

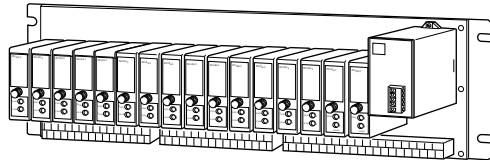
Super-mini Signal Conditioners Mini-M Series

COMMUNICATION CONTROLLER

(Mitsubishi Control & Communication Link use)

Functions & Features

- Receiving up to 16 Mini-M modules
- Enabling interfacing analog I/Os to Mitsubishi Control & Communication Link
- Power supplied through printed wiring on the base



CC-Link

MODEL: M2BC-[1][2]-[3]

ORDERING INFORMATION

- Code number: M2BC-[1][2]-[3]

Specify a code from below for [1] through [3].

(e.g. M2BC-161-K)

Power input specification for each I/O modules must be the same as that of the base.

[1] CAPACITY

- 04: 4 positions
- 08: 8 positions
- 16: 16 positions

[2] I/O TYPE

- 1: Input
- 2: Output

[3] POWER INPUT

AC Power

K: 85 - 132 V AC (Operational voltage range 85 - 132 V, 47 - 66 Hz)

DC Power

R: 24 V DC

(Operational voltage range 24 V \pm 10 %, ripple 10 %p-p max.)

GENERAL SPECIFICATIONS

Capacity: 4, 8 or 16 positions

Protocol: CC-Link V1.10

Connection

Transmission: Terminal block

Field I/O: M3 screw terminals (torque 0.8 N·m)

Power input: M3 screw terminals (torque 0.8 N·m)

Cable for comm. link: Specified by Mitsubishi Electric; FANC-SB 0.5mm²×3

Screw terminal: Nickel-plated steel

Isolation: Field I/O to transmission to power

Station No. setting: Rotary switch; 00 - 63 (factory set to: 00)

Baud rate setting: Rotary switch

156 kbps (factory default), 625 kbps, 2.5 Mbps, 5 Mbps, 10 Mbps

Power indicator: Green LED turns on with power supplied.

L RUN indicator: Red LED turns on in a normal condition.

L ERR. indicator: Red LED turns on or flashes in an abnormality.

SD indicator: Red LED turns on when transmitting.

RD indicator: Red LED turns on when receiving.

Station type: Remote device station

Number of occupied stations:

M2BC-04 1 station

M2BC-08 2 stations

M2BC-16 4 stations

Remote I/O (RX, RY) is fixed to 32 points.

INPUT SPECIFICATIONS

Input modules: Mini-M series; output 1 - 5 V DC; (non-isolated types are not usable.)

■ ANALOG INPUT

Input range: See each I/O module spec.

Isolation: Transformer (by Mini-M module)

A/D conversion output: Signed binary

Signal range 0 - 100 % is converted into hexadecimal 0000 - 2710 (0 - 10000). -15 to 0 % is a negative range represented by 2's complements.

Overall range is represented by hexadecimal FA24 - 2CEC (-1500 - +11500), for -15 - +115 %.

■ A/D CONVERSION DATA

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RWr n+0	SIGN BIT			INPUT 1 A/D CONVERSION DATA												
RWr n+1	SIGN BIT			INPUT 2 A/D CONVERSION DATA												
RWr n+2	SIGN BIT			INPUT 3 A/D CONVERSION DATA												
RWr n+3	SIGN BIT			INPUT 4 A/D CONVERSION DATA												
⋮																
⋮																
RWr n+7	SIGN BIT			INPUT 8 A/D CONVERSION DATA												
⋮																
⋮																
RWr n+11	SIGN BIT			INPUT 12 A/D CONVERSION DATA												
⋮																
⋮																
RWr n+15	SIGN BIT			INPUT 16 A/D CONVERSION DATA												

RWr n+0 through RWr n+3 for 4 inputs.
 RWr n+0 through RWr n+7 for 8 inputs.
 RWr n+0 through RWr n+15 for 16 inputs.

■ D/A CONVERSION DATA

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RWw n+0	SIGN BIT			OUTPUT 1 D/A CONVERSION DATA												
RWw n+1	SIGN BIT			OUTPUT 2 D/A CONVERSION DATA												
RWw n+2	SIGN BIT			OUTPUT 3 D/A CONVERSION DATA												
RWw n+3	SIGN BIT			OUTPUT 4 D/A CONVERSION DATA												
⋮																
⋮																
RWw n+7	SIGN BIT			OUTPUT 8 D/A CONVERSION DATA												
⋮																
⋮																
RWw n+11	SIGN BIT			OUTPUT 12 D/A CONVERSION DATA												
⋮																
⋮																
RWw n+15	SIGN BIT			OUTPUT 16 D/A CONVERSION DATA												

RWw n+0 through RWw n+3 for 4 outputs.
 RWw n+0 through RWw n+7 for 8 outputs.
 RWw n+0 through RWw n+15 for 16 outputs.

OUTPUT SPECIFICATIONS

Output modules: Model M2VS; input 1 - 5 V DC

■ ANALOG OUTPUT

Output range: See model M2VS spec.

Isolation: Transformer

D/A conversion output: Signed binary

Signal range 0 - 100 % is converted into hexadecimal 0000 - 2710 (0 - 10000). -15 to 0 % is a negative range represented by 2's complements.

Overall range is represented by hexadecimal FA24 - 2CEC (-1500 - +11500), for -15 - +115 %.

INSTALLATION

• AC Power input:

Power Consumption:

approx. 6 VA without I/O module
 approx. 30 VA with 4 modules (M2DY)
 approx. 50 VA with 8 modules
 approx. 90 VA with 16 modules

• DC Power input

Current consumption:

approx. 0.25 A without I/O module
 approx. 1 A with 4 modules (M2DY)
 approx. 1.5 A with 8 modules
 approx. 2.5 A with 16 modules

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: Surface

Weight: Without I/O module

M2BC-04 1.2 kg (2.6 lbs)

M2BC-08 1.5 kg (3.3 lbs)

M2BC-16 2 kg (4.4 lbs)

PERFORMANCE in percentage of span

A/D conversion: Accuracy of input module $\pm 0.1\%$

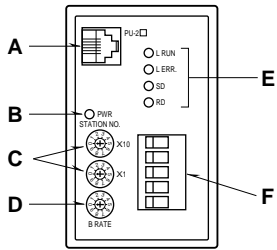
D/A conversion: Accuracy of M2VS $\pm 0.1\%$

Power loss time: ≤ 10 msec.

Insulation resistance: ≥ 100 M Ω with 500V DC

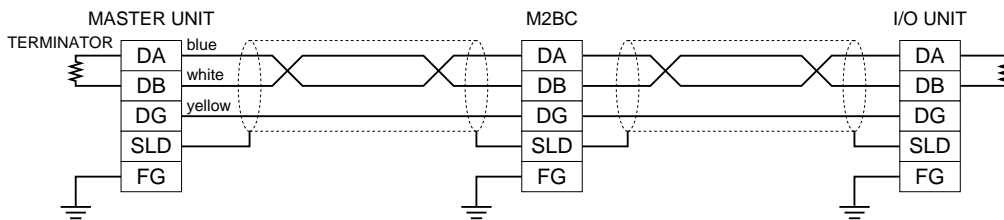
Dielectric strength: 1000 V AC @1 minute (power to I/O module to communication module)

COMM. MODULE FRONT PANEL



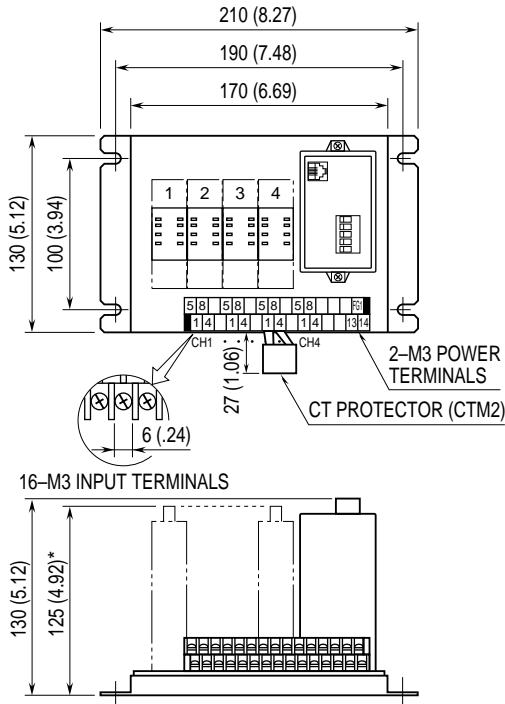
- A: PU-2x modular jack (Connecting with the programming unit)
- B: Power LED
- C: Station No. Setting
- D: Baud rate Setting
- E: Status indicator LED
- F: Terminal block for wiring to CC-Link

COMMUNICATION CABLE CONNECTIONS



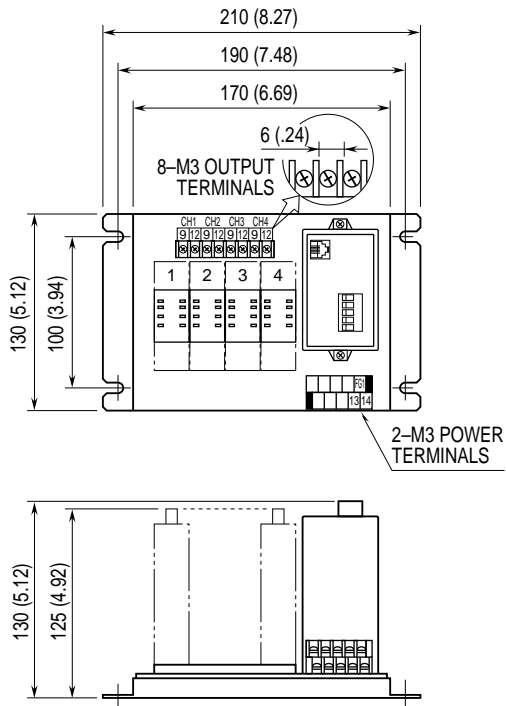
DIMENSIONS unit: mm (inch)

■ M2BC-041 (INPUT BASE)

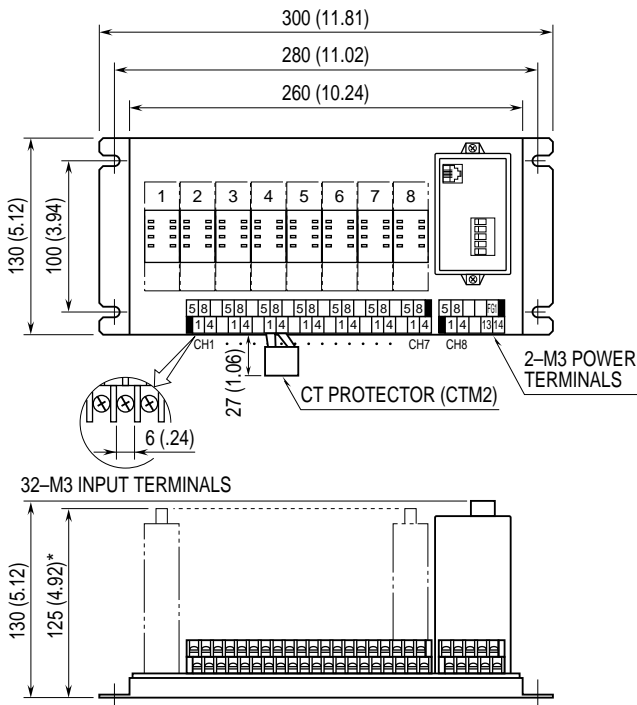


*165 (6.50) required for pneumatic tubing for M2PV.

■ M2BC-042 (OUTPUT BASE)

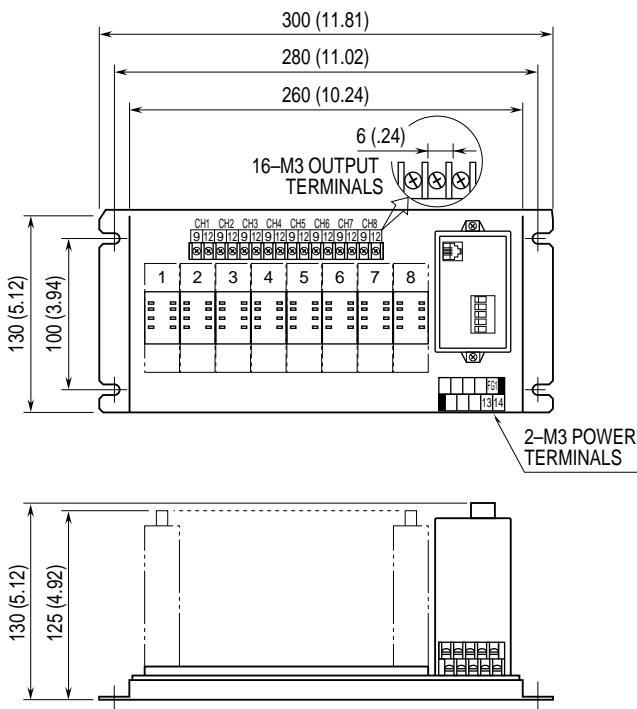


■ M2BC-081 (INPUT BASE)

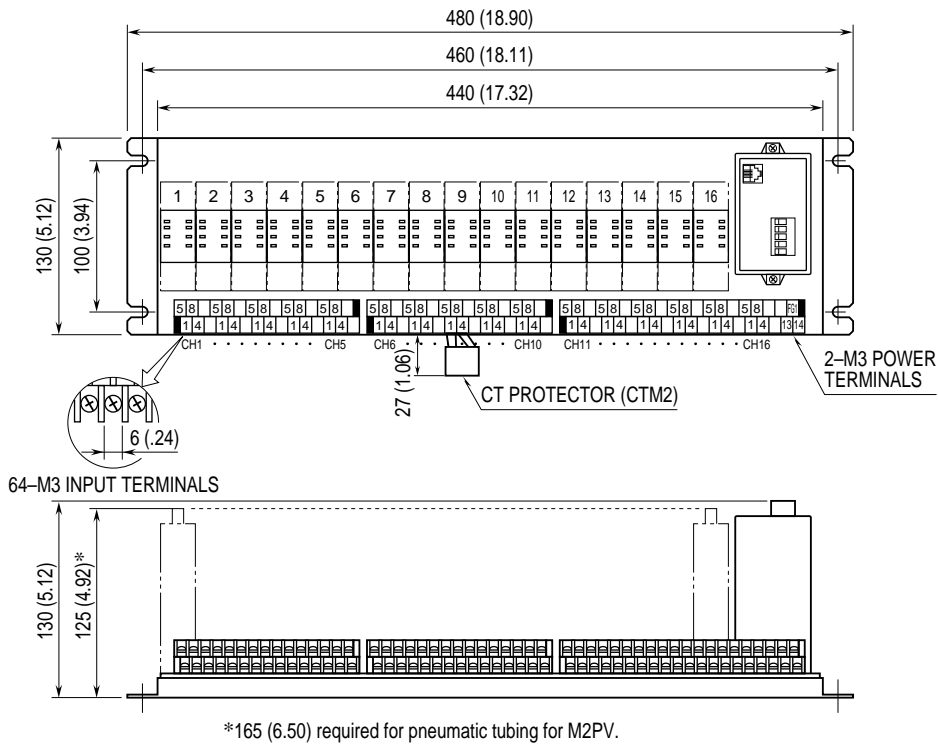


*165 (6.50) required for pneumatic tubing for M2PV.

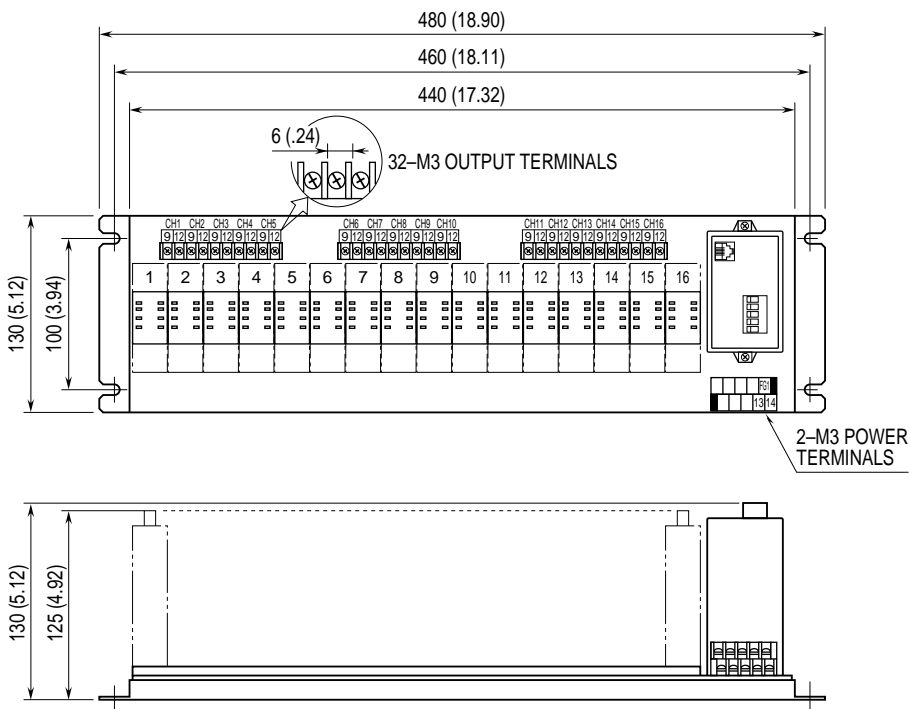
■ M2BC-082 (OUTPUT BASE)



■ M2BC-161 (INPUT BASE)

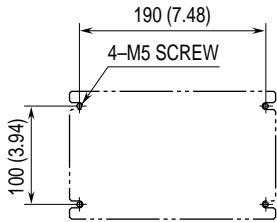


■ M2BC-162 (OUTPUT BASE)

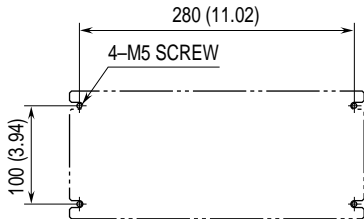


MOUNTING REQUIREMENTS unit: mm (inch)

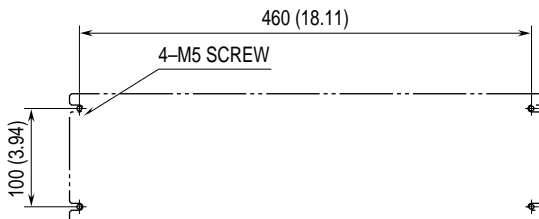
■ M2BC-04



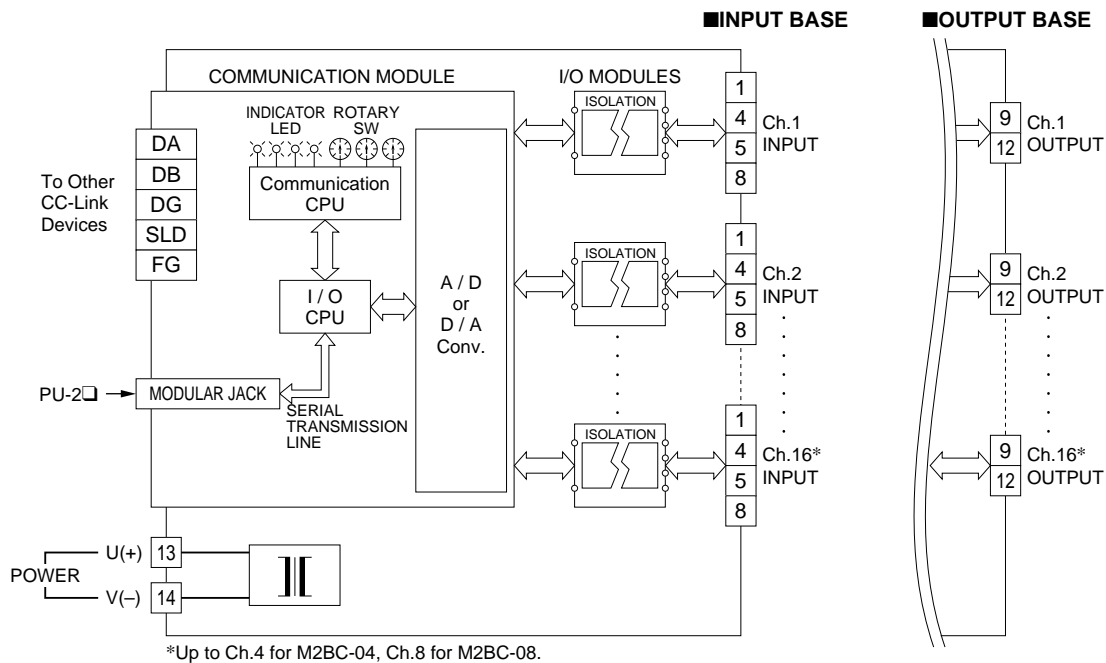
■ M2BC-08



■ M2BC-16



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM





Specifications are subject to change without notice.