

# MC Series e-con Mounted Branch Board

## User's Guide



Thank you for purchasing product of SAMWON ACT.  
Please check model of product that you purchase first, and read this manual prior to use it.

### ● Caution for Safety

**⚠ Caution** Case that results in serious damage in human body or equipment, and fire if user handles this equipment wrongly

**⚠ Warning** Case that results in slight damage in human body or equipment, and fire if user handles this equipment wrongly

### ⚠ Caution

- When machining and wiring the mounting hole, do not allow foreign matter such as dust or wire covering to enter the connection terminal. Failure to do so may result in damage to the unit, heat, or ignition.
- Be sure to shut off the power supply from the outside before mounting and wiring.
- Check COMMON polarity of using controller (PLC, etc) first, and then select proper product.  
It may be the cause of fire or damage of this equipment and user's.
  - COMMON Polarity of controller is '+' (NPN TYPE) : MC-T04NL-3, MC-T08NL-3, MC-08NL-3, MC-08ND-3
  - COMMON Polarity of controller is '-' (PNP TYPE) : MC-T04PL-3, MC-T08PL-3, MC-08PL-3, MC-08PD-3
  - Non-polar : MC-T04D-3, MC-T08D-3

※ The connection cable for PLC of various makers is provided by us. Please refer to the catalogue or contact Head or branch office if you need more detail models and specifications.

### ⚠ Warning

- Use within the specified rated voltage and rated current range.  
This may result in fire or damage to the product.
- Read this user's guide which is attached to product, and check product's performance, specification, operation pattern, signal, and how to handle prior to use. Keep user's guide please.
- Please make sure to check the internal wiring diagram of our products and the arrangement of the controller PIN (terminal) when making the connection cable between the controller (PLC etc.).  
It may be the cause of malfunction or damage of this equipment and user's.

### ● Model Selection

Model		IO Point(s)	Common	IO Mounted connector Model	IO Cable connector Model	Distrivute e-con Model	Dimensions (W × D mm)	Mounting method
Standard type	No LED for checking							
MC-T04NL-3	MC-T04D-3 (Non-polar)	4 Point	NPN	Terminal bolck 6pole		3P Female × 4	49.0 × 48.0	Screw mounting/ DIN Rail (Channel)
MC-T04PL-3			PNP					
MC-T08NL-3	MC-T08D-3 (Non-polar)	8 Point	NPN	Terminal bolck 8pole		3P Female × 8	77.0 × 48.0	
MC-T08PL-3			PNP					
MC-08NL-3	MC-08ND-3	8 Point	NPN	HIF3BA-20PA-2.54DSA	HIF3BA-20D-2.54R	3P Female × 8	58.0 × 64.0	
MC-08PL-3	MC-08PD-3		PNP					

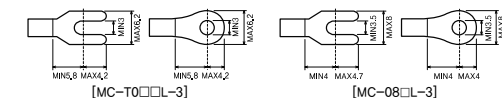
### ● Rating/Specification

Rated voltage	12~24V DC
Rated current	1A
Insulation resistance	100MΩ or above (DC500V)
Dielectric strength	AC500V 1min
Applicable wire	AWG22~16 (1.5mm <sup>2</sup> / MAX)
Screw torque	7~8kgf * cm (0.68~0.78 N * m)
Ambient temperature	-10℃ ~ +50℃ (No condensation)

### ● Material

e-con	66Nylon
Case	Modified PPO
P.C.B	Epoxy 1.6t

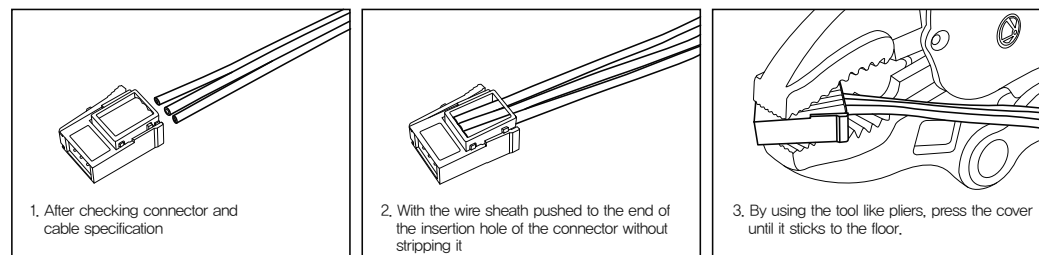
### ● Applicable Crimp Terminal



### ● e-con Plug Connector Applicable Specification (Separate product)

Body color	Cover color	Plug Connector Product No. (3Pin)	AWG No.	Wire Cross-section mm SQ.	Wire Insulation Outer-diameter mm
Gray	Violet	EC-3P68VT	26-28	0.08-0.13mm <sup>2</sup>	0.6-0.8
	Red	EC-3P68RD			0.8-1.0
Black	Violet	EC-3P46VT	24-26	0.13 - 0.21mm <sup>2</sup>	0.6-0.8
	Red	EC-3P46RD			0.8 - 1.0
	Yellow	EC-3P46YE			1.0 - 1.2
	Orange	EC-3P46OG	20-22	0.32 - 0.5mm <sup>2</sup>	1.2 - 1.6
	Green	EC-3P02GN			1.0 - 1.2
	Blue	EC-3P02BU			1.2 - 1.6
	Gray	EC-3P02GY			1.6 - 2.0

### ● Pressure Connection Method of Plug connector



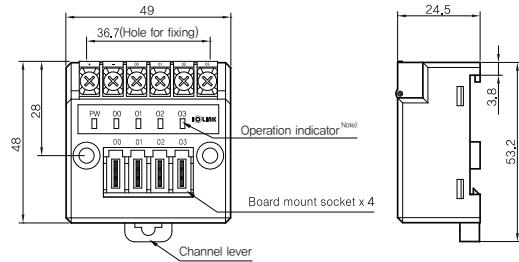
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#### Major products

- Relay terminal 1, 2, 4, 6, 8, 16, 32point
- Interface terminal 20, 24, 26, 34, 40, 50, 57, 40 x 2pole
- PLC I/O Connecting cables MITSUBISHI, LSIS, CIMON, OMRON, FUJI, YOKOGAWA, HITACHI, SIEMENS, AB, etc.
- Servo Connecting cables Encoder cable, Power cable, Motion cable / MITSUBISHI, YASKAWA, OMRON, PANASONIC, LSIS, SAMSUNG, etc.
- Wiring harness / Special cable assembly

## ● Dimension

- ▶ MC-T04□L-3
- MC-T04D-3

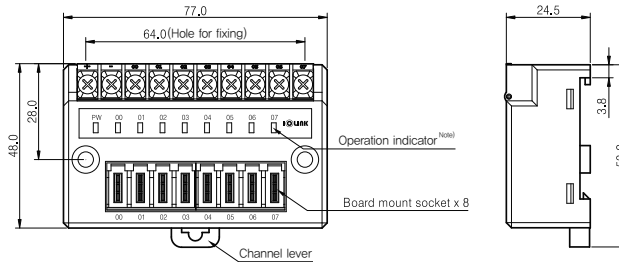


(Front display of MC-T04D-3)

Note) MC-T04D-3 does not have a motion indicator lamp.

## ● Dimension

- ▶ MC-T08□L-3
- MC-T08D-3

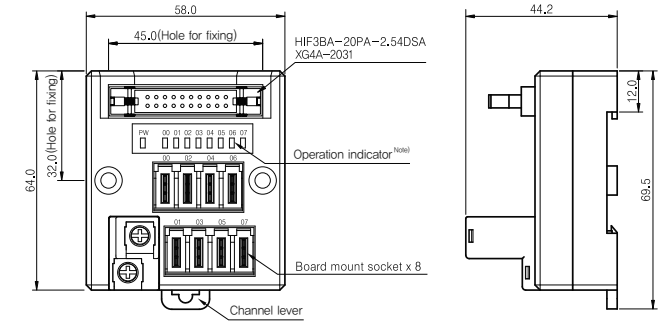


(Front display of MC-T08D-3)

Note) MC-T08D-3 does not have a motion indicator lamp.

## ● Dimension

- ▶ MC-08□L-3
- MC-08□D-3

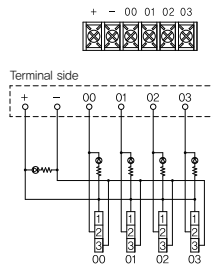


(Front display of MC-08□D-3)

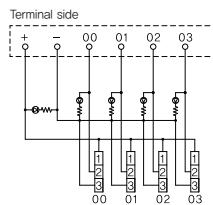
Note) MC-08□D-3 does not have a motion indicator lamp.

## ● Diagram

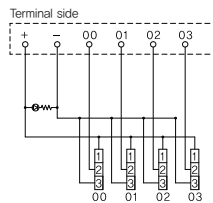
- ▶ MC-T04NL-3 (COM)



- ▶ MC-T04PL-3 (COM)

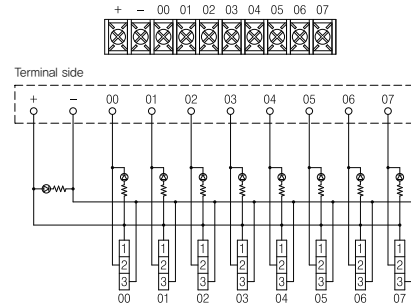


- ▶ MC-T04D-3 (Non-polar)

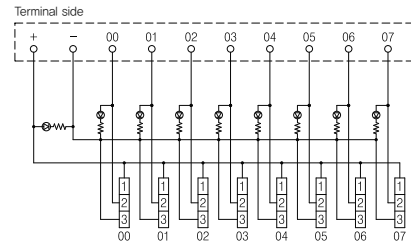


## ● Diagram

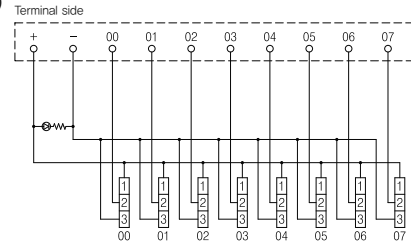
- ▶ MC-T08NL-3 (COM)



- ▶ MC-T08PL-3 (COM)

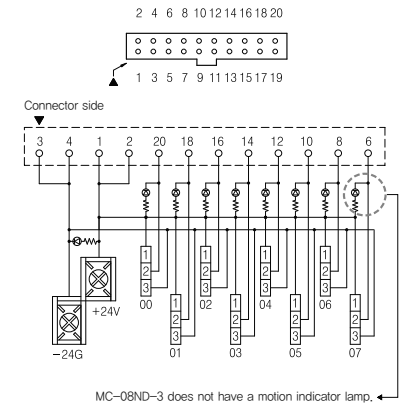


- ▶ MC-T08D-3 (Non-polar)

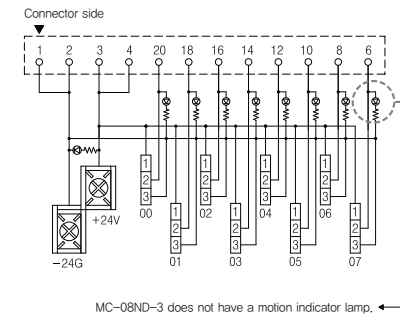


## ● Diagram

- ▶ MC-08NL-3 (COM)
- MC-08ND-3

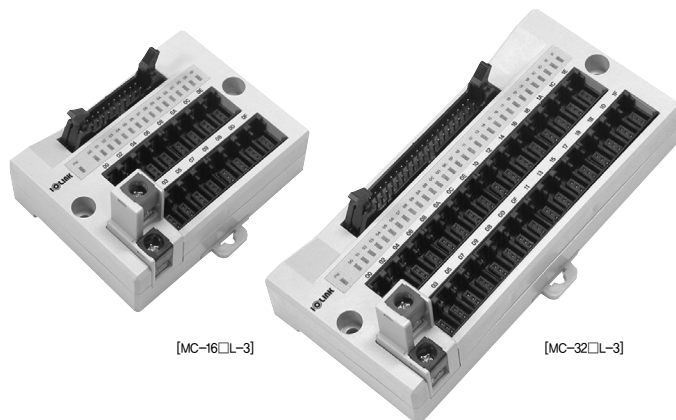


- ▶ MC-08PL-3 (COM)
- MC-08PD-3



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  - COMMON Polarity of controller is '-' (PNP TYPE) : MC-16PL-3, MC-16PD-3, MC-32PL-3, MC-32PD-3

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### ● Model Selection

Model		IO Point(s)	Common	IO Mounted connector Model	IO Cable connector Model	Distrivute e-con Model	Dimensions (W × D mm)	Mounting method
Standard type	No LED for checking							
MC-16NL-3	MC-16ND-3	16 Point	NPN	HIF3BA-20PA-2.54DSA	HIF3BA-20D-2.54R	3P Female × 16	84.0 × 64.0	Screw mounting/ DIN Rail (Channel)
MC-16PL-3	MC-16PD-3		PNP					
MC-32NL-3	MC-32ND-3	32 Point	NPN	HIF3BA-40PA-2.54DSA	HIF3BA-40D-2.54R	3P Female × 32	136.0 × 64.0	
MC-32PL-3	MC-32PD-3		PNP					

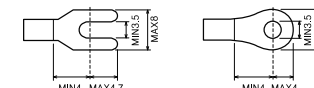
### ● Rating/Specification

Rated voltage	12~24V DC
Rated current	1A
Insulation resistance	100MΩ or above (DC500V)
Dielectric strength	AC500V 1min
Applicable wire	AWG22~16 (1.5mm <sup>2</sup> / MAX)
Screw torque	0.8N · m (8kgf · cm)
Ambient temperature	-10℃ ~ +50℃ (No condensation)

### ● Material

e-con	66Nylon
Case	Modified PPO
P.C.B	Epoxy 1.6t

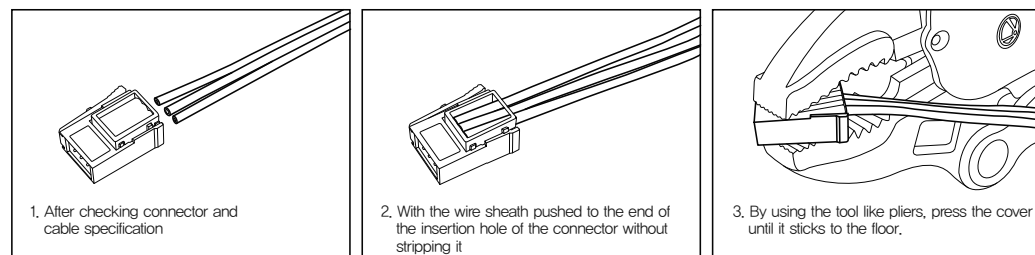
### ● Applicable Crimp Terminal



### ● e-CON Plug Connector Applicable Specification (Separate product)

Body color	Cover color	Plug Connector Product No. (3Pin)	AWG No.	Wire Cross-section mm SQ.	Wire Insulation Outer-diameter mm
Gray	Violet	EC-3P68VT	26-28	0.08-0.13mm <sup>2</sup>	0.6-0.8
	Red	EC-3P68RD			0.8-1.0
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	Red	EC-3P46RD			0.8 - 1.0
	Yellow	EC-3P46YE			1.0 - 1.2
	Orange	EC-3P46OG	20-22	0.32 - 0.5mm <sup>2</sup>	1.2 - 1.6
	Green	EC-3P02GN			1.0 - 1.2
	Blue	EC-3P02BU			1.2 - 1.6
	Gray	EC-3P02GY			1.6 - 2.0

### ● Pressure Connection Method of Plug connector



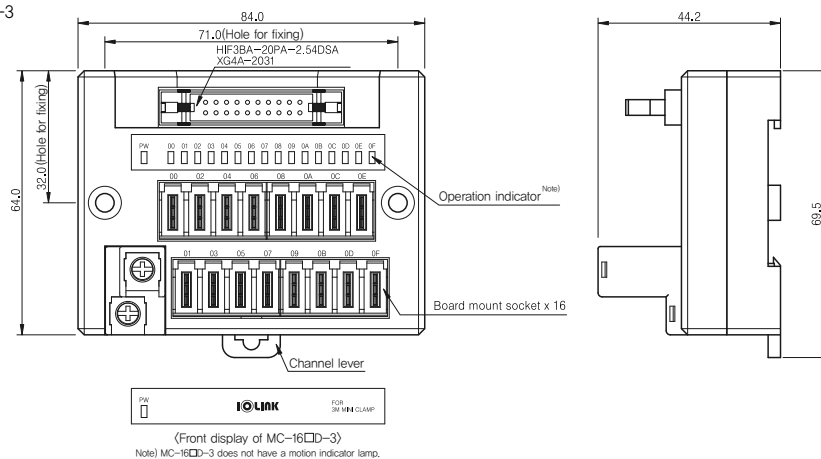
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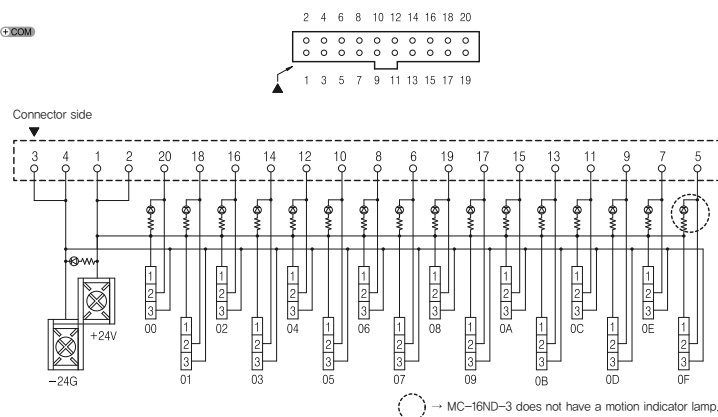
## ● Dimension

- ▶ MC-16□L-3
- MC-16□D-3

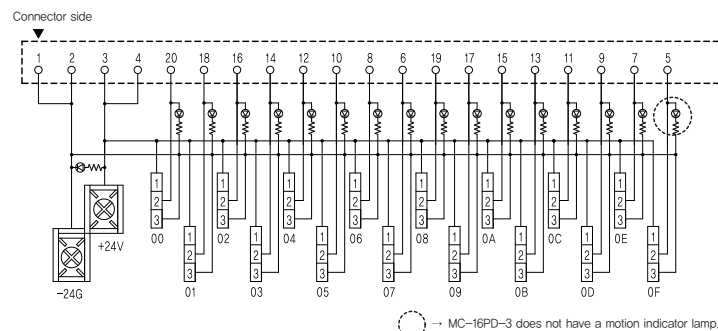


## ● Diagram

- ▶ MC-16NL-3
- MC-16ND-3

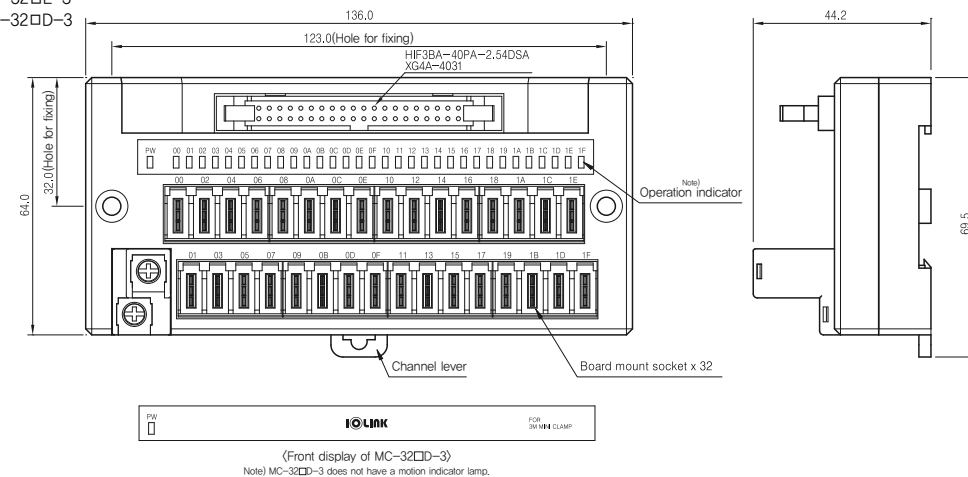


- ▶ MC-16PL-3
- MC-16PD-3



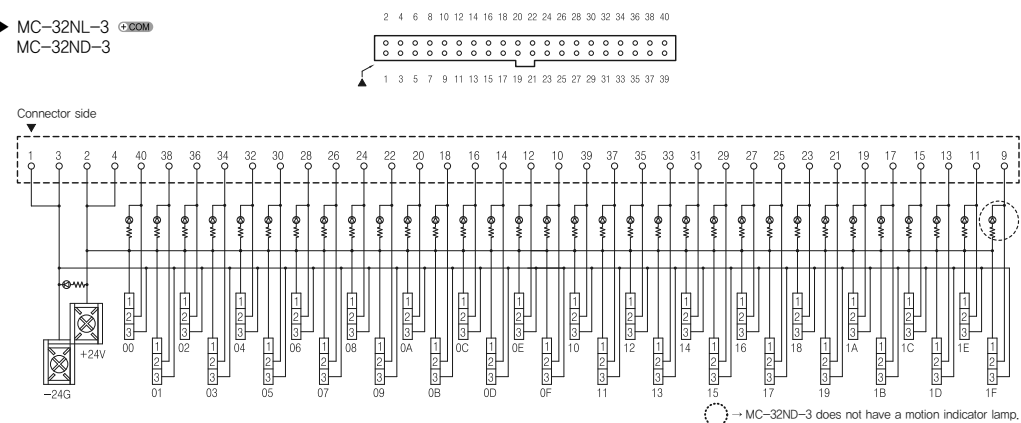
## ● Dimension

- ▶ MC-32□L-3
- MC-32□D-3

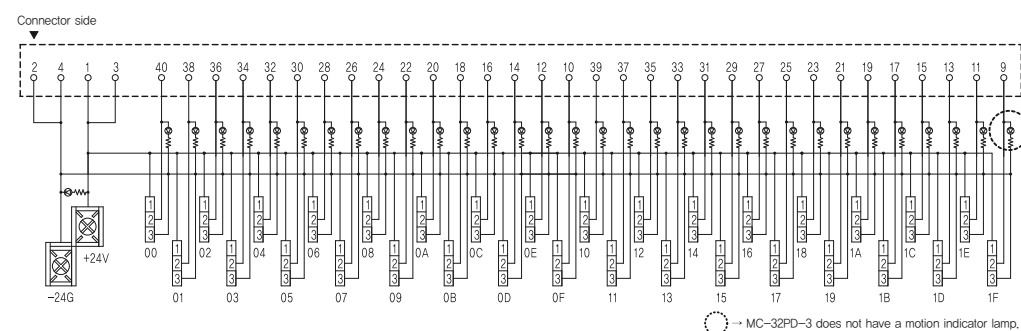


## ● Diagram

- ▶ MC-32NL-3
- MC-32ND-3



- ▶ MC-32PL-3
- MC-32PD-3



# MC Series e-CON Mounted Branch Board

## User's Guide



[MC-T12NL-3]



[MC-T16NL-3]

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  - COMMON Polarity of controller is '-' (PNP TYPE) : MC-T12PL-3 , MC-T16PL-3
  - Non-polar : MC-T12D-3 , MC-T16D-3

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### ● Model Selection

Model		IO Point(s)	Common	IO Mounted connector Model	IO Cable connector Model	Distrivute e-con Model	Dimensions (W * D mm)	Mounting method
Standard type	No LED for checking							
MC-T12NL-3	MC-T12D-3	12 Point	NPN	Terminal bolck 14pole		3P Female * 12	105.0 * 48.0	Screw mounting/ DIN Rail (Channel)
MC-T12PL-3			PNP					
MC-T16NL-3	MC-T16D-3	16 Point	NPN	Terminal bolck 18pole		3P Female * 16	133.0 * 48.0	
MC-T16PL-3			PNP					

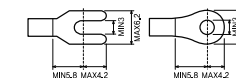
### ● Rating/Specification

Rated voltage	12~24V DC
Rated current	1A
Insulation resistance	100MΩ or above (DC500V)
Dielectric strength	AC500V 1min
Applicable wire	AWG22~16 (1.5mm <sup>2</sup> / MAX)
Screw torque	7~8Kgf · cm(0.68~0.78N · m)
Ambient temperature	-10℃ ~ +50℃ (No condensation)

### ● Material

e-con	66Nylon
Case	Modified PPO
P.C.B	Epoxy 1.6t

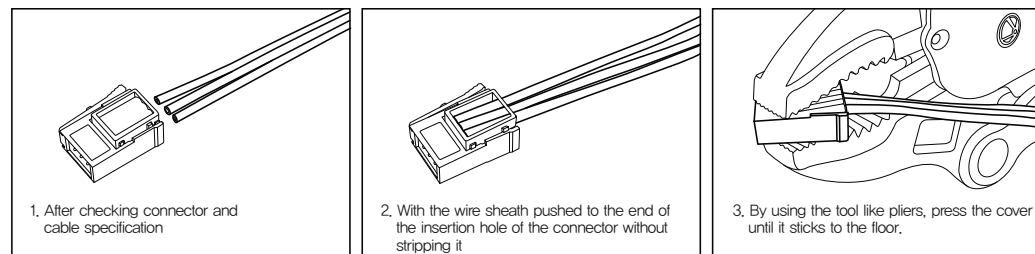
### ● Applicable Crimp Terminal



### ● e-CON Plug Connector Applicable Specification (Separate product)

Body color	Cover color	Plug Connector Product No. (3Pin)	AWG No.	Wire Cross-section mm SQ.	Wire Insulation Outer-diameter mm
Gray	Violet	EC-3P68VT	26-28	0.08-0.13mm <sup>2</sup>	0.6-0.8
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	Red	EC-3P46RD			0.8 - 1.0
	Yellow	EC-3P46YE			1.0 - 1.2
	Orange	EC-3P46OG	20-22	0.32 - 0.5mm <sup>2</sup>	1.2 - 1.6
	Green	EC-3P02GN			1.0 - 1.2
	Blue	EC-3P02BU			1.2 - 1.6
	Gray	EC-3P02GY			1.6 - 2.0

### ● Pressure Connection Method of Plug connector



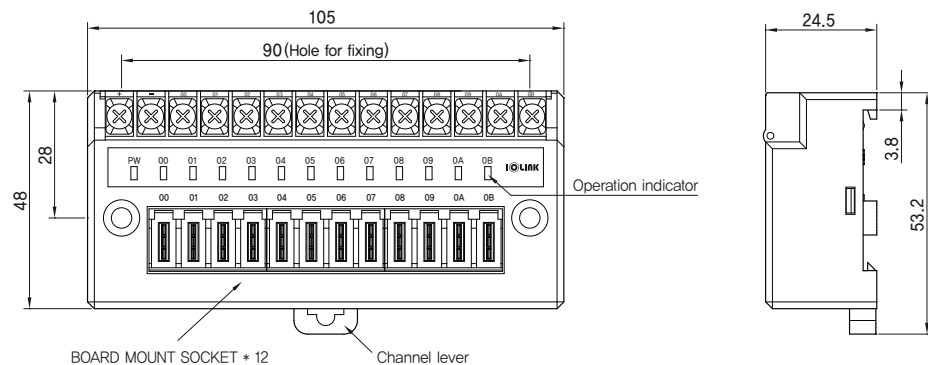
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- Wiring harness / Special cable assembly

## ● Dimension

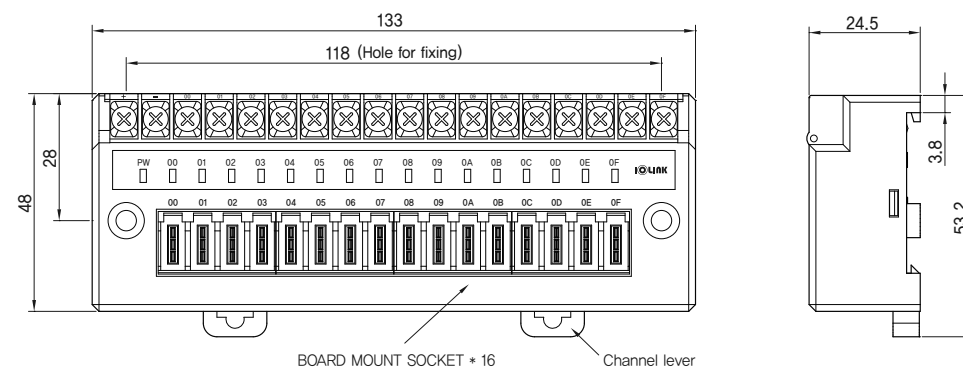
- ▶ MC-T12□L-3  
MC-T12D-3



〈Front display of MC-T12D-3〉

## ● Dimension

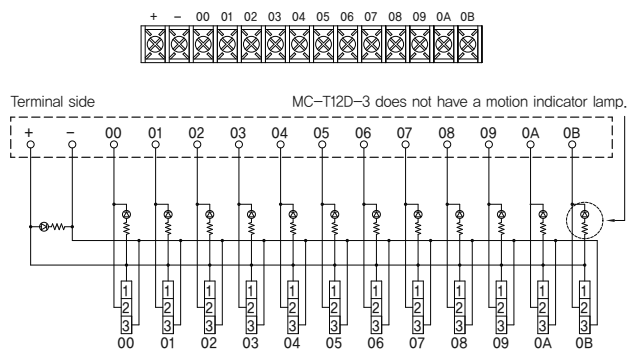
- ▶ MC-T16□L-3  
MC-T16D-3



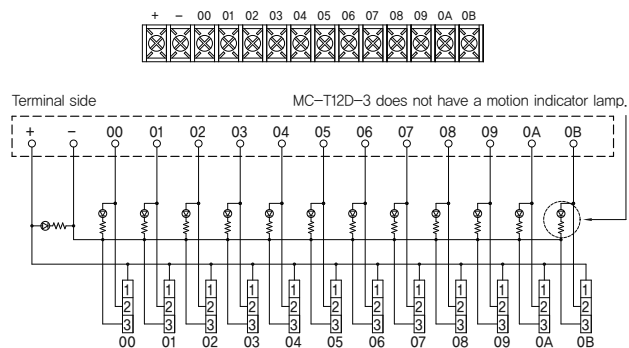
〈Front display of MC-T16D-3〉

## ● Diagram

- ▶ MC-T12NL-3  
MC-T12D-3

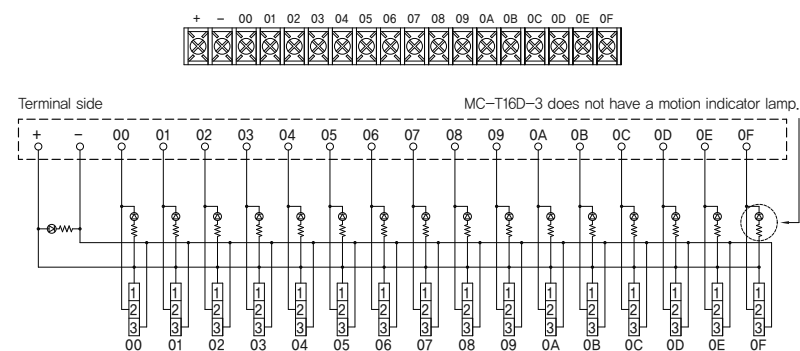


- ▶ MC-T12PL-3  
MC-T12D-3



## ● Diagram

- ▶ MC-T16NL-3  
MC-T16D-3



- ▶ MC-T16PL-3  
MC-T16D-3

