



CX1000 Installation and Connection Guide

IM 04L31A01-73E 2nd Edition



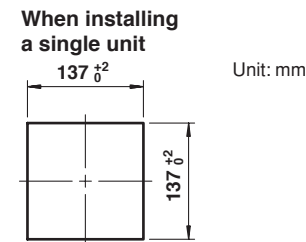
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Thank you for purchasing the CX1000. This manual contains simple explanations about how to install and connect the CX1000. For more information about the procedures described herein, safety precautions, and the CX1000 functions and operation, please refer to the PDF manual found on the provided CD-ROM.

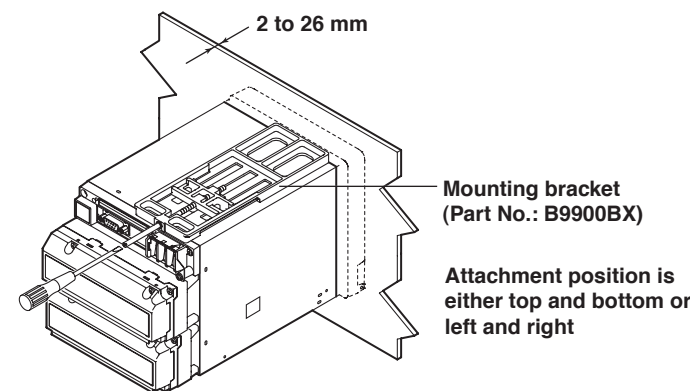
Installation Procedure

- Cut the instrument panel according to the diagram below. For the panel cut dimensions when installing multiple units closely together, see the *CX1000 User's Manual IM 04L31A01-03E* found on the provided CD-ROM.

Panel Cut Diagram



- Insert the CX1000 into the front of the panel.
- Using the mounting brackets that came with the package, attach the CX1000 to the panel as shown in the following figure. First, attach the two mounting brackets and temporarily fasten the attachment screws. Next, fix the CX1000 in place by tightening the attachment screws with the appropriate torque (0.7 to 0.9 N-m.). As you fasten the screws, press the mounting bracket against the case so that they are in contact with each other.



For details about the CX1000 external dimensions, installation environment, and more, please refer to the *CX1000 User's Manual (IM 04L31A01-01E)*.

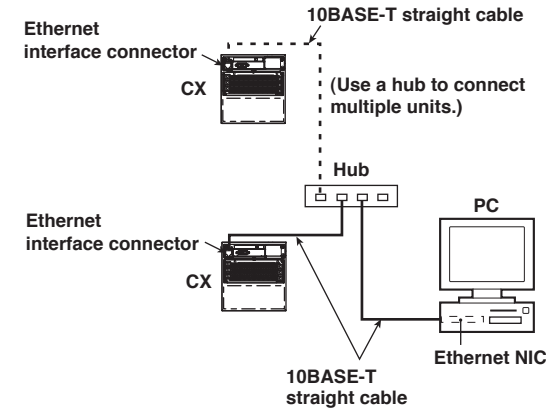
Connection Types and Procedures

There are various terminals and connectors on the rear panel of the CX1000. Connecting them to peripheral devices allows you to perform control and measurement operations. Below are the names of each connector and terminal, as well as connection procedures.

Connecting the Ethernet Interface

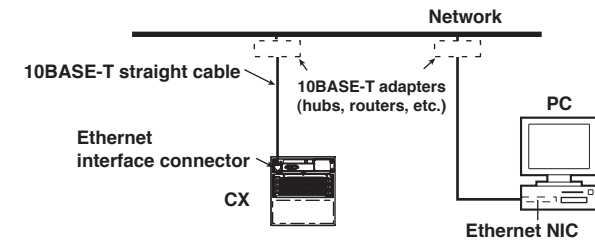
When only Connecting to a Hub

Connect the CX1000 and the PC through a HUB as shown in the following figure.



When Connecting to a Preexisting Network

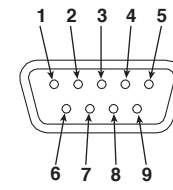
The following figure illustrates an example in which the CX1000 and a PC are connected to the network. When connecting the CX1000 or the PC to a preexisting network items such as the transfer rate and connector type must match. For details, consult your system or network administrator.



Connecting the Serial Interface

RS-232 (When Connecting to a Computer or Other Such Devices)

Verify that the CX1000 has an RS-232 connector, and then connect a serial cable to it. Connect the other end of the serial cable to the other device.

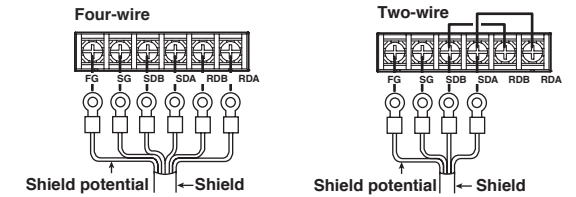


Pin No.	Signal Name	Signal Meaning
2	RD (Received Data)	Received data from the connected device. Input signal.
3	SD (Send Data)	Send data to the connected device. Output signal.
5	SG (Signal Ground)	Signal ground.
7	RS (Request to Send)	Handshaking signal used when receiving data from the connected device. Output signal.
8	CS (Clear to Send)	Handshaking signal used when sending data to the connected device. Input signal.

* Pins 1, 4, 6, and 9 are not used.

RS-422/485 (When Connecting to a PLC, Temperature Controller or Other Such Devices)

Verify that the CX1000 has an RS-422/485 connector, and then connect the crimp connectors (for 4-mm screws) to the terminal strip as illustrated on the right. Do not expose more than 5 cm of the cable surface from the shield.

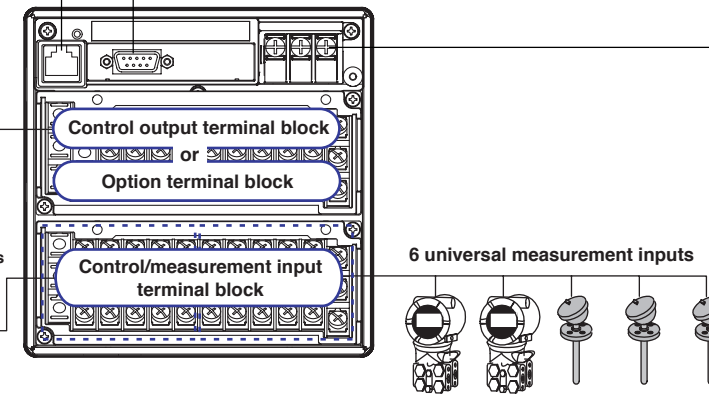


With an RS-422/485

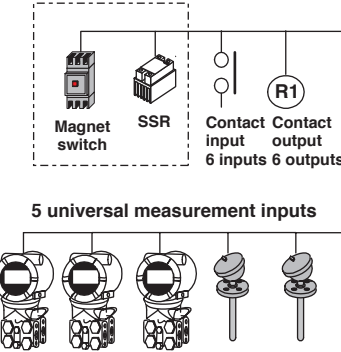


With an RS-232

CX1000 Rear Panel



Controls and Switch



Option terminal block (one of the following)

Measurement alarm output (/A6 option)	Measurement alarm output + remote input/output (/A6R option)
Measurement alarm output + FAIL/memory end output (/A4F option)	Measurement alarm output + FAIL/memory end output + remote input/output (/A4FR option)

Connecting Input/Output Connectors

When connecting various input/output connectors for control or measurement, proceed as described below. Connect the crimp connectors (for 4-mm screws) to the terminal strip.

- Turn off the CX1000 and remove the terminal cover.
- Wire the signal wires to the terminals. Attach the terminal cover and secure it with screws.

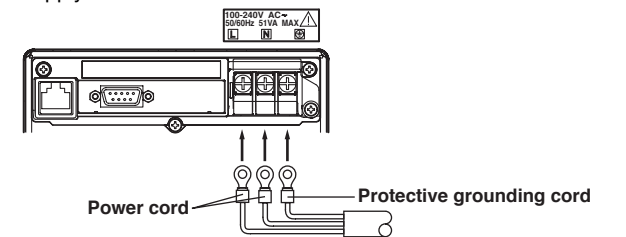
Connecting the Power Supply

⚠ When using electrical wiring, be certain to follow the safety recommendations prescribed in the *CX1000 User's Manual*.

Use a power supply that meets the following conditions:

Rated supply voltage:	100 to 240 VAC
Supply voltage range used:	90 to 132, 180 to 264 VAC
Rated supply voltage frequency:	50/60 Hz
Permitted supply voltage frequency range:	50/60 Hz ± 2%
Maximum power consumption:	39 VA (100 V), 51 VA (240 V)

- Turn OFF the CX1000 and open the cover (transparent) for the power supply wires.
- Connect the power cord and the protective ground cord to the power supply terminals.



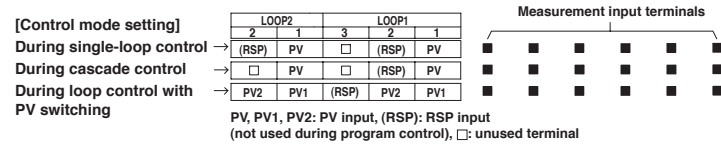
- Close the cover (transparent) for the power supply wires and secure it in place with screws.

For the power supply specifications and connection method of the 24VDC/AC power supply option, please refer to the *CX1000 User's Manual*.

Arrangement of the Control Input/Output Terminals

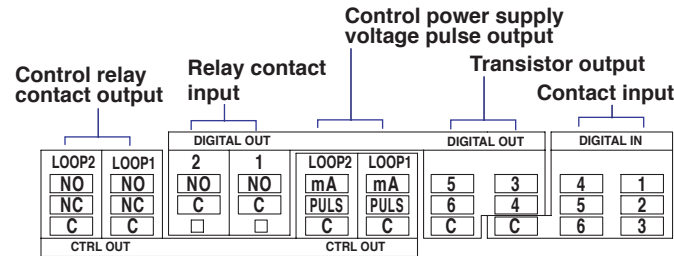
Input/Output Assignments of the Analog Control Input Terminal Block

There are five input terminals. The PV inputs (PV) and remote inputs (RSP) are assigned as shown in the following figure. The following figure denotes the three terminals (/b, +/A, -/B) of a single column using a single cell.



Terminal Arrangements of the Control Output Terminal Block

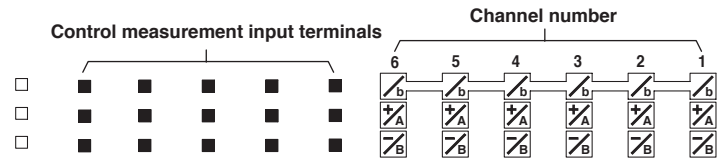
Each block has a control output containing two loops of current output, voltage pulse output, and relay contact output terminals, six contact input, two relay contact output, and four transistor output terminals. The following figure shows their arrangement.



Arrangement of the Measurement Input/Output Terminals

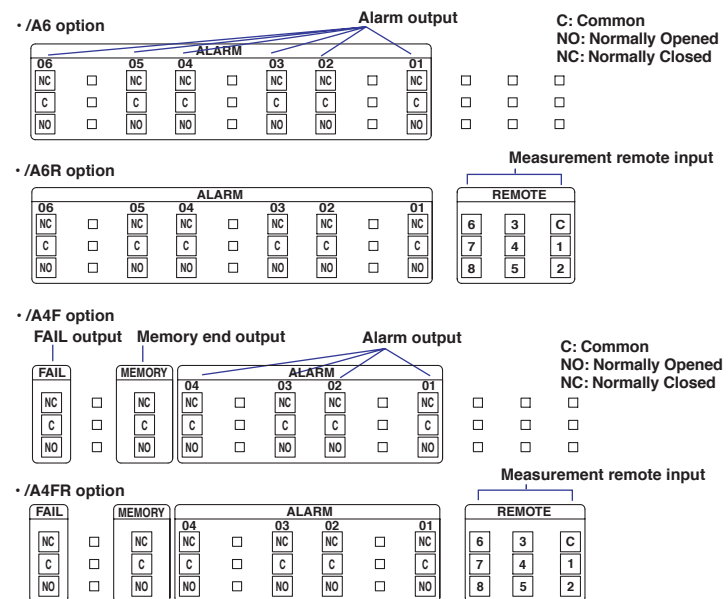
Terminal Arrangements of the Measurement Input Terminal Block

Six measurement input terminals are available on each terminal block as shown in the following figure.



Terminal Arrangements of the Measurement Alarm Option Terminal Block

The measurement alarm option terminal block is the terminal block that you specified as an option to the CX1006 at the time of purchase. The following four types are available.



Label on the Terminal Cover

A label indicating the terminal arrangement is affixed to the front and back of the terminal cover of each terminal block.

Label on the Front of the Terminal Cover

The terminal numbers used to check the connection (not the numbers used in the settings) are written on the label on the front of the terminal cover (see the following figure).

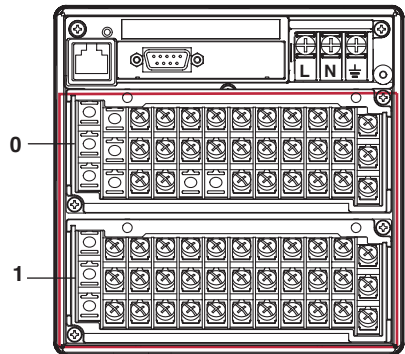
• For the 6 Loop Analog Control Input Terminal Block

CAT II	CTRL-OUT	DIGITAL-OUT	CTRL-OUT	DIGITAL-OUT	DIGITAL-IN
□	028	025	022	019	016
□	029	026	023	020	017
□	030	027	□	018	015

• For the Control Expansion DIO Terminal Block

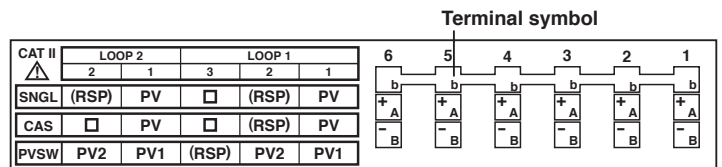
LOOP2	LOOP1		CAT II	
□	131	128	125	122
□	132	129	126	123
□	133	130	127	124

The terminal numbers are unique three-digit numbers. The highest digit indicates the arrangement position of the terminal block shown in the following figure; the lower two digits indicate the terminal position within the terminal block (top right terminal is assigned "01"; bottom left terminal is assigned "36"). The terminals that cannot be used are indicated as "□".



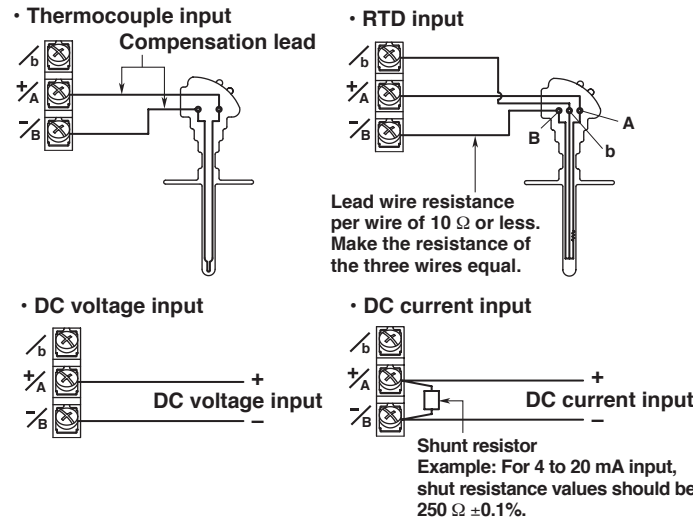
Label on the Back Cover of the Terminal Cover

Indicates the type of input/output signal for each connector. Below is an illustration of a control/measurement input terminal block.

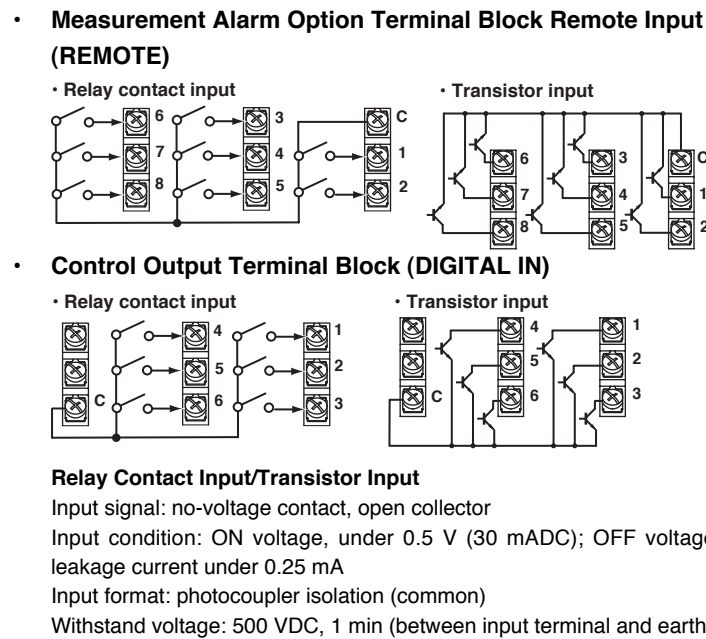


Input Wiring

Measurement Input Wiring

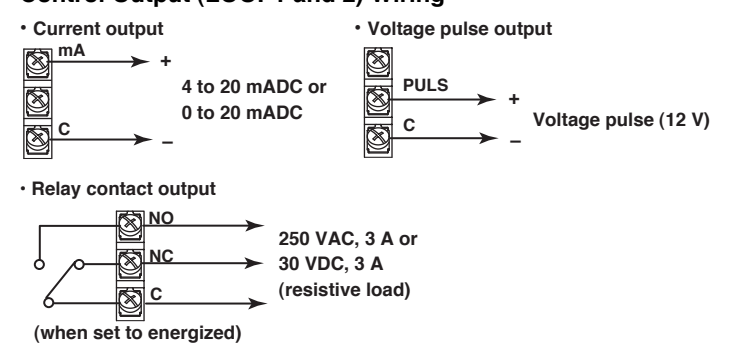


Contact Input (DIGITAL IN/REMOTE) Wiring



Output Wiring

Control Output (LOOP1 and 2) Wiring



Current Output

Output signal: 4 to 20 mADC or 0 to 20 mADC

Resistive load: 600 Ω or less

Voltage Pulse Output

Output signal: ON voltage=12 VDC

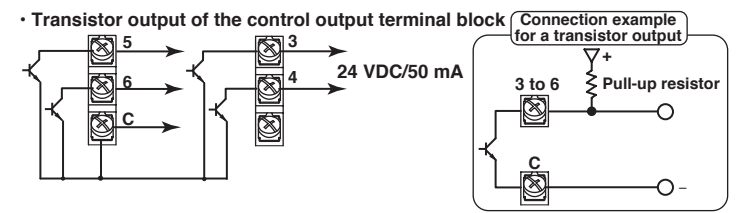
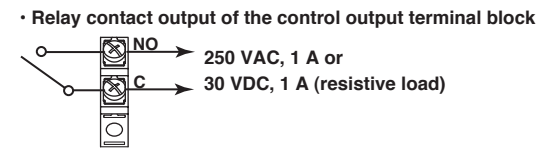
Resistive load: 600 Ω or more

Relay Contact Output

Output signal: NC, NO, COM

Contact rating: 250 VAC (50/60 Hz)/3 A or 30 VDC/3 A (resistive load)

Contact Output (DIGITAL OUT) Wiring



Relay Output

Output form: relay contact

Contact rating: 250 VAC (50/60 Hz)/1 A or 30 VDC/1 A (resistive load)

Transistor Output

Output method: open collector output

Contact rating: 24 VDC/50 mA