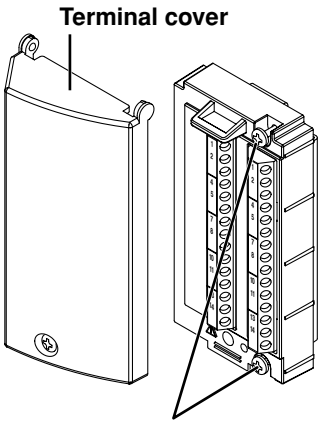
User's Manual

MX100/MW100 Setting Up the Plate with Clamp Terminals for Current (772081/772082/772083)

Models

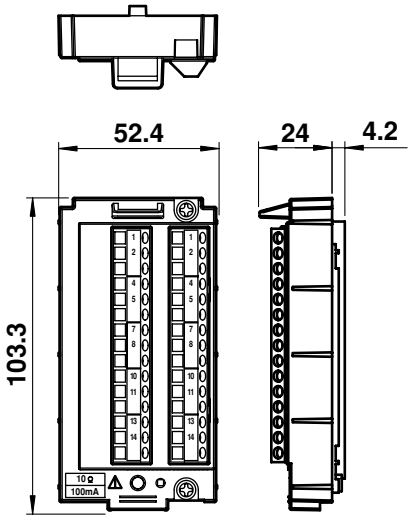
Model Code	Model Name	Measurable Range
772081	Plate with clamp terminals for current (built-in shunt resistance of 10 Ω)	–100 to 100 mA
772082	Plate with clamp terminals for current (built-in shunt resistance of 100 Ω)	–30 to 30 mA
772083	Plate with clamp terminals for current (built-in shunt resistance of 250 Ω)	–20 to 20 mA

Names of Sections

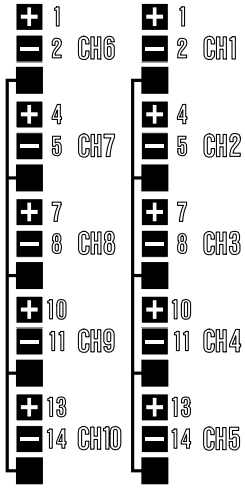


External Dimensions

External dimensions (Unit: mm)



Terminal arrangement mark



Actual dimensions may vary by ±3%

Supported Input Modules

Specifically for use with the 10-CH, Medium-Speed Universal Input Module (MX110-UNV-M10).

Note

The plate with clamp terminals for current is specifically for DC current measurement. When the plate with clamp terminals for current is attached, measurement can no longer be made of DC voltage, thermocouples, RTDs, or DI.

YOKOGAWA
Yokogawa Electric Corporation

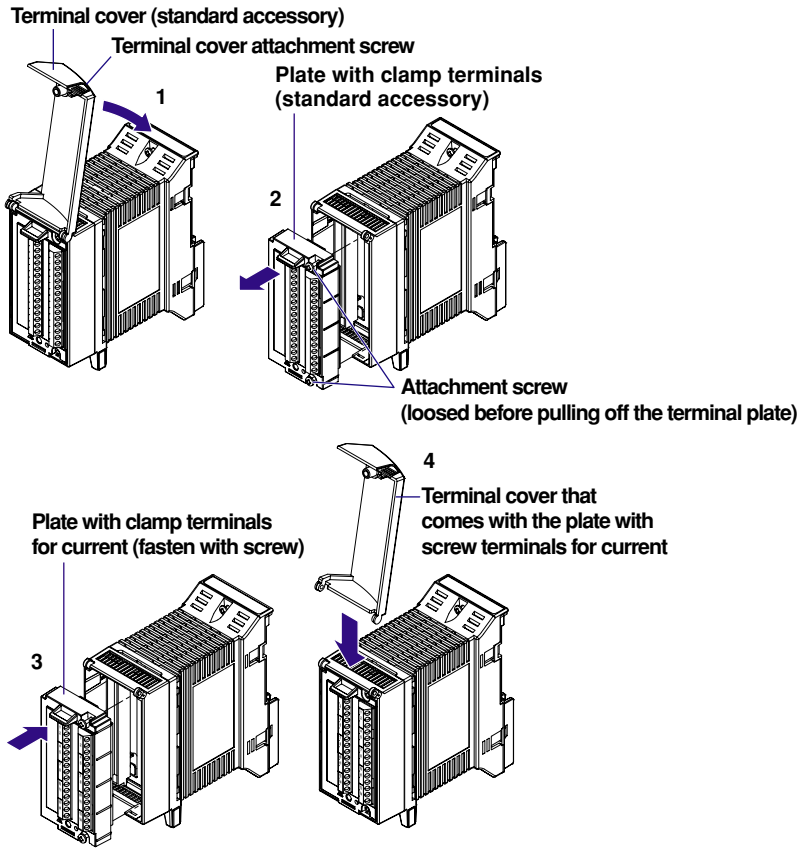
1st Edition: April 2006 (YK)

IM MX100-78E
1st Edition

Attaching the Terminal Plate

With the /NC option, begin from step 3.

1. Loosen the terminal cover attachment screw for the 10-CH Medium-Speed Universal Input Module, then firmly flip over the terminal cover in the direction of the arrow in the figure below and remove it.
2. Loosen the attachment screw of plate, then remove the terminal plate.
3. Attach the plate with clamp terminals for current, then fasten with the screw.
4. Attach the terminal cover that came with the plate with clamp terminals for current.



Notes on Wiring and Calibration

It is recognized by the PC software as a universal input plate with clamp terminals. Also, the 10-CH Universal Input Module cannot be calibrated when the plate with clamp terminals for current is attached. Calibrate the 10-CH Universal Input Module with the terminal plate attached that was attached during shipment, or with accessory terminal 772061, 772063, or 772080 (sold separately) attached.

General Precautions When Wiring the Signal Wires

WARNING

- To prevent the possibility of electric shock when wiring, confirm that the power supply source and the signal source are turned OFF. After making the connections, secure the terminal cover and do not touch the terminals with your hands.
- For signal wires on which voltage exceeding 30 VAC/60 VDC is applied relative to the ground potential or between signals, use reinforced (double) insulation wires. For all other signal wires, use basic insulation wires. For the withstand voltage of insulation wires, see the table below.

Applied Voltage (Vrms or VDC)	Basic Insulation	Reinforced (Double) Insulation
30 (60 VDC) to 100	620 Vrms	1000 Vrms
101 to 150	840 Vrms	1400 Vrms
151 to 300	1390 Vrms	2300 Vrms
301 to 600	2210 Vrms	3700 Vrms

- To avoid electric shock when removing the terminal plate for wiring, be sure to attach the terminal plate before inputting signals. Electric shock or fire can result if signals are applied to the terminals when the terminal plate is removed from the input modules.
- To prevent fire, use signal wires of the temperature rating 80°C or better.

CAUTION

- If a large pulling force is applied to the signal wires connected to the terminal plate, the terminal plate or signal wire may break. To prevent this from happening, fix all the wiring cables to the installation panel.
- Do not apply a voltage exceeding the value indicated below to the input terminals of the 10-CH Medium-Speed Universal Input module which attached the plate with clamp terminals for current. Doing so can damage the modules.
  - Maximum input voltage
    772081: ±1.5 VDC (continuation)
    772082: ±5 VDC (continuation)
    772083: ±8 VDC (continuation)
- The MX100 and MW100 are a measurement category II (IEC61010-1) and overvoltage category II (CSA1N.61010-1) instrument.

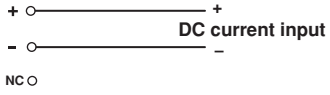
Wiring Procedure

Wiring Procedure

For information about wiring, see the ***MX100 Data Acquisition Unit Installation and Connection Guide (IM MX100-72E)*** provided with the main module, the ***MX100 Data Acquisition Unit User's Manual (IM MX100-01E)*** or the ***MX100 Data Acquisition Unit User's Manual (IM MW100-01E)*** contained in the manual CD-ROM.

Wiring of DC Current Input

• DC current input



Notes on Measurement

Shunt resistance for current measurement is built in. Measurements are taken as DC voltage values in the DC voltage range.
When displaying current values, convert voltage values to current values by using scaling or other means.

Current value [A] = voltage value [V] / shunt resistance value [Ω]

Main Specifications

Style number: S1
No. of connectable points: 10
Type of measurement: DC current
Measurable range: 772081: −100 to 100 mA
772082: −30 to 30 mA
772083: −20 to 20 mA
Note that this depends on the DC voltage range used.
Measurement accuracy: Add the following values to the measurement accuracy of the DC voltage range being used.
±0.15 % of rdg.
When scaling, add an additional 2 digits of computation error.
Connection type: Insulation between channels
Note that the NC terminal is common between channels.
Normal-mode voltage: Depends on the voltage range used.
Terminal type: Clamp
Applicable wire size: 0.14 to 1.5 mm^2 (AWG26 to 16)
Effects of ambient temperature:
When the integral time is 16.67 ms or more, the effect per change of 10 °C in ambient temperature is as follows.
Within ±(0.075% of rdg. + 0.05% of range*)
* Indicates the DC voltage used.
Other: Other basic specifications conform with those of the 10-CH, Medium-Speed Universal Input Module (MX110-UNV-M10).