

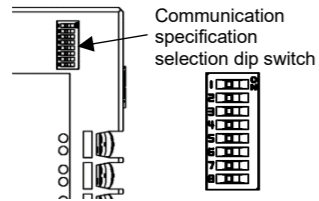
5. Communication Parameter Setting

5.1 Selection of Communication Specifications

Caution

When connecting to the communication expansion module QMC1, the communication specification selection is not required. Use it in the factory default (all OFF).

Use the communication specification selection dip switch on the left side of the instrument to select communication specifications. Select the communication speed, data bit, parity, stop bit and communication protocol.



All are off when shipped from the factory.

- Communication speed: 57600 bps
- Data bit: 8 bits
- Parity: Even
- Stop bit: 1 bit
- Communication protocol: MODBUS specification

(1) Selection of communication speed

Communication specification selection dip switch		Communication speed
1	2	
OFF	OFF	57600 bps
ON	OFF	38400 bps
OFF	ON	19200 bps
ON	ON	9600 bps

(2) Selection of data bit, parity and stop bit

Communication specification selection dip switch			Data bit, parity and stop bit
3	4	5	
OFF	OFF	OFF	8 bits, Even, 1 bit
ON	OFF	OFF	8 bits, Even, 2 bits
OFF	ON	OFF	8 bits, Odd, 1 bit
ON	ON	OFF	8 bits, Odd, 2 bits
OFF	OFF	ON	8 bits, None, 1 bit
ON	OFF	ON	8 bits, None, 2 bits

(3) Selection of communication protocol

Communication specification selection dip switch	Communication protocol
6	
OFF	MODBUS specification
ON	SIF specification

Dip switches No.7 and No.8 does not use. Leave it OFF.

5.2 Selection of Module Address

Caution

When SIF specification is selected in "Selection of communication protocol", select module addresses from 1 to consecutive numbers. If select MODBUS specification, select any number from 0 to F (1 to 16).

The module address is selected with the rotary switch.

Use a small flat blade screwdriver to select the module address.

The value obtained by adding 1 to the value of the selected rotary switch becomes the module address.

Module address selection rotary switch



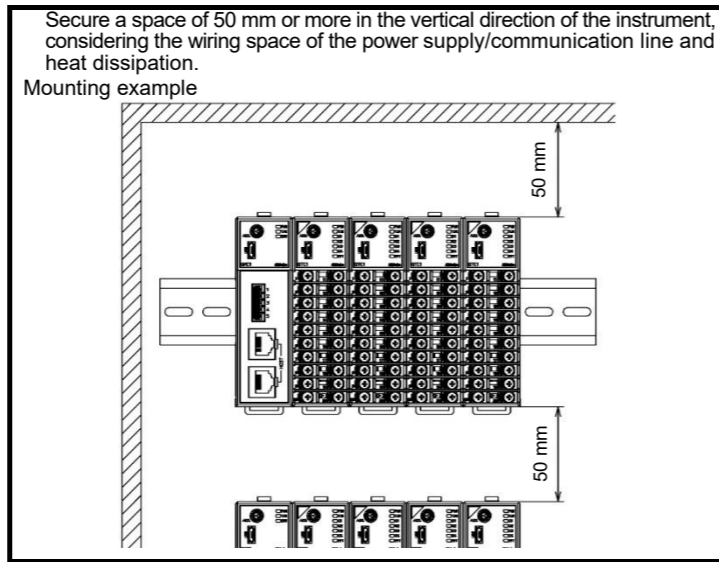
Module address: 0 to F(1 to 16)

Rotary switch	0	1	9	A	B	F
Module address	1	2	10	11	12	16

6. Mounting

Caution

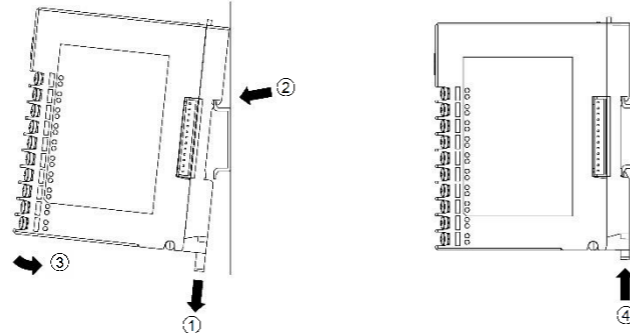
- Turn off the power supply to this instrument when mounting or removing it.
- Mount the DIN rail horizontally.
- This instrument fits the following DIN rails. Top hat rail TH35 JIS C 2812-1988
- If this instrument is mounted in a position susceptible to vibration or shock, mount commercially available end plate at both ends of the instrument.
- When installing, make sure that the orientation (upper and lower) of this instrument is correct.
- When mounting or removing this instrument on the DIN rail, it must be tilted slightly



6.1 Mounting

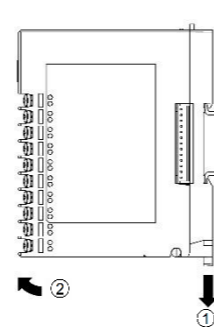
Mounting to the DIN rail

- ① Lower the lock lever of this instrument. (The lock lever of this instrument has a spring structure, but if lower it in the direction of the arrow until it stops, it will be locked in that position.)
- ② Hook the part ② of this instrument onto the top of the DIN rail.
- ③ Insert the lower part of this instrument with the part ② as a fulcrum.
- ④ Raise the lock lever of this instrument. Make sure it is fixed to the DIN rail.



Removal from the DIN rail

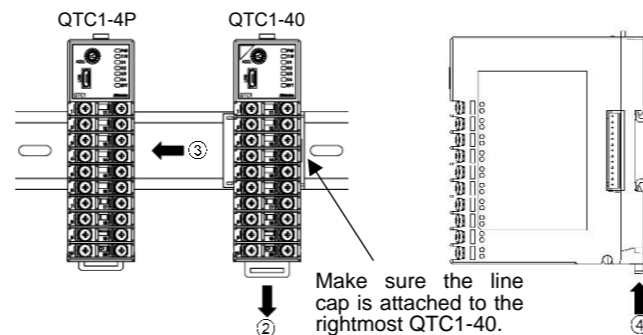
- ① Insert a flat blade screwdriver into the lock lever of this instrument and lower the lock lever until it stops.
- ② Remove this instrument from the DIN rail by lifting it from below.



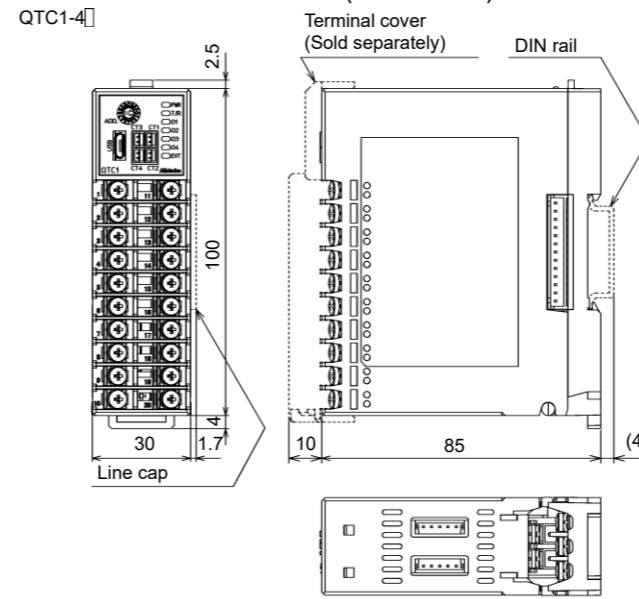
Mounting multiple modules to the DIN rail

This section describes an example of mounting multiple control modules QTC1-4P on the DIN rail.

- ① Remove the line cap on the right side of the QTC1-4P.
- ② Lower the lock lever of the QTC1-40, and mounting the QTC1-40 to the DIN rail.
- ③ Slide the QTC1-40 to the left and connect the connectors to each other.
- ④ Raise the lock lever of this instrument. Make sure it is fixed to the DIN rail.



6.2 External Dimensions(Scale: mm)



7. Wiring

Warning

Turn off the power supply to this instrument before wiring. If you work while the power is supplied, you may get an electric shock, which could result in an accident resulting in death or serious injury.

7.1 Recommended Terminal

Use a solderless terminal with an insulation sleeve in which an M3 screw fits as shown below. Use the Ring-type for the power supply and serial communication section.

Solderless Terminal	Manufacturer	Model	Compatible wire size	Tightening torque
Y-type	NICHIFU TERMINAL INDUSTRIES CO., LTD.	TMEX1.25Y-3	AWG22 to 16	Input/output section: 0.63 N · m Power supply section: 0.5 N · m
	J.S.TMFG.CO.,LTD.	VD1.25-B3A	AWG22 to 16	
Ring-type	NICHIFU TERMINAL INDUSTRIES CO., LTD.	TMEX1.25-3	AWG22 to 16	serial communication section: 0.3 N · m
	J.S.TMFG.CO.,LTD.	V1.25-3	AWG22 to 16	
	J.S.TMFG.CO.,LTD.	V2-MS3	AWG16 to 14	

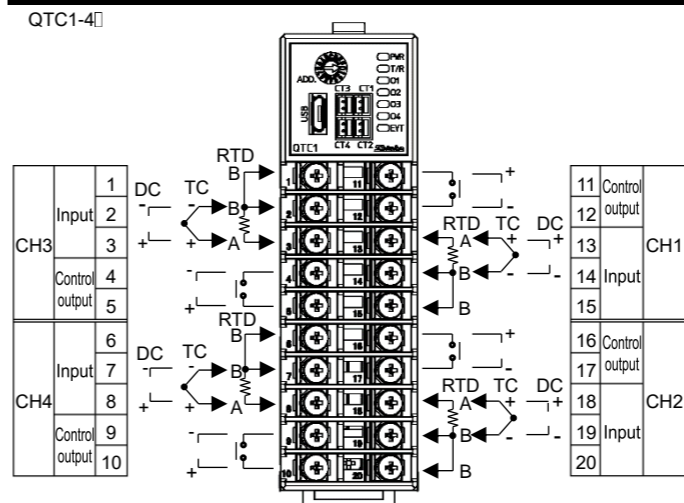


7.2 Terminal Arrangement

7.2.1 Input and Output Terminal Arrangement

Caution

Please note that CH1, CH2 and CH3, CH4 have different terminal arrangements. For the QTC1-2P, CH3 and CH4 are not available.



7.2.2 Power Supply and Serial Communication Terminal Arrangement

Caution

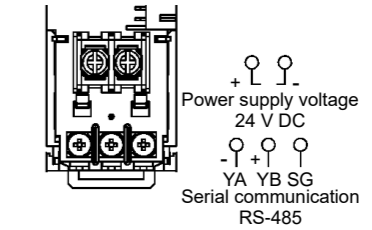
Do not confuse the polarities.

The terminal block for power supply and serial communication is located on the base of this instrument. Wiring by the following procedure.

(1) Case removal

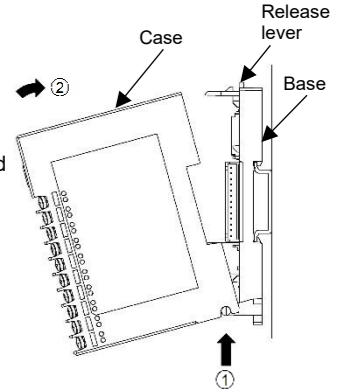
- ① Push the release lever on the top of this instrument to unlock it.
- ② Remove the case.

(2) Wiring



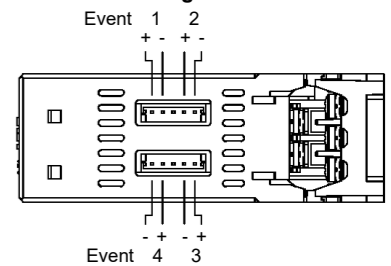
(3) Case mounting

- ① Hook the case on the lower part ① of this instrument.
- ② Mount the case so that the lower part ① of this instrument is the fulcrum and covers the release lever. There is a clicking sound.



7.2.3 Event Input and Output Terminal Arrangement

Using the connector harness EVQ for event input/output. For the QTC1-2P, Event3 and Event4 are not available.



7.2.4 CT Input Connector Layout

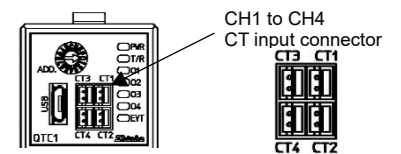
Using the connector harness WQ for heater burnout alarm. For the QTC1-2P, wiring by the following procedure.

Single-phase

- CH1 CT1 input: CT1 or CT3
- CH2 CT1 input: CT2 or CT4

3-phase

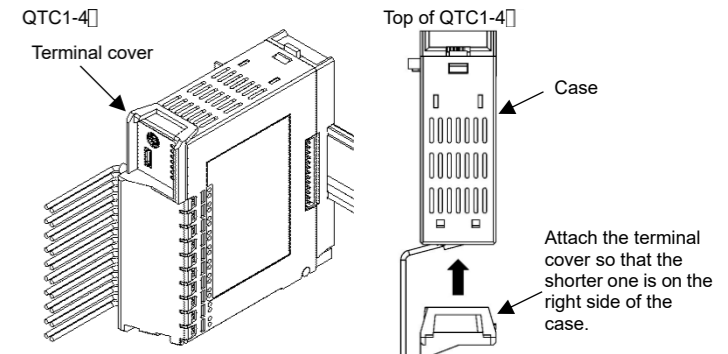
- CH1 CT1 input: CT1
- CT2 input: CT3
- CH2 CT1 input: CT2
- CT2 input: CT4



7.3 Using Terminal Cover Precaution

Attach the terminal cover TC-QTC (sold separately) so that the shorter one is on the right side of the case.

For the wiring of terminal numbers 11 to 20, pass through the left side of the terminal cover.



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