **Switch 1** to the 'OFF' position until it is next required.
- 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 is isolated before making any connections or adjustments.

### Load will not switch on

#### **a) Unit is not powered correctly (or load circuit is faulty)**

- Ensure the unit is correctly connected to an active mains supply and load circuit.
- Ensure the internal battery is switched on using **Switch 1** on the back of the unit.
- Check that the load works on its own by bypassing the time delay switch.

#### **b) 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*).

#### **c) Internal battery is low**

- Leave the unit powered for at least 3 hours to allow the battery to charge before retrying.

### 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*).
- Ensure the minimum load requirement has been met: see *Electrical Requirements*.

## Technical Specification

Power supply	220V - 240V AC 50Hz (in-the-line)
Output switch rating	16A, 250V AC (resistive)
Minimum load	20W
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
Warranty	2 years on unit, no guarantee on battery
Weight	96g
Dimensions	86mm x 86mm x 27mm

## IMPORTANT INSTALLATION NOTICE

The installation of this product should be carried out in accordance with the latest IEE wiring regulations and all wiring completed by a qualified electrician.

### Technical Support

For further help or information on this and the 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 3 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 outer casing of the product, as well as any damage to the product due to abuse or incorrect wiring may invalidate the guarantee.

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