

LIGHTING CONTROLS

WIRELESS SWITCH TRANSMITTER AND CONTROL RELAY RECEIVER WWS SERIES



Functional Devices, Inc. **RIB**

DESCRIPTION

Battery-free **Functional Devices WWS Series wireless switch transmitters** are used to control lighting, but they can be used to control virtually any on/off device. Each self-powered wireless switch transmitter can be placed anywhere within range of a receiver.

Switch transmitters are powered by EnOcean's energy harvesting technology that converts the press of the switch into a small amount of electricity. This electricity is used to transmit a wireless signal that communicates with a wireless relay receiver. The **WR Series** wireless relay receivers are prepackaged with relay, LED, socket, mounting rail, transient protection, and housing. The relay receiver has built-in repeater function. Relay receives signal from wireless switch transmitter and rebroadcasts the signal to the next relay receiver.

FEATURES

- *Decora style with several color choices*
- *EnOcean enabled "energy harvesting" technology*
- *No hardwiring for wireless switch transmitter*
- *Battery free switch operation*
- *120 or 277 VAC receiver*
- *Up to 150 ft (45 m) typical indoor transmission distance*
- *Made in the USA*



WWS-EN3-KIT
Wireless Switch
and Plate



WR
Wireless Receiver



SPECIFICATIONS									
MODEL	WWS-EN3-Kit	RIBW01C-EN3	RIBW02C-EN3	RIBW01B-EN3	RIBW208B-EN3	RIBW240B-EN3	RIBW277B-EN3	RIBW24B-EN3	
Supply Voltage	Finger Press	120 VAC, 75 mA	208-277 VAC, 100 mA	120 VAC, 75 mA	208 VAC, 80 mA	240 VAC, 80 mA	277 VAC, 80 mA	24 VAC, 139 mA, 24 VDC, 69 mA	
Operation	On/Off, Toggle, Sequence	Alarm, Repeater, Delay, Rocker							
Relay Type	n/a	SPST, 1 NO		SPDT					
Relay Rating	n/a	5 A Ballast @ 120/277 VAC			20 A Resistive @ 277 VAC				
Indicators	n/a	Relay on/ Learn mode status (flashing)							
Operating Temperature	-13° to 149°F (-25° to 65°C)	-30° to 140°F (-30° to 60°C)							
Operating Humidity		5-95% non-condensing							
Wiring Terminations	n/a	16", 600 V rating							
Mounting	Wall	1/2" NPT							
Color	White	Gray							
Enclosure Rating	n/a	NEMA 1							
Dimensions	2.7" x 4.5" x 0.6" (2.8 x 11.4 x 1.5 cm)	4.6" x 1.2" x 1.7" (11.7 X 3 X 4.3 cm)			2.3" x 3.2" x 1.8" (5.8 X 8.1 X 4.6 cm)				
Weight	0.3 lb (0.1 Kg)	0.33 lb (0.18 Kg)	0.28 lb (0.13 Kg)	0.28 lb (0.13 Kg)	0.66 lb (0.3 Kg)	0.57 lb (0.26 Kg)	0.68 lb (0.31 Kg)	0.65 lb (0.3 Kg)	
Approvals	UL916, UL File #E68805, FCC	RoHS, Made in USA, FCC							
Warranty		1 year							
RADIO									
Protocol		EnOcean							
Frequency		902 MHz							
Transmitt Power	10 mW, 10dBm typical	Receiver sensitivity -93dBm							
Open Air Range		150' (45 m)							
Antenna		Integrated 15 cm							
Channels		One							
Agency Compliance	FCCID:S2V-PMT210U ID: 5713A-PMT210U					FCCID:S2V-TCM3200 ID: 571A-TCM3200			



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APPLICATION

The radio coverage in commercial buildings is usually restricted by fire safety walls that must be considered as screening. Inside the fire protected sections lightweight or glass partition walls are used with good radio wave propagation properties (except for metal reinforcements or metalized walls).

The following are two common installation architectures

- 1. Radio sensors control the actuators directly (RF bus). Usually, the radio paths to be covered are not very long (cubicle installation).
- 2. Radio sensors control the actuators via automation system

Centrally-placed radio Gateways to the Building Automation System (e.g. BACnet, TCP/IP, LON, EIB) are used for system coverage. In the following a reliable radio planning is shown that can be done in quick time and using simple tools only:

STEP 1: Take a building floor plan and a drawing circle

STEP 2: Mark relevant radio shadings into the floor plan

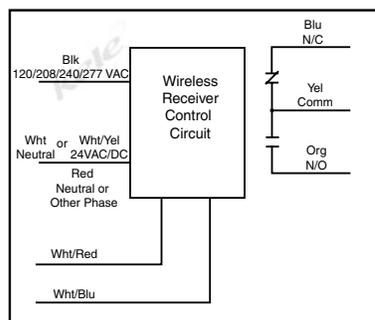
- Fire protection walls
- Lavatories, staircases, elevator shafts, supply areas

STEP 3: Draw circles area wide

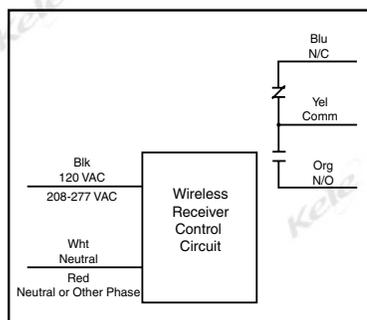
- The circle center points are the ideal positions of the radio gateways.
- By that the gateways should be positioned in such a way that no screens block the connection to any corner inside the fire safety section (potential sensor positions).

Planning with 32-39 feet range offers extensive reserve to avoid most typical bad conditions. For a highly robust radio transmission system it is advisable to implement a redundant radio receiver path. To do so, program two gateways for parallel reception of radio transmitters.

WIRING



RIBW01B/24B/208/240/277



RIBW01C/02C

ORDERING INFORMATION

MODEL	DESCRIPTION
WWS2-EN3	EnOcean enable wireless wall switch, transmitter switch
WSP-W	Cover Plate for WWS-EN3 switch, white
RIBW01B-EN3	EnOcean 902MHz Receiver Relay 20 A 120 VAC 2-way dry contact input, hub mount
RIBW01C-EN3	EnOcean 902MHz Receiver Relay 5 A 120 VAC, hub mount
RIBW02C-EN3	EnOcean 902MHz Receiver Relay 5 A 209-277 VAC, hub mount
RIBW208B-EN3	EnOcean 902MHz Receiver Relay 20 A 208 VAC 2-way dry contact input, hub mount
RIBW240B-EN3	EnOcean 902MHz Receiver Relay 20 A 240 VAC 2-way dry contact input, hub mount
RIBW24B-EN3	EnOcean 902MHz Receiver Relay 20 A 24 VAC 2-way dry contact input, hub mount
RIBW277B-EN3	EnOcean 902MHz Receiver Relay 20 A 277 VAC 2-way dry contact input, hub mount