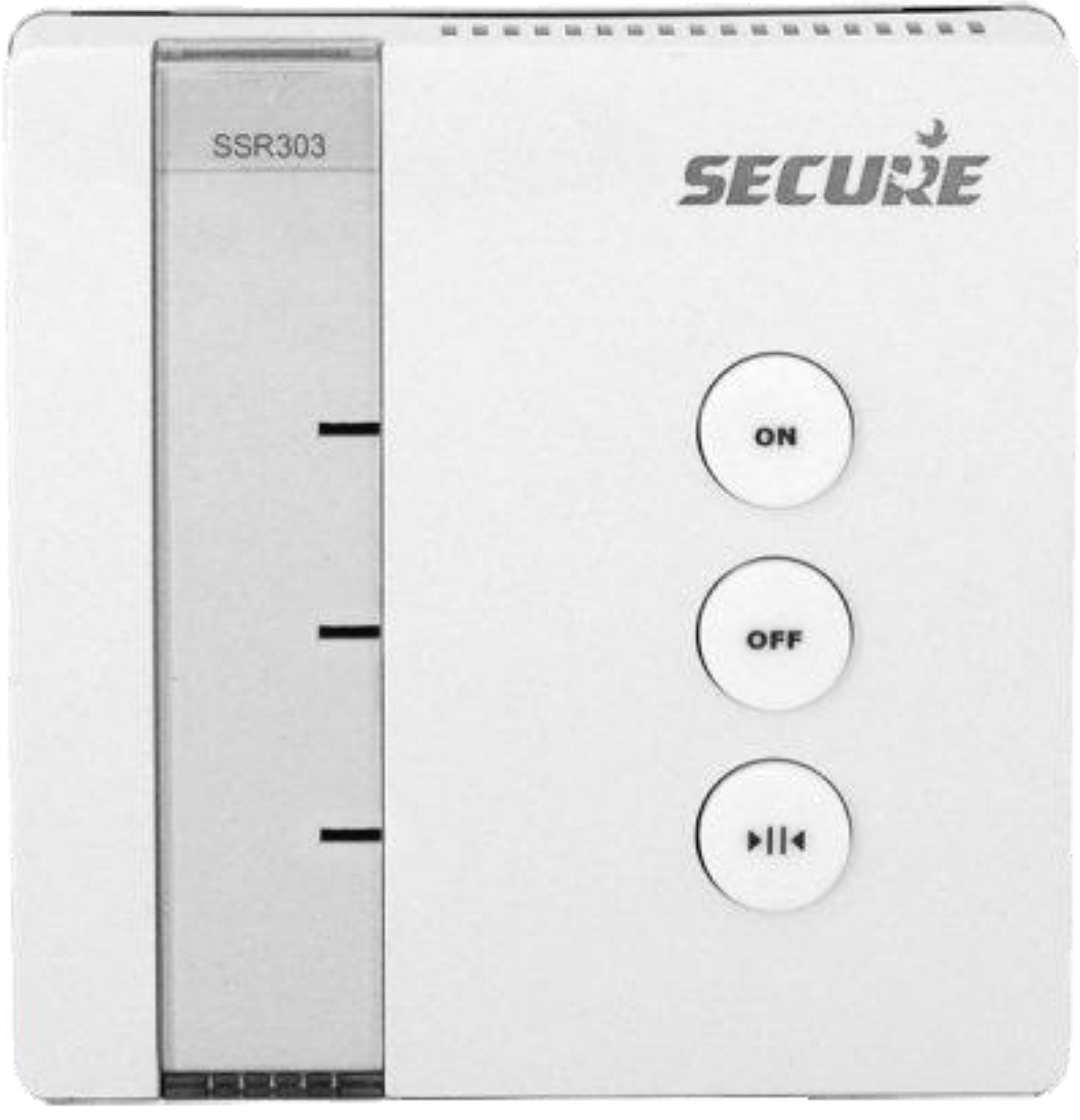
SSR 303

One Channel 3 Amp Switch (Rx Only) - Z-Wave

User and Installation Instructions


SSR303
SECURE
ON
OFF

The Secure SSR 303 receiver is a single channel receiver originally designed for the control of central heating which can also be operated by third party controllers which support ‘Thermostat Mode SET’ commands or ‘Binary Switch SET’ commands.

This SSR 303 will act as a repeater once added into the Z-Wave network, providing an alternative communication route for units which otherwise would not be within communication distance of each other. The Secure SSR 303 forms part of a Z-Wave Plus™ home automation network.

This document provides information specific to the Z-Wave technology implemented, to ensure interoperability between the SSR 303 receiver and other Z-Wave products.

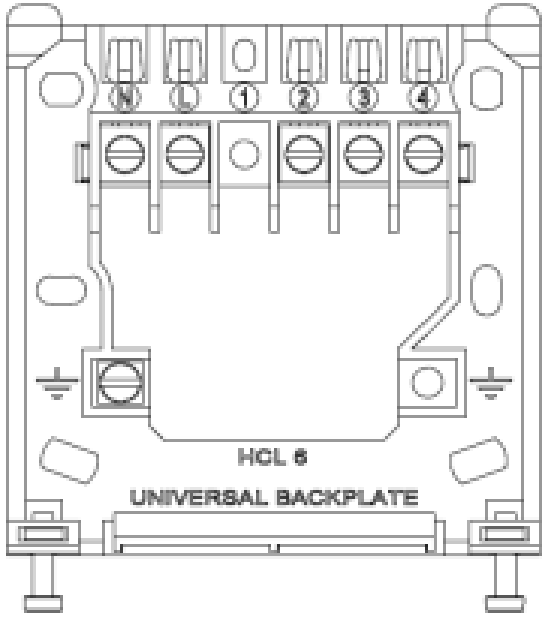
SSR 303 Receiver Unit

The SSR 303 receiver unit receives the Z-Wave radio signals from the 3rd party Z-Wave controllers. In the unlikely event of a communication failure it is possible to override the system and switch ON and OFF using the ON/OFF buttons on the SSR 303 receiver as a local override.

If the override is used to override the system when it is functioning correctly then the override will be cancelled by the next switching operation and normal operation will be resumed. In any case, with no further intervention, normal operation will be restored within one hour of the override being operated.

Installing the receiver

Installing the SSR 303



The SSR 303 receiver should be located as near as is practical to the device to be controlled, as well as a convenient mains electricity supply. To remove the wall plate from the SSR 303, undo the two retaining screws located on the underside, the wall plate should now be easily removed. Once the wall plate has been removed from the packaging please ensure the SSR 303 is re-sealed to prevent damage from dust, debris etc.

The wall plate should be fitted with the retaining screws located at the bottom and in a position which allows a total clearance of at least 50mm around the SSR 303 receiver.

Direct Wall Mounting

Offer the plate to the wall in the position where the SSR 303 is to be mounted and mark the fixing positions through the slots in the wall plate. Drill and plug the wall, then secure the plate into position. The slots in the wall plate will compensate for any misalignment of the fixings.

Wall Box Mounting

The wall plate may be fitted directly on to a single gang flush wiring box complying with BS4662, using two M3.5 screws. The receiver is suitable for mounting on a flat surface only; it is not suitable for mounting on an unearthed metal surface.

Electrical Connections

All necessary electrical connections should now be made. Flush wiring can enter from the rear through the aperture in the back plate.

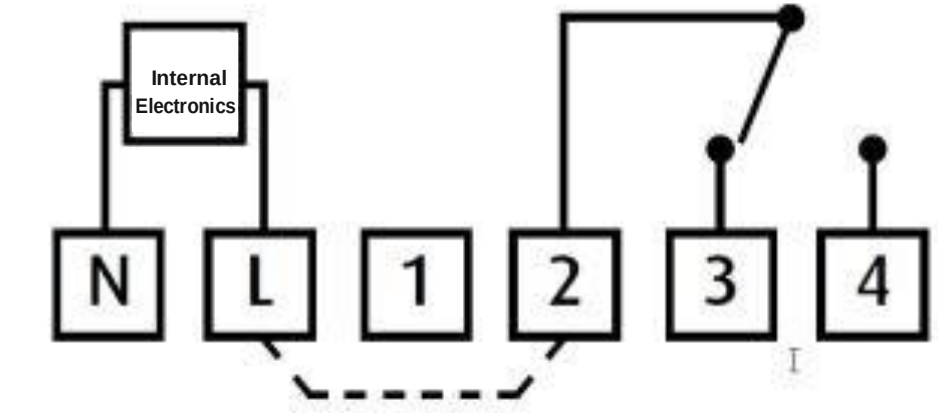
The mains supply terminals are intended to be connected to the supply by means of fixed wiring.

The receiver is mains powered and requires a 3 Amp fused spur.

The recommended cable size is 1.Omm2.

The receiver is double insulated and does not require an earth connection, an earth connection block is provided on the back plate for terminating any cable earth conductors. Earth continuity must be maintained and all bare earth conductors must be sleeved. Ensure that no conductors are left protruding outside the central space enclosed by the back plate.

SSR303 internal wiring diagram



230V ~ 50Hz COMM OFF ON

The receiver has voltage free contacts.

Fit link between L & 2 for mains voltage applications

Please ensure that all installations comply with current IEE regulations.

Receiver status LED

This unit has three buttons and three LEDs - ON, OFF and Network (from top to bottom) that are used as follows:-

LED indication	Unit mode	Button usage
Solid OFF LED Flashing Network LED	Unit is currently removed from the network	OFF and ON - Switches channel relay OFF or ON respectively. Network - Network function
Flashing ON LED (Green) 3s only Solid OFF LED	Unit has been successfully added on the network	OFF and ON - No function Network - Network function
Solid OFF LED	Unit is reflecting the status OFF the relay unit. The output is OFF. Or, unit has finished the addition process. Or, unit has been added and has just been powered up on the mains	OFF and ON - switches channel relay OFF or ON respectively. Network - Network function

Solid ON LED	Unit is reflecting the status of the relay output. The output is ON.	OFF and ON - switches channel relay OFF or ON respectively. Network - Network function
Solid OFF LED Solid Network LED	Unit is in failsafe mode and the relay output is OFF.	OFF and ON - switches channel relay OFF or ON respectively. Network - Network function
Solid ON LED Solid Network LED	Unit is in Failsafe mode and the relay output has been turned ON via the ON button Or, Unit is currently removed from the network and ON by button operation.	OFF and ON - switches channel relay OFF or ON respectively. Network - Network function

Adding to a third party controller

To add the unit to a 3rd party controller follows these steps, also known as ‘inclusion’ in Z-Wave terminology.

- Ensure the network LED is flashing on the SSR 303, if not follow the steps in ‘Disconnecting from a network’ first.
- Put the 3rd party controller into inclusion mode.
- Press and hold the network button on the SSR 303 until the ‘ON’ LED’s start flashing.
- The SSR 303 has been added onto the network when the ‘OFF’ LED goes solid red.

NOTE: If the ON LED does not flash then the add process has been unsuccessful.

Removing from a network

To remove from a Z-Wave network, follow the steps, below, also known as ‘exclusion’ in, Z-Wave, terminology

- Put the 3rd party controller into exclusion mode.
- Press and hold the network button on the SSR 303.
- The SSR 303 has been removed from the network when the Network LED starts flashing.

NOTE: If the Network LED does not flash the remove process has been unsuccessful.

NOTE: This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

Node Information Frame - NIF

Pressing and holding the network button for 1 second will trigger the SSR 303 to issue a Node Information Frame and enter Classic learn mode for 2s and then in NWI (Network Wide Inclusion) learn mode. This is useful to associate/disassociate the SSR 303 with a control group or just to determine the device and command classes supported. This can be done at any time but will not provide any indication to the operator.

Z-Wave Repeater

This SSR 303 will act as a repeater once added into the Z-Wave network, providing an alternative communication route for units which otherwise would not be within communication distance of each other.

Device reset:

“Please use this procedure only when the primary controller is missing or otherwise inoperable.”
Follow “Removing from a Network” process.

Supported Device and command classes

Z-Wave Plus Device Classes	Implemented Device Class
Generic Device Class: Specific Device Class: Basic Device Class:	GENERIC TYPE SWITCH BINARY SPECIFIC TYPE POWER SWITCH BINARY ROUTING SLAVE

Command Class	Commands Supported
Manufacturer Specific (V2)	Get
	Report
	Device Specific Get
	Device Specific Report
Manufacturer ID = 0x0059 Product Type ID = 0x0003 Product ID = 0x0005 (SSR 303) Device ID Type 0 and 1 for serial number (Data format Binary, length 4 Bytes)	
Version (V2)	Get
	Report
	Version Command Class Get
	Version Command Class Report
Provides the version number of the Z-Wave stack, Command Class, Firmware and Hardware.	

Z-Wave Plus Info (V2)	Get
	Report
Role Type: ROLE_TYPE_SLAVE_ALWAYS_ON Node Type: ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE Installer Icon: ICON_TYPE_GENERIC_ON_OFF_POWER_SWITCH User Icon: ICON_TYPE_GENERIC_ON_OFF_POWER_SWITCH	
Association (V2)	Set
	Get
	Report
	Remove
	Supported Groupings Get
	Supported Groupings Report
	Specific Group Get
Product supports one group (Lifeline) and has a maximum of 4 nodes.	
Association Group Info (V1)	Group Name Get
	Group Name Report
	Group Info get
	Group Info Report
	Group Command List Get
	Group Command List Report

Only one association group is supported Group 1: name - “Lifeline” Profile MSB - ASSOCIATION_GROUP_INFO_REPORT_PROFILE_GENERAL Profile LSB - ASSOCIATION_GROUP_INFO_REPORT_PROFILE_GENERAL_LIFELINE Supported Command class and command - COMMAND_CLASS_SWITCH_BINARY, SWITCH_BINARY_REPORT	
Thermostat Mode (V1)	Set
	Get
	Report
	Supported Get
	Supported Report
Only ‘Idle Mode’ and ‘Heat Mode’ are supported within this command class, which can either set or read. The SSR 303 has a failsafe mode where by the relay is turned OFF if another Thermostat Mode SET command has not been received within 60 minutes.	
Switch Binary (V1)	Set
	Get
	Report
Supports SET and GET to control the relay. Opposed to the Thermostat command class there is no failsafe mode. If Binary Switch SET command is received than previously active failsafe mode closed.	

Basic (V1)	Set
	Get
	Report
The Basic command class has been mapped to Switch Binary command class as follows: Basic Set : Mapped to Switch Binary Set. Basic Get : Mapped to Switch Binary Get. Basic Report : Mapped to Switch Binary Report Same as Switch Binary command class there is no failsafe mode. If Basic SET command is received than previously active failsafe mode closed.	
Power Level (V1)	Power Level Set
	Power Level Get
	Power Level Report
	Power Level Test Node Set
	Power Level Test Node Get
	Power Level Test Node Report
Power Level Command Class defines RF transmit power controlling commands useful when installing or testing a network.	

Note: For more information about Z-Wave command classes and their use refer to "SDS12652 and SDS12657 Z-Wave Command Class Specification" version 8 or above.

Note: After removing from existing Z-Wave network, device comes in factory default state and will not send device reset locally notification.

Receiver specification SSR 303

Power Supply	230v 50Hz
Contact type	Micro disconnection
Wiring configuration	Voltage free c/o (SPDT)
Contact voltage rating	230v ac 50Hz (30v dc)
Contact current rating	3A (1A inductive)
Impulse rating	Category II – 2500v
Transmitter frequency	868.42MHz
Receiver category	Category 3Power
Class	Class B
Standards	EN 60730-2-7 ETSI EN 300 220-2 / ETSI EN 301 489-3
Dimensions	86 x 86 x 36.25mm
Enclosure	Flame retardant thermoplastic
Ingress protection	IP30
Pollution degree	Degree 2
Insulation class	Class II
Software class	A
Control type	Type 1B Electronic control
Temperature range	0-40˚C
Ball pressure temperature	75˚C
Purpose of control	1 channel RF receiver switch

European Head Office
Secure Controls (UK) Ltd.
South Bristol Business Park
Roman Farm Road
Bristol, BS4 1UP, UK
e: info@securetogether.com
www.securetogether.com

European Sales Office
CEWE Instrument AB
Box 1006, 611 31 Nyköping
t: +46 8 600 80 60
e: info@securetogether.com
www.securetogether.com
www.securetogether.com

Australia Sales Office
Secure Australasia Pty Ltd
258 Darebin Road
Fairfield VIC 3078
Australia
p: +61 3 9485 6000
f: +61 3 9485 6099
e: info@securetogether.com
www.securetogether.com

Secure Meters Ltd
Pratap Nagar Industrial Area
Udaipur 313003
India
p: +91 294 2492 300-05
f: +91 294 2492 310
e: mktg@securetogether.com
www.securetogether.com

Elegant Metering Solutions FZE
4EA 326, P.O. Box 54857
Dubai Airport Free Zone
Dubai, UAE
p: +971 50 6575166
f: +971 04 204 5619
e: emsfze@emsdxb.ae
www.securetogether.com

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