

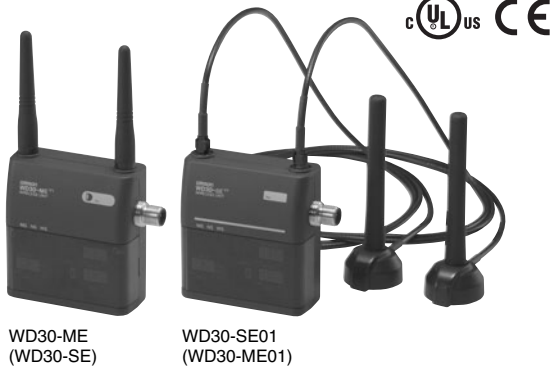
DeviceNet Wireless Units

WD30

Wireless DeviceNet Units Connects Slaves without Wires

- Up to 3,200 I/O points can be communicated through a Master Unit.
- Uses spread spectrum technology for superior noise resistance in manufacturing environments.
- Long-range communications have been achieved with a relay function (3 repeaters max.).
- Message communications are supported.
- Approval for compliance with China, U.S., and European radio wave standards.
- RoHS Compliant

System Configuration



WD30-ME (WD30-SE)

WD30-SE01 (WD30-ME01)

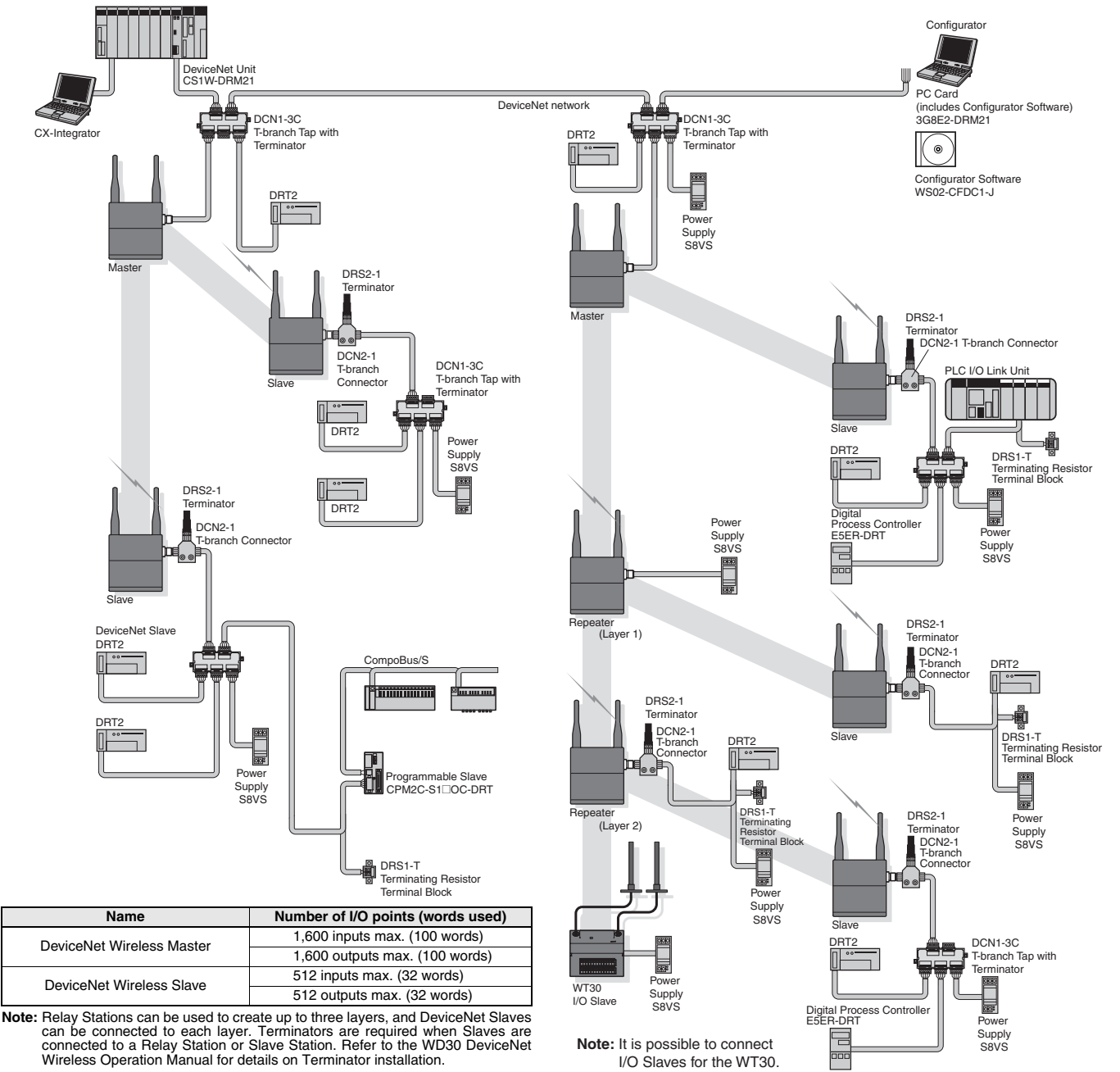


Diagram illustrating the System Configuration for DeviceNet Wireless Units (WD30).

The configuration shows a Master unit connected to a network of Slaves and Repeater units (Layer 1 and Layer 2). The network is terminated at both ends using DRS2-1 Terminators and DCN2-1 T-branch Connectors. Power is supplied to the units via S8VS Power Supply modules.

Key components and connections include:

- Master unit connected to the DeviceNet network.
- Slave units connected to the network via DRS2-1 Terminators and DCN2-1 T-branch Connectors.
- Repeater units (Layer 1 and Layer 2) used for long-range communication.
- Termination components: DRS2-1 Terminator, DCN2-1 T-branch Connector, DRS1-T Terminating Resistor Terminal Block.
- Power supply: S8VS Power Supply.
- Communication components: DRT2, DRS1-T, DRS2-1, DCN2-1, DCN1-3C T-branch Tap with Terminator.
- External devices: CX-Integrator, Configurator (PC Card and Software), Digital Process Controller E5ER-DRT, PLC I/O Link Unit, Programmable Slave CPM2C-S1□OC-DRT.

Name	Number of I/O points (words used)
DeviceNet Wireless Master	1,600 inputs max. (100 words)
	1,600 outputs max. (100 words)
DeviceNet Wireless Slave	512 inputs max. (32 words)
	512 outputs max. (32 words)

Note: Relay Stations can be used to create up to three layers, and DeviceNet Slaves can be connected to each layer. Terminators are required when Slaves are connected to a Relay Station or Slave Station. Refer to the WD30 DeviceNet Wireless Operation Manual for details on Terminator installation.

Note: It is possible to connect I/O Slaves for the WT30.

Ordering Information

● WD30 DeviceNet Wireless Unit

Type	Number of I/O (number of allocated words)	Antenna type	Model
DeviceNet Wireless Master	1,600 inputs max. (100 words) 1,600 outputs max. (100 words)	Pencil-type antenna	WD30-ME
		Magnetic base antenna	WD30-ME01
DeviceNet Wireless Slave	512 inputs max. (32 words) 512 outputs max. (32 words)	Pencil-type antenna	WD30-SE
		Magnetic base antenna	WD30-SE01
Magnetic base antenna (one)	--	--	WD30-AT001 *

* With the WD30-AT001, only the WD-ME/SE or WD30-ME01/SE01 can be used.

● Peripheral Devices (Micro Connectors)

Name	Specifications	Model
Shielded T-branch Connector	Connector with one branch	Screws DCN2-1
		Smart Click DCN2-1S
Cable with Shielded Connectors	Cables with connectors on both ends	Screws DCA1-5CN□□W1
		Smart Click DCA1-5CS□□W1
	Cables with connector socket on one end	Screws DCA1-5CN□□F1
		Smart Click DCA1-5CS□□F1
Shielded Terminator	Plug Connector	Screws DRS2-1
		Smart Click DRS2-1S

Specifications

● General Specifications

Item	Specifications
DeviceNet communications power supply voltage	11 to 25 VDC (supplied from the communications connector)
Current consumption *	4 W (350 mA max. (startup), average: 120 mA)
Ambient operating temperature	-10°C to 50°C
Ambient operating humidity	25% to 85% (with no condensation)
Ambient storage temperature	-20°C to 65°C
Vibration resistance	10 to 55 Hz, 0.35-mm amplitude at 50 m/s ² acceleration with 10 sweeps in X, Y and Z directions for 8 minutes each
Shock resistance	150m/s ² , 6 directions, 3 times each
Weight	Approx. 200 g

* Select a power supply with excess capacity. (We recommend a minimum of 25 W.)

● Wireless Interface Specifications

Item	Specifications
Wave type	Spread Spectrum (direct sequence; DS-SS)
Communications method	Simplex (half duplex)
Frequency band	2.4 GHz (2401 MHz to 2480.2 MHz)
Number of channels	66 channels
Antenna power	10 mW
Data transfer speed between wireless units	100 kbps
Transmission distance *	Indoors: 60 m (approx. 50 m with magnetic base antennas) Outdoors: 300 m (unobstructed)
Relay stations	3 repeaters max.
Max. number of sets in the same area *	10 sets max.
Max. number of wireless Slaves	64 max.

* Depends on many factors in the installation environment.

● Enclosed Accessories

The following accessories are included with a Wireless Master or Wireless Slave.

- Two Antennas
- Instruction Sheet
- Declaration of CE marking certification
- Two M4 screws (with nuts, flat washers, and spring washers)

● Peripheral Devices

Name	Model
Configurator (PC Card)	3G8E2-DRM21-V1
Configurator Software	WS02-CFDC1-E
FA Integrated Tool Package	CXONE-AL□□C-E

Note: For details on peripheral devices, refer to this catalog.

* The price depends on the license.

● DeviceNet Interface Specifications (Summary)

Item	Specifications
Communications functions *	Master/Slave connections Remote I/O functions, Explicit message communications
Self-diagnostic functions	Unit WDT error, hardware errors (such as memory and CAN errors), and setting errors
	DeviceNet communications Duplicate node address errors, Bus OFF detection, and connection timeout
Device profiles	Refer to Appendix A of the <i>WD30 DeviceNet Wireless Units Operation Manual</i> for various DeviceNet IDs (vendor, device type = communication adapter, product code, product revision, product name, serial number, status, and I/O unit IDs.)

* FINS message communications are not supported. Explicit messages must be handled in the ladder program. Refer to the *WD30 DeviceNet Wireless Units Operation Manual* for details.

● Compliance with China Radio Standards

In China, radio frequency channel 51 cannot be used. Use channels 2 to 34 or channels 52 to 83. Also, use is prohibited on or near aircraft.

● Certified Standards

Approved radio standards	Japanese radio standards	ARIB STD-T66
	U.S. radio standards	FCC part15.247
	Canadian radio standards	IC RSS 210
	Chinese radio standards	信部無[2002]353号
Compliant radio standards	EU radio standards	EN 300 440-2
Approved standards	Safety standards	cULus Listing: UL508/CSA C22.2 No.142
Compliant standards	Safety standards	EN 60950-1
	EMC standards	EN 301 489-17

● Compliance with UL Standards

Use a class 2 power supply for compliance with UL standards.

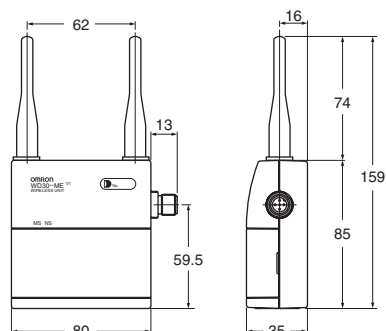
Main class 2 power supply: OMRON S8VS (30 W or 60 W) Switching Power Supply

(Unit: mm)

Dimensions

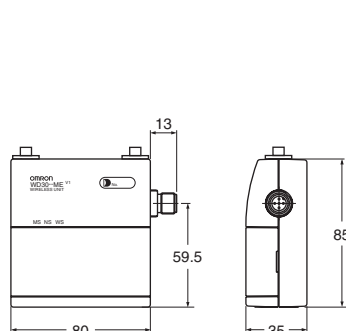
● DeviceNet Wireless Units

WD30-ME
WD30-SE



● DeviceNet Wireless Units

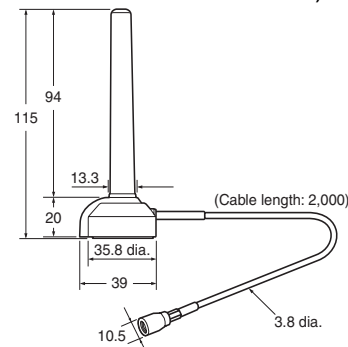
WD30-ME01
WD30-SE01



● Magnetic Base Antenna (1 Antenna)

WD30-AT001

(Included with the WD30-ME01 and WD30-SE01.)



Refer to the *WD30 DeviceNet Wireless Units Datasheet* (Cat. No. M502, M503) or *WD30 DeviceNet Wireless Units Operation Manual* (Cat. No. M071) for more detailed specifications.

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