OMRON

DeviceNet Wireless Units | WD30

- One master modem to address multiple slaves modems.

- Enables up to 1,024 points of I/O via wireless DeviceNet I/O slaves (input: 512; output: 512).

- Optimum communications method.

- Ideal for data gathering applications.

- Relay function allows communication distances of up to 240 meters.

- Easy installation.

- Settings for wireless communications can be made using switches on the Unit.

Ordering Information

■ Available Models

Name	Model number
DeviceNet Wireless Master	WD30-ME
DeviceNet Wireless Slave	WD30-SE

Note: 1. An operation manual for these products is available. Refer to this manual for more details on operation (Cat. No. H113-E1-1).

2. The following accessories are included with each product.

- Two pencil-type antennas

- Two mounting screws (with mounting nuts; screw diameter: M4; length: 45 mm)

Specifications

■ General Specifications

Item	Specification
DeviceNet communications power supply voltage	11 to 25 VDC (provided from the DeviceNet network power supply)
Current consumption	WD30-ME: 120 mA max. (24 VDC) WD30-SE: 120 mA max. (24 VDC)
Ambient operating temperature	–10 to +50°C
Ambient operating humidity	25% to 85% (with no condensation)
Ambient storage temperature	–20 to 65°C
Weight	200 g

■ Wireless Interface Specifications

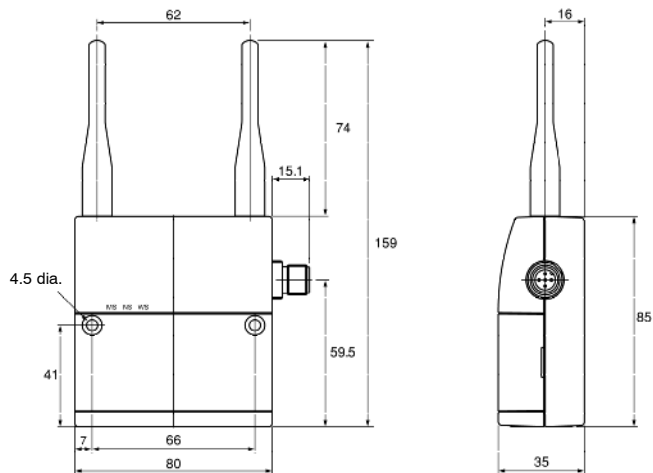| Item	Specification
Electromagnetic waveform	Spread spectrum (direct sequence: DS-SS)
Communications method	Simplex (half-duplex) operation
Frequency band	2.4-GHz band (2,400 to 2,483.5 MHz)
Number of channels	34 (using frequency division)
Antenna power	10 mW
Wireless interval data transfer velocity	100 kbps
Expected transmission distance (varies with the installation environment)	Indoors: Approx. 60 m Transmission distance can be extended using the relay function of the wireless slave unit (3 relays max.)
Maximum number of connectable Wireless Slaves	32 slaves max. 1024 points max. (512 inputs and 512 outputs)

1

■ DeviceNet Interface Specifications (Overview)

Item	Specification	
Communications functions	Master/Slave connection	Remote I/O functions
Self-diagnostic functions	Unit	WDT error, hardware error (memory, CAN, etc.) setup errors
	DeviceNet communications	Node address duplication error, Bus Off error detection, communications timeout
Device profile	Communications Control Unit	ID (vendor, device type = communication adapter, product code, product revision, product name, serial number, status, I/O Unit ID) are given in the appendices at the end of the operation manual.

Note: 1. For more details on DeviceNet, refer to *DeviceNet (CompoBus/D)* (Cat. No. Q102-E1-6).

　　　　2. Slaves that use explicit message communications cannot communicate with wireless slaves.

　　　　3. Not suitable for applications requiring real-time control.

Dimensions

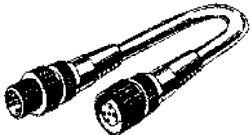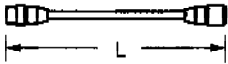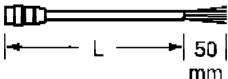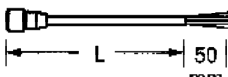**Note:** All units are in millimeters unless otherwise indicated.

Accessories

■ Communications Connectors Specifications

Item	DCA1-5CN□□W1 (connector at both ends)	DCA1-5CN□□F1 (socket connector at one end)	DCA1-5CN□□H1 (plug connector at one end)	DCN2-1 (T-joint connector)	DRS2-1 (terminating resistance plug connector)	DRS2-2 (terminating resistance socket connector)
Rated current	3 A					
Rated voltage	125 VDC					
Contact resistance (connector part)	40 mAΩ max. at 20 mVDC max., 100 mA max.					
Insulation resistance	1,000 MΩ min. at 500 VDC					
Dielectric strength (connector part)	1,500 VAC for 1 min. (leakage current: 1 mA max.)					
Ambient temperature	Operating: −20°C to 65°C Storage: −25°C to 70°C					
Degree of protection	IEC IP67					
Connecting operations	200 operations					
Cable holding strength	98 N/15 s		---			
Vibration resistance	10 to 500 Hz, simple vibrations with amplitude of 1.52-mm full amplitude or 100 m/s^2 (whichever is smaller), no current interruption for 1 μs min.					

■ Communications Connectors Overview

Shape	Connector	Cable length (m)	Model
	Connector on both ends of cable	0.5	DCA1-5CNC5W1
		1	DCA1-5CN01W1
		2	DCA1-5CN02W1
		3	DCA1-5CN03W1
		5	DCA1-5CN05W1
		10	DCA1-5CN10W1
	Socket connector on one end of cable	0.5	DCA1-5CNC5F1
		1	DCA1-5CN01F1
		2	DCA1-5CN02F1
		3	DCA1-5CN03F1
		5	DCA1-5CN05F1
		10	DCA1-5CN10F1
	Plug connector on one end of cable	0.5	DCA1-5CNC5H1
		1	DCA1-5CN01H1
		2	DCA1-5CN02H1
		3	DCA1-5CN03H1
		5	DCA1-5CN05H1
		10	DCA1-5CN10H1
	T-junction connector	---	DCN2-1
	Terminating resistance connector (plug)	---	DRS2-1
	Terminating resistance connector (socket)		DRS2-2

Note: When using the above with standard cables, do not use in an environment subject to spatter unless the cable section has been protected against spatter.

Precautions

This wireless device uses the license–free ISM band between 2.400 and 2.4835 GHz. This band is also used by microwave ovens and other industrial, scientific, and medical devices.

Before using this wireless device, confirm that there are no other devices in the vicinity that use the license–free ISM band between 2.400 and 2.4835 GHz.

Please inform your OMRON representative if you ever experience any problems caused by this wireless device, such as radio interference with other devices.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. M501-E2-01   **In the interest of product improvement, specifications are subject to change without notice.**