

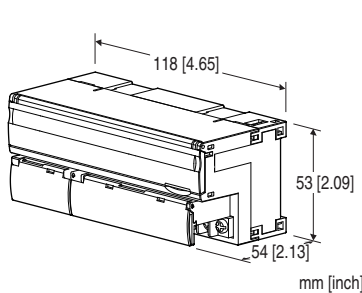
## Remote I/O R7 Series

### MECHATROLINK I/O MODULE

(strain gauge input, 2 points, isolated, with monitor output, MECHATROLINK-I / -II use)

#### Functions & Features

- 2 points strain gauge input for MECHATROLINK -I/ -II
- Extension module can be connected
- Individual channels, zero adjustment, span adjustment, and scaling can be set with the configurator software (model: R7CON)



### MODEL: R7ML-LC2-R[1]

#### ORDERING INFORMATION

- Code number: R7ML-LC2-R[1]  
Specify a code from below for [1].  
(e.g. R7ML-LC2-R/R20/F2K/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

#### I/O TYPE

LC2: Strain gauge input, 2 points (with monitor output)

#### POWER INPUT

##### DC Power

R: 24 V DC

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

#### [1] OPTIONS (multiple selections)

##### Input Range

(be sure to specify)

/R20: -2 - +2 mV/V

/R10: -1 - +1 mV/V

/R05: -0.5 - +0.5 mV/V

##### CR Filter

(be sure to specify)

/F2K: 2 kHz/2 Hz

/F1: 1 Hz/2 Hz

#### Other Options

blank: none

/Q: Option other than the above (specify the specification)

#### SPECIFICATIONS OF OPTION: Q

##### COATING (For the detail, refer to our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

#### RELATED PRODUCTS

- PC Configurator cable (model: MCN-CON or COP-US)
- PC configurator software (model: R7CON)  
Downloadable at our web site.
- Discrete input extension module (model: R7ML-EAx)
- Discrete output extension module (model: R7ML-ECx)

#### GENERAL SPECIFICATIONS

##### Connection

MECHATROLINK: MECHATROLINK-I/-II connector

Power input, I/O: M3 separable screw terminal  
(torque 0.5 N·m)

Solderless terminal: Refer to the drawing at the end of the section.

Recommended manufacturer: Japan Solderless Terminal MFG. Co., Ltd., Nichifu Co., Ltd.

Applicable wire size: 0.25 to 1.65 mm<sup>2</sup> (AWG 22 to 16)

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (gray)

Isolation: Input 0 or monitor output 0 to input 1 or monitor output 1 to MECHATROLINK or FG to power

Zero adjustments: Configurable via R7CON

Span adjustments: Configurable via R7CON

Extension: No extension (\*), Discrete input 8 or 16 points, Discrete output 8 or 16 points

Selectable with the front DIP SW

(\*) Factory default setting

Load coefficient: Configurable via R7CON

Averaging: 2 (\*), 4, 8, 16, 32, 64, 128, 256, 512, 1024  
Selectable with the front DIP SW

(\*) Factory default setting

Excitation Voltage: 5 V (\*), 2.5 V

Selectable with the front DIP SW

(\*) Factory default setting

Lowpass filter: 2 kHz (1 Hz for option /F1)(\*), 2 Hz

Selectable with the front DIP SW

(\*) Factory default setting

Monitor output: Configurable via R7CON

Status indicator LEDs: PWR, RUN, ERR, SD, RD

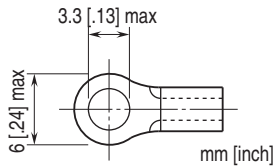
(Refer to the instruction manual)

Input status indicator LED: 0 to F

(Refer to the instruction manual)

**Configurator connection:** 2.5 dia. miniature jack

## ■ Recommended solderless terminal



## MECHATROLINK COMMUNICATION

**MECHATROLINK mode:** Set with DIP switches  
(MECHATROLINK-I or -II, data length; Factory default setting:  
MECHATROLINK-II; data length (17 bytes)

(Refer to the instruction manual)

**Station address:** 60H - 7FH

(Function selected with Rotary SW. Factory default setting:  
60H) (Refer to the instruction manual)

### ■ MECHATROLINK-I

**Baud rate:** 4 Mbps

**Transmission distance:** 50 m max.

**Distance between stations:** 30 cm min.

**Transmission media:** MECHATROLINK cable (Model JEPMC-  
W6003-x-E, Yaskawa Controls Co., Ltd.)

**Max. number of Subordinate Devices:** 15

(The maximum number of Subordinate Devices might  
change depending on the Main Device unit. Refer to the  
manual of the Main Device unit)

**Transmission cycle:** 2 msec. (fixed)

**Data length:** 17 bytes

### ■ MECHATROLINK-II

**Baud rate:** 10 Mbps

**Transmission distance:** 50 m max.

**Distance between stations:** 50 cm min.

**Transmission media:** MECHATROLINK cable (Model JEPMC-  
W6003-x-E, Yaskawa Controls Co., Ltd.)

**Max. number of Subordinate Devices:** 30

(The maximum number of Subordinate Devices might  
change depending on the Main Device unit. Refer to the  
manual of the Main Device unit)

**Transmission cycle:** 0.5 msec., 1 msec., 1.5 msec., 2 msec.,  
4 msec., 8 msec.

**Data length:** 17 bytes / 32 bytes selectable (Must choose  
identical data size for all stations on one network)

## INPUT SPECIFICATIONS

### ■ Strain Gauge Input:

- Strain Gauge

**Input range:**

Option code /R20

-2 - +2 mV/V (at 5 V excitation)

-4 - +4 mV/V (at 2.5 V excitation)

Option code /R10

-1 - +1 mV/V (at 5 V excitation)

-2 - +2 mV/V (at 2.5 V excitation)

Option code /R05

-0.5 - +0.5 mV/V (at 5 V excitation)

-1 - +1 mV/V (at 2.5 V excitation)

### Max. Input range:

Option code /R20

-3 - +3 mV/V (at 5 V excitation)

-6 - +6 mV/V (at 2.5 V excitation)

Option code /R10

-1.5 - +1.5 mV/V (at 5 V excitation)

-3 - +3 mV/V (at 2.5 V excitation)

Option code /R05

-0.75 - +0.75 mV/V (at 5 V excitation)

-1.5 - +1.5 mV/V (at 2.5 V excitation)

### Zero adjustment:

Option code /R20

-1 - +1 mV/V (at 5 V excitation)

-2 - +2 mV/V (at 2.5 V excitation)

Option code /R10

-0.5 - +0.5 mV/V (at 5 V excitation)

-1 - +1 mV/V (at 2.5 V excitation)

Option code /R05

-0.25 - +0.25 mV/V (at 5 V excitation)

-0.5 - +0.5 mV/V (at 2.5 V excitation)

### Lowpass filter:

Approx. 2 kHz or approx. 2 Hz (option code /F2K)

Approx. 1 Hz or approx. 2 Hz (option code /F1)

**Conversion rate:** min. 2000 samples/sec.

- **Excitation:** 5 V  $\pm 10\%$  or 2.5 V  $\pm 10\%$

(Input range doubled in the case of 2.5 V excitation)

**Maximum current:** max. 60 mA (Up to 4 strain gauges of  
350  $\Omega$  can be connected in parallel-adding connection at 5 V  
excitation)

max. 100 mA (at 2.5 V excitation)

## OUTPUT SPECIFICATIONS

**Output range:** 0 - 10 V DC (for input 0 - 100 %)

**Load resistance:**  $\geq 100\text{ k}\Omega$

**Operational range:** -115 - +115 %

## INSTALLATION

### Current consumption

- DC: Approx. 130 mA

**Operating temperature:** 0 to 55°C (32 to 131°F)

**Storage temperature:** -20 to +65°C (-4 to +149°F)

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

**Atmosphere:** No corrosive gas or heavy dust

**Mounting:** DIN rail (35 mm rail)

**Weight:** 250 g (0.55 lb)

## PERFORMANCE

### Accuracy:

Option code except /R05

±0.04 % (Averaging 128 samples or more)

±0.05 % (Averaging 64 samples)

±0.10 % (Averaging 8, 16, 32 samples)

±0.15 % (Averaging 4 samples)

±0.20 % (Averaging 2 samples)

Option code /R05

±0.05 % (Averaging 512 samples or more)

±0.10 % (Averaging 64, 128, 256 samples)

±0.20 % (Averaging 16, 32 samples)

±0.30 % (Averaging 2, 4, 8 samples)

Monitor output accuracy: ±0.1 %

### Converted data range:

Input 0 / input 1: 0 - 10000 of the range from zero to span

Total input data: Sum of input 0 and input 1

### Temperature coefficient:

Strain gauge input: ±0.015 %/°C (±0.008 %/°F)

Monitor output: ±0.015 %/°C (±0.008 %/°F)

### Input delay time:

Lowpass filter 2 kHz max. 20 msec. (0 - 90 %)

Lowpass filter 2 Hz max. 200 msec. (0 - 90 %)

Lowpass filter 1 Hz max. 400 msec. (0 - 90 %)

**Output delay time:** ≤ 250 msec. (0 - 90 %)

**Resolution:** 1/10000

**Insulation resistance:** ≥ 100 MΩ with 500 V DC

**Dielectric strength:** 1500 V AC @ 1 minute

(input 0 or monitor output 0 to input 1 or monitor output 1 to power)

500 V AC @ 1 minute (MECHATROLINK or FG to I/O or power)

## STANDARDS & APPROVALS

### EU conformity:

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

## PC CONFIGURATOR

The following parameters can be set with using PC Configurator Software (model: R7CON)

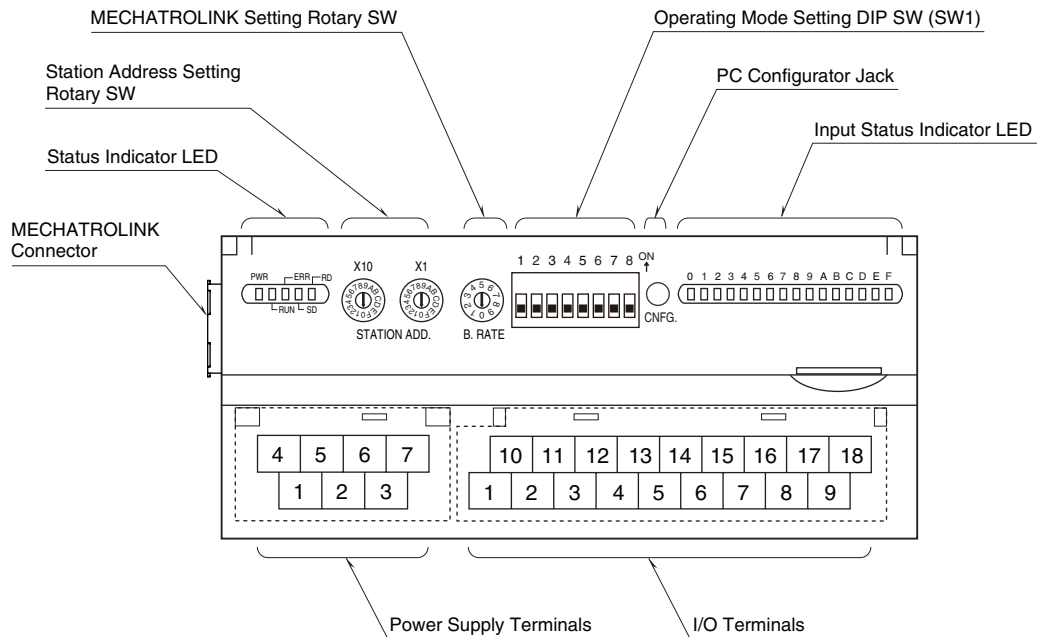
Refer to the users manual for the R7CON for detailed operation of the software program.

### ■ CHANNEL INDIVIDUAL SETTING

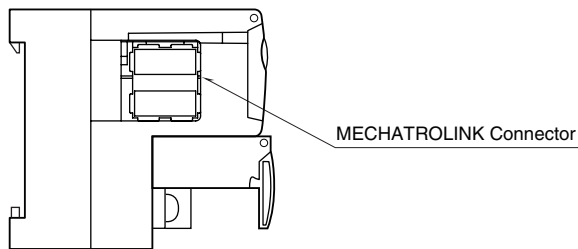
| PARAMETER      | SETTING RANGE          | DEFAULT SETTING |
|----------------|------------------------|-----------------|
| Zero           | -50 to +50 (%)         | —               |
| Span           | 10% to Full scale      | Full scale      |
| Auto zero      | —                      | —               |
| Offset Clear   | —                      | —               |
| Auto scale     | 0 to 32 000            | —               |
| Zero scale     | -32 000 to +32 000     | 0               |
| Full scale     | -32 000 to +32 000     | 10 000          |
| Bias           | -320.00 to +320.00 (%) | 0.00 (%)        |
| Gain           | -3.2000 to +3.2000     | 1.0000          |
| Load ratio     | 10.00 to 100.00 (%)    | 100.00 (%)      |
| Monitor output | -115.00 to +115.00 (%) | —               |

## EXTERNAL VIEW

### ■ FRONT VIEW

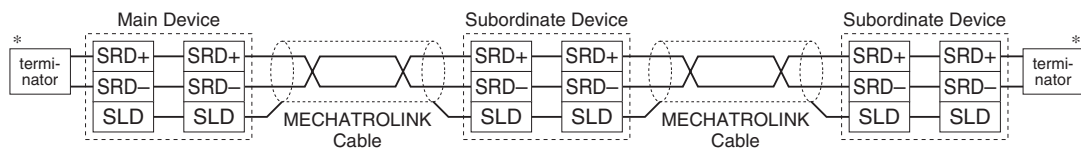


### ■ SIDE VIEW



## COMMUNICATION CABLE CONNECTIONS

### ■ MECHATROLINK CONNECTION



\*Terminator

Be sure to connect the terminating resistors to the unit at both ends of transmission line.

Use the terminating resistor dedicated for MECHATROLINK: Model JEPMC-W6022, Yaskawa Controls Co., Ltd.

Certain types of Main Device units may have incorporated terminating resistors. Consult the instruction manual for the Main Device.

**TERMINAL ASSIGNMENTS****■ I/O TERMINAL ASSIGNMENT**

|    |       |      |      |    |       |      |      |    |
|----|-------|------|------|----|-------|------|------|----|
| 10 | 11    | 12   | 13   | 14 | 15    | 16   | 17   | 18 |
| NC | +EXC0 | +IN0 | NC   | V0 | +EXC1 | +IN1 | NC   | V1 |
| 1  | 2     | 3    | 4    | 5  | 6     | 7    | 8    | 9  |
| NC | -EXC0 | -IN0 | SLD0 | C0 | -EXC1 | -IN1 | SLD1 | C1 |

| NO. | ID    | FUNCTION          | NO. | ID    | FUNCTION          |
|-----|-------|-------------------|-----|-------|-------------------|
| 1   | NC    | No connection     | 10  | NC    | No connection     |
| 2   | -EXC0 | Excitation 0-     | 11  | +EXC0 | Excitation 0+     |
| 3   | -IN0  | Input 0-          | 12  | +IN0  | Input 0+          |
| 4   | SLD0  | Shield 0          | 13  | NC    | No connection     |
| 5   | C0    | Voltage output 0- | 14  | V0    | Voltage output 0+ |
| 6   | -EXC1 | Excitation 1-     | 15  | +EXC1 | Excitation 1+     |
| 7   | -IN1  | Input 1-          | 16  | +IN1  | Input 1+          |
| 8   | SLD1  | Shield 1          | 17  | NC    | No connection     |
| 9   | C1    | Voltage output 1- | 18  | V1    | Voltage output 1+ |

**■ POWER SUPPLY TERMINAL ASSIGNMENT**

|    |    |      |    |
|----|----|------|----|
| 4  | 5  | 6    | 7  |
| NC | NC | +24V | 0V |
| 1  | 2  | 3    |    |
| NC | NC | FG   |    |

| NO. | ID   | FUNCTION, NOTES      |
|-----|------|----------------------|
| 1   | NC   | ----                 |
| 2   | NC   | ----                 |
| 3   | FG   | FG                   |
| 4   | NC   | ----                 |
| 5   | NC   | ----                 |
| 6   | +24V | Power input (24V DC) |
| 7   | 0 V  | Power input (0V)     |

**MECHATROLINK RELATED COMMANDS**

Related commands are as follows.

Command of MECHATROLINK has a two-layer structure, which is composed of Data Link Layer (upper layer) and Application Layer (lower layer). All the Application Layer Commands are located in lower layer of Data Link Layer (CDRW).

| COMMAND                   | COMMAND NAME | COMMAND (hexadecimal) | DESCRIPTION                          |
|---------------------------|--------------|-----------------------|--------------------------------------|
| Data Link Layer Command   | MDS          | 04H                   | Product type reading                 |
|                           | CDRW         | 03H                   | Data transmission                    |
| Application Layer Command | NOP          | 00H                   | Invalid                              |
|                           | ID_RD        | 03H                   | Product information reading          |
|                           | CONNECT      | 0EH                   | Communication start with Main Device |
|                           | DISCONNECT   | 0FH                   | Communication stop with Main Device  |
|                           | DATA_RWA     | 50H                   | I/O data update                      |

## ■ DATA LINK LAYER COMMAND

### • MDS (04H) Command Data Format

Reads product type.

| Byte   | COMMAND (hexadecimal) | RESPONSE (hexadecimal) | REMARKS                      |
|--------|-----------------------|------------------------|------------------------------|
| 0      | 04H                   | 90H                    | Product type reading         |
| 1      | 00H                   | 00H                    | Reserved                     |
| 2      | 00H                   | 80H                    | Intelligent I/O              |
| 3 – 31 | 00H                   | 00H                    | 3 – 17 bytes at 17-byte mode |

### • CDRW (03H) Command Data Format

Data transmission command is located in upper layer of Application Layer Command.

| Byte   | COMMAND (hexadecimal) | RESPONSE (hexadecimal) | REMARKS                                                                                      |
|--------|-----------------------|------------------------|----------------------------------------------------------------------------------------------|
| 0      | 03H                   | 90H                    | Data transmission                                                                            |
| 1      | CMD                   | RCMD                   | CMD : Application Layer command<br>RCMD : Response (Same value as Application Layer Command) |
| 2      | 00H                   | ALARM                  | Error code (Refer to the following table)                                                    |
| 3      | 00H                   | STATUS1                | Transmission status (Refer to the following table)                                           |
| 4      | 00H                   | STATUS2                | Reserved                                                                                     |
| 5 – 31 | XX                    | YY                     | Depend upon the Application Layer Command                                                    |

### • ALARM

Communication error codes at the Subordinate Device are sent to the Main Device.

| ERROR CODE (hexadecimal) | DESCRIPTION                                    | CLASSIFICATION |
|--------------------------|------------------------------------------------|----------------|
| 00H                      | MECHATROLINK communication is in normal status | ----           |
| 01H                      | Unsupported command is received.               | Warning        |
| 02H                      | Command execution conditions are not met.      | Warning        |
| 03H                      | Data in the command is not correct.            | Warning        |
| 04H                      | Synchronization Error                          | Error          |

### • STATUS1

The status of the Subordinate Device is sent to the Main Device in accordance with the classification of the error codes at ALARM.

| Bit   | DEFINITION        | DESCRIPTION                                                                |
|-------|-------------------|----------------------------------------------------------------------------|
| 0     | Error Bit         | 1 : Error, 0 : Normal                                                      |
| 1     | Warning Bit       | 1 : Warning, 0 : Normal                                                    |
| 2     | Command Ready Bit | 1 : Command can be accepted (ready), 0 : Command cannot be accepted (busy) |
| 3 – 7 | Unused            | ----                                                                       |

## ■ APPLICATION LAYER COMMAND

Application Layer Command is located in lower layer of Data Link Layer Command (CDRW). Following tables are details on bytes 5 through 31 dependent upon Application Layer Command.

Note : At 17 bytes mode, bytes dependant upon Application Layer Command are to be 5 through 17.

### • NOP (00H) Command Data Format

0, which indicates invalid command, is sent to the Main Device.

| Byte   | COMMAND (hexadecimal) | RESPONSE (hexadecimal) | REMARKS |
|--------|-----------------------|------------------------|---------|
| 5 – 31 | 00H                   | 00H                    | Invalid |

### • ID\_RD (03) Command Data Format

Reads product information. (max. 8 bytes at a time) Repeat reading multiple times in order to read out all the data.

| Byte    | COMMAND (hexadecimal) | RESPONSE (hexadecimal) | REMARKS                                                                                                                                                                                     |
|---------|-----------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5       | DEVICE_CODE           | DEVICE_CODE            | DEVICE_CODE : Selection of product information<br>00 : Product model (data length : 32 bytes)<br>02 : Product version (data length : 32 bytes)<br>0F : Vendor code (data length : 48 bytes) |
| 6       | OFFSET                | OFFSET                 | OFFSET : Specify read position                                                                                                                                                              |
| 7       | SIZE                  | SIZE                   | SIZE : Specify length of read data (max. 8 bytes)                                                                                                                                           |
| 8 – 15  | 00H                   | ID                     | Product information data                                                                                                                                                                    |
| 16 – 31 | 00H                   | 00H                    | Unused                                                                                                                                                                                      |

## • CONNECT (0EH) Command Data Format

Starts communication with the Main Device.

| Byte   | COMMAND (hexadecimal) | RESPONSE (hexadecimal) | REMARKS                                                                                                                                                |
|--------|-----------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5      | VER                   | VER                    | MODE : Selection of MECHATROLINK version<br>10 : MECHATROLINK - I<br>21 : MECHATROLINK - II                                                            |
| 6      | COM_MODE              | COM_MODE               | COM_MODE : Selection of data length<br>00 : 17-byte mode<br>80 : 32-byte mode                                                                          |
| 7      | COM_TIME              | COM_TIME               | COM_TIME : Communication cycle (milliseconds)<br>MECHATROLINK-I: Multiples of two (2)<br>MECHATROLINK-II: Integral multiples of the transmission cycle |
| 8 – 31 | 00H                   | 00H                    | Unused                                                                                                                                                 |

## • DISCONNECT (0FH) Command Data Format

Stops communication with the Main Device.

| Byte   | COMMAND (hexadecimal) | RESPONSE (hexadecimal) | REMARKS |
|--------|-----------------------|------------------------|---------|
| 5 – 31 | 00H                   | 00H                    | Unused  |

## • DATA\_RWA (50H) Command Data Format

Transmits I/O data from/to the Main Device. Data allocation is as follows.

| Byte    | COMMAND (hexadecimal)                                | RESPONSE (hexadecimal)                                                                        | REMARKS                        |
|---------|------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------|
| 5       | Input 0 set data low 8 bits                          | Input 0 low 8 bits or echo back of set value at command area                                  |                                |
| 6       | Input 0 set data high 8 bits                         | Input 0 high 8 bits or echo back of set value at command area                                 |                                |
| 7       | Input 1 set data low 8 bits                          | Input 1 low 8 bits or echo back of set value at command area                                  |                                |
| 8       | Input 1 set data high 8 bits                         | Input 1 high 8 bits or echo back of set value at command area                                 |                                |
| 9       | Command low 8 bits                                   | Command display low 8 bits or echo back of set value at command area                          |                                |
| 10      | Command high 8 bits                                  | Command display high 8 bits or echo back of set value at command area                         |                                |
| 11, 12  | 00H                                                  | 00H                                                                                           | Unused                         |
| 13      | Discrete output data of extension module low 8 bits  | Discrete input data of extension module low 8 bits or echo back of set value at command area  |                                |
| 14      | Discrete output data of extension module high 8 bits | Discrete input data of extension module high 8 bits or echo back of set value at command area | “0” for R7ML-EA8 and R7ML-EC8x |
| 15      | 00H                                                  | Status low 8 bits                                                                             | See I/O data status            |
| 16      | 00H                                                  | Status high 8 bits                                                                            | See I/O data status            |
| 17 – 31 | 00H                                                  | 00H                                                                                           | Unused                         |

## DATA CONVERSION

### ■ I/O RANGE AND DATA CONVERSION (FACTORY DEFAULT SETTING)

Analog input data is converted into digital representations of -100 – +100% proportional to each scaled range.

The converted % values are multiplied by 100 and expressed in 16 bits.

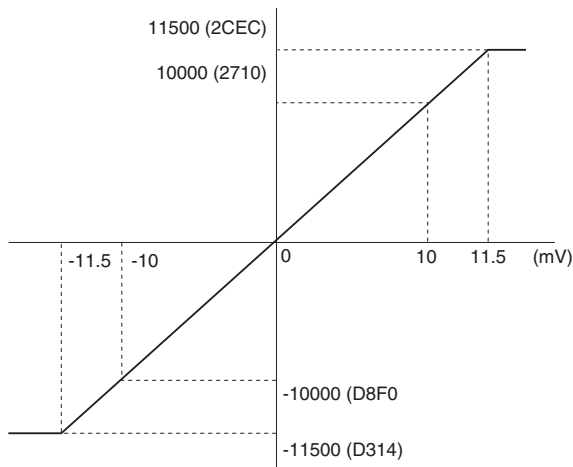
Overrange input is possible from -115 to +115% of the nominal range.

When the signal exceeds the limit, the data is fixed at -115% or +115%.

Minus value is converted into negative values, represented in 2's complements.

#### • Input Range 0 – 10 mV DC ( $\pm 2$ mV/V, 5 V DC excitation)

| Input Value     | Input % | Converted Data, Decimal | Converted Data, Hex |
|-----------------|---------|-------------------------|---------------------|
| $\leq -11.5$ mV | -115 %  | -11500                  | D314                |
| -10 mV          | -100 %  | -10000                  | D8F0                |
| 0 mV            | 0 %     | 0                       | 0                   |
| 10 mV           | 100 %   | 10000                   | 2710                |
| $\geq 11.5$ mV  | 115 %   | 11500                   | 2CEC                |



## I/O DATA DESCRIPTIONS

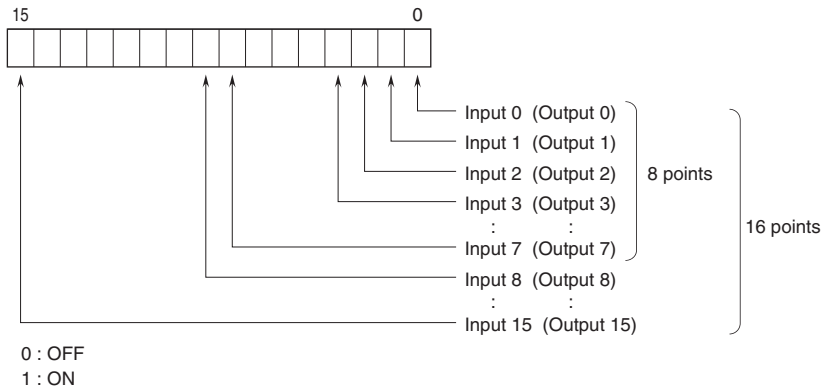
### ■ ANALOG INPUT



16-bit binary data

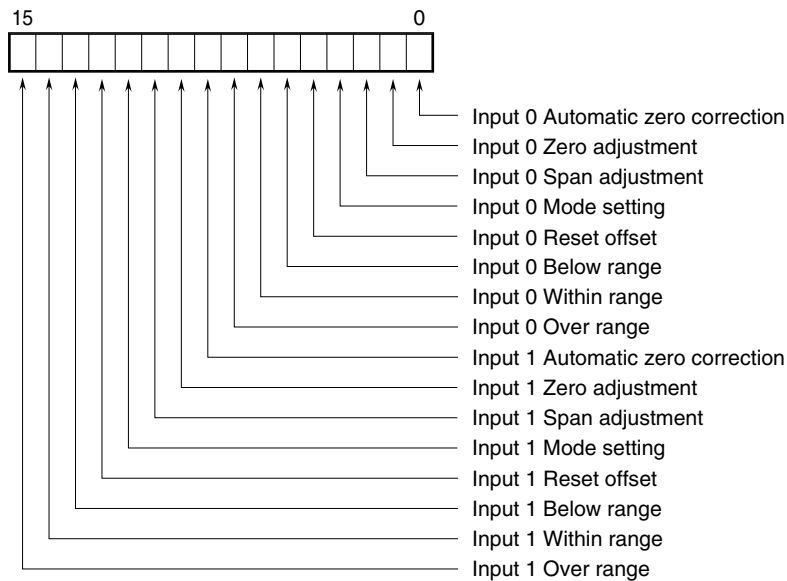
Negative values represented in 2's complements

### ■ DISCRETE I/O





## ■ COMMAND DETAILS



### ■ AUTOMATIC ZERO CORRECTION

Set the offset input value. Perform automatic zero correction setting after Zero/Span adjustments.

The procedures are as follows.

- 1) Apply desired offset input value to the sensor.
- 2) Set "1" to Automatic zero correction bit. When the offset is completed, LED0 for Input 0 or LED8 for Input 1 turns on.
- 3) After checking the LED, set "0" to Automatic zero correction bit.

### ■ ZERO ADJUSTMENT

Adjust input zero point. The procedures are as follows.

- 1) Apply 0% load to the sensor.
- 2) Set "1" to Zero adjustment bit. When the adjustment is completed, LED1 for Input 0 or LED9 for Input 1 turns on.
- 3) After checking the LED, set "0" to Zero adjustment bit.

### ■ SPAN ADJUSTMENT (with actual load)

Adjust input span point with the actual load. The procedures are as follows.

- 1) Apply actual 100% load to the sensor.
- 2) Set "1" to Span adjustment bit. When the adjustment is completed, LED2 for Input 0 or LED10 for Input 1 turns on.
- 3) After checking the LED, set "0" to Span adjustment bit.

### ■ LOAD COEFFICIENT

Adjust input Span point by setting load coefficient without applying 100% actual load. The followings are an example of adjustment with 20 % load.

- 1) Apply 20% load of the actual load to the sensor.
- 2) Set 2000 (decimal) to Input set data area.
- 3) Set "1" to Span adjustment bit. When the adjustment is completed, LED2 for Input 0 or LED10 for Input 1 turns on.
- 4) After checking the LED, set "0" to Span adjustment bit.

### ■ MODE SETTING

Select measuring mode or monitor output mode.

- Measuring mode  
Set "0" to Mode setting bit to enter measuring mode. In measuring mode, monitor output is linked with input data.
- Monitor output mode  
Set "1" to Mode setting bit to enter monitor output mode. In monitor output mode, values at set data area of each input are outputted. Set values at set data area are displayed in Input data area and inputs are disabled. The followings are setting procedures of 20% monitor output for Input 1.  
  - 1) Set 2000 (decimal) to Input 1 set data area.
  - 2) Set "1" to Mode setting bit. When the setting is completed, LED7 turns on and 20% of Input 1 is outputted from monitor output terminal.
  - 3) After checking the output, set "0" to Mode setting bit to return to measuring mode.

### ■ RESET OFFSET

Reset the offset value set by Automatic zero correction to zero. The procedures are as follows.

- 1) Set "1" to Reset offset bit. When the reset is completed, LED4 for Input 0 or LED12 for Input 1 turns on.
- 2) After checking the LED, set "0" to Reset offset bit.

### ■ INPUT BELOW RANGE (Input only)

"1" is to be set when input is -1.0% or less.

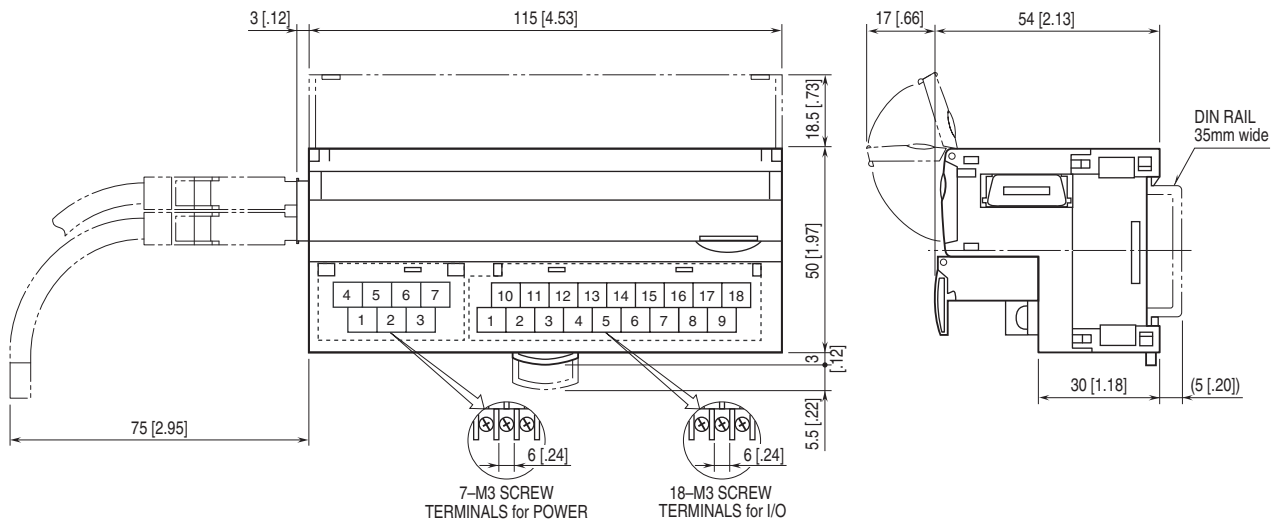
### ■ INPUT WITHIN RANGE (Input only)

"1" is to be set when input is within the range between -1.0% and 101.0%.

### ■ INPUT OVER RANGE (Input only)

"1" is to be set when input is 101.0% or more.

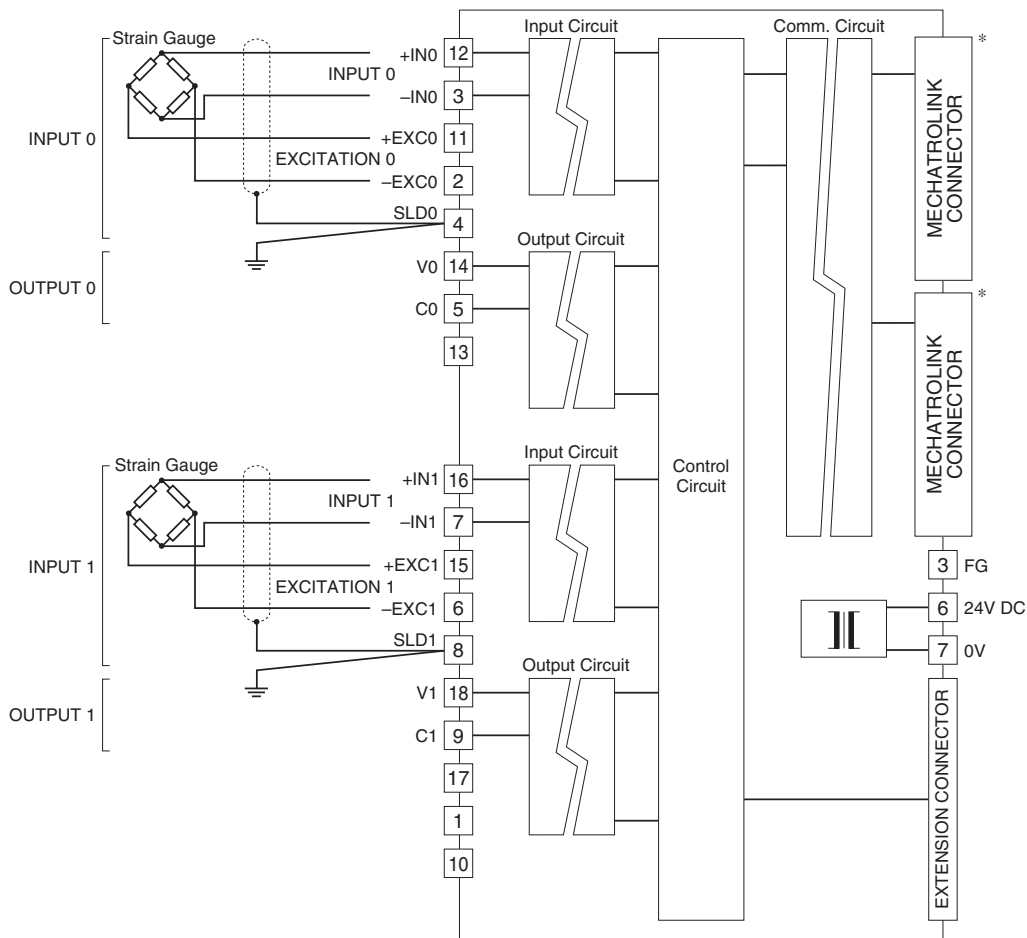
## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

Note: In order to improve EMC performance, bond the FG terminal to ground.

Caution: FG terminal is NOT a protective conductor terminal.



\*MECHATROLINK connectors are internally connected.  
The network cable can be connected to either one.



Specifications are subject to change without notice.