## INSTRUCTION MANUAL

# NPN TRANSISTOR OUTPUT EXTENSION MODULE, 16 points (MECHATROLINK-I / -II)

MODEL R7ML-EC16A

## **BEFORE USE ....**

Thank you for choosing M-System. Before use, please check contents of the package you received as outlined below. If you have any problems or questions with the product, please contact M-System's Sales Office or representatives.

#### **■ PACKAGE INCLUDES:**

Discrete output extension module.....(1)

#### ■ MODEL NO.

Confirm Model No. marking on the product to be exactly what you ordered.

#### **■INSTRUCTION MANUAL**

This manual describes necessary points of caution when you use this product, including installation, connection and basic maintenance procedures.

## **POINTS OF CAUTION**

#### **■ POWER INPUT RATING & OPERATIONAL RANGE**

· Locate the power input rating marked on the product and confirm its operational range as indicated below: 24V DC rating: 24V ±10%, approx. 30mA

#### **■ GENERAL PRECAUTIONS**

• Before you remove the unit or mount it, turn off the power supply and input signal for safety.

#### **■** ENVIRONMENT

- Indoor use.
- When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
- Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
- Environmental temperature must be within 0 to 55°C (32 to  $131^{\circ}F$ ) with relative humidity within 30 to 90% RH in order to ensure adequate life span and operation.

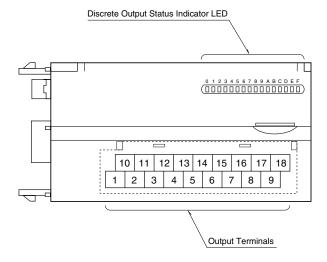
#### **■ WIRING**

- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.

#### ■ AND ....

• The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

## **COMPONENT IDENTIFICATION**



#### **■ DISCRETE OUTPUT STATUS INDICATOR LED**

Discrete output modules including those for extensions have LED indicators showing output signal status.

Contact ON: LED ON Contact OFF: LED OFF

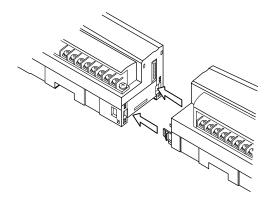
#### **■ OUTPUT TERMINAL ASSIGNMENT**

10			11		12		13		14		15		16		17		18	
	+2	4V	Y	1	Υ	3	Y	5	Y	7	Υ	9	Υ	В	Y	D	Y	F
1		2		3		4		5		6		7		8		9		
0V		Y0		Y	2	Y4		Y6		Y8		YA		YC		YE		

NO.	D. ID FUNCTION		NO.	ID	FUNTION				
1	0V	0V (Common)	10	+24V	24V DC				
2	Y0	Output 0	11	Y1	Output 1				
3	Y2	Output 2	12	Y3	Output 3				
4	Y4	Output 4	13	Y5	Output 5				
5	Y6	Output 6	14	Y7	Output 7				
6	Y8	Output 8	15	Y9	Output 9				
7	YA	Output 10	16	YB	Output 11				
8	YC	Output 12	17	YD	Output 13				
9	YE	Output 14	18	YF	Output 15				

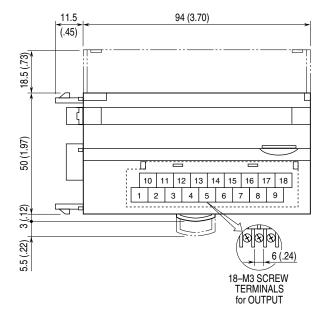
# **CONNECTING THE EXTENSION MODULE**

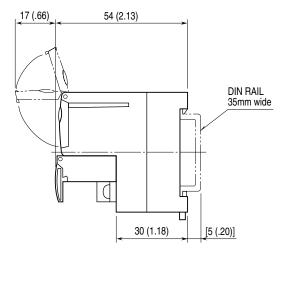
- 1) Remove the extension connector cover located at the side of the basic module.
- 2) Connect the extension module.



3) Mount the combined module on a DIN rail.

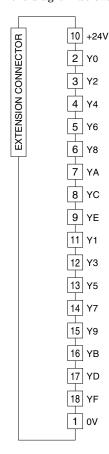
# **EXTERNAL DIMENSIONS** unit: mm (inch)



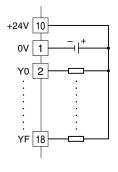


# **CONNECTION DIAGRAM**

Connect the unit as in the diagram below.



#### **■** Output Connection Example



## WIRING INSTRUCTIONS

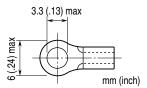
#### ■ SCREW TERMINAL

Torque: 0.5 N·m

#### ■ SOLDERLESS TERMINAL mm (inch)

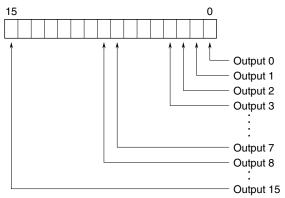
Refer to the drawing below for recommended ring tongue terminal size. Spade tongue type is also applicable. Solderless terminal:

Applicable wire size: 0.25 to 1.65 mm<sup>2</sup> (AWG 22 to 16) Recommended manufacturer: Japan Solderless Terminal MFG. Co., Ltd, Nichifu Co., Ltd



# I/O DATA DESCRIPTION

#### **■ DISCRETE OUTPUT**



0:OFF 1:ON