

## CPU Selection

## ■ CPUs

CPU Model Description/Specifications						Part number
No. of I/O points	Max. no. of modules, Max. no. of expansions (See Note 2.)	Program capacity	Data memory capacity (See Note 1.)	LD instruction processing speed	Standards	
2,560	40 modules, up to 3 expansion racks	120K steps	256K words (DM: 32K words, EM: 32K words x 7 banks)	0.02 $\mu$ s	UC, CE	CJ1H-CPU66H
	40 modules, up to 3 expansion racks	60K steps	128K words (DM: 32K words, EM: 32K words x 3 banks)			CJ1H-CPU65H
1,280	40 modules, up to 3 expansion racks	60K steps	128K words (DM: 32K words, EM: 32K words x 3 banks)	0.04 $\mu$ s		CJ1G-CPU45H
	30 modules, up to 2 expansion racks	30K steps	64K words (DM: 32K words, EM: 32K words x 1 bank)			CJ1G-CPU44H
960	30 modules, up to 2 expansion racks	20K steps	64K words (DM: 32K words, EM: 32K words x 1 bank)			CJ1G-CPU43H
	30 modules, up to 2 expansion racks	10K steps	64K words (DM: 32K words, EM: 32K words x 1 bank)			CJ1G-CPU42H
640	20 modules, 1 expansion rack	20K steps	32K words (DM only, no EM)	.1 $\mu$ s		CJ1M-CPU23
320	10 modules, no expansion racks	10K steps				CJ1M-CPU22
160		5K steps	32K words (DM only, no EM)	.1 $\mu$ s		CJ1M-CPU21
640	20 modules, 1 expansion rack	20K steps				CJ1M-CPU13
320	10 modules, no expansion racks	10K steps				CJ1M-CPU12
160		5K Steps				CJ1M-CPU11

- Note: 1. The available data memory capacity is the sum of the Data Memory (DM) and the Extended Data Memory (EM). However, there is no EM on CJ1M CPUs.
2. Three CJ1M CPUs (CJ1M-CPU21, CJ1M-CPU22 and CJ1M-CPU23) also incorporate built-in I/O. Refer to the *CPU Overview* Section for more information.

## ■ Memory Cards

Item	Description/Specifications	Standards	Part number
Flash Memory Cards	15 MB	L, CE	HMC-EF172
	30 MB		HMC-EF372
	64 MB		HMC-EF672
Memory Card Adapter	Mounts a memory card to fit the PCMCIA card slot on a computer		HMC-AP001

## ■ Batteries

Item	Description/Specifications	Standards	Part number
Battery Set	Can also be used with CPM2A and CQM1H PLCs. This battery cannot be used for CS1 Series PLCs.	L, CE	CPM2A-BAT01
	Can be used with CJ1M only. This battery cannot be used for CJ1G/H, CPM2A, or CS1 Series PLCs.		CJ1W-BAT01

## ■ Power Supply Units and Expansion

Item	Description/Specifications		Standards	Part number
Power Supply Units	24 VDC; output capacity: 5 A, 5 VDC		UC, CE	CJ1W-PD025
	100 to 240 VAC (with RUN output); output capacity: 5 A, 5 VDC			CJ1W-PA205R
	100 to 240 VAC; output capacity: 2.8 A, 5 VDC			CJ1W-PA202
I/O Control Module	Mount 1 Module on the CPU Rack to allow the connection of an Expansion Rack.			CJ1W-IC101
I/O Interface Module	1 required on each Expansion Rack for connection with CPU Rack			CJ1W-II101
I/O Connecting Cable	For connecting Expansion Racks to the CPU Rack or another Expansion Rack.	Cable length: 0.3 m	L, CE	CS1W-CN313
		Cable length: 0.7 m		CS1W-CN713
		Cable length: 2 m		CS1W-CN223
		Cable length: 3 m		CS1W-CN323
		Cable length: 5 m		CS1W-CN523
		Cable length: 10 m		CS1W-CN133
		Cable length: 12 m		CS1W-CN133-B2

## ■ Maintenance Parts and Accessories

Item	Description/Specifications	Standards	Part number
End Cover	One is required on the right-hand side of CJ1 Series CPU Racks.  One End Cover is provided with CPUs and I/O Interface Modules as a standard accessory.  Note: Not mounting an End Cover on the right-hand side of the CPU Rack will result in a fatal error.	UC, CE	CJ1W-TER01
DIN Track	Length: 0.5 m; height: 7.3 mm	—	PFP-50N
	Length: 1 m; height: 7.3 mm		PFP-100N
	Length: 1 m; height: 16 mm		PFP-100N2
End Plate	Used to lock CJ1 to Din Track		PFP-M

## Products for Programming

## ■ Programming Software and Cables

Item	Description/Specifications		Standards	Part number
CX-Programmer	Windows-based Programming Device OS: Windows 95, 98, ME, NT4.0, or 2000	Connected to the peripheral port or RS-232C port on the CPU or connected to the RS-232C port on a Serial Communications Module.	—	WS02-CXPC1-E-V□□
Programming Device Connecting Cables (for peripheral port)	Conversion cable to connect RS-232C cable to peripheral port. Connects DOS computers, D-Sub 9-pin receptacle; length: 0.1 m		CE	CS1W-CN118
	Connects DOS computers, D-Sub 9-pin; length: 2.0 m	Used for Peripheral Bus or Host Link.		CS1W-CN226
	Connects DOS computers, D-Sub 9-pin; length: 6.0 m			CS1W-CN626
Programming Device Connecting Cables (for RS-232C port)	Connects DOS computers, D-Sub 9-pin; length: 2.0 m		—	C200H-CN229-EU
				CBL-202*
USB to serial 9-pin adapter	Converts PC USB port to a PC serial 9-pin port for use with Omron programming cables.		—	CS1W-C1F31
CX-Simulator	Windows-based Support Software for Windows 95/98/ME/NT or Windows 2000. Simulates only CJ1 Series and CS1 Series CPUs.		—	WS02-SIMC1-E
CX-Protocol	Windows-based Protocol Creation Software for Windows 95/98/ME/NT4.0/2000			WS02-PSTC1-E

## ■ Programming Consoles

Item	Description/Specifications		Standards	Part number
Programming Consoles	An English Keyboard Sheet (CS1W-KS001-E) is required. (Connects to peripheral port on CPU only.)		U, C, CE	CQM1H-PRO01-E
	2-line bracket LCD display		U, C, N, CE	C200H-PRO27E
Programming Console Key Sheet	Connects CQM1H-PRO01-E, or C200H-PRO27-E Programming Console to the CPU		CE	CS1W-KS001-E
Programming Console Connecting Cables	Connects the C200H-PRO27-E Programming Console to the CPU	Cable length: 2 m		CS1W-CN224
Programming Console Connecting Cables	Connects the C200H-PRO27-E Programming Console to the CPU	Cable length: 6 m		CS1W-CN624

\* Available in Canada only.

## ■ Basic I/O Modules

Item	Description/Specifications	Standards	Part number
DC Input Modules	8 inputs, 24 VDC, 10 mA, terminal block	UC, CE	<b>CJ1W-ID201</b>
	16 inputs, 24 VDC, 7 mA, terminal block		<b>CJ1W-ID211</b>
	32 inputs, 24 VDC, 4.1 mA, Fujitsu-compatible connector		<b>CJ1W-ID231</b> (See note.)
	32 inputs, 24 VDC, 4.1 mA, MIL-type connector		<b>CJ1W-ID232</b> (See note.)
	64 inputs, 24 VDC, 4.1 mA, Fujitsu-compatible connector		<b>CJ1W-ID261</b> (See note.)
	64 inputs, 24 VDC, 4.1 mA, MIL-type connector		<b>CJ1W-ID262</b> (See note.)
AC Input Modules	16 inputs, 100 to 120 VAC, 7 mA (100 V, 50 Hz), terminal block		<b>CJ1W-IA111</b>
	8 inputs, 200 to 240 VAC, 10 mA (200 V, 50 Hz), terminal block		<b>CJ1W-IA201</b>
Interrupt Input Module	16 inputs, 24 VDC, 7 mA, terminal block		<b>CJ1W-INT01</b>
Pulse Catch Input Module	16 inputs, 24 VDC, 7 mA, terminal block		<b>CJ1W-IDP01</b>
Relay Bit Output Modules	8 outputs max., 250 VAC/24 VDC, 2 A, independent contacts		<b>CJ1W-OC201</b>
	16 outputs max., 250 VAC/24 VDC, 2 A, independent contacts		<b>CJ1W-OC211</b>
Transistor Output Modules	12 to 24 VDC, 2 A, 8 outputs, sinking, terminal block		<b>CJ1W-OD201</b>
	8 outputs, 24 VDC, 2 A, sourcing, load short-circuit protection, alarm, terminal block		<b>CJ1W-OD202</b>
	8 outputs, 12 to 24 VDC, 0.5 A, sinking, terminal block		<b>CJ1W-OD203</b>
	8 outputs, 24 VDC, 0.5 A, sourcing, terminal block		<b>CJ1W-OD204</b>
	16 outputs, 12 to 24 VDC, 0.5 A, sinking, terminal block		<b>CJ1W-OD211</b>
	16 outputs, 24 VDC, 0.5 A, sourcing, load short-circuit protection, disconnection detection, alarm, terminal block		<b>CJ1W-OD212</b>
	32 outputs, 12 to 24 VDC, 0.5 A, sinking, Fujitsu-compatible connector		<b>CJ1W-OD231</b> (See note.)
	32 outputs, 24 VDC, 0.5 A, sourcing, load short-circuit protection, alarm, MIL connector		<b>CJ1W-OD232</b> (See note.)
	32 outputs, 12 to 24 VDC, 0.5 A, sinking, MIL-type connector		<b>CJ1W-OD233</b> (See note.)
	64 outputs, 12 to 24 VDC, 0.3 A, sinking, Fujitsu-compatible connector		<b>CJ1W-OD261</b> (See note.)
	64 outputs, 12 to 24 VDC, 0.3 A, sourcing, MIL-type connector		<b>CJ1W-OD262</b> (See note.)
	64 outputs, 12 to 24 VDC, 0.3 A, sinking, MIL-type connector		<b>CJ1W-OD263</b> (See note.)
Triac Output Module	8 outputs, 250 VAC, 0.6 A, terminal block		<b>CJ1W-OA201</b>
Mixed I/O Modules 24VDC Input/Transistor Output	Fujitsu-compatible connector Inputs: 24 VDC, 16 inputs Outputs: 12 to 24 VDC, 0.5A, 16 outputs		<b>CJ1W-MD231</b> (See note.)
Mixed I/O Modules 24VDC Input/Transistor Output	Fujitsu-compatible connector Inputs: 24 VDC, 32 inputs Outputs: 12 to 24 VDC, 0.3A, 32 outputs		<b>CJ1W-MD261</b> (See note.)
	MIL-type connector Inputs: 24 VDC, 16 inputs Outputs: 24 VDC, 0.5 A, 16 outputs Load short-circuit protection		<b>CJ1W-MD232</b> (See note.)
	MIL-type connector Inputs: 24 VDC, 16 inputs Outputs: 12 to 24 VDC, 0.5A, 16 outputs		<b>CJ1W-MD233</b> (See note.)
	MIL-type connector Inputs: 24 VDC, 32 inputs Outputs: 12 to 24 VDC, 0.3A, 32 outputs		<b>CJ1W-MD263</b> (See note.)
TTL Mixed I/O Module	MIL-type connector Inputs: TTL (5 VDC), 32 inputs Outputs: TTL (5 VDC, 35mA), 32 outputs		<b>CJ1W-MD563</b> (See note.)
B7A Interface Modules	64 inputs	CE	<b>CJ1W-B7A14</b>
	64 outputs		<b>CJ1W-B7A04</b>
	32 inputs/32 outputs		<b>CJ1W-B7A22</b>

Note: Connectors for wiring are not provided with connector models. Either purchase the following Connectors, or use an OMRON XW2□ Connector-Terminal Block Conversion Unit or a G7□ I/O Relay Terminal.

## Modules

## ■ Wiring Connectors for 32-Point and 64-Point I/O Modules

Item	Description/Specifications		Standards	Part number
	Connection	Additional information		
Fujitsu connector	Soldered	Connector: FCN-361J040-AU Connector Cover: FCN-360C040-J2	—	C500-CE404
	Crimped	Housing: FCN-363J040 Contact: FCN-363J-AU Connector Cover: FCN-360C040-J2		C500-CE405
	Pressure welded	FCN-367J040-AU/F		C500-CE403
MIL-type connector	Pressure welded	FRC5-A040-3T0S		XG4M-4030-T

## ■ Special I/O Modules

Item	Description/Specifications	Standards	Part number
Analog Input Module	8 inputs (1 to 5 V, 0 to 5 V, 0 to 10 V, -10 to 10 V, 4 to 20 mA) Resolution: 1/8000, Conversion speed: 250 $\mu$ s/point max. (Settable to 1/4000 and 1 ms/point.)	UC, CE	CJ1W-AD081-V1
	4 inputs (1 to 5 V, 0 to 5 V, 0 to 10 V, -10 to 10 V, 4 to 20 mA) Resolution: 1/8000, Conversion speed: 250 $\mu$ s/point max. (Settable to 1/4000 and 1 ms/point.)		CJ1W-AD041-V1
Analog Output Module	8 outputs (1 to 5 V, 0 to 5 V, 0 to 10 V, -10 to 10 V) Resolution: 1/4000, Conversion speed: 1 ms/point max. (Settable to 1/8000, 250 $\mu$ s/point)		CJ1W-DA08V
	8 outputs, (4 to 20 mA) Resolution: 1/4000, Conversion speed: 1 ms/point max. (Settable to 1/8000, 250 $\mu$ s/point)		CJ1W-DA08C
	4 outputs (1 to 5 V, 0 to 5 V, 0 to 10 V, -10 to 10 V, 4 to 20 mA) Resolution: 1/4,000		CS1W-DA041
	2 outputs (1 to 5 V, 0 to 5 V, 0 to 10 V, -10 to 10 V, 4 to 20 mA) Resolution: 1/4000, Conversion speed: 1 ms/point max.		CJ1W-DA021
Analog I/O Module	4 inputs, 2 outputs (1 to 5 V, 0 to 5 V, 0 to 10 V, -10 to 10 V, 4 to 20 mA) Resolution: 1/4000, Conversion speed: 1 ms/point max. (Settable to 1/8000, 250 $\mu$ s/point)		CJ1W-MAD42
Temperature Control Modules	4 loops, thermocouple input, NPN output		CJ1W-TC001
	4 loops, thermocouple input, PNP output		CJ1W-TC002
	2 loops, thermocouple input, NPN output, heater burnout detection function		CJ1W-TC003
	2 loops, thermocouple input, PNP output, heater burnout detection function		CJ1W-TC004
	4 loops, platinum resistance thermometer input, NPN output		CJ1W-TC101
	4 loops, platinum resistance thermometer input, PNP output		CJ1W-TC102
	2 loops, platinum resistance thermometer input, NPN output, heater burnout detection function		CJ1W-TC103
	2 loops, platinum resistance thermometer input, PNP output, heater burnout detection function		CJ1W-TC104
High-speed Counter Module	2 inputs, max. input frequency: 500 kpps		CJ1W-CT021
Position Control Modules	Pulse train, open collector output, 1 axis		CJ1W-NC113
	Pulse train, open collector output, 2 axes		CJ1W-NC213
	Pulse train, open collector output, 4 axes (See Note.)		CJ1W-NC413
	Pulse train, line driver output, 1 axis		CJ1W-NC133
	Pulse train, line driver output, 2 axes		CJ1W-NC233
	Pulse train, line driver output, 4 axes (See Note.)		CJ1W-NC433
I/O Sensor Modules	For V600 Series, 1 R/W Head		CJ1W-V600C11
	For V600 Series, 2 R/W Heads		CJ1W-V600V12

## ■ Position Control Software and Terminal Blocks

Item	Description/Specifications	Standards	Part number
CX-Position (NC Support Software)	Windows 95, 98, NT 4.0, or 2000, Pentium 100 MHz or better, 32 Mbytes of memory min., 50 Mbytes of hard disk space min.	—	<b>WS02-NCTC1-E</b>
Servo Relay Terminal Blocks (See Note.)	For 1-Axis Position Control Module (without communications support) (CJ1W-CN113/133, CS1W-NC113/133, C200HW-NC113, C200H-NC112)		<b>XW2B-20J6-1B</b>
	For 2- or 4-Axis Position Control Module (without communications support) (CJ1W-CN213/233/413/433, CS1W-NC213/233/413/433, C200HW-NC213/413, C500-NC213/211, C200H-NC211)		<b>XW2B-40J6-2B</b>
	For 2- or 4-Axis Position Control Module (with communications support) (CJ1W-CN213/233/413/433, CS1W-NC213/233/413/433, C200HW-NC213/413)		<b>XW2B-40J6-4A</b>

Note: The ambient operating temperature for 4-Axis Position Control Modules is 0 to 50°C; the allowable voltage fluctuation on the external 24-VDC power supply is 22.8 to 25.2 VDC (24 V  $\pm$ 5%).

## ■ Cables for Position Control Modules

Item	Description/Specifications	Cable length	Standards	Part number
Position Control Module Cables (See Note.)	Connects CJ1W-NC113 to W-Series	0.5 m	—	<b>XW2Z-050J-A14</b>
	Connects CJ1W-NC113 to W-Series	1 m		<b>XW2Z-100J-A14</b>
	Connects CJ1W-NC213/413 to W-Series	0.5 m		<b>XW2Z-050J-A15</b>
	Connects CJ1W-NC213/413 to W-Series	1 m		<b>XW2Z-100J-A15</b>
	Connects CJ1W-NC113 to SMARTSTEP	0.5 m		<b>XW2Z-050J-A16</b>
	Connects CJ1W-NC113 to SMARTSTEP	1 m		<b>XW2Z-100J-A16</b>
	Connects CJ1W-NC213/413 to SMARTSTEP	0.5 m		<b>XW2Z-050J-A17</b>
	Connects CJ1W-NC213/413 to SMARTSTEP	1 m		<b>XW2Z-100J-A17</b>
	Connects CJ1W-NC133 to W-Series	0.5 m		<b>XW2Z-050J-A18</b>
	Connects CJ1W-NC133 to W-Series	1 m		<b>XW2Z-100J-A18</b>
	Connects CJ1W-NC233/433 to W-Series	0.5 m		<b>XW2Z-050J-A19</b>
	Connects CJ1W-NC233/433 to W-Series	1 m		<b>XW2Z-100J-A19</b>
	Connects CJ1W-NC133 to SMARTSTEP	0.5 m		<b>XW2Z-050J-A20</b>
	Connects CJ1W-NC133 to SMARTSTEP	1 m		<b>XW2Z-100J-A20</b>
	Connects CJ1W-NC233/433 to SMARTSTEP	0.5 m		<b>XW2Z-050J-A21</b>
	Connects CJ1W-NC233/433 to SMARTSTEP	1 m		<b>XW2Z-100J-A21</b>

Note: Two Servo Relay Units and two cables for the Position Control Module are required for a 4-Axis Position Control Module.

## Modules

## ■ Industrial Networking and Communications Modules

Item	Description/Specifications	Standards	Part number
CompoBus/S Master Module	CompoBus/S remote I/O, 256 points max.	UC, CE	<b>CJ1W-SRM21</b>
Controller Link Modules	Wired (shielded twisted-pair cable)		<b>CJ1W-CLK21-V1</b>
Controller Link Relay Terminal	Wired Includes 5 Terminals	—	<b>CJ1W-TB101</b>
Controller Link Support Board	Twisted pair, PCI Bus, with support software		<b>3G8F7-CLK21-E</b>
	Twisted pair ISA Bus, with support software		<b>3G8F5-CLK21-E</b>
Serial Communications Module	One RS-232C port and one RS-422/485 port	U, CE	<b>CJ1W-SCU41</b>
	Two RS-232C ports		<b>CJ1W-SCU21</b>
RS-232C to RS-422/485 converter	Used for Serial PLC Link with CJ1M. Converts an RS-232C port to an RS-422/485 Port. Mounts directly to the CPU.		<b>CJ1W-CIF11</b>
Simple Communications Unit	CompoWay/F adapter for communications with Omron Process and Temperature Controllers and Panel Meters		<b>CJ1W-CIF21</b>
RS-232C-RS-422A Conversion Module	1 RS-232C port and 1 RS-422A terminal block	—	<b>NT-AL001</b>
Ethernet Module	10 Base-T/100 Base-Tx	UC, CE	<b>CJ1W-ETN21</b>
DeviceNet Module	Functions as master and/or slave; allows control of 32,000 points max. per master.		<b>CJ1W-DRM21</b>
ProfiBus-DP Slave Module		UC	<b>CJ1W-PRT21</b>
ProfiBus-DP Master Module	Functions as a master; CJ1W-PRM21 modules allow for 7,168 words of I/O data per PLL. Utilizes FDT/DTM technology.		<b>CJ1W-PRM21</b>

## ■ DeviceNet Tools

Item	Description/Specifications	Standards	Part number
DeviceNet Configurator	Software only (Windows 95, 98, NT 4.0, or 2000)	—	WS02-CFDC1-E
	ISA board with software (Windows 95, 98, or NT 4.0)		3G8F5-DRM21-E
	PC card with software (Windows 95 or 98)		3G8E2-DRM21-E
NX-Server	DDE Edition		WS02-NXD1-E

## ■ DeviceNet Slaves

Item		Description/Specifications		Standards	Part number
Programmable Slaves		Controller with SYSMAC CPM2C CPU; no. of remote I/O link points: 1,024 max.; provides CompoBus/S Master.	4 transistor outputs (sinking)	U, C, CE	CPM2C-S100C-DRT
			4 transistor outputs (sourcing)		CPM2C-S110C-DRT
I/O Link Modules		512 internal inputs, 512 internal outputs (between CS1 Series, CJ1 Series or C200HX/HG/HE PLC and Master)	C200HW-DRT21		
		16 internal inputs/16 internal outputs (between CQM1/CQM1H and Master)	CQM1-DRT21		
		32 internal inputs/32 internal outputs (between CPM1A/CPM2A and Master)	CPM1A-DRT21		
Remote I/O Terminals with Transistors		8 input points (NPN with + common)	DRT1-ID08		
		8 input points (PNP with - common)	DRT1-ID08-1		
		8 output points (NPN with - common)	DRT1-OD08		
		8 output points (PNP with +common)	DRT1-OD08-1		
		16 input points (NPN with + common)	DRT1-ID16		
		16 input points (PNP with - common)	DRT1-ID16-1		
		16 output points (NPN with - common)	DRT1-OD16		
		16 output points (PNP with + common)	DRT1-OD16-1		
		16 input points (NPN with + common) 16 output points (NPN with - common)	DRT1-MD16		
Remote I/O Terminals with Transistors and 3-tier Terminal Block	Common power supply for communications and internal circuits	16 input points (NPN with + common)	—	DRT1-ID16TA	
		16 input points (PNP with - common)		DRT1-ID16TA-1	
		16 input points (NPN with + common) 16 output points (NPN with - common)		DRT1-MD16TA	
		16 input points (PNP with - common) 16 output points (PNP with + common)		DRT1-MD16TA-1	
		16 output points (NPN with - common)		DRT1-OD16TA	
		16 output points (PNP with + common)		DRT1-OD16TA-1	
	Separate power supplies for communications and internal circuits	16 input points (NPN with + common)	CE	DRT1-ID16T	
		16 input points (PNP with - common)		DRT1-ID16T-1	
		16 input point (NPN with + common) 16 output points (NPN with - common)		DRT1-MD16T	
		16 input point (PNP with - common) 16 output points (PNP with + common)		DRT1-MD16T-1	
		16 output points (PNP with - common)		DRT1-OD16T	
		16 output points (NPN with + common)		DRT1-OD16T-1	

(This table continues on the next page.)



## DeviceNet

## DeviceNet Slaves (continued)

Item		Description/Specifications	Standards	Part number	
Remote I/O Terminals with Transistors and Connectors		32 input points (NPN with + common)	CE	DRT1-ID32ML	
		32 input points (PNP with - common)		DRT1-ID32ML-1	
		32 output points (NPN with - common)		DRT1-OD32ML	
		32 output points (PNP with + common)		DRT1-OD32ML-1	
		32 input points (NPN with - common)		DRT1-MD32ML	
		32 output points (NPN with - common)			
		32 input points (PNP with + common) 32 output points (PNP with + common)		DRT1-MD32ML-1	
	Mounting Bracket B	---	—	SRT2-ATT02	
Remote Adapters		16 input points (NPN with + common), prewired connector	U, C, CE	DRT1-ID16X	
		16 input points (PNP with - common), prewired connector		DRT1-ID16X-1	
		16 output points (NPN with - common), prewired connector		DRT1-OD16X	
		16 output points (PNP with + common), prewired connector		DRT1-OD16X-1	
	Flat Cable Connectors with MIL Plugs	Straight DIP pins	—	XG4A-2031	
		L-shaped DIP pins		XG4A-2034	
DeviceNet Fiber Amplifier Sensor Communication Module		Connects to up to 16 Fiber Amplifier Modules for the E3X-DA-N		E3X-DRT21	
		Fiber Amplifier Module		E3X-DA6-P (Order the Fiber Amplifier Module and Reduced-wiring Connector together.)	
		Reduced-wiring Connector		E3X-CN02 (Order the Fiber Amplifier Module and Reduced-wiring Connector together.)	
		Terminal Unit		E39-TM1	
Sensor Terminals (for 2-wire Sensors)		8 sensor I/O points (NPN), 2 inputs per Sensor		DRT1-HD16S	
		8 sensor I/O points (PNP)		DRT1-ND16S	
	Cable Connectors	0.3 to 0.5 mm <sup>2</sup>			XS8A-0441 (Each package contains 10 Connectors. Always order in multiples of 10.)
		0.14 to 0.2 mm <sup>2</sup>			XS8A-0442 (Each package contains 10 Connectors. Always order in multiples of 10.)
Water-resistant Terminals		4 input points (NPN with + common)	CE	DRT1-ID04CL	
		4 input points (PNP with - common)		DRT1-ID04CL-1	
		4 output points (NPN with - common)		DRT1-OD04CL	
		4 output points (PNP with + common)		DRT1-OD04CL-1	
		8 input points (NPN with + common)		DRT1-ID08CL	
		8 input points (PNP with - common)		DRT1-ID08CL-1	
		8 output points (NPN with - common)		DRT1-OD08CL	
		8 output points (PNP with + common)		DRT1-OD08CL-1	

(This table continues on the next page.)

## DeviceNet Slaves (continued)

Item	Description/Specifications		Standards	Part number
Environment-resistant Terminals	8 input points (NPN with + common)		CE	DRT1-ID08C
	16 input points (NPN with + common)			DRT1-HD16C
	16 input points (PNP with – common)			DRT1-HD16C-1
	8 output points (NPN with – common)			DRT1-OD08C
	16 output points (NPN with – common)			DRT1-WD16C
	16 output points (PNP with + common)			DRT1-WD16C-1
	8 input points (NPN with + common) 8 output points (NPN with – common)			DRT1-MD16C
	8 input points (PNP with – common) 8 output points (PNP with + common)			DRT1-MD16C-1
B7AC Interface Terminal	10 input points x 3 (3 branches for the B7AC)		U, C, CE	DRT1-B7AC
Analog Input Terminals	4 input points (4 words) or 2 input points (2 words) (Set via DIP switch.)		CE	DRT1-AD04
	4 input points (4 words)			DRT1-AD04H
Analog Output Terminals	2 output points (2 words)	Current: 0 to 20 mA, 4 to 20 mA		DRT1-DA02
		Voltage: 1 to 5 V, 0 to 10 V, – 10 to 10 V		
Temperature Input Terminals	4 thermocouple inputs (4 words)	Inputs: R, S, K1, K2, J1, J2, T, E, B, N, L1, L2, U, W, PLII		DRT1-TS04T
	4 RTD inputs (4 words)	Inputs: Pt100, JPt100	DRT1-TS04P	
RS-232C Module	Two RS-232C ports, 16 inputs (signal status)		—	DRT1-232C2
Digital Controller	DeviceNet-compatible Digital Controller			E5EK-AA2-DRT
High-density Temperature Controller	DeviceNet-compatible High-density Temperature Controller			E5ZE-8□D1-□B-V2
Multi-function Compact Inverter DeviceNet Communications Module	DeviceNet Communications Module for the 3G3MV			3G3MV-PDRT1-SINV
High-function General-purpose Inverter DeviceNet Communications Module	DeviceNet Communications Module for the 3G3RV and 3G3FV			3G3FV-PDRT1-SIN
Intelligent Flag III	DeviceNet-compatible ID system			V600-HAM42-DRT
Vision Sensor Controller	DeviceNet-compatible vision system			F150-C10V3-DRT
Super-compact Signal Converter Bases	DeviceNet-compatible Bases			K3FM-BI□/BO□
Programmable Terminal DeviceNet Interface Module	DeviceNet Interface Module for the NT31/NT631 Series			NT-DRT21
DeviceNet Wireless Modules	DeviceNet Wireless Master Module			WD30-ME
	DeviceNet Wireless Slave Module			WD30-SE

## DeviceNet

## ■ DeviceNet Multiple I/O Terminal Modules and Connecting Cables

Item		Description/Specifications		Standards	Part number
		I/O points	Type		
Communications Module		—	Total Slave I/O points: 1,024 max.	U, C, CE	DRT1-COM
Digital I/O Modules	Modules with Terminal Blocks	16 inputs	NPN (+ common)		GT1-ID16
		16 inputs	PNP (– common)		GT1-ID16-1
		16 outputs	NPN (– common)		GT1-OD16
		16 outputs	PNP (+ common)		GT1-OD16-1
	Modules with MOLEX Connectors	16 inputs	NPN (+ common)		GT1-ID16MX
		16 inputs	PNP (– common)		GT1-ID16MX-1
		16 outputs	NPN (– common)		GT1-OD16MX
		16 outputs	PNP (+ common)		GT1-OD16MX-1
	Modules with Fujitsu Connectors	16 inputs	NPN (+ common)		GT1-ID16ML
		16 inputs	PNP (– common)		GT1-ID16ML-1
		16 outputs	NPN (– common)		GT1-OD16ML
		16 outputs	PNP (+ common)		GT1-OD16ML-1
	Modules with D-Sub 25-pin Connectors	16 inputs	NPN (+ common)		GT1-ID16DS
		16 inputs	PNP (– common)		GT1-ID16DS-1
		16 outputs	NPN (– common)		GT1-OD16DS
		16 outputs	PNP (+ common)		GT1-OD16DS-1
	Modules with High-density Fujitsu Connectors	32 inputs	NPN (+ common)		GT1-ID32ML
		32 inputs	PNP (– common)		GT1-ID32ML-1
		32 outputs	NPN (– common)		GT1-OD32ML
		32 outputs	PNP (+ common)	GT1-OD32ML-1	
Analog Input Modules		8 inputs	MOLEX connector	GT1-AD08MX	
		4 inputs	Terminal block	GT1-AD04	
Analog Output Modules		4 outputs	MOLEX connector	GT1-DA04MX	
		4 outputs	Terminal block	GT1-DA04	
Temperature Input Modules		4 inputs	Thermocouple	GT1-TS04T	
		4 inputs	Platinum resistance thermometer	GT1-TS04P	
Counter Module		1 input, 2 outputs	1 input, 2 outputs Counter Module with encoder input	CE	GT1-CT01
Relay Output Modules		8 outputs	8 relay outputs, 2A, SPST-NO	U, C, CE	GT1-ROP08
		16 outputs	8 relay outputs, 5A, SPST-NO		GT1-ROS16
I/O Module Connecting Cable		—	1 m	—	GCN1-100
Molex Connectors			3-wire connectors for use with Molex Connector modules (Bus of 25)	U, C	GCN1-MX25B
Molex Connector with 1 m cable			1-m cables with Molex Connector attached to one end (Bus of 10)		GCN1-MX010A

## ■ CompoBus/S Slaves

Item	Description/Specifications	Standards	Part number
I/O Link Modules	For CPM2C; 8 input points, 8 output points	CE	CPM2C-SRT21
	For CPM1A/CPM2A; 8 input points, 8 output points	U, C, CE	CPM1A-SRT21
Remote I/O Terminals with Transistors	4 input points, NPN (+ common)	U, C, CE	SRT2-ID04
	4 input points, PNP (- common)		SRT2-ID04-1
	4 output points, NPN (- common)		SRT2-OD04
	4 output points, PNP (+ common)		SRT2-OD04-1
	8 input points, NPN (+ common)		SRT2-ID08
	8 input points, PNP (- common)		SRT2-ID08-1
	8 output points, NPN (- common)		SRT2-OD08
	8 output points, PNP (+ common)		SRT2-OD08-1
	16 input points, NPN (+ common)		SRT2-ID16
	16 input points, PNP (- common)		SRT2-ID16-1
	16 output points, NPN (- common)		SRT2-OD16
	16 output points, PNP (+ common)		SRT2-OD16-1
Remote I/O Terminals with Transistors and 3-tier Terminal Block	16 input points, NPN (+ common)	U, C, CE	SRT2-ID16T
	16 input points, PNP (- common)		SRT2-ID16T-1
	16 I/O points, NPN (inputs: + common, outputs: - common)		SRT2-MD16T
	16 I/O points, PNP (inputs: - common, outputs: + common)		SRT2-MD16T-1
	16 output points, NPN (- common)		SRT2-OD16T
	16 output points, PNP (+ common)		SRT2-OD16T-1
Remote Input Terminals with Transistors and Connectors (4/8 points)	4 input points, NPN (+ common)	CE	SRT2-ID04MX
	8 input points, PNP (+ common)		SRT2-ID08MX
Remote Output Terminals with Relays	8 relay output points	U, C, CE	SRT2-ROC08
	16 relay output points		SRT2-ROC16
	8 power MOSFET relay output points		SRT2-ROF08
	16 power MOSFET relay output points		SRT2-ROF16
Remote I/O Terminals with Transistors and Connectors	32 input points, NPN (+ common)	CE	SRT2-ID32ML
	32 input points, PNP (- common)		SRT2-ID32ML-1
	32 output points, NPN (- common)		SRT2-OD32ML
	32 output points, PNP (+ common)		SRT2-OD32ML-1
	32 I/O points, NPN (inputs: + common, outputs: - common)		SRT2-MD32ML
	32 I/O points, PNP (inputs: - common, outputs: + common)		SRT2-MD32ML-1
	8 input points, NPN (+ common)	U, C, CE	SRT2-VID08S
	8 input points, PNP (- common)		SRT2-VID08S-1
	8 output points, NPN (- common)		SRT2-VOD08S
	8 output points, PNP (+ common)		SRT2-VOD08S-1
	16 input points, NPN (+ common)		SRT2-VID16ML
	16 input points, PNP (- common)		SRT2-VID16ML-1
	16 output points, NPN (- common)		SRT2-VOD16ML
	16 output points, PNP (+ common)		SRT2-VOD16ML-1
	Mounting Bracket A		SRT2-ATT01
	Mounting Bracket B		SRT2-ATT02

(This table continues on the next page.)

## CompoBus/S

### CompoBus/S Slaves (continued)

Item	Description/Specifications	Standards	Part number
Waterproof Terminals (with Transistors)	4 input points, NPN (+ common)	CE	SRT2-ID04CL
	4 input points, PNP (- common)		SRT2-ID04CL-1
	4 output points, NPN (- common)		SRT2-OD04CL
	4 output points, PNP (+ common)		SRT2-OD04CL-1
	8 input points, NPN (+ common)		SRT2-ID08CL
	8 input points, PNP (- common)		SRT2-ID08CL-1
	8 output points, NPN (- common)		SRT2-OD08CL
	8 output points, PNP (+ common)		SRT2-OD08CL-1
CompoBus/S Fiber Amplifier Sensor Communication Module	Connects to up to 14 Fiber Amplifier Units		E3X-SRT21
Sensor Terminals	8 Sensor inputs (NPN)	—	SRT2-ID08S
	4 remote-teaching Sensor inputs, 4 outputs (NPN)		SRT2-ND08S
	8 Sensor outputs (NPN)		SRT2-OD08S
Analog Input Terminal	1 to 4 inputs (set via DIP switch)	U, C, CE	SRT2-AD04
Analog Output Terminal	1 or 2 outputs (set via DIP switch)		SRT2-DA02
Remote I/O Modules	16 input points, NPN (+ common)	—	SRT2-ID16P
	16 output points, NPN (- common)		SRT2-OD16P

# Certain Terms and Conditions of Sale

1. **Offer; Acceptance.** These terms and conditions (these "Terms") are deemed part of all catalogs, manuals or other documents, whether electronic or in writing, relating to the sale of goods or services (collectively, the "Goods") by Omron Electronics LLC and its subsidiary companies ("Seller"). Seller hereby objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms. Please contact your Omron representative to confirm any additional terms for sales from your Omron company.
2. **Prices.** All prices stated are current, subject to change without notice by Seller. Buyer agrees to pay the price in effect at time of shipment.
3. **Discounts.** Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Seller's payment terms and (ii) Buyer has no past due amounts owing to Seller.
4. **Orders.** Seller will accept no order less than \$200 net billing.
5. **Governmental Approvals.** Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Goods.
6. **Taxes.** All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Seller or required to be collected directly or indirectly by Seller for the manufacture, production, sale, delivery, importation, consumption or use of the Goods sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Seller.
7. **Financial.** If the financial position of Buyer at any time becomes unsatisfactory to Seller, Seller reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Seller may (without liability and in addition to other remedies) cancel any unshipped portion of Goods sold hereunder and stop any Goods in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.
8. **Cancellation; Etc.** Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Seller fully against all costs or expenses arising in connection therewith.
9. **Force Majeure.** Seller shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
10. **Shipping; Delivery.** Unless otherwise expressly agreed in writing by Seller:
  - a. Shipments shall be by a carrier selected by Seller;
  - b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
  - c. All sales and shipments of Goods shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Goods shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Goods until the full purchase price is paid by Buyer;
  - d. Delivery and shipping dates are estimates only.
  - e. Seller will package Goods as it deems proper for protection against normal handling and extra charges apply to special conditions.
11. **Claims.** Any claim by Buyer against Seller for shortage or damage to the Goods occurring before delivery to the carrier must be presented in writing to Seller within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Goods from Seller in the condition claimed.
12. **Warranties.** (a) **Exclusive Warranty.** Seller's exclusive warranty is that the Goods will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Seller (or such other period expressed in writing by Seller). Seller disclaims all other warranties, express or implied. (b) **Limitations.** SELLER MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE GOODS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE GOODS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Seller further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Goods or otherwise of any intellectual property right. (c) **Buyer Remedy.** Seller's sole obligation hereunder shall be to replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Good or, at Seller's election, to repay or credit Buyer an amount equal to the purchase price of the Good; provided that in no event shall Seller be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Goods unless Seller's analysis confirms that the Goods were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any goods by Buyer must be approved in writing by Seller before shipment. Seller shall not be liable for the suitability or unsuitability or the results from the use of Goods in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.
13. **Damage Limits; Etc.** SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE GOODS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY. Further, in no event shall liability of Seller exceed the individual price of the Good on which liability is asserted.
14. **Indemnities.** Buyer shall indemnify and hold harmless Seller, its affiliates and its employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Seller is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Goods. Without limiting the foregoing, Buyer (at its own expense) shall indemnify and hold harmless Seller and defend or settle any action brought against Seller to the extent that it is based on a claim that any Good made to Buyer specifications infringed intellectual property rights of another party.
15. **Property; Confidentiality.** The intellectual property embodied in the Goods is the exclusive property of Seller and its affiliates and Buyer shall not attempt to duplicate it in any way without the written permission of Seller. Notwithstanding any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Seller. All information and materials supplied by Seller to Buyer relating to the Goods are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.
16. **Miscellaneous.** (a) **Waiver.** No failure or delay by Seller in exercising any right and no course of dealing between Buyer and Seller shall operate as a waiver of rights by Seller. (b) **Assignment.** Buyer may not assign its rights hereunder without Seller's written consent. (c) **Amendment.** These Terms constitute the entire agreement between Buyer and Seller relating to the Goods, and no provision may be changed or waived unless in writing signed by the parties. (d) **Severability.** If any provision hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (e) **Setoff.** Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice. (f) As used herein, "including" means "including without limitation".

# Certain Precautions on Specifications and Use

1. **Suitability of Use.** Seller shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Good in the Buyer's application or use of the Good. At Buyer's request, Seller will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Good. This information by itself is not sufficient for a complete determination of the suitability of the Good in combination with the end product, machine, system, or other application or use. The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of this Good, nor is it intended to imply that the uses listed may be suitable for this Good:
  - (i) Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.
  - (ii) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
  - (iii) Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this Good.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE SELLER'S PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
2. **Programmable Products.** Seller shall not be responsible for the user's programming of a programmable Good, or any consequence thereof.
3. **Performance Data.** Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Seller's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Seller's Warranty and Limitations of Liability.
4. **Change in Specifications.** Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Good may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Seller's representative at any time to confirm actual specifications of purchased Good.
5. **Errors and Omissions.** The information in this catalog has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors, or omissions.

Complete "Terms and Conditions of Sale" for product purchase and use are on Omron's website at [www.omron.com/oei](http://www.omron.com/oei) – under the "About Us" tab, in the Legal Matters section.

**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.



**OMRON ELECTRONICS LLC**

One Commerce Drive  
Schaumburg, IL 60173

**847-843-7900**

For US technical support or other inquiries:

**800-556-6766**

**OMRON CANADA, INC.**

885 Milner Avenue  
Toronto, Ontario M1B 5V8

**416-286-6465**

**OMRON ON-LINE**

Global - <http://www.omron.com>

USA - <http://www.omron.com/oei>

Canada - <http://www.omron.ca>