

**RATINGS**

OPERATING VOLTAGE RANGE	: 192 - 265 V 50Hz a.c.
MAXIMUM LOAD CURRENT	: 10A
MINIMUM LOAD CURRENT	: 40 mA (see note 1)
OFF-STATE LEAKAGE CURRENT AT 240V a.c.	: 8.2 mA (capacitive) max.
DC COMPONENT OF OFF-STATE LEAKAGE CURRENT	: 0 mA
TIMING RANGE	: 15 min. - 15 hours and 45 min.
SETTING STEP	: 15min.
TIMER ACCURACY	: $\pm$ 15%
OPERATING TEMPERATURE RANGE	: -10 to + 45 Deg. C
MAXIMUM WARM-UP TIME AT 240V a.c.	: 4 minutes

NOTE 1: Two wire devices draw their power through the load. This results in current flowing through the load even in the OFF state. Relatively high off state capacitive leakage current of this device should be taken into consideration for some 'Loads'. For incandescent loads down to 15W it can be neglected since the resistance of an incandescent light globe in cold state is much lower than in the warm state (up to 12 times) so there is no significant active power consumption.

In the case of fluorescent lamp loads which are power factor corrected, the off-state leakage current is bypassed through the power factor correction capacitor and does not result in active power dissipation.

Fluorescent lamp loads without power factor correction capacitor require a mains rated capacitor of a minimum value 220nF 250V a.c. (X or Y rated) in parallel with the load to be driven by 31VSSR.

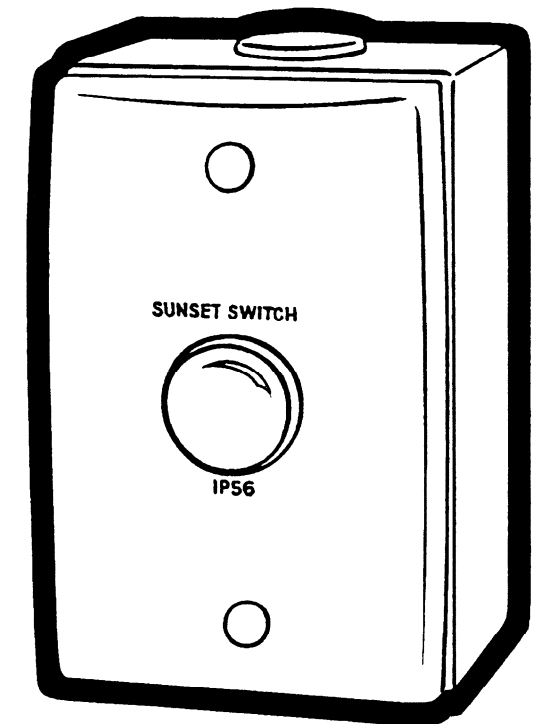
Electronically ballasted fluorescent lamp loads will require a mains rated capacitor of a minimum value 470nF 250V a.c. (X or Y rated) in parallel with the load. This capacitor is not required if the internal capacitance of the electronic ballasts connected to the Sunset Switch reaches the required value (usually around 4 ballasts) or if an additional resistive load exists.



## Two Wire Weatherprotected Sunset Switch

Operating Instructions

**31VSSR**



The Clipsal 31VSSR is designed to automatically light up gardens, verandahs, carports or interiors of homes at sunset. While a home is vacant during holidays, it may be used continually to operate a security light each night. When wired in accordance with the Wiring Rules the 31VSSR is suitable for use with advertising signs and security or garden lights around hotels, motels and business premises. The 31VSSR also overcomes the need for expensive Time Switches' in certain applications.

The 31VSSR does not require a direct neutral connection and is consequently known as a 'Two Wire Device'.

This Sunset Switch is suitable for both incandescent 'loads' and fluorescent 'loads' with built in power factor correction capacitor (Note 1). Other loads may be driven, please check with your nearest Clipsal office/representative.

**OPERATION**

A 'Sunset Switch' operates lighting loads automatically, when the ambient light fades to a pre-determined level. This usually coincides with the official 'light up' time. No adjustment is required to suit the seasons. Lights turn 'ON' automatically at sunset and remain on until the pre-set timer period has elapsed or until daybreak if the timer function is disabled.

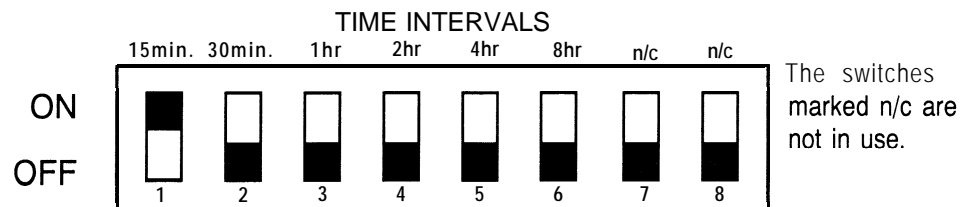
The timer function is disabled by connecting TIMER DISABLE terminal to neutral. In most cases the timer can be effectively disabled by setting the maximum timeout delay (15 hours and 45 minutes) in which case the neutral connection is not required.

When power is applied for the first time or after long power interruptions the 31VSSR will require up to 4 minutes of warm-up time. During this period the load will not be turned on even if the ambient light level is below the operating point.

**SETTING THE TIMER**

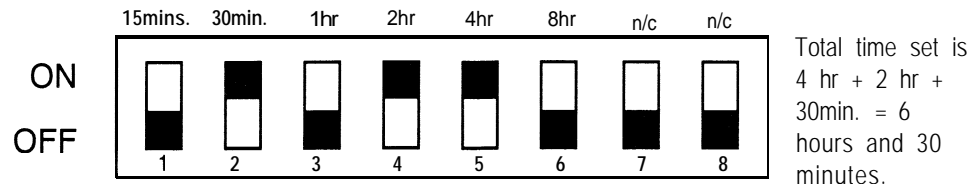
**WARNING:** For safety reasons the timer setup should only be performed with the 31VSSR isolated from the mains supply.

DO NOT set all timer switches to off even when the timer function is disabled using "TIMER DISABLE" input terminal (this setting is reserved for testing purposes only and will cause the unit to stop operating). The timer setting is achieved by the use of an eight way switch accessible from the back of the device through the window in the enclosure. Only six of the switching elements are used. The function of the individual switches is presented on the following figure. On order to add the appropriate time interval to the total timeout period the appropriate switch must be turned on. The total timeout period will be equal to the sum of all the time intervals assigned to the switches in the ON position.



**SETTING EXAMPLE**

Required time delay 6 hours and 30 minutes (6.5 hours). Initially set all the switches to OFF position. The highest time value for an individual switch lower than 6.5 is 4 hours. Set the switch 4hr up. Remaining time required is 6.5 - 4 = 2.5 hours. The next highest value lower than 2.5 is 2 hours. Set the 2hr switch up. The remaining time required is 6.5 - 4 - 2 = 0.5 hours. Set the 30min. switch up.



**INSTALLATION**

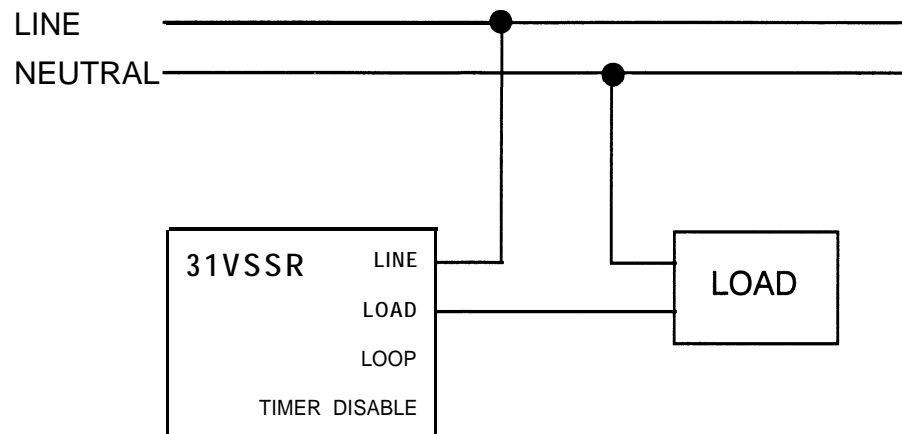
The 'Sunset Switch' may be positioned on any exterior surface facing away from any direct artificial light. The installation must not allow the artificial light to deactivate the 'Sunset Switch', resulting in the blinking of the controlled lights. Even when operating interior lights it is recommended that the 31VSSR is still positioned outside. It is also suggested that the unit is positioned out of normal reach to avoid interference with the sensing eye.

The 'Sunset Switch' should, in addition, be positioned so that it is NOT exposed to direct sunlight as this may cause the unit to exceed the maximum operating temperature. Prolonged exposure to an ambient temperature exceeding the specified range may degrade the performance of the product.

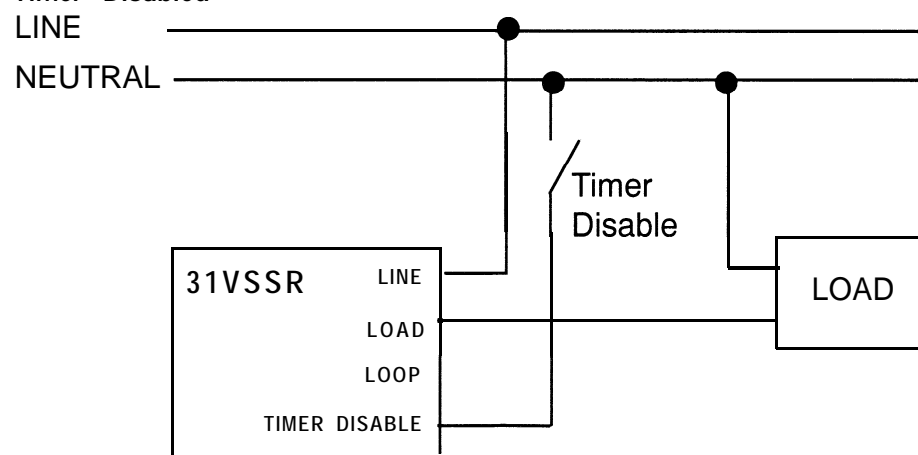
If unit is to be mounted in an exposed position all entries into the mounting box should be sealed with a silicone sealant.

**WIRING DETAILS**

**Automatic operation (timer enabled)**



**Timer Disabled**



For manual operation the unit can be bypassed by a switch between the LINE and LOAD terminals. However, it should be noted that the specified warm up time will be required before the unit returns to automatic operation when the manual operation switch is opened.