CLIPSAL

by Schneider Electric

Push-Button
Electronic Timer

31VETR
Series

2 WIRE DESIGN

Installation Instructions

Contents

1.0 Product Range

31VETR   Electronic Timer, Push Button, 220-240V~, 50Hz, 10AX (Standard Range)
2031VETR   Electronic Timer, Push Button, 220-240V~, 50Hz, 10AX (2000 Series)

*Please note that these products are also available in other configurations and in a wide range of colours. For further information, please contact your nearest Clipsal Sales Representative.

2.0 Description

The Clipsal 31VETR Series is a range of high quality, two-wire, push button electronic time delay switches with remote control and override off facilities.

The product is designed to control lighting and other loads to prevent them from being left on unnecessarily. Significant energy savings can result when used for staircase, hallway, classroom and similar applications.

The unit has a powerful 10AX switching capability, and is suitable for a wide range of load types, including incandescent, inductive and fluorescent loads*.

3.0 Features

- State of the art low current consumption two-wire design
- Time setting selection from 15 seconds to 254 minutes
- Timing accuracy ±8%
- Remote control capability, using remote wired momentary action switches
- 10AX switch load rating
- Suitable for a wide range of load types:
    - Incandescent (tungsten filament) lamps
    - 240V Halogen / Dichroic lamps
    - Low voltage downlights using electronic transformers
    - Low voltage downlights using iron-core transformers
    - Fluorescent lighting loads*
    - Compact fluorescent light loads*
    - LED Lighting Loads*
    - Small Motor Loads (limited to 2A)
- Available in a range of plate styles and colour variants
- Suitable for new installations or retro-fit applications
- Complies with Australian Standards

* Two-Wire devices may require power factor correction capacitors to be fitted, else otherwise a 31CAP Load Correction Device to be installed to ensure correct operation. Refer to the "Special Loads" section of this instruction manual for more information.

4.0 Important Warnings

- Two or more two-wire timers cannot be connected in parallel or series to control the same load from two different locations. If the timer is required to be controlled form multiple locations, please use the remote wiring facilities provided. If multiple timers are required to be connected in parallel, please use the equivalent three-wire product (31VETR3).

- It is illegal for persons other than an appropriately licenced electrical contractor or other persons authorised by legislation to work on the fixed wiring of any electrical installation. Penalties for conviction are severe!

5.0 Timer Control

5.1 Push Button Control

The built in push button has the following functions:
- Pressing the button when the load is off will initiate the timer and turn the load on. The load will automatically switch off when the timer expires. The amount of time is controlled by the timer settings on the rear of the unit (delay-to-off type timer).
- Pressing the button at any time when the load is on during the timer interval will cancel the timing and set the load to off.
- To restart the timer when the load is already on, simply perform consecutive turn-on and turn-off functions (see important notes below).

5.2 Indicator Function

The built-in light indicator is used to indicate the status of the load.
- The indicator will be on when the load is off
- The indicator will be off when the load is on.

5.3 Remote Operation

The unit can respond to one or more remote wired momentary switch inputs. The unit will respond to the remote switch inputs in exactly the same way as if pressing the button on the front of the unit.

IMPORTANT NOTES:
- The load cannot be turned on for the warm-up time (10 seconds) after power is applied to the device (e.g. power failure/return, initial installation, replacement of the globe). Wait 10 seconds after power up before pressing the button.
- Occasionally, consecutive button presses <0.5 seconds apart may not be registered, and the load may not turn on as expected. Should this occur, wait five seconds and then press the button again to turn on the load.
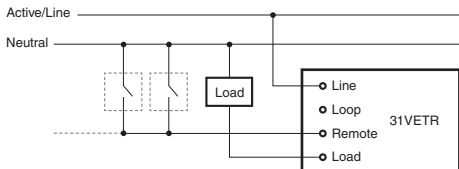
6.0 Wiring Diagrams

6.1 Local Operation

For most normal applications, where operation from the local push button is required only, the timer is wired as shown in the figure to the right.
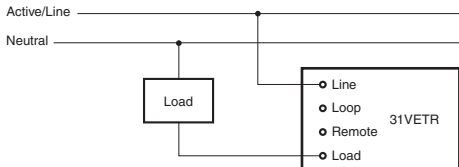
6.2 Remote Operation

Additional switches can be installed in parallel, allowing the timer to be activated from one or more remote locations.

NOTE:
- The remote switch wiring must be rated for 240V a.c.
- The sum of cable lengths used to connect the remote switches must not exceed 100m.
- Remote switches MUST be Normally Open momentary operation type switches.

7.0 Special Loads

7.1 Product Selection

Be sure to select the appropriate product to suit your application:

- The 31VETR Series is a two-wire (does not require neutral connection), but can only switch a limited range of load types without special consideration.
- The 31VETR3 Series is a three-wire device (requires neutral connection to operate) capable of switching a wide range of load types.

	Catalogue Number	Neutral Required	Maximum Load*	31CAP Required for some Load Types
2 WIRE DESIGN	31VETR	NO	10AX	YES
3 WIRE DESIGN	31VETR3	YES	10AX	NO

* Please refer to Technical Specifications for further information about compatible load types.

7.2 Handling Special Loads

SMALL LOADS (<5W)

The 31VETR product can only drive loads greater than 5W. If you wish to drive a smaller load, the 31CAP Load Correction Device is required to be fitted in parallel with the load. For example: when driving a single contactor, be sure to use the 31CAP.

LOADS WHICH ARE SENSITIVE TO LEAKAGE CURRENTS

The 31VETR is a two wire device. Two wire devices draw their power through the load. If this device is used in conjunction with a load which cannot provide enough continuous load current in the off-state, or the load is sensitive to a high off-state leakage current (for example: relays, contactors, various loads with built-in electronic control etc.) a 31CAP Load Correction Device must be connected in parallel with the load.

SMALL (NON-POWER FACTOR CORRECTED) FLUORESCENT LOADS

When a 31CAP is fitted, some small non-power factor corrected fluorescent loads may be controlled using the 31VETR. Success varies from manufacturer to manufacturer. Recommend testing before installation. Installation must be compliant with local wiring rules.
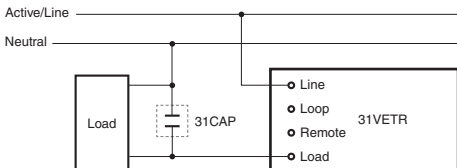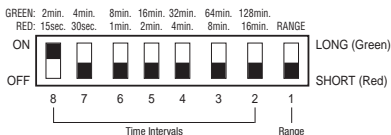

Please note the 31VETR3 is a three wire device, and switches the load using an internal relay. Power is not drawn through the load and so the 31CAP is not required.

8.0 Timer Settings

WARNING: For safety reasons the setup should be performed with the timer isolated from the mains supply.

8.1 Timer Adjustment Settings

The timer setting is achieved by the use of an eight-way micro switch. The switch is accessible from the back of the unit through a window in the enclosure. The functions of the individual switches are presented on the adjacent diagram.

GREEN: 2min. 4min. 8min. 16min. 32min. 64min. 128min. RANGE
RED: 15sec. 30sec. 1min. 2min. 4min. 8min. 16min.

ON / OFF   LONG (Green) / SHORT (Red)

8 7 6 5 4 3 2 1

Time Intervals   Range

Timer Range Selection

The following two ranges are available:

Range	Range Switch	Minimum Setting	Maximum Setting
Long	ON (GREEN)	2 minutes	4 hours & 14 minutes (254 minutes)
Short	OFF (RED)	15 seconds	31 minutes & 45 seconds

Short Range

Range Switch (No. 1) is switched in the direction of RED arrow.
Time can be set via switches 2 to 8 from 15 seconds up to 31 minutes and 45 seconds. The achievable settings are multiples of 15 seconds (15 sec, 30 sec, 45 sec etc.)
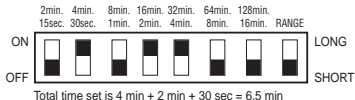
Long Range

Range Switch (No. 1) is switched in the direction of GREEN arrow.
Time can be set via switches 2 to 8 from two minutes up to four hours and 14 minutes. The achievable settings are multiples of two minutes (2 min, 4 min, 6 min etc.).

The switches 2 to 8 are used to add specific time intervals to the total time delay. Every switch is marked with the two time interval values by which the individual switch contributes to the total time interval when turned on. The time interval value marked in GREEN is added if the Long Range is selected by the Range switch. The time interval value marked in RED is added if the Short Range is selected by the Range switch.

8.2 Example Settings

Example 1: Required Time Delay is six minutes and 30 seconds (6.5 minutes).

2min. 4min. 8min. 16min. 32min. 64min. 128min. RANGE
15sec. 30sec. 1min. 2min. 4min. 8min. 16min.

ON / OFF   LONG / SHORT

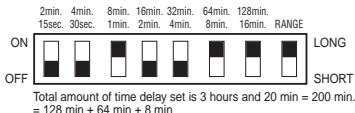Total time set is 4 min + 2 min + 30 sec = 6.5 min

Initially set all the switches to OFF position.

As 6.5 minutes setting is lower than the maximum setting for the Short Range, set the Range Switch to Short Range (in the direction of the RED arrow).

The highest time value for an individual switch lower than 6.5 is 4. Set the switch 4 minutes ON. Remaining time required is 6.5 - 4 = 2.5 minutes. The next highest value lower than 2.5 is two minutes Set the 2 minutes switch ON. The remaining time required is 6.5 - 4 - 2 = 0.5 minutes. Set the 30 seconds switch ON.

Example 2: Required Time Delay is three hours and 20 minutes.

2min. 4min. 8min. 16min. 32min. 64min. 128min. RANGE
15sec. 30sec. 1min. 2min. 4min. 8min. 16min.

ON / OFF   LONG / SHORT

Total amount of time delay set is 3 hours and 20 min = 200 min.
= 128 min + 64 min + 8 min

Initially set all the switches to OFF position.

Calculate the total Time Delay required in minutes: $3 \times 60 + 20 = 200$ minutes.

As 200 minutes setting is higher than the maximum setting for the Short Range, set the Range Switch to Long Range (in the direction of the GREEN arrow).

9.0 Electrical Specifications

Parameter	Value	
Nominal Operating Voltage	220 - 240V~	
Nominal Operating Frequency	50Hz	
Maximum Load Current	10AX	
Minimum Load Current	20mA	
Maximum Off-State Leakage Current	3mA	
Compatible Loads* * Certain loads may require special handling (Power Factor Correction Capacitor or 31CAP to be fitted). Refer "Special Loads" section.		Compact Fluorescent Lamps
		LED Lighting
		Incandescent lamps Halogen 240V lamps
		Low voltage lighting with electronic transformers
		Low voltage lighting with iron-core transformers
		Fluorescent Lighting
		Small Motor Loads (Maximum 2A)
Timer Range	15 seconds – 254 minutes	
Timer Accuracy	± 8%	
Warm-Up Time	10 seconds maximum	
Power-Up Status	OFF	
Operating Temperature Range	0 to 40°C	
Operating Humidity Range	10 to 90% R.H.	
Mounting Centres	84mm Australian Pattern Plate	
Safety Compliances	AS/NZS3100, AS/NZS3133	
EMC Emission Compliance	AS/NZS CISPR15	
Specifications Typical @ 240V~, 25°C		
No User Serviceable Parts Inside		

WARNING:
- Operation outside of these specifications may result in unexpected behaviour, or even product failure.
- Timer accuracy may be affected by voltage, temperature and humidity.
- Warranty may be voided when controlling any incompatible load types as determined by Clipsal Australia.

10.0 Warranty Statement

1. The benefits conferred herein are in addition to, and in no way shall be deemed to derogate; either expressly or by implication, any or all other rights and remedies in respect to the Clipsal Product, which the consumer has under the Commonwealth Trade Practices Act or any other similar State or Territory Laws.

2. The warrantor is Clipsal Australia Pty Ltd of 33-37 Port Wakefield Road, Gepps Cross, South Australia 5094. With registered offices in all Australian states.

3. This Clipsal product is guaranteed against faulty workmanship and materials for a period of two (2) years from the date of installation.

4. Clipsal Australia Pty Ltd reserves the right, at its discretion, to either repair free of parts and labour charges, replace or offer refund in respect to any article found to be faulty due to materials, parts or workmanship.

5. This warranty is expressly subject to the Clipsal product being installed, wired, tested, operated and used in accordance with the manufacturer's instructions.

6. All costs of a claim shall be met by Clipsal Australia Pty Ltd, however should the product that is the subject of the claim be found to be in good working order all such costs shall be met by the claimant.

7. When making a claim the consumer shall forward the Clipsal product to the nearest office of Clipsal Australia Pty Ltd with adequate particulars of the defect within 28 days of the fault occurring. The product should be returned securely packed, complete with details of the date and place of purchase, description of load, and circumstances of malfunction.