

Wireless Pushbutton Switch

A2W

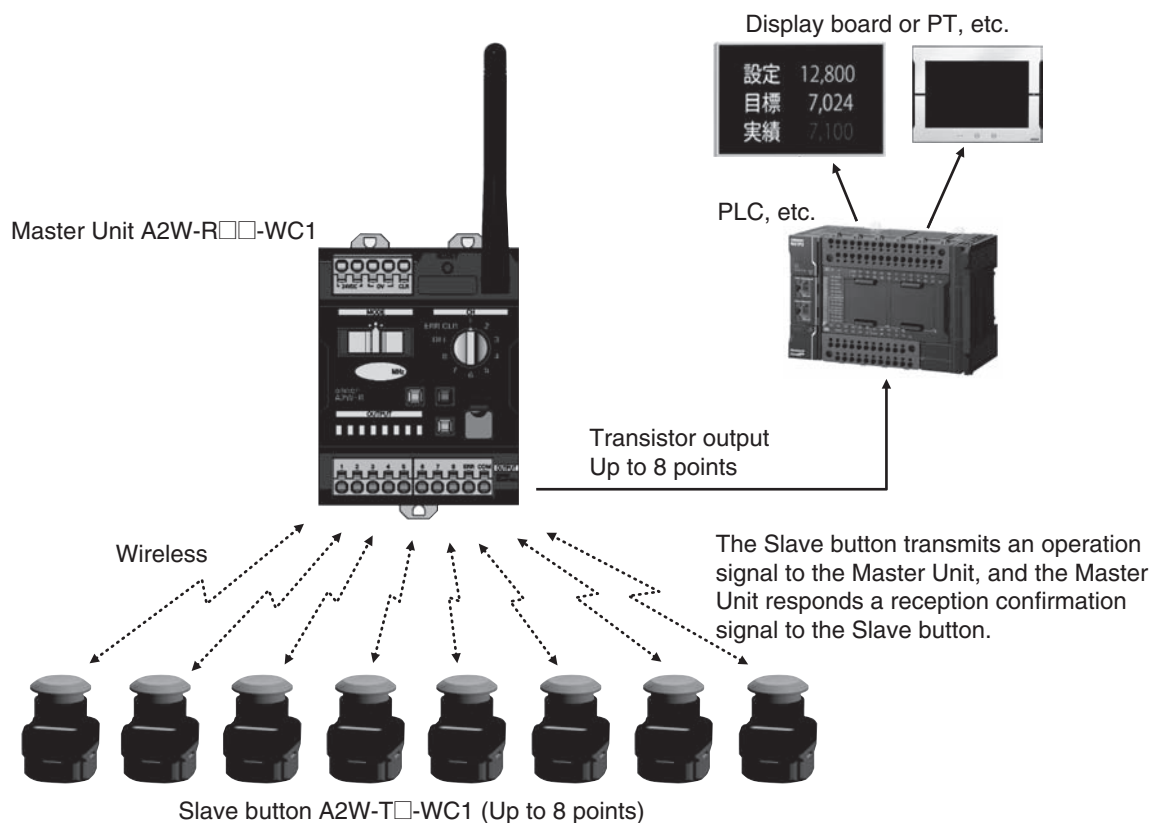
Wireless switch using sub-GHz band Combines wireless reliability and ease-of-use in consideration of work environments

- Sub-GHz band for reduced interference and better signal propagation to difficult-to-reach areas
- Visualization of impedance to wireless transmission because of damage or noise, using Master Unit error output
- Visualization of Slave button reception status using reception confirmation LEDs
- Transmission distance independent of the transmission position of the Slave button
- Visualization of configuration using PC tools that avoid erroneous ID registration
- Visualization of signal quality in display and usage environments using PC tools
- 8 outputs with focus on decentralized control
- Self-power generation eliminates battery replacement and enhances safety and energy saving in the Slave button
- Slave button's shape allows easy use of buttons



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

System Components



A2W

Model Number Structure

Model Number Structure

Slave button

A 2 W- - WC

1 2 3 4 5 6 7

1.	2.	3.	4.
Slave button	Frequency (MHz)	Protocol	Area
T	C 922.5	1 OMRON's protocol	US United States or Canada
5.	6.	7.	
Button type	Button color	Flange color	
1 Mushroom	R Red	R Red	
2 Full guard	G Green	Y Yellow	
	Y Yellow	B Black	
	A Blue		
	W White		
	B Black		

Note: This product is a wireless device that conforms to the radio regulations of United States or Canada. It cannot be used outside of United States or Canada. For product details, please contact us separately.

Master Unit

A 2 W- - WC

1 2 3 4 5

1.	2.	3.
Master Unit	Frequency (MHz)	Output Configuration
R	C 922.5	N Sinking Outputs
		P Sourcing Outputs
4.	5.	
Protocol	Area	
1 OMRON's protocol	US United States or Canada	

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Ordering Information

Slave button

Type	Button type	Frequency (MHz)	Area	Button color	Flange color	Model
Slave button	Mushroom	922.5	United States or Canada	Red	Black	A2W-TC-WC1 US1RB
			United States or Canada	Green	Black	A2W-TC-WC1 US1GB
			United States or Canada	Yellow	Black	A2W-TC-WC1 US1YB
			United States or Canada	Blue	Black	A2W-TC-WC1 US1AB
			United States or Canada	White	Black	A2W-TC-WC1 US1WB
			United States or Canada	Black	Red	A2W-TC-WC1 US1BR
			United States or Canada	Black	Yellow	A2W-TC-WC1 US1BY
			United States or Canada	Black	Black	A2W-TC-WC1 US1BB
	Full guard		United States or Canada	Red	Black	A2W-TC-WC1 US2RB
			United States or Canada	Green	Black	A2W-TC-WC1 US2GB
			United States or Canada	Yellow	Black	A2W-TC-WC1 US2YB
			United States or Canada	Blue	Black	A2W-TC-WC1 US2AB
			United States or Canada	White	Black	A2W-TC-WC1 US2WB
			United States or Canada	Black	Red	A2W-TC-WC1 US2BR
			United States or Canada	Black	Yellow	A2W-TC-WC1 US2BY
			United States or Canada	Black	Black	A2W-TC-WC1 US2BB

Master Unit

Type	Frequency (MHz)	Area	Output configuration	Model
Master Unit	922.5	United States or Canada	Sinking Outputs	A2W-RCN-WC1 US
			Sourcing Outputs	A2W-RCP-WC1 US

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Options (sold separately)

Type	Model	Remarks
High-sensitivity magnetic-base antenna	A2W-AT2.5-WC1	Frequencies: all frequencies supported, cable length 2.5 m Degree of protection: IP65
Slave button holder	A2W-H-WC1	One A2W-H-WC1 is included at purchase of a slave unit.
Slave button strap	A2W-S-WC1	

A2W

Ratings

Wireless Specifications

Item	Slave button model	A2W-TC-WC1 □□□□□
	Master Unit model	A2W-RC□-WC1 □□
Set frequency	922.5 MHz	
Frequency channels	1 channel	
Transmission power	50 mV/m max.	
Wireless service area communications speed	100 kbit/s	
Communications method	Simplex communications	
Number of wireless pushbuttons connected	8 max.	
Communications distance (line of sight)	Approx. 100 m outdoors (with the included pencil antenna)	
Transmission time	Approx. 3 ms (from Slave button transmission to Slave button reception)	
Repeater function	Not supported.	

Applicable Standards

Area	Wireless standards	Safety standards	EMC standards
United States or Canada	Approved by 47 CFR 15.205 Approved by 47 CFR 15.209 Approved by 47 CFR 15.249 Approved by RSS-210	Approved by cULus 62368-1 Conforms to IEC 623680-1 Conforms to EN 62368-1	Conforms to EN 301 489-1 Conforms to EN 301 489-3

Conformance to EN Standards

Use a DC power line less than 3 m to conform to EN standards.

If a power line of 3 m or longer is required, extend the length at the Switching Power Supply's primary side (i.e., the AC power line).

Slave button

Ratings

Item	Specifications
Operating force	25 N max.
Number of operations	1,000,000 operations
Vibration resistance	Frequency: 10 to 55 Hz, half amplitude: 0.75 mm Sweep 5 min, 2 h
Shock resistance	1,000 m/s ² Direction: 3-axis, 6 directions
Ambient operating temperature range	-10 to +55°C (no condensation or freezing)
Ambient operating humidity range	20% to 90%, (no condensation)
Atmosphere	No corrosive gas
Storage temperature range	-40 to +70°C (no condensation or freezing)
Storage humidity range	20% to 90%, (no condensation)
Degree of protection	IP65
Altitude	2,000 m max.
Weight	100 g max.

Reception Confirmation LED

Item	Details
Green	Reception success (received field strength "Strong")
Yellow	Reception success (received field strength "Weak")
Red	Reception failure
Not lit	Slave button fault (no signal transmission from Slave button)

Operating Characteristics

Item	Code	Unit	Initial standard value
Operating force	OF	N	25 N max.
Total travel	TT	mm	6 mm

Master Unit Ratings

Item		Specifications
Master Unit power supply	Rated voltage	24 VDC
	Allowable voltage range	21.6 to 26.4 VDC
	Power consumption	2.4 W max.
	Input current	0.1 A max.
Output rated	Output points	Output 8 points One other point for error output
	Output circuit shared voltage	30 VDC max.
	Maximum load current	50 mA per point
	Leakage current	0.1 mA max.
	Residual voltage	2.0 V max.
	Output logic	One-shot (500 ms) *
	Response time	30 ms or less (from Slave button transmission to Master Unit signal output)
	Number of connected Slave buttons	8 max.
Error clear terminal	Residual voltage at short	1.5 V or less, ON
	Leakage current	0.1 mA or less, OFF (current at short: approx. 7 mA)
Insulation resistance		20 MΩ max. (100 VDC) Between the case and power supply terminals and all outputs terminals Between all power supply terminals and all outputs terminals
Dielectric strength		1,000 VAC, 1 min. Between the case and power supply terminals and all outputs terminals Between all power supply terminals and all outputs terminals
Vibration resistance		Frequency: 10 to 55 Hz, half amplitude: 0.42mm 3-Directional, 120 minutes each (1 sweep, 1 min. ×120 sweeps)
Shock resistance		150 m/s ² Direction of shock: 3-axis, 6 directions Shock frequency: 3 × each direction, total 18
Ambient operating temperature range		-10 to +55°C (no condensation or freezing)
Ambient operating humidity range		20% to 90% (no condensation)
Surrounding atmospheric conditions		No corrosive gas
Ambient storage temperature range		-40 to +70°C (no condensation or freezing)
Ambient operating humidity		20% to 90% (no condensation)
Degree of protection		IP20
Altitude		2,000 m max.
Memory protection		Non-volatile memory (Number of write operations: 1,000,000)
Weight		150 g (not including antenna) 160 g (including antenna)
Mounting		DIN rail mounting Screw mounting

* 50 to 1,000 ms (can be changed with Wireless Switch Support Tool)