

BEFORE USE

Thank you for choosing us. 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 our sales office or representatives.

■ PACKAGE INCLUDES:

Signal conditioner(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. 80mA

■ 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 -5 to +55°C (23 to 131°F) with relative humidity within 30 to 90% RH in order to ensure adequate life span and operation.

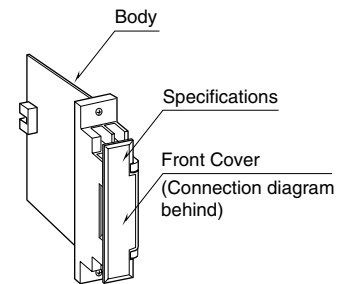
■ WIRING

- Do not install cables 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

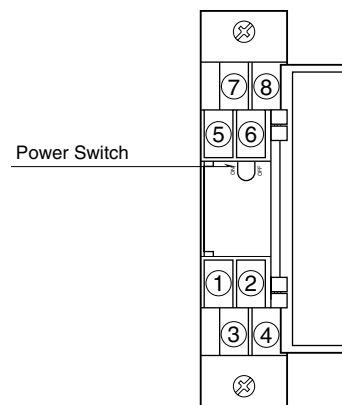
- The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

COMPONENT IDENTIFICATION



■ FRONT VIEW (with cover open)

- With Power Switch



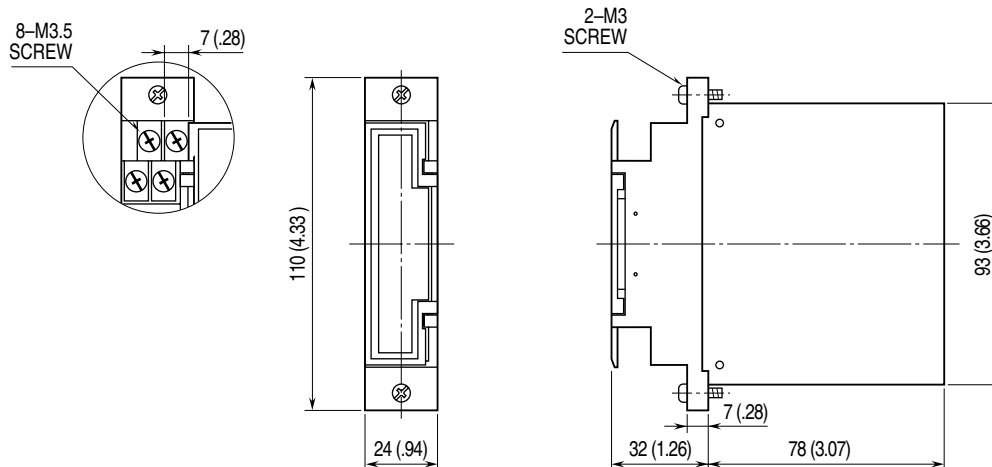
INSTALLATION

Use Standard Rack (model: 18KBXx).

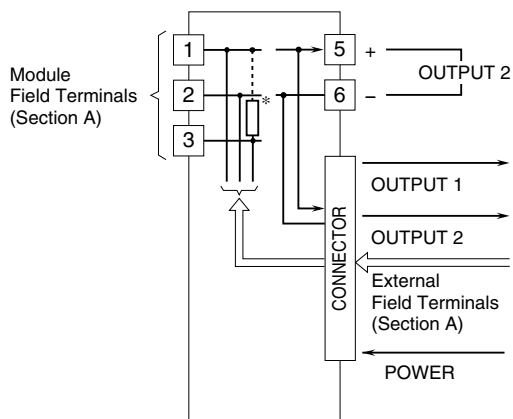
TERMINAL CONNECTIONS

Connect the unit as in the diagram below or refer to the connection diagram behind the front cover.

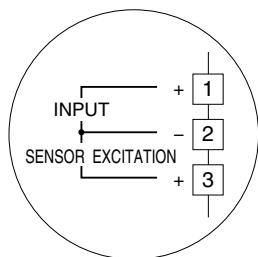
EXTERNAL DIMENSIONS unit: mm (inch)



CONNECTION DIAGRAM



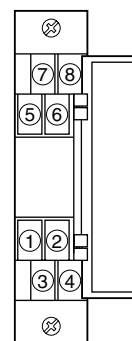
Section A. Field Terminals



* 4kΩ attached for open collector and mechanical contact input.
200Ω, 510Ω or 1kΩ attached for two-wire current pulse input (jumper selectable).

Use either of module or external field terminals.

TERMINAL ASSIGNMENTS



WIRING INSTRUCTIONS

■ SCREW TERMINAL

Torque: 0.8 N·m

JUMPER SETTINGS

4 kΩ is attached for open collector and mechanical contact input, while 200 Ω, 510 Ω or 1 kΩ is attached for two-wire current pulse input.

Resistance can be changed by modifying jumper combinations as shown in the table below.

Jumper settings

INPUT	J1	J2	J3	J4	J5	J6
1: Mechanical contact	2 - 3	2 - 3	2 - 3	1 - 2	1 - 2	1 - 2*
2: Open collector	2 - 3	2 - 3	2 - 3	1 - 2	1 - 2	2 - 3
3: Voltage pulse	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3
4: Two-wire current pulse (200 Ω)	1 - 2	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3
5: Two-wire current pulse (510 Ω)	2 - 3	1 - 2	2 - 3	2 - 3	2 - 3	2 - 3
6: Two-wire current pulse (1 kΩ)	2 - 3	2 - 3	1 - 2	2 - 3	2 - 3	2 - 3

* Close 2 - 3 for turning the filter off.

CHECKING

- 1) Terminal wiring: Check that all cables are correctly connected according to the connection diagram.
- 2) Power input voltage: Check voltage supplied to the rack (model: 18KBXx). For the DC power source, be sure that the ripple level is within 10% p-p.
- 3) Input: For the mechanical contact input, check that the input frequency is 5 Hz or less and the pulse width is 20 msec. or more.

For the open collector input, check that the input frequency is 10 kHz or less and the pulse width is 20 μsec. or more.

For the voltage pulse input or two-wire current pulse input, be sure that the input signal is as shown in the table below.

• Waveform requirements

Square Waveform

FREQUENCY RANGE	AMPLITUDE	PULSE WIDTH & DUTY RATIO
0 to 10 kHz	1 to 3Vp-p	Duty 50 ±10%
0 to 10 kHz	Min. 3Vp-p	Min. 60 μsec.*

* When the frequency is 6 kHz or more, the pulse width is 30 μsec. or more.

Sine or similar waveform

FREQUENCY RANGE	AMPLITUDE	PULSE WIDTH & DUTY RATIO
50 Hz to 10 kHz	1 to 3Vp-p	—
10 Hz to 10 kHz	Min. 3Vp-p	—

- 4) Output: Check that the output voltage is 0 V at ON, 30 V DC or less at OFF.

Check also that the output current is 100 mA or less at ON, 0 mA at OFF.

LIGHTNING SURGE PROTECTION

We offer a series of lightning surge protector for protection against induced lightning surges. Please contact us to choose appropriate models.