

SBP2WDI48524



Dupline® Carpark Wireless Display Interface



Benefits

- Plug and play installation
- Wireless transmission range <700 m in open air
- Can be mounted up to 300 m away from the display
- LEDs for indication of communication status
- Compact 2-DIN housing suitable for a decentralised installation

Description

The SBP2WDI48524 wireless display interface module is part of the Dupline® Carpark system which contains other variants of sensors, controllers and displays.

The SBP2WDI48524 wireless module works with the wireless master SH2WBU230N which acts as a generator for wireless modules.

The wireless transmission can reach up to 700 m in the open air between the wireless master and the wireless modules.

Also, the SBP2WDI48524 is a Dupline® to Modbus RTU converter and acts as an interface between Dupline® and the Carpark displays.

The module is connected to the display via RS485 and is normally installed close by, but can be installed up to 300m from the display.

Applications

Parking Guidance Systems

Main functions

Acts as a wireless interface between Dupline® and the carpark displays

Features

Power Supply

Rated operational voltage	24 VDC ($\pm 20\%$), 20 mA, CL.2
Rated operational power	400 mW (display excluded)
Reverse-polarity protection	Yes
Connection	A1 (+) 24 VDC A2 (-) 24 VDC A (-) RS485 bus for display B (+) RS485 bus for display GND 24 (internally connected Max 5.5 A + display) Make sure that you use the correct power supply. The display is powered through the SBP2DI48524 and the internal connection can handle max.5.5 A.
Power-ON delay	Typical 2 s
Power-OFF delay	≤ 1 s
No isolation between power supply and RS485	
Standard compliance	a. IEC60950/UL60950 (information technologies), b. IEC61010/UL61010 (test and laboratory instrument), c. IEC60664

Modbus specifications

RS485	Max. one display can be connected
RS485 3 wires	(A-, B+, GND)
Protocol	JBUS/MODBUS compatible
Bit number	8
Stop bit	1 or 2
Parity bit	none, odd, even
Address	1 to 255
Baud rate	2400, 4800, 9600, 19200, 38400, 57600, 115200 bit/sec
Max. response time to request	200 ms
Modbus functions supported	01, 02, 03, 04, 05, 06, 15, 16, 08
Compatible with Modbus request for display	Carpark 2 and Carpark 3

Dupline® specifications

Dupline® voltage rated	8.2 V
Maximum Dupline® voltage	10 V
Min. Dupline® peak voltage	5.5 V
Maximum Dupline® current	1.1 mA

LED indication

Green LED	Power status	ON: Power ON OFF: Power OFF
Blue LED	Short blinking	Configured and working
	Long blinking	Module not configured
	ON	Only during configuration
Yellow LED	Steady	communication OK
	OFF	No communication on RS485
	Slow blinking	Tx OK but no reply from the display

Environmental

Ambient temperature	-40° ... +50°C (-40° ... +122°F)	Operating
	-50° ... +85°C (-58° ... +185°F)	Storage
Degree of protection	IP20	
Pollution degree	3	IEC 60664
Humidity (not condensing)	20 ... 90% RH	
Dielectric strength	Power supply to Dupline® and display to Dupline®	4 kVAC for 1 min. 6 kV impulse 1.2/50us

For outdoor use, the module must be mounted in a box with the right IP protection.

EMC

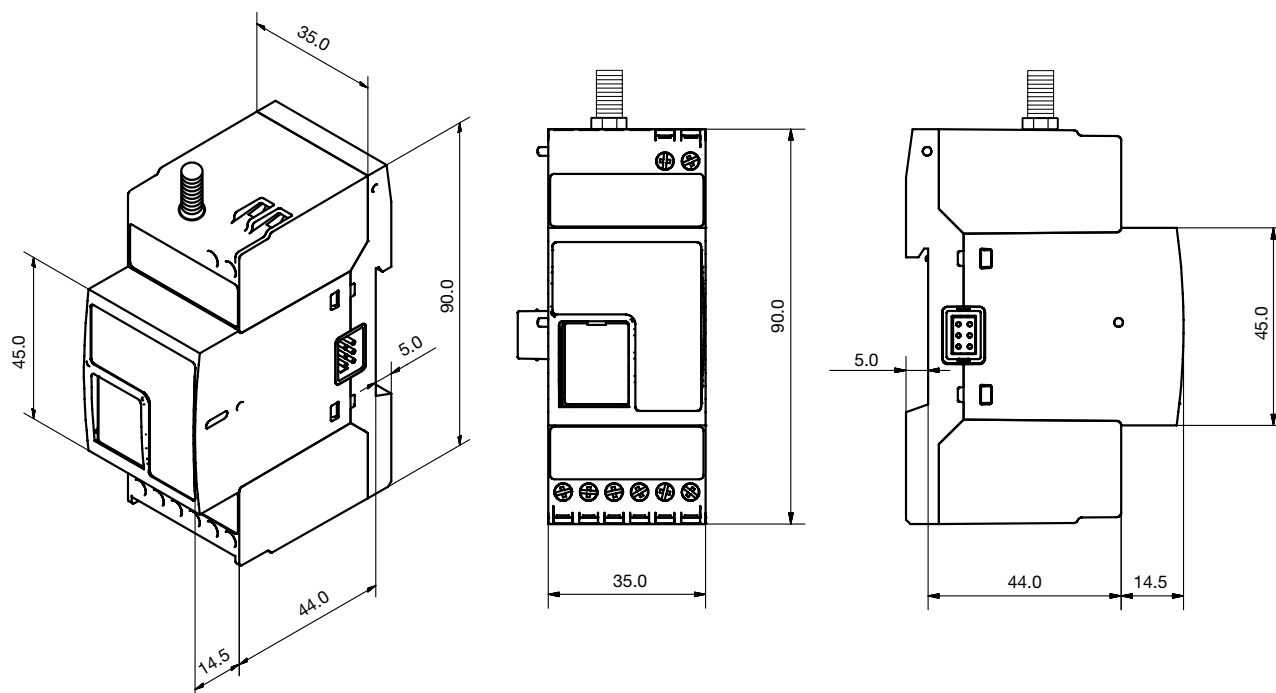
Immunity	EN61000-6-2
Emission	EN61000-6-3

Mechanics

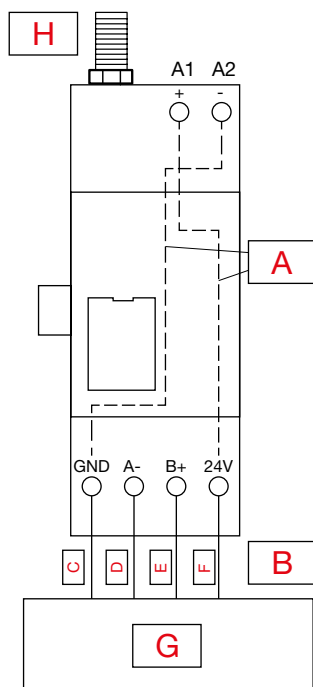
Housing

Dimensions	2-DIN module
Housing material	Noryl SE1
Degree of protection	Screw terminal IP20
Front	IP50
Weight	210 g with antenna
Colour	Grey 2470 / RAL7035

Dimensions (mm)



Wiring



A	Internal jumper Max 5.5 A	E	Green
B	Cable distance between display and module is max 300 m.	F	Brown
C	White	G	Display
D	Yellow	H	Wireless connection

Connection

Terminal	6-screw type
Cable cross-section area	Max. 1.5 mm ²
Tightening torque	0.4 Nm / 0.8 Nm
RS485 cable	Max 300 m from module to display

Compatibility and conformity

Approvals

Standards	IEEE 802.15.4
Approvals	   FCC ID: SNJDIS I.T.E. E345706 POLL. 2 HVIN: 1 IC: 7118D-DIS

UL notes

- This product is intended to be supplied by a Listed Information Technology Equipment AC Adaptor marked NEC Class 2 or LPS
- Max ambient temperature: 50°C (122°F)



Mode of operation

The SBP2WDI48524 is a wireless Dupline® to Modbus RTU converter that is used as an interface between Dupline® and the carpark displays.

The module has no DIP-switch settings, but is configured from the SBP2WEB24 controller configuration software.

Each display must be connected to one SBP2WDI48524 module and it can be connected in close range from the display or in a cabinet in a far distance from the display.

The wireless display interface module has two LEDs for communication status. One blue and one yellow LED. The functionality of these two LEDs are described under "LED indication".

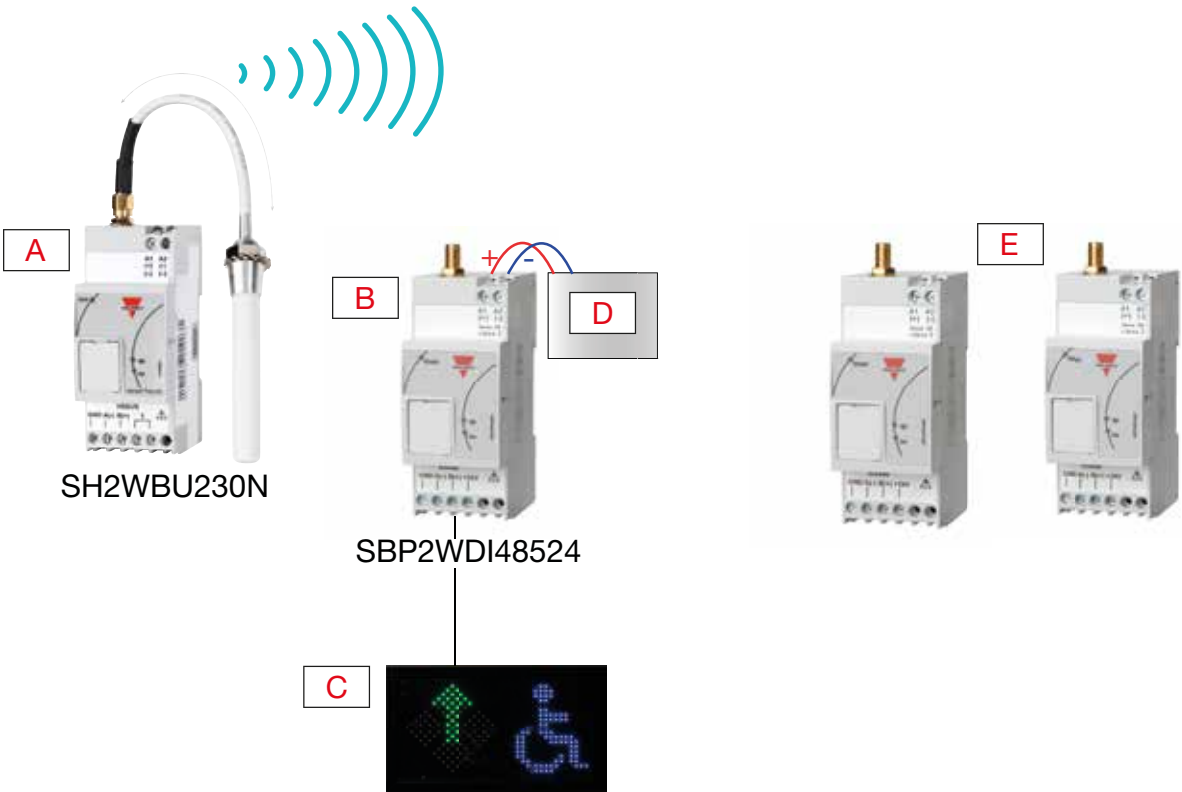
The connection between the wireless master and the wireless display interface module must be established according to the datasheet for SH2WBU230N before configuring the display functions with the configuration tool.

The SBP2WDI48524 continuously checks for presence and correct operation of the display.

Address assignment

Automatic: the controller recognises the module through the SIN (Specific Identification Number).

Principle diagram



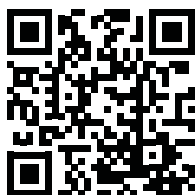
A	Wireless base	D	Power supply, 24 VDC
B	Wireless display interface	E	Widup modules
C	Display		

References

Product selection key



SBP2WDI48524



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