OMRON

Smart DeviceNet Capabilities

Optimize Uptime, Reduce Maintenance Surprises Without Touching the Control Programming

Sensing tomorrow™

Delivering on the Promise of Open Device-Level Communication

Until now, diagnostics in field network devices have been limited to things like “device present” or “broken wire,” and access to this information required lengthy control program implementation. Omron’s DRT2 DeviceNet Smart Slaves give you powerful tools to diagnose network problems and establish preventive maintenance plans.

Omron Configuration Software provides the ability to constantly monitor and update this information without any control system programming at all. The combination of much greater information capability, plus parallel access to that information, removes the barriers to gaining maximum benefit from your investment in a DeviceNet installation. The promise of enhanced uptime and effective maintenance that prevents breakdowns is now possible and easily implemented.

DeviceNet Benefits

- Open communication standard assures multi-vendor device interoperability
- Wide range of ODVA certified products to meet your DeviceNet system needs
- Fast, easy installation saves money in space and time
- Easily expandable, DeviceNet meets changing needs with simple network additions
- make on-the-fly configuration changes and additions without powering down to maintain productivity
- Omron is a dedicated developer of DeviceNet core technology and leading edge solutions
- DeviceNet configuration software provides simple drag-and-drop setup for ease of use

DeviceNet and Omron

Omron is one of the founding members of the Open DeviceNet Vendors Association (ODVA), charged with setting and maintaining open standards and specifications for equipment from hundreds of manufacturers worldwide. Both Omron and ODVA actively promote DeviceNet as the best choice for device-level communications and continue to encourage the development of products that take advantage of the intelligent features built into the network. With ODVA’s strong conformance testing policies, DeviceNet ensures the interchangeability and interoperability of control devices from participating manufacturers. These include everything from PLCs and remote I/O, fiber-optic sensors, vision systems controllers, servos and inverters, to process and temperature controllers.

Put DeviceNet’s Time Tracking to Work for You

Omron DRT2 Smart I/O Slaves can report maintenance timing to the user in two ways:

- Contact operation counter
- ON-Time monitor

It is simple to configure a preventive maintenance system. Set up a threshold for each I/O point depending on type of device: Sensor, Actuator, Solenoid, Motor Starter, Relay, etc.

If the number of operations, or ON-Time duration, exceeds the threshold, the terminal sends a message to the master mounted on the PLC or PC.

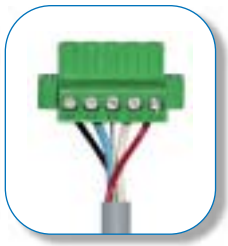
Three Big Wishes Fulfilled

1. Shorten Installation Time

Reduce I/O wiring from thick bundles to just four wires going back to the control cabinet for each node. Free the communications of complex or limiting wiring and exchange data wirelessly throughout the manufacturing area. Omron's wide range of DeviceNet products can deliver a solution with significant installation cost savings built in. It adds up quickly:

- Less wiring
- Less labor to pull and tag and test wiring
- Reduced time to productivity

Standard wiring requires rigid conduit, hundreds of individual wire terminations and tags, and hours of testing.



DeviceNet cables transmit I/O status and more over just five wires, ending in error-proof, color-coded connectors.

2. Reduce Down Time Troubleshooting System Failures

Omron's Smart Slaves automatically collect data on communications system performance. You designate what data to collect and how to report it from easy-to-use DeviceNet Configurator Software. Typical errors detected include excessive electrical noise around a terminal block, low power level during transmission, and component performance degradation measured by excessive time to complete a cycle. To speed accurate response for replacement servicing, the Configurator Software allows detailed comments for each device connected to a DeviceNet terminal, including valuable information on installation location, manufacturer, part number and stockroom location.

Failure recovery information

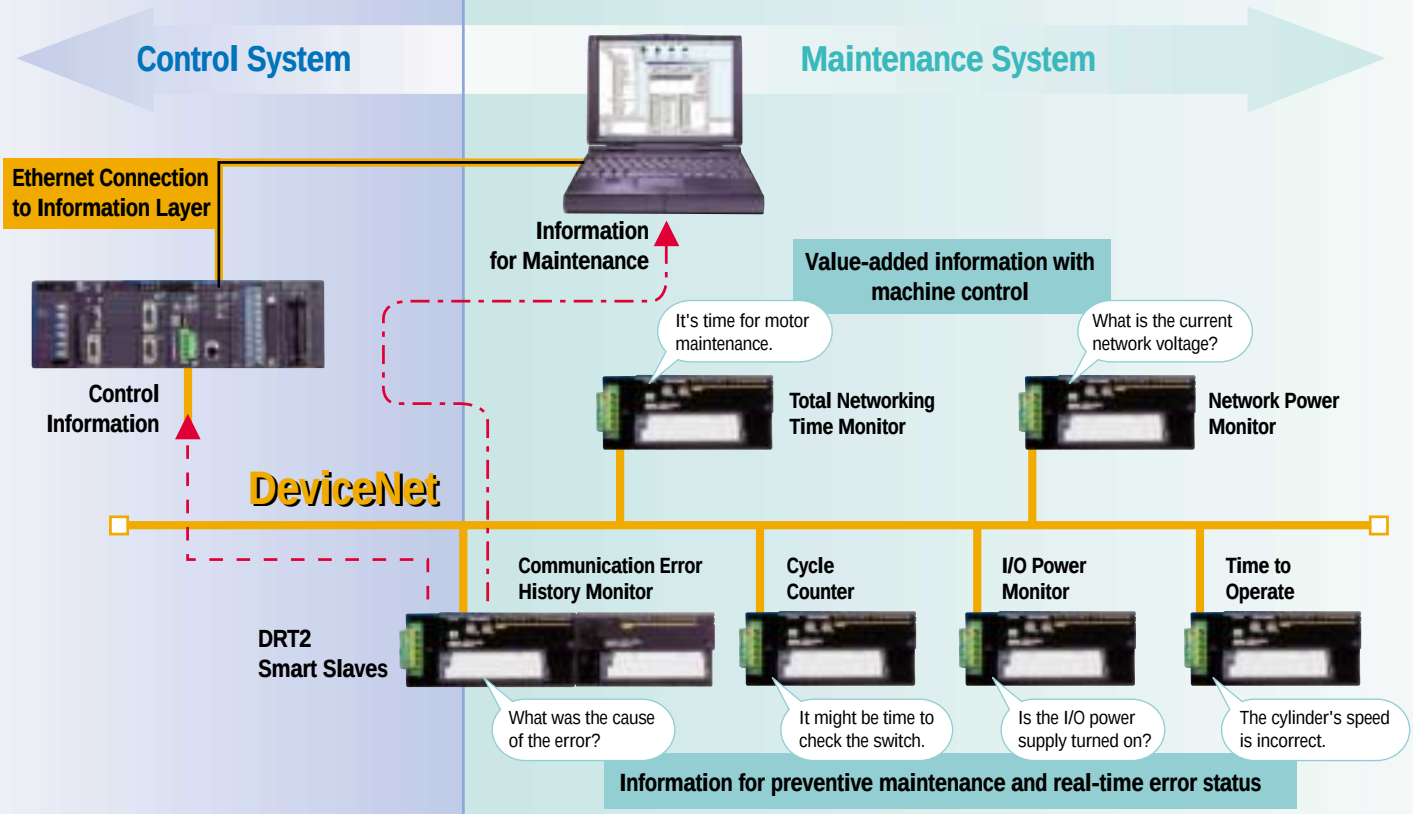
- Device description including location, manufacturer and part number
- I/O power monitor
- Communication error history monitor
- Sensor disconnected detection
- Short circuit detection

3. Implement a Preventive Maintenance System Without Touching the Control Programming

No one wants to rewrite validated control programming and risk slowing productivity or shutting down a line to test the impact of new data requests. Omron's Smart DeviceNet Terminals sidestep the control programming and handle DeviceNet diagnostic communications by using a combination of common data link area and separate bus access. You can implement a preventive maintenance system that runs parallel to production and provides feedback to that system without changes in control programming.

Preventive maintenance

- Cycle counter
- Total working time monitor
- Network power monitor
- Conduction time monitor



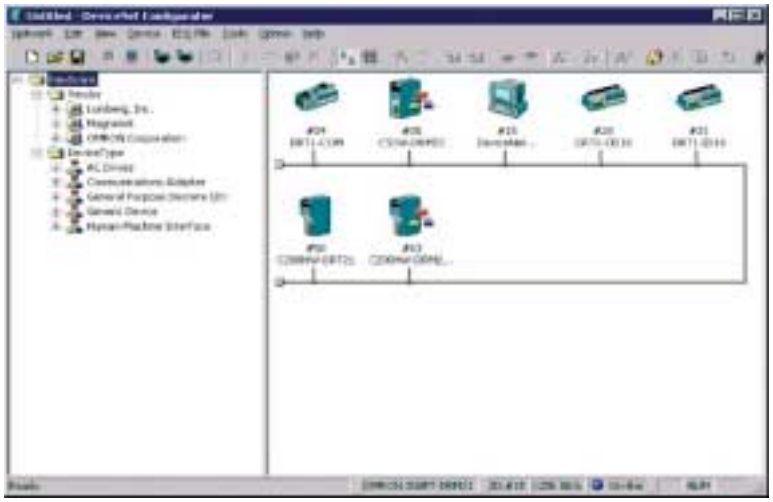
Software Unlocks the Wealth of Data

Omron's DeviceNet Configurator Software unlocks the wealth of data automatically collected by DRT2 Smart I/O Terminals. Use it to shorten network setup and troubleshooting time, and optimize performance by setting I/O allocation. The software uses drag-and-drop commands as well as pull down menus, for a familiar and effective Windows®, work environment.

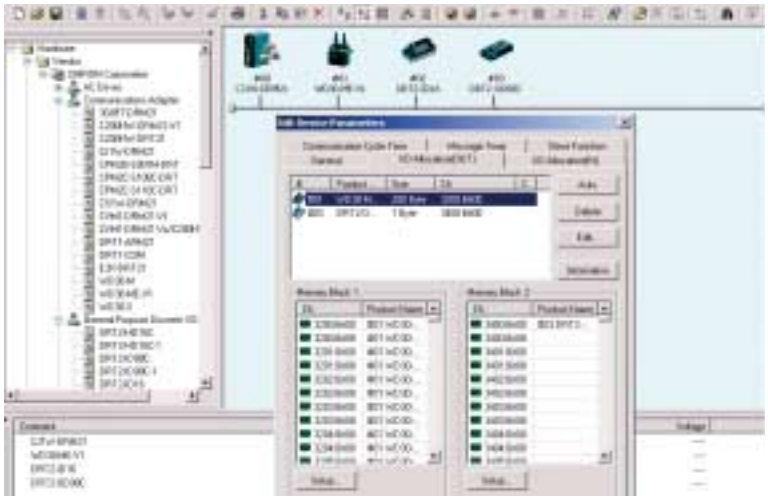
The Configurator Software provides the ability to connect and monitor the factory floor network in two ways:

- Via Ethernet connection
- Through configuration hardware tools without need of any control programming or interruption

Automatically registers network components from all manufacturers



Optional user-set I/O allocation for DeviceNet slaves



Shorten troubleshooting with extensive comments

Comments, stored in each node, can include program reference, machine location, manufacturer name and part number to identify failed parts and speed their replacement

Smart I/O Terminals Collect Valuable Data

Omron's DRT2 Smart Slaves for DeviceNet lead the industry in capabilities for monitoring both I/O status and network communications status. They allow you to remotely monitor and diagnose such common problems as low network voltage, communications errors, and short circuits for connected devices.

DRT2 Smart Slaves provide enhanced I/O and network diagnostics. Common to all Smart Slaves are the following features:

Network Status Monitoring

- **Communications power supply voltage monitoring** – a unique Omron feature – monitors and reports the communications voltage present at a slave
- **Communications error log** – a unique Omron network monitoring feature – records the last four communications errors by the individual slave

I/O Status Monitoring

- **Slave comments** – add comments regarding each slave, including machine location and other valuable information that can speed diagnostics later
- **Connected device comment** – ability to define each connected device to the slave with location, manufacturer name, and part number to speed troubleshooting and replacement

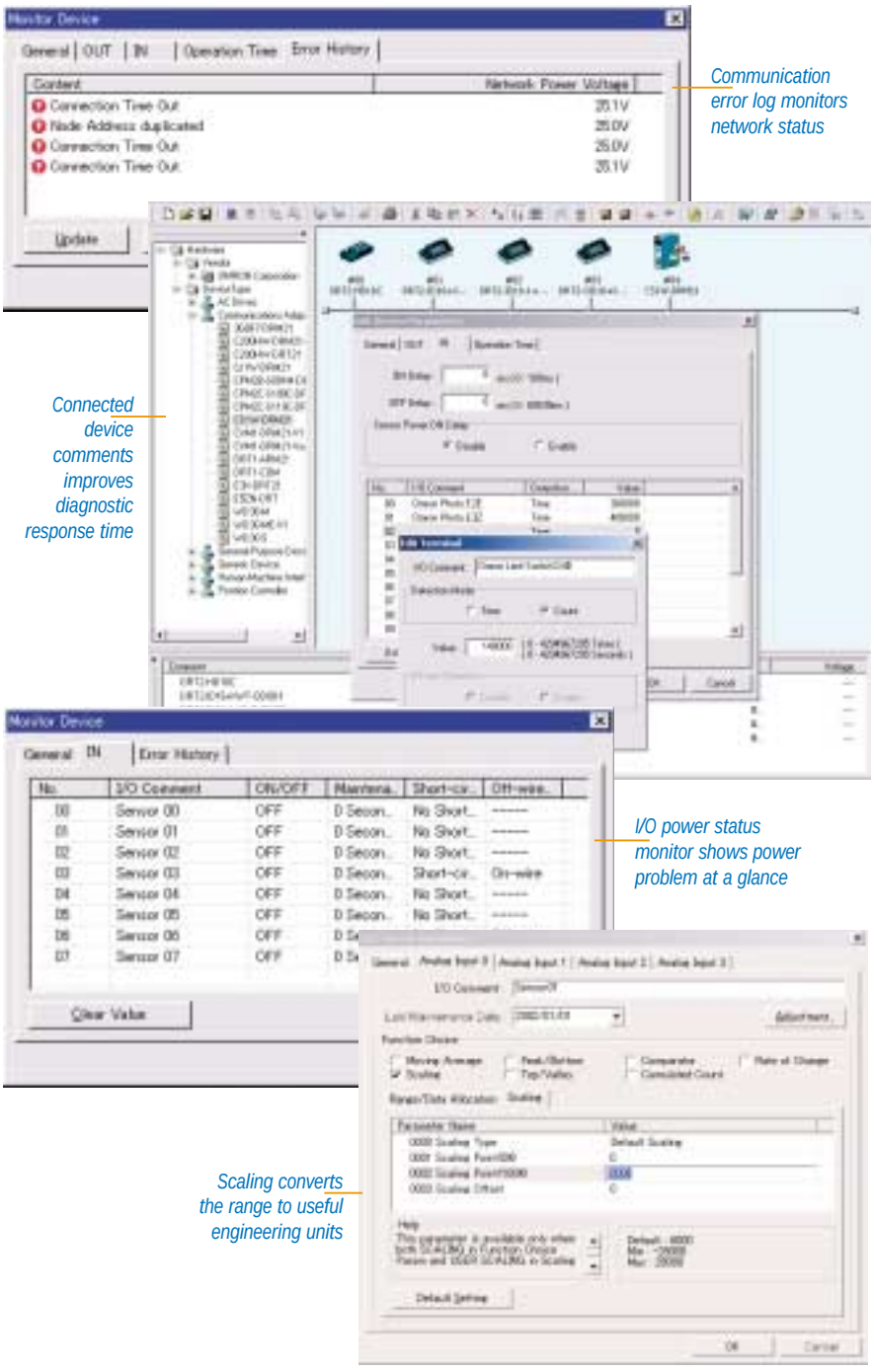
Digital I/O Smart Slave Features

- **High-speed operation time monitoring** – the time from an output turning on to sensing the completion of the operation
- **I/O power status monitoring** – short circuit detection and status of power supply to a sensor
- **Number of operations monitoring** – preventive maintenance tool that can alert maintenance to the number of times a device has been activated
- **Expansion bits** – provides for a single node to be able to attach a single expansion block of either inputs or outputs to the main block

Analog Smart Slave Features

- **Scaling** – analog values can be converted inside the slave to the actual performance data such as flow volume
- **Analog value integral function** – allows sampling and scaling of process variable within the Smart Slave without need for programming this function
- **Comparator function** – allows user to set flags at peaks and valleys of measured variable

Transistor input and output terminals available with expansions (top left), IP67 rated I/O terminals with M12 connectors (lower left), and analog input and output terminals (right)



Freeing DeviceNet to go Wireless

SPECIFICATIONS

Wireless Master

- Up to 64 slaves per master
- Up to 3200 I/O per master
- 1600 In/1600 Out

Transmission

- 60 m (197 ft) distance
- Up to 240 m (787 ft) — that's over 1/8 mile using relay stations
- Through concrete and drywall
- Supports explicit messaging — this allows communications to DeviceNet products that have additional information or that can be configured over the network.

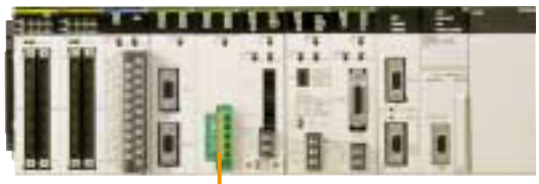
Frequency

- 2.4 GHz
- 35-channel selection
- Spread spectrum for maximum security

Typical Applications

- Rotating or mobile equipment
- Overhead displays
- Data acquisition where long branch lengths would be needed

Combine with CPM2C-S100C-DRT programmable slave (below) for high-speed local control to eliminate wiring in difficult or high maintenance applications.



High-Speed Local Control with a DeviceNet Link

SPECIFICATIONS

Capacity

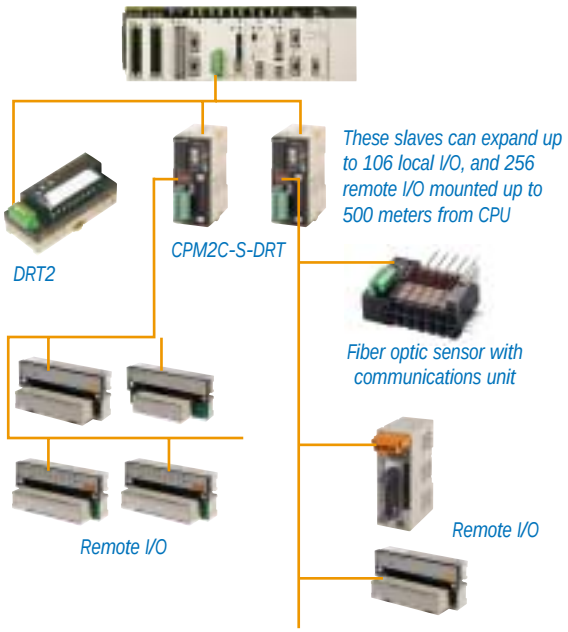
- 4 Inputs (24 VDC)/6 Outputs (transistor) on the CPU
- Up to 362 total I/O - 106 Local I/O with 3 expansion modules and up to 256 Remote I/O, mounted up to 500 meters from the CPU
- DeviceNet slave and CompoBus/S master built in
- Real-time clock function

Performance

- Scan time of 2 ms with 500-step program
- Less than 1 ms update for 256 I/O
- 50 µs pulse inputs and interrupt outputs
- Built-in high-speed counter with a maximum 20 kHz pulse speed
- DeviceNet "I/O Link" of 512 In/512 Out bits

Programmable Slave

Omron's CPM2C-S offers a unique combination of capabilities in an ultra compact package that is affordable enough to put control on each machine in your process. The Programmable Slave has a built-in high-speed counter with a maximum 20 kHz pulse speed. Use this feature in conjunction with pulse interrupt outputs to provide motion control. The 50 µs pulse inputs and interrupt outputs allow control of processes requiring precise timing. The high-speed distributed processing compensates for any delay time in network communications.



CPM2C-S-DRT Programmable Slave also supports RS-232C serial devices, explicit messages and multi word I/O links

Wide Range of DeviceNet Products

DeviceNet Masters

Product	Specifications	Part No.	Standards
Master for CJ1 series PLCs	Micro size	CJ1W-DRM21	cULus, C1D2, CE
Master for CS1 series PLCs	Medium rack	CS1W-DRM21	UL, CSA, CE
Master for C200H Alpha PLCs	Medium rack	C200HW-DRM21-V1	UL, CSA, CE
Master for CVM1/CV series PLCs	Large rack	CVM1-DRM21-V1	UL, CSA, CE

Programmable Slaves and I/O Link Modules

Product	Specifications	Part No.	Standards
CPM2C PLC with built-in DeviceNet slave and CompoBus/S master	Controller with 6 inputs, 4 NPN outputs up to 362 total I/O with local and remote expansion	CPM2C-S100C-DRT	UL, CSA, CE
	Controller with 6 inputs, 4 PNP outputs up to 362 total I/O with local and remote expansion	CPM2C-S110C-DRT	UL, CSA, CE
I/O Link Modules for shared data area	512 internal inputs/512 internal output between CS1 Series or C200H Alpha PLCs and DeviceNet master	C200HW-DRT21	UL, CSA, CE
	16 internal inputs/16 internal outputs between CQM1H and DeviceNet master	CQM1-DRT21	UL, CSA, CE
	32 internal inputs/32 internal outputs between CPM1A or CPM2A and DeviceNet master	CPM1A-DRT21	cUL, CSA, CE

DeviceNet System Selection Notes:

Determine the type of wiring preference for the installation

- "Open" style or "Quick Disconnect" (usually IP67)

Make sure you have a way to connect each node to the network

- Nodes can be "Daisy chained" from one branch tap in the "Open" style

Every network must have two terminating resistors

- T-Branch Taps have terminating resistors included

Consult Operation Manual W347 at our website for complete system wiring details

Wireless DeviceNet

Product	Specifications		Part No.	Standards
Wireless master and slave modules, built-in pencil antennas	1600 inputs/ 1600 outputs	Master	WD30-ME	cULus, FCC
		Slave	WD30-SE	cULus, FCC
Wireless master and slave modules, remote antennas antennas on 6 ft cables	1600 inputs/ 1600 outputs	Master	WD30-ME01	cULus, FCC
		Slave	WD30-SE01	cULus, FCC
Remote antenna replacements	For WD30-ME01/SE01	Pair	WD30-ATT01	cULus, FCC

Configurator Software

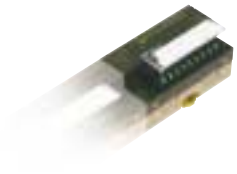
Product	Specifications	Part No.	Standards
DeviceNet Configurator software only (for use with CJ1/CS1 masters)	CD-ROM	WS02-CFDC1-E	—
DeviceNet Configurator for other masters from Omron and other manufacturers	ISA board with software	3G8F5-DRM21-E	—
	PCMCIA card with software	3G8E2-DRM21-E	—

Smart DeviceNet I/O Terminals

Basic Units

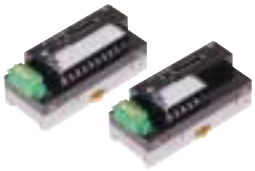
Product	Specifications		Part No.	Standards
Smart I/O basic units automatically collect network status and connected device performance information	16 inputs	NPN	DRT2-ID16	cULus, CE
	16 inputs	PNP	DRT2-ID16-1	cULus, CE
	16 outputs	NPN	DRT2-OD16	cULus, CE
	16 outputs	PNP	DRT2-OD16-1	cULus, CE

Expansion Units



Product	Specifications		Part No.	Standards
Smart expansion I/O units provide mix and match flexibility in distributed I/0 configuration	8 inputs	NPN	XWT-ID08	cULus, CE
	8 inputs	PNP	XWT-ID08-1	cULus, CE
	8 outputs	NPN	XWT-OD08	cULus, CE
	8 outputs	PNP	XWT-OD08-1	cULus, CE
	16 inputs	NPN	XWT-ID16	cULus, CE
	16 inputs	PNP	XWT-ID16-1	cULus, CE
	16 outputs	NPN	XWT-OD16	cULus, CE
	16 outputs	PNP	XWT-OD16-1	cULus, CE

Analog I/O Terminal



Product	Specifications		Part No.	Standards
Analog input terminal	4 inputs (0 to 5 V, 1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, 4 to 20 mA)	Resolution: 12 bit; 1/6,000; 4 ms max./4 pt conversion time	DRT2-AD04	cULus, CE, CL1 Div2
Analog output terminal	2 outputs (0 to 5 V, 1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, 4 to 20 mA)	Resolution: 12 bit; 6,000; 2 ms/pt conversion time	DRT2-DA02	cULus, CE, CL1 Div2

IP67 Rated Transistor I/O Terminals with M12 Connectors

Product	Specifications		Part No.	Standards
Terminals with IP67-rated water-washdown resistance	16 inputs	NPN	DRT2-HD16C	cULus, CE
	16 inputs	PNP	DRT2-HD16C-1	cULus, CE
	8 inputs	NPN	DRT2-ID08C	cULus, CE
	8 inputs	PNP	DRT2-ID08C-1	cULus, CE
	8 outputs	NPN	DRT2-OD08C	cULus, CE
	8 outputs	PNP	DRT2-OD08C-1	cULus, CE

Peripheral Products

Thin Cables, Micro-size Connector Type

Product	Specifications	Part No.	Standards
M12 connector type	Shielded connectors at both ends	DCA1-5CN☐☐W1*	—
	Shielded connector (female socket) at one end	DCA1-5CN☐☐F1*	—
	Shielded connector (male plug) at one end	DCA1-5CN☐☐H1*	—
	Shielded connectors at both ends M12 micro-size plug (male) and M12 micro-size socket (female)	DCA1-5CN☐☐W5*	—
	Shielded T-branch connector (one branch line)	DCN2-1	—

Thick Cables, Mini-size Connector Type

Product	Specifications	Part No.	Standards
M18 size connectors	Shielded connectors at both ends (socket, plug)	DCA2-5CN☐☐W1*	—
	Shielded connector (female socket) at one end	DCA2-5CN☐☐F1*	—
	Shielded connector (male plug) at one end	DCA1-5CN☐☐H1*	—
	Shielded T-branch connector (one branch line M18)	DCN3-11	—
	Shielded T-branch connector (one branch line M12)	DCN3-12	—

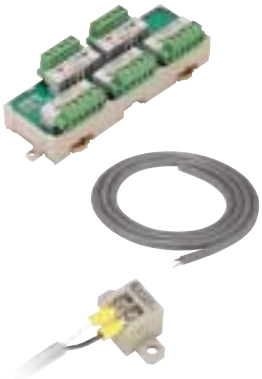
*To complete DeviceNet cable part number, replace ☐☐ using the following code:

C5 = .5 meter / 01 = 1 meter / 02 = 2 meters / 03 = 3 meters / 04 = 4 meters / 05 = 5 meters / 10 = 10 meters

Connectors with Terminating Resistance

Product	Specifications	Part No.	Standards
M8 (Micro-size) connector with terminating resistance	Male plug	DRS2-1	—
	Female socket	DRS2-2	—
M12 (Mini-size) connector with terminating resistance	Male plug	DRS3-1	—

Bulk Cables, Branch Taps with Connectors



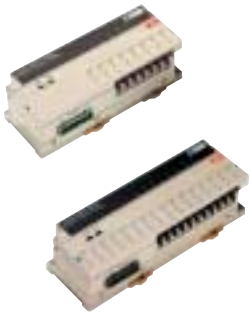
Product	Specifications	Part No.	Standards
T-branch Tap	T-branch tap for 1 branch line with 3 connectors, standard terminating resistor	DCN1-1C	—
	T-branch tap for 3 branch lines with 5 connectors, standard terminating resistor	DCN1-3C	—
DeviceNet Bulk Cable	Thin cable, outer diameter: 7.0 mm, length: 100 m	DCA1-5C10	—
	Thick cable, outer diameter: 11.6 mm, length: 100 m	DCA2-5C10	
Connector		XW4B-05C1-H1-D	—
Terminal-block Terminal	Resistance of 121 Ω	DRS1-T	—

Single Node I/O Terminals

High Density Transistor Modules

Product	Specifications	Part No.	Standards
Digital input, 32 points	NPN (+common)	DRT1-ID32ML	cRU, CE, CSA
	PNP (-common)	DRT1-ID32ML-1	cRU, CE, CSA
Digital mixed I/O, 16IN/16OUT	NPN (+common)	DRT1-MD32ML	cRU, CE, CSA
	PNP (-common)	DRT1-MD32ML-1	cRU, CE, CSA
Digital output, 32 points	NPN (+common)	DRT1-OD32ML	cRU, CE, CSA
	PNP (-common)	DRT1-OD32ML-1	cRU, CE, CSA

Compact Transistor Models



Product	Specifications		Part No.	Standards
Digital input, 8 points	NPN (+common)	Screw terminal	DRT1-ID08	UL, CSA, CE
	PNP (-common)		DRT1-ID08-1	UL, CSA, CE
Digital output, 8 points	NPN (-common)	Screw terminal	DRT1-OD08	UL, CSA, CE
	PNP (+common)		DRT1-OD08-1	UL, CSA, CE
Digital input, 16 points	NPN (+common)	Screw terminal	DRT1-ID16	UL, CSA, CE
	PNP (-common)		DRT1-ID16-1	UL, CSA, CE
Digital output, 16 points	NPN (-common)	Screw terminal	DRT1-OD16	UL, CSA, CE
	PNP (+common)		DRT1-OD16-1	UL, CSA, CE

Remote Adapter for Relay I/O Terminal Blocks

Product	Specifications		Part No.	Standards
Digital input, 16 points	NPN (+common)	MIL socket for flat cable	DRT1-ID16X (Note 1)	cRU, CE, CSA
	PNP (-common)		DRT1-ID16X-1	cRU, CE, CSA
Digital output, 16 points	NPN (-common)		DRT1-OD16X (Note 2)	cRU, CE, CSA
	PNP (+common)		DRT1-OD16X-1	cRU, CE, CSA

Note:
1. Use this input terminal with Relay I/O Terminals G7TC-ID16-5 and G7TC-IA16-5.
2. Use this output terminal with Relay I/O Terminals G70D-SOC16, G70D-FOM16, G7TC-OC16, G7TC-OC08, and G70A-ZOC16-3.

Single Node I/O Terminals (continued)

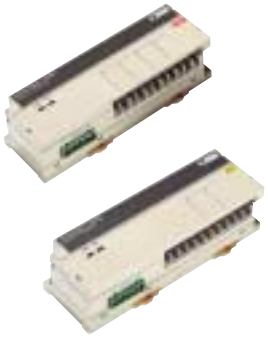
Sensor Module

Product	Specifications		Part No.	Standards
Digital input, 16 points	NPN (+common)	Screw terminals	DRT1-HD16S	UL, CSA, CE
Digital I/O, 8 IN/8 OUT			DRT1-ND16S	UL, CSA, CE

IP67 Rated Transistor I/O Terminals with M12 Connectors

Product	Specifications		Part No.	Standards
Terminals with IP67-rated water and dust resistance	4 inputs	NPN	DRT1-ID04CL 4	CE, cULus
	4 inputs	PNP	DRT1-ID04CL-1	CE, cULus
	8 inputs	NPN	DRT1-ID08CL	CE, cULus
	8 inputs	PNP	DRT1-ID08CL-1	CE, cULus
	4 outputs	NPN	DRT1-OD04CL 4	CE, cULus
	4 outputs	PNP	DRT1-OD04CL-1	CE, cULus
	8 outputs	NPN	DRT1-OD08CL	CE, cULus
	8 outputs	PNP	DRT1-OD08CL-1	CE, cULus

Analog I/O Terminals



Product	Specifications		Part No.	Standards
Analog input terminal, high conversion speed	4 inputs (0 to 5 V, 1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, 4 to 20 mA)	Resolution: 12 bit; 1/6,000; 2 ms/pt conversion	DRT1-AD04	UL, CSA, CE
Analog input terminal, inputs insulated from one another	4 inputs (0 to 5 V, 1 to 5 V, 0 to 10 V, 0 to 20 mA, 4 to 20 mA)	Resolution: 15 bit; 1/30,000; 250 ms/4 pt conversion	DRT1-AD04H	UL, CSA, CE
Analog output terminal	2 outputs (1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, 4 to 20 mA)	Resolution: 12 bit; 1/6,000; 2 ms/pt conversion	DRT1-DA02	UL, CSA, CE

Temperature Input Terminal

Product	Specifications		Part No.	Standards
Thermocouple input terminal	4 inputs Types R, S, K1, K2, J1, J2, T, E, B, N, L1, L2, U, W, and PLII)	Accuracy: ±0.5% of indication value of ±2°C, whichever is larger ±1 digit max.	DRT1-TS04T	UL, CSA, CE
Platinum RTD input terminal	4 inputs (Pt100, JPt100)	Accuracy: ±0.5% of indication value of ±1°C, whichever is larger ±1 digit max.	DRT1-TS04P	UL, CSA, CE

RS-232C-to-DeviceNet Terminal

Product	Specifications		Part No.	Standards
Exchange data with RS-232C compatible peripheral devices via DeviceNet	Two RS-232C ports; one input word as status area; uses explicit message communications	1024 bytes x 2 ports	DRT1-232C2	UL, CSA, CE

Multiple I/O Terminals (many terminals counted as one node)

Product	Specifications		Part No.	Standards
Communications module	Connects up to 8 modules to DeviceNet as 1 node		DRT1-COM	UL, CSA, CE
Digital I/O, terminal block	16 inputs, NPN transistor	M3 terminal board	GT1-ID16	UL, CSA, CE
	16 inputs PNP transistor		GT1-ID16-1	UL, CSA, CE
	16 outputs, NPN transistor		GT1-OD16	UL, CSA, CE
	16 outputs, PNP transistor		GT1-OD16-1	UL, CSA, CE
Digital I/O, connector model	16 inputs, NPN transistor	Molex connector	GT1-ID16MX	UL, CSA, CE
	16 inputs, PNP transistor		GT1-ID16MX-1	UL, CSA, CE
	16 outputs, NPN transistor		GT1-OD16MX	UL, CSA, CE
	16 outputs, PNP transistor		GT1-OD16MX-1	UL, CSA, CE
	10 cables with female Molex connectors, 1 m length		GCN1-MX010A	—
	10 cables with female Molex connectors, .5 m length		GCN1-MX004A	—
	16 inputs, NPN transistor	Fujitsu connector	GT1-ID16ML	UL, CSA, CE
	16 inputs, PNP transistor		GT1-ID16ML-1	UL, CSA, CE
	16 outputs, NPN transistor		GT1-OD16ML	UL, CSA, CE
	16 outputs, PNP transistor		GT1-OD16ML-1	UL, CSA, CE
	16 inputs, NPN transistor	D-sub 25-pin connector	GT1-ID16DS	UL, CSA, CE
	16 inputs, PNP transistor		GT1-ID16DS-1	UL, CSA, CE
	16 outputs, NPN transistor		GT1-OD16DS	UL, CSA, CE
	16 outputs, PNP transistor		GT1-OD16DS-1	UL, CSA, CE
High-density digital I/O	32 inputs, NPN transistor	Fujitsu connector for flat ribbon cable	GT1-ID32ML	cRUus, CE
	32 inputs, PNP transistor		GT1-ID32ML-1	cRUus, CE
	32 outputs, NPN transistor		GT1-OD32ML	cRUus, CE
	32 outputs, PNP transistor		GT1-OD32ML-1	cRUus, CE

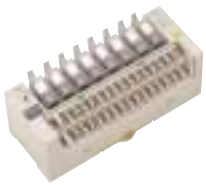
Analog I/O Terminal

Product	Specifications		Part No.	Standards
Analog input terminal, 8 inputs	Ranges: 0 to 5 V, 1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, 4 to 20 mA; Resolution: 12 bit; 1/6,000; 1 ms/pt conversion time	Molex connector	GT1-AD08MX	UL, CSA, CE
Analog input terminal, 4 inputs		Terminal block	GT1-AD04	UL, CSA, CE
Analog output terminal, 4 outputs	Ranges: 0 to 5 V, 1 to 5 V, 0 to 10 V, ±10 V; Resolution: 12 bit; 1/6,000; 1 ms/pt conversion time	Molex connector	GT1-DA04MX	UL, CSA, CE
	Ranges: 0 to 5 V, 1 to 5 V, 0 to 10 V, ±10 V, 4 to 20 mA; Resolution: 12 bit; 1/6,000; 1 ms/pt conversion time	Terminal block	GT1-DA04	UL, CSA, CE

High-Speed Pulse Counter Module

Product	Specifications		Part No.	Standards
High-speed pulse counter with 1x or 4x multiplication factor	50 kHz counting speed; Differential phase pulse input or pulse and direction input from an incremental open collector encoder	Two, NPN, 0.5 A outputs	GT1-CT01	UL, CSA, CE

Relay Output Modules



Product	Specifications	Part No.	Standards
Output modules with plug-in replaceable relays	16 pts, 5 A at 24 VDC each (SPST-NO) G6D-1A	GT1-ROS16	UL, CSA, CE
	8 pts, 2 A at 24 VDC each (SPST-NO) G2R-1-SN	GT1-ROP08	UL, CSA, CE

F150-C10E-2-DRT

E3X-DRT21

E5EK-AA2-DRT

E5ZN-DRT DC24

V600-HAM42-DRT

3G3MV-PDRT1-SINV1

DeviceNet Enhanced Products

Product	Specifications		Part No.	Standards
Vision sensors	Single camera system		F150-C10E-2-DRT	CE
	Two-camera system		F150-C10E-3-DRT	CE
Operator interface terminal adapter for NT31/NT631 touch screens	Combined with CS1 slave, up to 15 terminals/network; with CJ1 slave, up to 41 terminals/network		NT-DRT21	CE, cULus
Communications module for fiber-optic sensor block	Up to 16 E3X-DA-N amplifiers form a wire-saving sensor input slave block		E3X-DRT21	cRUus
Temperature/process controllers, single loop, 1/8 DIN	Controller with LED display; requires plug-in control output modules; to use heater burnout alarm, order a current transformer		E5EK-AA2-DRT	RU, CSA, CE
Multi-zone temperature controller, 8 loops, optional display unit	Heating mode, voltage output, heater open circuit	Thermo-couple	E5ZE-8AQHD1TCB-V2	CE
		RTD	E5ZE-8AQHD1PB-V2	CE
	Heating mode, voltage output	Thermocouple	E5ZE-8AQAD1TCB-V2	CE
		RTD	E5ZE-8AQAD1PB-V2	CE
	Heating mode, current output	Thermocouple	E5ZE-8ACAD1TCB-V2	CE
		RTD	E5ZE-8ACAD1PB-V2	CE
	Heat/cool mode,voltage output, heater open circuit	Thermo-couple	E5ZE-8VQHD1TCB-V2	CE
		RTD	E5ZE-8VQHD1PB-V2	CE
	Heat/cool mode, voltage output	Thermocouple	E5ZE-8VQAD1TCB-V2	CE
		RTD	E5ZE-8VQAD1PB-V2	CE
	Heat/cool mode, current output	Thermocouple	E5ZE-8VCAD1TCB-V2	CE
		RTD	E5ZE-8VCAD1PB-V2	CE
Communications module for multi-loop (2 to 32) plug-in temperature controller	Set parameters and monitor status via DeviceNet for all loops		E5ZN-DRT DC24	cRUus, CE
Intelligent flag ID system	Set addresses and monitor work-in-process based on unique ID via DeviceNet; reads 24 bits of data max.; writes 16 bits of data max.		V600-HAM42-DRT	cRUus, CE
	M12 threaded sensing head		V600-HS51	—
	30.5 x 18 x 10 mm head		V600-HS61	—
	53 x 50 x 23 mm head		V600-HS63	—
	100 x 100 x 30 mm head		V600-HS67	—
AC inverter, MV-series adapter	Monitor Run/Stop and operating conditions and make changes in set values from a PLC via DeviceNet using this adapter for all 3G3MV inverters		3G3MV-PDRT1-SINV1	UL, CSA, CE
AC inverter, G5-series adapter	Monitor Run/Stop and operating conditions and make changes in set values from a PLC via DeviceNet using this adapter for all G5 inverters		SI-N1	cRUus
Servo drive, W-series adapter	Communicate positioning commands, drive parameters, positioning data, motor characteristics etc., between the W-Series servo and a DeviceNet master. Commands received via DeviceNet are output to the W-Series Servo Drive		R88A-NCW152-DRT	cULus, CE

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