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Wireless Modbus Relay

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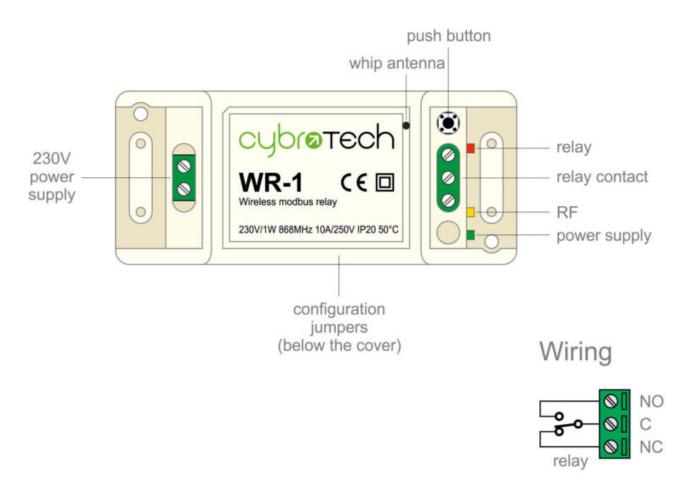
Model nun	nber:	WR-1
Frequency	′ :	ISM 868MHz (EU)
Dimension	ns:	93x45x27 mm

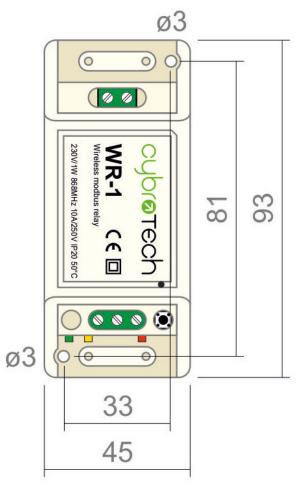
Applications

 Remote controlled relay. Act as modbus RTU slave. Optimal for long range, no hopping.

Installation and mounting

- Carefully open WR-1 module and configure serial communication with jumpers. (Default configuration is 9600bps, 8N1 with normal timeout)
- Place WR-1 module at least 10cm from other objects. Installation is not recommended inside metal cabinets.
- Connect RS485 terminals to WR-1 RS485 terminals
 - A A
 - ∘ B B
 - ∘ C GND
- Connect to 230V power supply
- Configure radio pairing





Features

- remote controlled relay
- act as modbus RTU slave
- very long range, no hopping
- up to 8 relays per network
- protected private connection
- multiple addressable groups

Technical specification

Power supply:	230V, 50/60Hz, 1W		
Ingress protection:	IP20		
Operating temperature:	-2050°C		
Storage temperature:	-4085°C		
Relative humidity:	085% n/c		

Modbus

Address range:	200207	
Relay mapping	coil 1(start address 00h)	
Data bits & parity	8n1	
	01 - read coil	
Supported functions	05 - write single coil	
	15 - write multiple coils	

Relay output

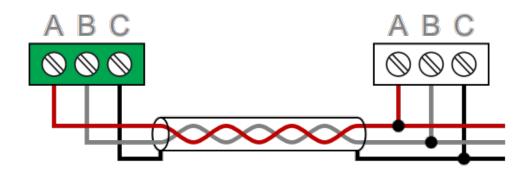
Nominal rating	10A 250Vac (NO), 3A 250Vac (NC)
(resistive)	5A 30Vdc (NO), 3A 30Vdc (NC)

Radio

Frequency band	ISM 868MHz (EU)
Subband	L 866.8MHz, 25mW, 1% utility
Modulation	fSK 38.4kbps 80kHz bandwidth
Listen before talk	yes, delay limited to 20ms
Group address	32-bit, automatically generated
Connection time	10s power-on to network ready
Message delay	5ms from tx start to relay on
Output power	25mW
Operating range	3300m with optical visibility

Terminals and wiring

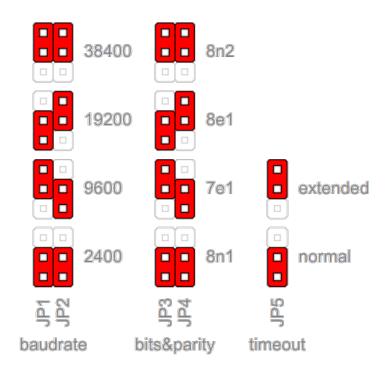
To power sensor	Α	
	В	RS485 bus
	C	
To power supply	L N	230V AC



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Serial configuration and timeout

- Available baudrates 2400, 9600, 19200, 38400 bps
- Data bits and parity 8N1, 7E1, 8E1, 8N2
- Max 64 bytes per transmition
- Integrated 240 Ohm termination resistor

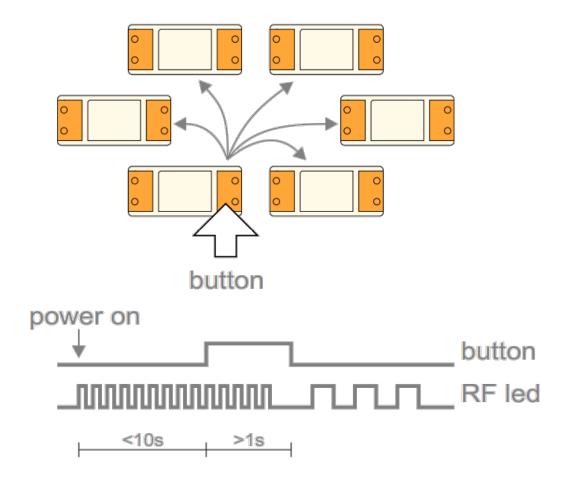


	normal	extended
2400	25ms	200ms
9600	10ms	100ms
19200	5ms	100ms
38400	5ms	100ms

Radio pairing configuration

Create new secure group

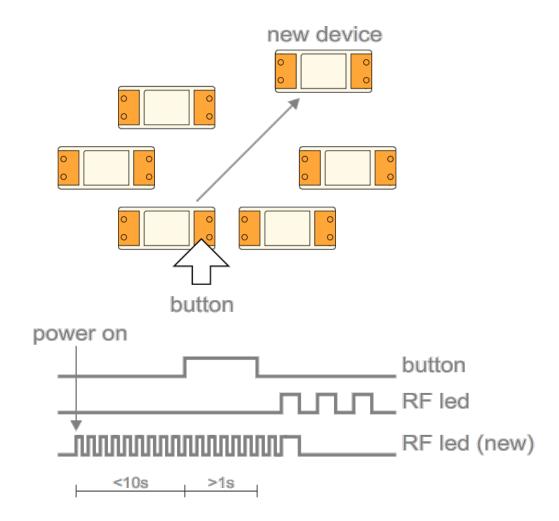
- * turn on all devices as the same time
- * within 10 seconds, while RF LED is blinking, press and hold button on one of the devices
- * after a second, the new address is randomly generated and sent to all devices. RF LED will blink 3 times to confirm the new address.



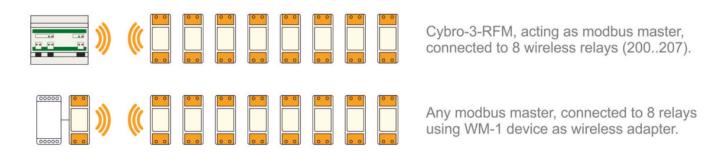
Add new device to the group

- * turn on the device
- * within 10 seconds, press and hold button on one of the existing devices
- * after a second, the existing group address is sent to the new device. RF LED will blink 3 times to confirm the address is sent.

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Examples



Connection check

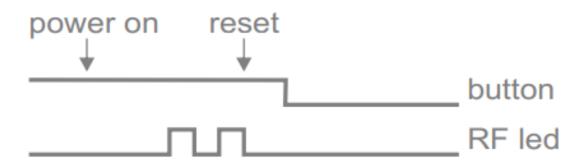
• press the button shortly

With each press of the button, the relay will switch on/off. Other devices are not affected.



Factory reset

- · Hold button and turn the device ON
- RF led will blink twice. Group address is now reset to default.
- Other devices will not be affected.



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