

**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 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****■ 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 -10 to +55°C (14 to 131°F) with relative humidity within 30 to 90% RH in order to ensure adequate life span and operation.

**■ WIRING**

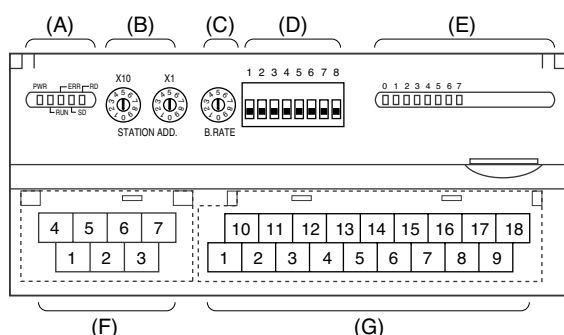
- Do not install cables (power supply, input and output) close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.

**■ AND ....**

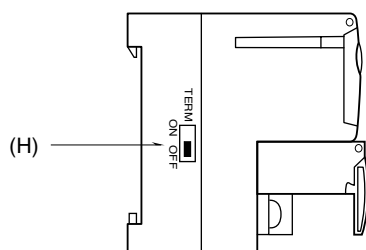
The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

## COMPONENT IDENTIFICATION

### FRONT VIEW



### SIDE VIEW



- (A) Status Indicator LED \*1  
 (B) Station Address Setting Rotary SW  
 (C) Baud Rate Setting Rotary SW  
 (D) Operating Mode Setting DIP SW (SW1)  
 (E) Discrete I/O Status Indicator LED  
 (F) CC-Link, Power Supply Terminals  
 (G) Output Terminals  
 (H) Terminating Resistor SW

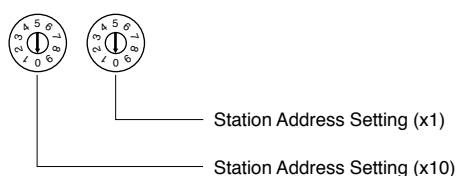
\*1. Refer to 'Status Indicator LED' section for detailed information.

### STATUS INDICATOR LED

ID	COLOR	FUNCTION
PWR	Red	Turns on when the internal 5V is supplied normally.
RUN	Red	Turns on when the refresh data is received normally.
ERR	Red	Turns on when the received data is abnormal.
SD	Red	Turns on when the module is transmitting.
RD	Red	Turns on when the module is receiving.

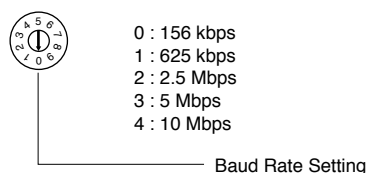
### STATION ADDRESS

Station Address is selected between 1 and 64 in decimal. The left switch determines the tenth place digit, while the right switch does the ones place digit of the address.



### BAUD RATE

Baud Rate is selected with the rotary switch.



### OPERATING MODE

#### Extension (SW1-1, 1-2, 1-3, 1-4)

SW1-1	SW1-2	SW1-3	SW1-4	Extension
OFF	ON	OFF	OFF	No extension (*)
OFF	ON	OFF	ON	Discrete output, 16 points

#### Output at the loss of communication (SW1-5)

SW1-5	Output at the loss of communication
OFF	Reset the output (turned off)
ON	Hold the output (*) (maintains the last data received normally)

(\*) Factory setting

Caution ! - SW 1-6 through 1-8 are unused. Be sure to turn off unused ones.

### POWER SUPPLY, CC-LINK TERMINAL ASSIGNMENT

4 DA	5 DG	6 +24V	7 0V
1 DB	2 SLD	3 FG	

NO.	ID	FUNCTION, NOTES
1	DB	White
2	SLD	Shield
3	FG	FG
4	DA	Blue
5	DG	Yellow
6	+24V	Power input (24V DC)
7	0V	Power input (0V)

### OUTPUT TERMINAL ASSIGNMENT

10 +24V	11 Y0	12 Y1	13 Y2	14 Y3	15 Y4	16 Y5	17 Y6	18 Y7
1 0V	2 COM0	3 COM0	4 COM0	5 COM0	6 COM1	7 COM1	8 COM1	9 COM1

NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	0V	0V	10	+24V	24V DC
2	COM0	Common 0	11	Y0	Output 0
3	COM0	Common 0	12	Y1	Output 1
4	COM0	Common 0	13	Y2	Output 2
5	COM0	Common 0	14	Y3	Output 3
6	COM1	Common 1	15	Y4	Output 4
7	COM1	Common 1	16	Y5	Output 5
8	COM1	Common 1	17	Y6	Output 6
9	COM1	Common 1	18	Y7	Output 7

### TERMINATING RESISTOR

To use the terminating resistor, turn the switch ON, and OFF to invalidate. (Factory setting OFF)

## INDICATOR LED

### ■ STATUS INDICATOR LED

PWR	RUN	ERR	SD	RD	STATUS
ON	ON	FL	FL	ON	Communicates normally with occasional CRC errors due to noise interference.
ON	ON	FL	FL	ON	Communicates normally but the Baud Rate and/or Station Address switches failed. ERR LED flashes approximately in 0.5 second intervals.
ON	ON	FL	FL	OFF	----
ON	ON	FL	OFF	ON	CRC error found in the received data. Unable to respond.
ON	ON	FL	OFF	OFF	----
ON	ON	OFF	FL	ON	Normal communication
ON	ON	OFF	FL	OFF	----
ON	ON	OFF	OFF	ON	Unable to receive data addressed to the station.
ON	ON	OFF	OFF	OFF	----
ON	OFF	FL	FL	ON	Performs the interval-timed responses but CRC error found in receiving the refresh data.
ON	OFF	FL	FL	OFF	----
ON	OFF	FL	OFF	ON	CRC error found in the data addressed to the station.
ON	OFF	FL	OFF	OFF	----
ON	OFF	OFF	FL	ON	Link is not started.
ON	OFF	OFF	FL	OFF	----
ON	OFF	OFF	OFF	ON	No data addressed to the station. Or unable to receive data addressed to the station due to noise interference. (Missing parts of the data sent from the master)
ON	OFF	OFF	OFF	OFF	Unable to receive data due to wire breakdown
ON	OFF	ON	OFF	ON/OFF	Faulty Baud Rate and/or Station Address setting
OFF	OFF	OFF	OFF	OFF	Power input removed. Or power supply failure.

OFF = OFF, ON = ON, FL = Flashing

---- = Inconceivable in normal operations (e.g. LED failure)

### ■ DISCRETE I/O STATUS INDICATOR LED

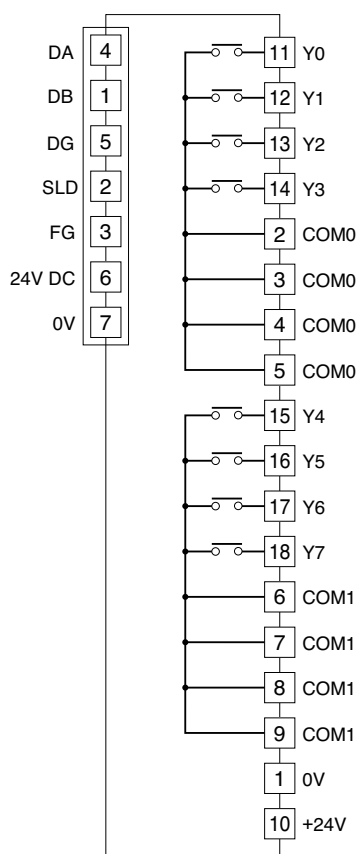
Discrete I/O modules including those for extensions have LED indicators showing I/O signal status.

Contact ON : LED ON

Contact OFF : LED OFF

## CONNECTION DIAGRAM

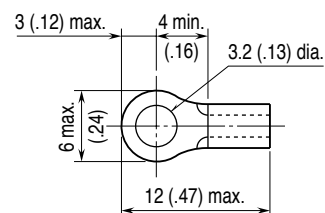
Connect the unit as in the diagram below.



## WIRING INSTRUCTIONS

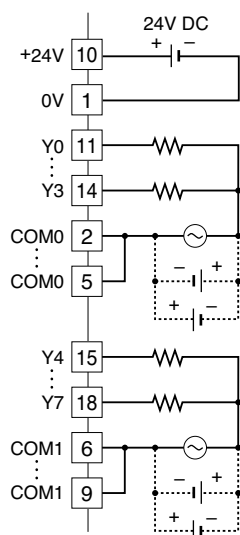
### ■ SOLDERLESS TERMINAL mm (inch)

Refer to the drawing below for recommended ring tongue terminal size. Spade tongue type is also applicable. Solderless terminals with insulation sleeve do not fit. Applicable wire size: 0.3 – 0.75 mm<sup>2</sup>

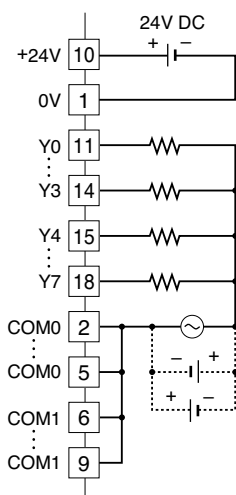


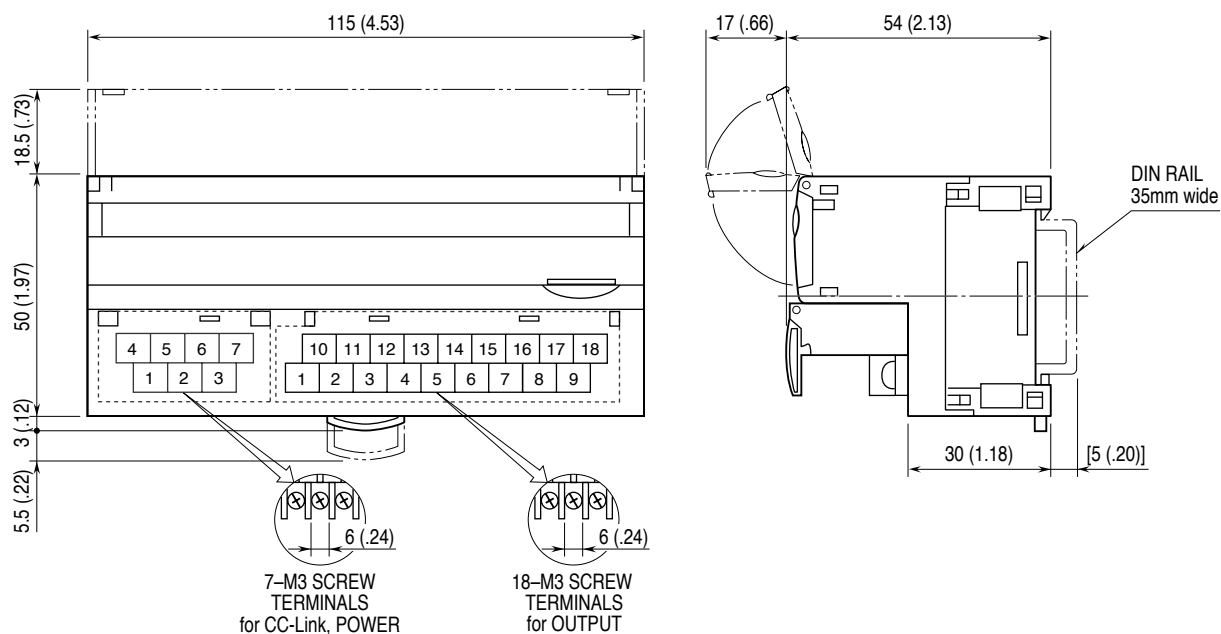
### ■ Output Connection Example

4 points / common



8 points / common



**EXTERNAL DIMENSIONS** unit: mm (inch)**M-SYSTEM WARRANTY**

M-System warrants such new M-System product which it manufactures to be free from defects in materials and workmanship during the 36-month period following the date that such product was originally purchased if such product has been used under normal operating conditions and properly maintained, M-System's sole liability, and purchaser's exclusive remedies, under this warranty are, at M-System's option, the repair, replacement or refund of the purchase price of any M-System product which is defective under the terms of this warranty. To submit a claim under this warranty, the purchaser must return, at its expense, the defective M-System product to the below address together with a copy of its original sales invoice.

THIS IS THE ONLY WARRANTY APPLICABLE TO M-SYSTEM PRODUCT AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. M-SYSTEM SHALL HAVE NO LIABILITY FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES OF ANY KIND WHATSOEVER.

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