

Smart Dupline® Wireless Base Unit Type SH2WBU230N

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- WiDup, a wireless communication protocol, generator for home automation application
- Wireless transmission based on IEEE 802.15.4, @ 2.4 GHz
- Maximum slave number: 250
- Up to 7 SH2WBU230N can be connected on the same network
- Connection to Sx2WEB24 via internal bus or terminals via the high speed bus.
- Dimension: 2-DIN module

Product Description

The wireless base unit SH2WBU230N generates the wireless network performing the functions of a wireless access point and router. The generated protocol is called WiDup and it is based on the standard IEEE 802.15.4 at 2.4 GHz. It is part of the smart-house system and it has to be used together with the controller Sx2WEB24. Each Sx2WEB24 can be connected to up to 7 sub-

master generators (the sum of SH2MCG24, SH2DUG24 and SH2WBU230N is 7) in order to have up to 7 wired/wireless networks. All the devices are connected via an internal bus if they are in the same cabinet, or via terminals if they are mounted on different cabinets. Each SH2WBU230N must have an address that has to be programmed using the Sx tool.

Ordering Key

SH 2 WBU 230N

smart-house _____
2-DIN housing _____
Wireless base unit _____
Power supply _____

Type Selection

Housing	Mounting	Supply: 24 VDC and 115-240VAC
2 DIN	DIN-rail	SH2WBU230N

Supply Specifications

Power supply	Overvoltage cat. II (IEC 60664-1, par. 4.3.3.2)	Rated operational power	2.4W
Rated operational voltage	24 VDC +/-20% 115-240VAC 50/60 Hz +/-10%	Connection	6 x 6 mm ²
Rated impulse voltage	2.5kV	Power on delay	Typ. 2 s

General Specifications

Installation category	Cat. II	Environment	
Dielectric strength Power supply to HS bus®	500V AC for 1 minute (IEC 60664-1, Tab. A.1)	Degree of protection	IP 50
Fail-safe condition	If the SH2WBU230N loses the communication with the Sx2WEB24, the WiDup Network will be switched off. In this situation all the modules connected to the network will go into the fail-safe output status individually programmed with the Sx tool.	Front	IP 20
		Screw terminal	2 (IEC 60664-1, par. 4.6.2)
		Pollution degree	-20° to +50°C (-4° to 122°F)
		Operating temperature	-50° to +85°C (-58° to 185°F)
		Storage temperature	20 to 80% RH
		Humidity (non-condensing)	
		LED's indication	
		BUS LED	1 yellow
		ON	1 green, Power LED
		WiDup LED	1 blue

General Specifications (cont.)

Connection		EMC	
Terminal	8 Screw-type	Immunity	EN 61000-6-2
Cable cross-section area	max. 1.5 mm ²	- Electrostatic discharge	EN 61000-4-2
Tightening torque	0.4 Nm / 0.8 Nm	- Radiated radiofrequency	EN 61000-4-3
Housing		- Burst immunity	EN 61000-4-4
Dimensions	2-DIN module	- Surge	EN 61000-4-5
Material	Noryl	- Conducted radio frequency	EN 61000-4-6
Weight	150 g	- Power frequency magnetic fields	EN 61000-4-8
Approvals	cRUus, according to UL60950 UL notes: Max ambient temperature: 40°C	- Voltage dips, variations, interruptions	EN 61000-4-11
CE Marking	Yes	Emission	EN 61000-6-3
		- Conducted and radiated emissions	CISPR 22 (EN55022), cl. B
		- Conducted emissions	CISPR 16-2-1 (EN55016-2-1)
		- Radiated emissions	CISPR 16-2-3 (EN55016-2-3)

HS Bus Specifications

Bus type	RS485 high speed bus
Protocol	Internal proprietary protocol
Number of slaves	Max 7
Connection	By local bus (left and right connectors) or terminals GND, A(-), B(+). T1, T2: terminalization inputs. They have to be short-circuited on the last module of the network. See wiring diagrams.
Addressing method	The address of the SH2WBU230N is defined in the Sx tool, and then assigned to it by the Sx2WEB24 according to the SIN.

WiDup Specifications

Bus	Wireless dupline
Frequency	IEEE 802.15.4, @ 2.4 Ghz
Diagnostics	1. Field strength 2. Network activities 3. Devices' presence
Network Topology	Tree with max one wireless repeater
Antenna	External
Transmission power	According to IEEE 802.15.4
Sensitivity	According to IEEE 802.15.4
Number of slave nodes	Up to 250
Transmission range	< 700 m in the open air

Transmission Range

The main factors that influence the transmission range of the SH2WBU230N 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 con-

ductive 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. 700m
Plaster-board/wood	Approx. 30 m Max. 5 walls
Tile and cellular concrete	Approx. 20 m Max. 3 walls
Reinforced concrete walls/ceilings	Approx. 10 m Max. 1 ceiling/wall

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 network, please read here "http://www.productselection.net/MANUALS/UK/wireless_manual_rev01.pdf".

LEDs Indication

Green LED: ON.
ON: Supply ON
OFF: Supply OFF

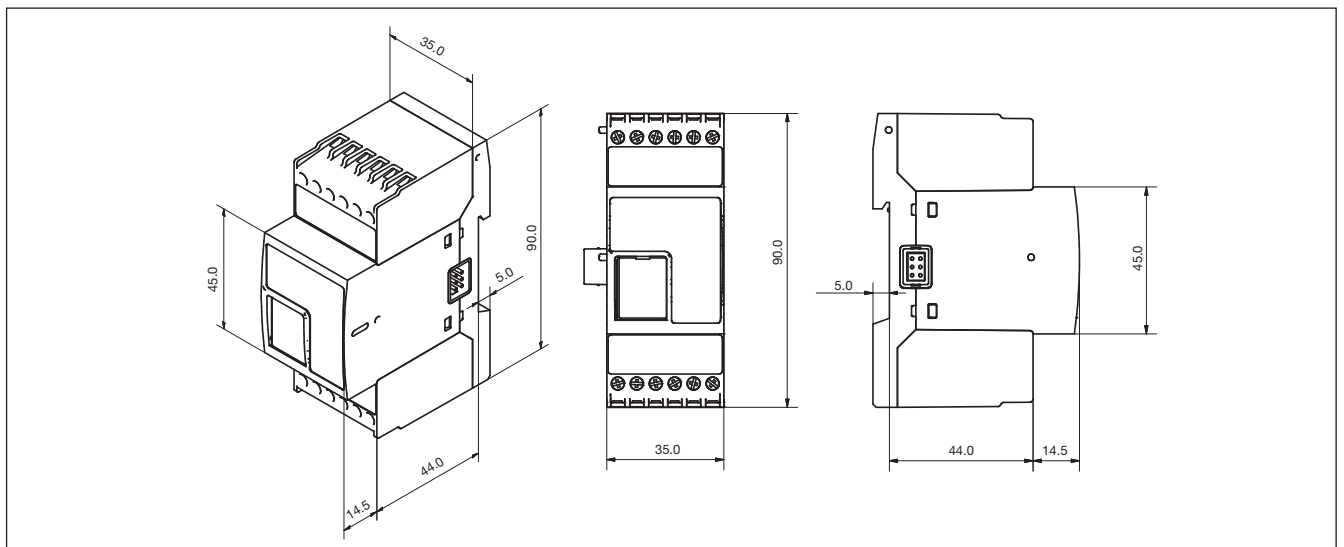
Yellow LEDs: BUS
OFF: no communication is present on the HS bus
ON: communication error on HS bus

Flashing: communication OK on HS bus

Blue LED
ON: During network configuration

Flashing: When receiving data from the associates modules

Dimensions



Wiring Diagrams

