

DeviceNet Master for C200HX, C200HG, C200HE, C200HS, and CS1

- Incorporating a remote I/O and message communications functions.
- The Configurator is available for easy remote I/O allocation.
- The control of a maximum of 300 words is possible over remote I/O with the C200HX, C200HG, or C200HE.
- The Configurator makes it possible for a single Programmable Controller to connect to a maximum of 16 Masters.



Ordering Information

PLC	Max. number of I/O points			Model
	Configurator not in use	Configurator in use		
		No message communications	Message communications	
C200HX, C200HG, C200HE, CS1*	1,600 points (800 inputs/800 outputs)	Two-block inputs and two-block outputs (with a maximum of 1,600 points or 100 words per block) and a total of 4,800 points or 300 words.	Two-block inputs and two-block outputs (with a maximum of 1,600 points or 100 words per block) and a total of 1,600 points or 100 words.	C200HW-DRM21-V1
C200HS	1,024 points (512 inputs/512 outputs)	Two-block inputs and two-block outputs (with a maximum of 1,280 points or 80 words per block) and a total of 1,280 points or 80 words.	---	

Note: The DeviceNet Configurator is required for the Master to be in configuration control.

* CS1 Master specifications are the same as the alpha.

Specifications

■ Communications Specifications

The communications specifications conform to the DeviceNet protocol.

Connection method	Multi-drop method and T-branch method (see note 1)
Communications baud rate	500,000, 250,000, or 125,000 bps (switchable)
Communications cycle time	9.3 ms with 16 Slaves for inputs and 16 Slaves for outputs at a baud rate of 500,000 bps
Communications cable	Special flat cable: 5-conductor cable (2 signal wires, 2 power supply wires, and 1 shielded wire)
Communications distance	500,000 bps: Max. network length (see note 2): 100 m max. (see note 3) Branch line length: 6 m max. Total branch line length: 39 m max. 250,000 bps: Max. network length (see note 2): 250 m max. (see note 3) Branch line length: 6 m max. Total branch line length: 78 m max. 125,000 bps: Max. network length (see note 2): 500 m max. (see note 3) Branch line length: 6 m max. Total branch line length: 156 m max.
Max. number of connecting nodes	64 including one Master and 63 Slaves.
Error control checks	CRC, node address multiple check, and scan list collation

- Note:**
1. A terminator must be connected to the point in the system farthest from the Master.
 2. The maximum network length is the distance between two nodes that are the farthest from each other.
 3. The maximum network length is 100 m if the trunk line uses a dedicated thin cable.

■ Master Specifications

Communications power supply voltage		11 to 25 VDC (supplied from the communications connector) (see note 1)	
Current consumption		Communications: 45 mA max. at 24 VDC Internal circuit: 250 mA max. at 5 VDC	
Max. number of connecting Slaves	Remote I/O (Explicit message service)	Configurator not in use	C200HX/C200HG/C200HE: 50 Units (see note 2) C200HS: 32 Units (see note 2)
		Configurator in use	62 (see note 3)
	FINS message service	8 (see note 4)	
Number of I/O points	Configurator not in use	C200HX/C200HG/C200HE: 1,600 points (800 input and 800 output points) C200HS: 1,024 points (512 input and 512 output points)	
	Configurator in use	C200HX/C200HG/C200HE: 4,800 remote I/O points only, and 1,600 points with messages used C200HS: 1,280 points	
Number of occupied words	Configurator not in use (fixed allocation)	C200HX/C200HG/C200HE: 50 input and 50 output words and 10 words for soft switch/status area C200HS: 32 input and 32 output words with 10 words for soft switch/status area	
	Configurator in use (free allocation)	Input x 2 blocks, output x 2 blocks (with a maximum of 100 words per block) (see note 5) Soft switch/Status area: 10 words	
	Max. message length (for FINS or Explicit message)	160 kbytes	
Max. number of PC-mounting Units	Configurator not in use	1	
	Configurator in use	10 Units (any C200HS-series CPU Unit or C200HX-, C200HG-, or C200HE-series CPU Unit with a maximum of 880 I/O Points) 16 Units (any SYSMAC C200HX-, C200HG-, or C200HE-series CPU Unit with a maximum of 880 I/O points)	
Weight		250 g max.	

- Note:**
1. Refer to the *DeviceNet Operation Manual (W267)* for the communications power supply specifications.
 2. The Master uses a node. Therefore, set the PLC's node numbers within a range of 50 to 63 if the number of C200HX, C200HG, or C200HE PLC's connected to the Master is 50 and within a range of 32 to 63.
 3. The Master uses one node. The Configurator uses a node. Therefore, 62 Slaves can be connected.
 4. C200HS Series are not connected.
 5. A maximum of 80 words per block can be used if the Master is mounted to the C200HS Series.

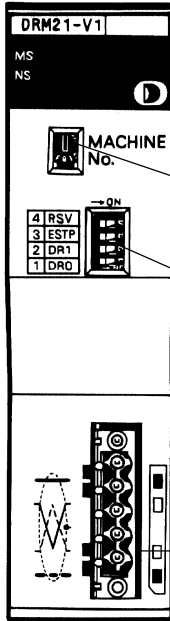
■ Limitations on Master Installation

The Masters for the C200HX, C200HG, C200HE, and C200HS overlap with the SYSMAC BUS Master in occupied area. Therefore, it will not be possible to mount the DeviceNet Master and SYSMAC BUS Master together to the same PLC unless the Configurator is used. The Configurator cannot be, however, used with the C200H Series.

■ Ratings

The ratings of the Master are the same as those of the C200HX, C200HG, C200HE, and C200HS.

Nomenclature



Indicators

Indicate the status of the Master and network.

DIP Switch (Rear)

These pins have the following functions:
Pins 1 to 6: Node number
Pins 7 and 8: Reserved (Always OFF.)

Rotary Switch

This switch sets the Master's one-digit hexadecimal unit number.

DIP Switch (Front)

These pins have the following functions:
Pins 1 and 2: Communications rate
Pin 3: Continue/Stop communications for error
Pin 4: Reserved (Always OFF.)

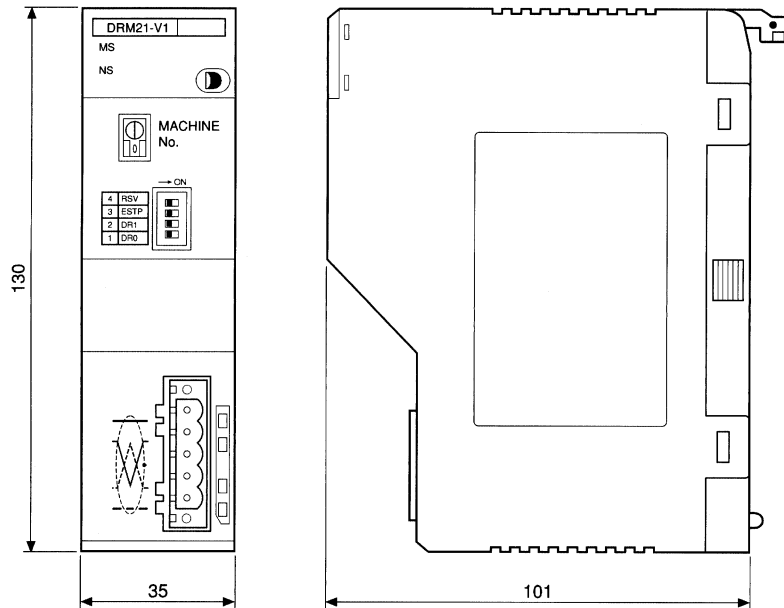
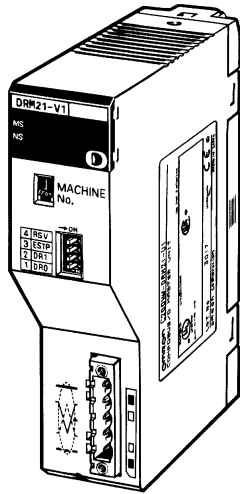
Connector

Connect the network communications cable to this connector. The communications power is also supplied through this connector.

Dimensions

Note: All units are in millimeters unless otherwise indicated.

C200HW-DRM21-V1



Note: Refer to the *C200HX/C200HG/C200HE* or *C200HS PLC's Operation Manual* for details on the dimensions when the Master Unit is mounted to the PLC's Backplane.

Precautions

Refer to the *DeviceNet Operation Manual (W267)* before using the Master.

NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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