CJ1W-SCU

CSM_CJ1W-SCU_DS_E_9_3

The Serial Communications Units That Enable High-speed Connections with External Devices

- Each Serial Communications Unit provides two serial communications ports: RS-232C and RS-422A/485, and the serial communications mode can be set separately for each port from Protocol Macro, Host Link, NT Link, Serial Gateway, and No-protocol.

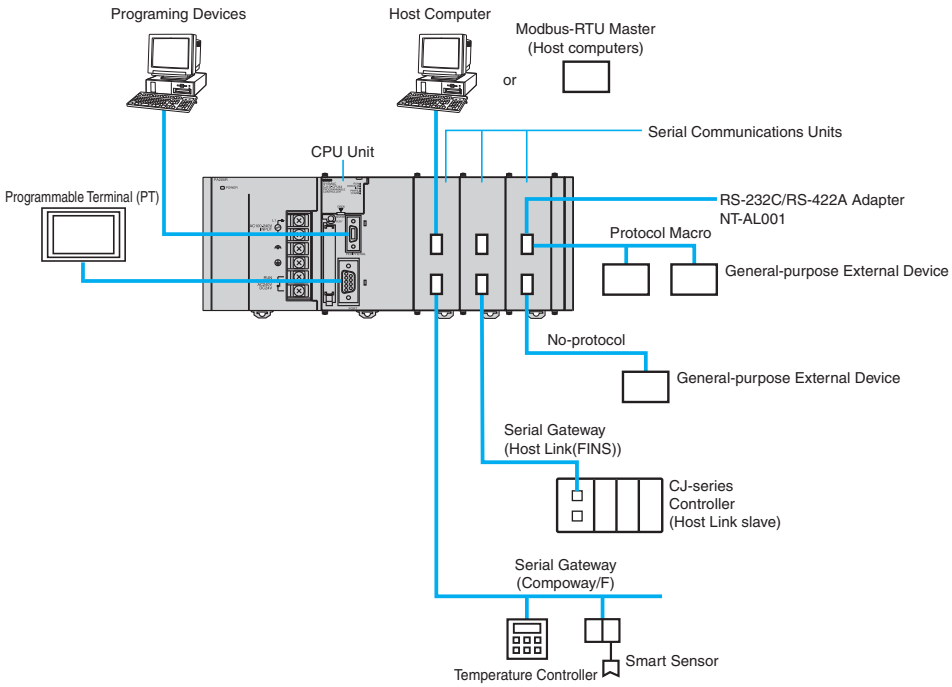


CJ1W-SCU22 CJ1W-SCU32 CJ1W-SCU42

Features

- Mount a total of up to 16 CPU Bus Units, including these Serial Communications Units, to the CPU Rack or Expansion Racks to create systems with up to 32 serial communications ports.
- Connect an NT-AL001 RS-232C/RS-442A Link Adapter to the RS-232C port to enable 1:N communications.
- With the CJ1W-SCU□2, you can use a faster baud rate (up to 230.4 kbps) and faster data transfer to the CPU Unit to enable connecting to high-speed external devices.

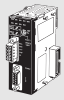
System Configuration



Ordering Infomation

International Standards

- The standards are abbreviated as follows: U: UL, U1: UL(Class I Division 2 Products for Hazardous Locations), C: CSA, UC: cULus, UC1: cULus (Class I Division 2 Products for Hazardous Locations), CU: cUL, N: NK, L: Lloyd, and CE: EC Directives.
- Contact your OMRON representative for further details and applicable conditions for these standards.

Unit type	Product name	Specifications		No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Communications Interface	Communications functions		5V	24V		
CJ1 CPU Bus Units	Serial Communications Units High-speed type 	2 RS-232C ports	The following functions can be selected for each port with an CJ-system: • Protocol macro • Host Link • NT Links (1:N mode) • Serial Gateway • No-protocol *3 • Modbus-RTU Slave	1	0.28 *1	—	CJ1W-SCU22 *2	UC1, N, L, CE
		2 RS-422A/485 ports	The following functions can be selected for each port with an NJ-system: • Protocol macro • Serial Gateway • No-protocol • Modbus-RTU Slave		0.40	—	CJ1W-SCU32 *2	
		1 RS-232C port and 1 RS-422A/485 port			0.36 *1	—	CJ1W-SCU42 *2	
CJ1 CPU Bus Units	Serial Communications Units 	2 RS-232C ports	The following functions can be selected for each port: • Protocol macro *4 • Host Link • NT Links (1:N mode) • Serial Gateway *5 • No-protocol *6 • Modbus-RTU Slave *7	1	0.28 *1	—	CJ1W-SCU21-V1 *8	UC1, N, L, CE
		2 RS-422A/485 ports			0.38	—	CJ1W-SCU31-V1 *8	
		1 RS-232C port and 1 RS-422A/485 port			0.38 *1	—	CJ1W-SCU41-V1 *8	

*1. When an NT-AL001 RS-232C/RS-422A Conversion Unit is used, this value increases by 0.15 A/Unit.
*2. Sinple Backup Function and Interrupt notification function cannot be used with an NJ-system.
*3. A Serial Communications Unit with unit version 2.1 or later, a CPU Unit with unit version 1.03 orlater, and Sysmac Studio version 1.04 or higher are required to use the SerialRcvNoClear instruction.
*4. You can activate Protocol macro trace function when the CPU Unit is set to the RUN/MONITOR mode. (MONITOR mode is not available with the NJ-series CPU Units.)
*5. The Serial Gateway function is enabled only for Serial Communications Units of unit version 1.2 and later.
*6. The no-protocol function is enabled only for Serial Communications Units of unit version 1.2 and later (and a CS1/CJ1 CPU Unit of unit version 3.0 or later or a CJ2 CPU Unit is also required).
*7. The Modbus-RTU Slave function is enabled only for Serial Communications Units of unit version 1.3 and later.
*8. This unit cannot be used, with the Machine Automation Controller NJ-series.

Accessories

Model	Accessories	Specifications
CJ1W-SCU32	2 Serial Port (RS-422A/485) Connector	Terminal Block Connector (FMC1.5/5-STF-3.5AU by Phoenix Contact)
CJ1W-SCU42	1 Serial Port (RS-422A/485) Connector	Terminal Block Connector (FMC1.5/5-STF-3.5AU by Phoenix Contact)

Note: A serial port connector is not provided. Purchase a connector separately for serial port connection.
Plug : XM3A-0921 (manufactured by OMRON) or equivalent
Hood : XM2S-0911-E (manufactured by OMRON) or equivalent

Mountable Racks

Model		NJ system		CJ system (CJ1, CJ2)		CP1H system	NSJ system *1	
		CPU Rack *5	Expansion Rack *5	CPU Rack	Expansion Backplane	CP1H PLC	NSJ Controller	Expansion Backplane
CJ1W-SCU22	Unit version 2.0	10 Units	10 Units (per Expansion Backplane)	10 Units *2	10 Units *3 (per Expansion Backplane)	2 Units *4	Not supported	10 Units *3 (per Expansion Backplane)
CJ1W-SCU32	Unit version 2.0							
CJ1W-SCU42	Unit version 2.0							
CJ1W-SCU21-V1	Unit version 1.3	Not supported						
CJ1W-SCU31-V1	Unit version 1.3							
CJ1W-SCU41-V1	Unit version 1.3							

Note: It may not be possible to mount this many Units to a Rack depending on the current consumption of the other Units.
*1. Product no longer available to order.
*2. This is the number of Units for a CJ2H-CPU6□ CJ2H CPU Unit (without EtherNet/IP) and a CJ1W-PA205□ or CJ1W-PD025 Power Supply Unit. (When not using NT-AL001)
*3. This is the number of Units for a CJ1W-PA205□ or CJ1W-PD025 Power Supply Unit.
*4. A CP1W-EXT01 CJ Unit Adaptor is required
*5. A total of up to 16 Units, including all other CPU Bus Units.

Specifications

Item		Description					
Device name		Serial Communications Unit					
Classification		CPU Bus Unit					
Model number		CJ1W-SCU22	CJ1W-SCU32	CJ1W-SCU42	CJ1W-SCU21-V1	CJ1W-SCU31-V1	CJ1W-SCU41-V1
Serial ports	**Port 1**	RS-232C	RS-422A/485	RS-422A/485	RS-232C	RS-422A/485	RS-422A/485
	Port 2	RS-232C	RS-422A/485	RS-232C	RS-232C	RS-422A/485	RS-232C
Protocol	**Port 1**	Host Link, protocol macro, Serial Gateway, No-protocol, NT Link, Modbus-RTU Slave, loopback test , or 1:1 Host Link can be selected for each port. *1 *2			Host Link, protocol macro, NT Link, or loopback test can be selected for each port. • Unit Ver. 1.2 or later also supports Serial Gateway, no-protocol, and 1:1 Host Link modes. (Note: The Serial Gateway can also be executed in protocol macro mode.) *1 • Unit Ver. 1.3 or later also supports Modbus-RTU slave mode.		
	Port 2						
Number of mountable Units	**CPU Unit**	None					
	CPU Rack	A total of up to 16 Units, including all other CPU Bus Units. No restrictions on the mounting location. However, if an external interrupt task is used, the Unit must be mounted in one of the following slots on the CPU Rack. • CJ2H-CPU6□-EIP CPU Unit: Slots 0 to 3 • CJ2H-CPU6□, CJ2M-CPU□□ or CJ1G/H-CPU□□H CPU Unit: Slots 0 to 4 • CJ1M-CPU□□ CPU Unit *4: Slots 0 to 2 External interrupt tasks will not be started if the Unit is mounted to any other slot.			A total of up to 16 Units, including all other CPU Bus Units. No restrictions on the mounting location.		
	Expansion Rack						
Data exchange with the CPU Unit	**Ordinary refreshing of software switches and status**	Allocated 25 words of the 25 words in the CPU Bus Unit CIO Area (constant data exchange with the CPU Unit)					
	Transfer from the CPU Unit set by the system	Of the CPU Bus Unit DM Area, each serial port is allocated 10 words (total 20 words). Data is transferred from the CPU Unit at the following times: • Startup or restart • Ladder instruction: STUP(237) • Port Settings Changing Flag turns ON (Auxiliary Area)					
Simple Backup Function		The CPU Unit's Simple Backup Function can be used to backup the Protocol Macro data in the Serial Communications Unit to the CPU Unit's Memory Card. The backed-up data can be restored or compared. (The Simple Backup Function can be used with the CJ1-H and CJ1M CPU Units only.)					
Current consumption *3		280mA+x	400mA	360mA+x	280mA+x	380mA	380mA+x
Weight		160g Max.	120g Max.	140g Max.	110g Max.	110g Max.	110g Max.
General specifications		Conforms to general specifications for CJ Serise.					

*1. Serial Gateway: The Serial Gateway can also be executed in protocol macro mode.
*2. No-protocol: An external interrupt task can be executed when data is received in No-protocol Mode. If the CJ2H CPU Units with unit version 1.1 or later and CJ2M CPU Units is used, the high-speed communications instructions (DRXDU(261) and DTXDU(262)) can also be used.
*3. The current consumption is for one Serial Communications Unit. When an NT-AL001 Link Adapter is connected to the Serial Communications Unit, power is supplied to the Link Adapter from the Unit. A current consumption of 0.15A must be added for each Link Adapter that is connected. In the above specifications, "x" indicates that 0.15A must be added for each port to which an NT-AL001 Link Adapter is connected to provide the required 5-V power supply.
*4. Final order entry date for CJ1M:The end of March, 2021