Aurora line
Wireless Light Switch
Type SHA4XWLS4

CARLO GAVAZZI

- **Wireless light switch for building automation application**
- **No additional wiring required**
- **Developed to fit into wall socket and frames from Niko, Fuga and Biticino**
- **Temperature range: -20 to +50°C**
- **4 individually programmable pushbutton inputs**
- **Battery supplied with a lifetime up to 5 years**
- **Delivered with 2 white and 1 black pushbutton covers**
- **Standby mode to save battery**
- **Wireless transmission based on IEEE 802.15.4, at 2.4GHz**
- **LED indication for battery low and field strength**
- **Integrated antenna**

Product Description

The SHA4XWLS4 is a wireless light switch with 4 buttons and 4 LED outputs. It is developed to be mounted into a 44 x 44 wall socket from Niko, Fuga and Biticino. The light switch has two colours of LEDs; red and blue, indicating the battery and wireless signal level.

The light switch is part of the smart-house concept for building automation applications and can be used to control lights, roller blinds and all other functions supported by the smart-house controller. It is fully programmable via the SH tool and must always be coupled to a SH2WBU230 module.

Ordering Key

SH A 4X W LS4

Smart-house
Aurora
Housing 44 x 44 mm
Wireless
Switch number

Type Selection

Housing	Colour	LEDs	Battery supplied
44 x 44 mm	White/Black*	4 red / 4 blue	**SHA4XWLS4**

*Delivered with white and black pushbutton covers

Input Specifications

Key Pad	4 pushbuttons

Output Specifications

LED	4 red / 4 blue

Supply Specifications

Power supply	Supplied by battery, type Lithium button 2450 3V
Average battery lifetime	5 years

CARLO GAVAZZI

General Specifications

Address assignments / channel programming	The address assignment is automatic: the controller recognises the module through the SIN (Specific Identification Number) that has to be inserted in the SH tool.	**Weight**	50 g
		CE Marking	Yes
		EMC	
		Immunity	EN 61000-6-2
		- Electrostatic discharge	EN 61000-4-2
		- Radiated radiofrequency	EN 61000-4-3
		- Burst immunity	EN 61000-4-4
		- Surge	EN 61000-4-5
Environment		- Conducted radio frequency	EN 61000-4-6
Degree of protection	IP 20	- Power frequency magnetic	
Pollution degree	3 (IEC 60664)	fields	EN 61000-4-8
Operating temperature	-20° to +50°C (-4° to 140°F)	- Voltage dips, variations,	
Storage temperature	-30° to +60°C (-22° to 158°F)	interruptions	EN 61000-4-11
Humidity (non-condensing)	20 to 80% RH	Emission	EN 61000-6-3
Housing		- Conducted and radiated	
Back part dimensions	44 x 44 x 17.3 mm	emissions	CISPR 22 (EN55022), cl. B
Back part + front dimensions	44 x 44 x 20.7 mm	- Conducted emissions	CISPR 16-2-1 (EN55016-2-1)
Back part material	Plastic, transparent	- Radiated emissions	CISPR 16-2-3 (EN55016-2-3)
Push button covers	Plastic white (RAL 9010)		
	Plastic clear white (RAL 9016)		
	Plastic black		
Accessories	Transparent plastic ring for Bticino frame		

WiDup Specifications

Bus	Wireless dupline	**Antenna**	Internal
Frequency	IEEE 802.15.4, @ 2.4 Ghz	**Transmission power**	According to IEEE 802.15.4
Diagnostics	1. Field strength	**Sensitivity**	According to IEEE 802.15.4
	2. Network activites	**Number of slave nodes**	Up to 250
	3. Devices' presence	**Transmission range**	<100 m in the open air
Network Topology	Star with max one wireless repeater		

Mode of Operation

The SHA4XWLS4 is fully programmable via the SH tool. Each push-button can be individually associated to one or more of the functions supported by the smart-house system.

Coding/Addressing
No addressing or association is needed since the module is provided with a specific identification number (SIN): the user has only to insert the SIN in the SH tool when creating the system configuration.

Wall Socket and frame compatible with the Eunica line
The Aurora 44 x 44 light switch can fit into the frame and wall socket listed below: for any other model not included here below, Carlo Gavazzi does not grant any compatibility.
- Niko
- Fuga
- Bticino: Light, Living, Luna series (the transparent ring has to be used).

Transmission range

The main factors that influence the transmission range of the SHA4XWLS4 are the antenna location of the receivers and transmitters, the building structure and the number of obstacles in the connection path.
Other factors are noise sources (wi-fi routers, micro oven, blue tooth devices,…) that affect the receiver and dead spots caused by signal reflection from nearby conductive objects.
Since the anticipated transmission range depends on these system conditions, range tests should be performed before a specific range is determined for an application.
The following transmission ranges are to be viewed as general guidelines:

Device Position	Operating Distance
In the open air	Approx. 100m
Plasterboard/wood	Approx. 30 m Max. 5 walls
Tile and cellular concrete	Approx. 20 m Max. 3 walls
walls/ceilings	Approx. 10 m Max. 1 ceiling/wall

Specifications are subject to change without notice (08.05.2013)

CARLO GAVAZZI

Transmission range (cont.)

Transmission range is limited by:
- insulation material with metal foil
- intermediate ceilings with metal or carbon fibre panels
- lead glass or metal-coated glass
- mounting wall transmitters on metal walls

For more information about how to install a wireless net-work, please read here (link).

LEDs Indication

Red LED:
If the battery level is good, the red LED is OFF.
It flashes when the relevant button is pressed and to advise about the following happenings:
Short blink: Sending data when associated to a SH2WBU230
Long blink: Sending data when not associated to any SH2WBU230
Fast blinking: When receiving a network configuration

Blue LED:
If the battery level is low, the blue LED is OFF.
It flashes if the battery level is good when the relevant push-button is pressed and to advise about the following happenings:
Short blink: Sending data when associated to a SH2WBU230
Long blink: Sending data when not associated to any SH2WBU230
Fast blinking: When receiving a network configuration

Dimensions (mm)