

## Remote I/O R6 Series

### T-Link INTERFACE MODULE

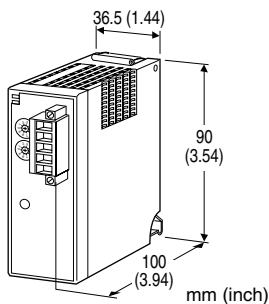
(Fuji Electric T-Link use)

#### Functions & Features

- Free combination of analog and discrete I/O
- Direct sensor inputs
- Space-saving
- Low power consumption

#### Typical Applications

- Remote I/O for DCS and PLC



## MODEL: R6-NF1[1]

### ORDERING INFORMATION

- Code number: R6-NF1[1]

Specify a code from below for [1].

- (e.g. R6-NF1/Q)
- Specify the specification for option code /Q (e.g. /C01)

### [1] OPTIONS

blank: none

/Q: With options (specify the specification)

### SPECIFICATIONS OF OPTION: Q

**COATING (For the detail, refer to M-System's web site.)**

/C01: Silicone coating

/C02: Polyurethane coating

### RELATED PRODUCTS

- PC configurator software (model: R6CON)

Downloadable at M-System's web site.

A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.

### GENERAL SPECIFICATIONS

#### Connection

**Network:** Euro type connector terminal  
(applicable wire size: 0.2 to 2.5 mm<sup>2</sup>, stripped length 7 mm)

**Internal bus:** Via the Installation Base (model: R6x-BSB)

**Internal power:** Via the Installation Base (model: R6x-BSB)

**Housing material:** Flame-resistant resin (gray)

**Isolation:** T-Link to internal bus or internal power

**I/O points:** 4, 8, 16, 64 (side DIP switch)

**I/O type:** Input only, output only, input/output mixed (side DIP SW)

**RUN indicator:** Bi-color (green/red) LED; green in normal communications; red when receiving (Function selected with DIP SW)

**ERR indicator:** Bi-color (green/red) LED; the green ON/ blinks in communication errors; red when transmitting (Function selected with DIP SW)

**Data allocation:** Mode 1 or 2 set with the side DIP switch

### T-Link SPECIFICATIONS

**Station No. setting:** Rotary switch; 00 - 99

**Configuration:** Multi-drop

**Communication:** Half-duplex

**Baud rate:** 500 kbps

**Transmission media/distance:**

KPEV-SB, 0.75 mm<sup>2</sup> × 1 pair, 700 m

T-KPEV-SB, 1.25 mm<sup>2</sup> × 1 pair, 1000 m

### INSTALLATION

**Operating temperature:** -10 to +55°C (14 to 131°F)

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

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

**Mounting:** Installation Base (model: R6x-BSB)

(Caution: Do NOT use other base but R6x-BSB)

**Weight:** 150 g (0.33 lb)

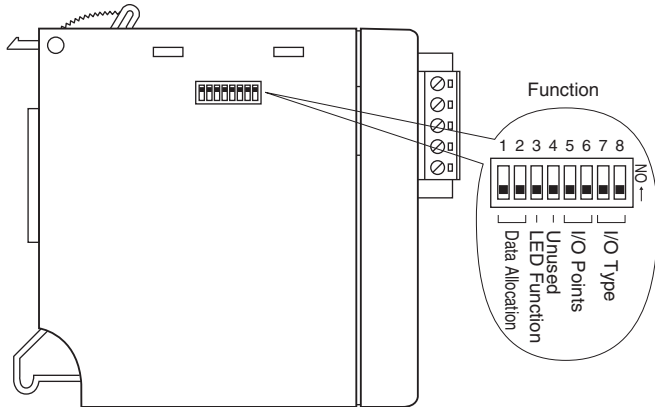
### PERFORMANCE

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

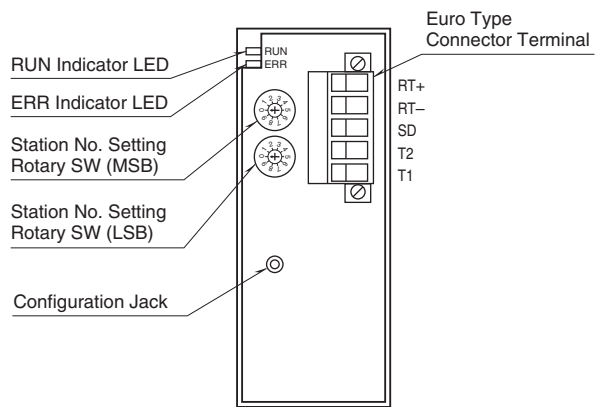
**Dielectric strength:** 500 V AC @ 1 minute (T-Link to internal bus or internal power)

## EXTERNAL VIEW

### ■ SIDE VIEW



### ■ FRONT VIEW



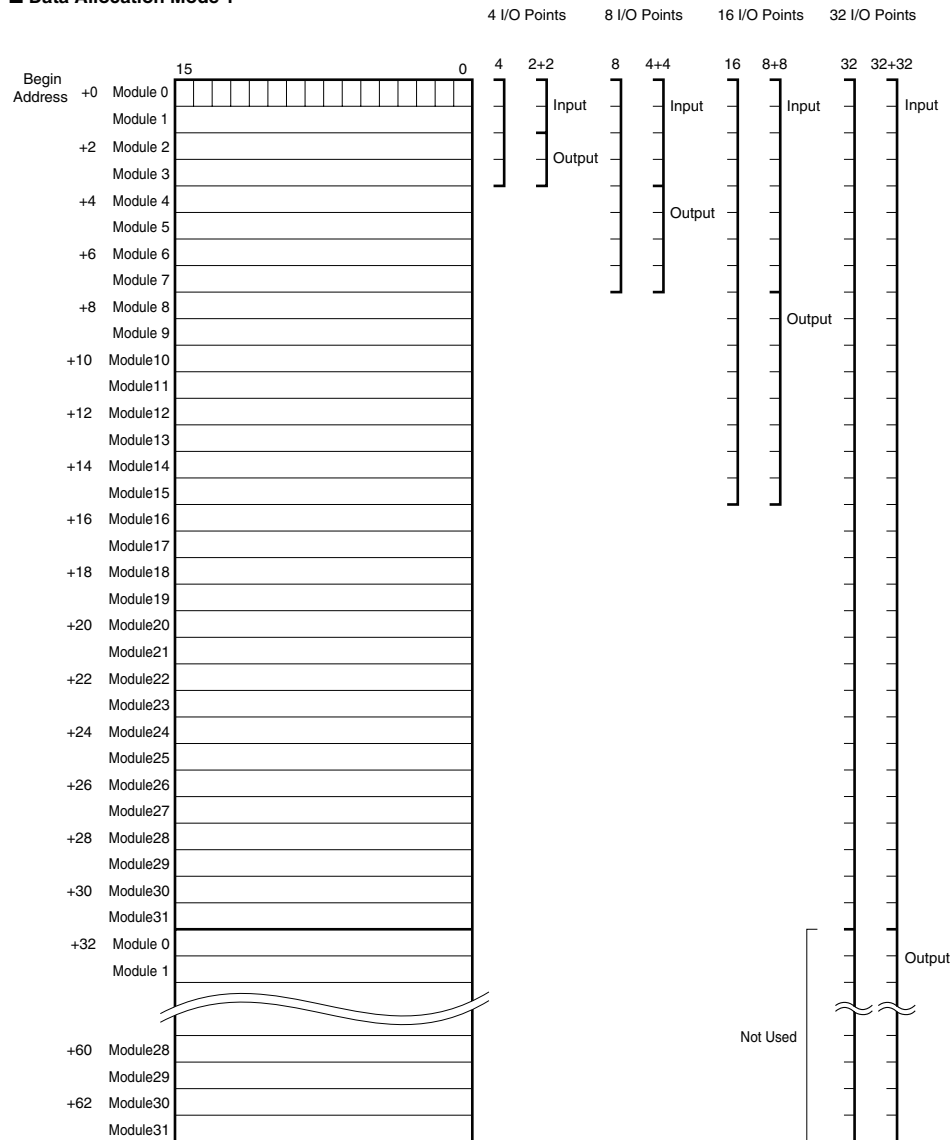
## TRANSMISSION DATA DESCRIPTIONS

The DIP SW located at the side of the module switches the unit's data allocation mode.

In the Data Allocation Mode 1, one (1) word is assigned for one I/O module. In this mode, analog I/O modules are used as single-channel types. Therefore, the second channel on the dual-channel modules cannot be used. The maximum number of modules connected to the network is 32.

In the Data Allocation Mode 2, two (2) words are assigned for one I/O module regardless of whether the second word area is required or not.

### ■ Data Allocation Mode 1

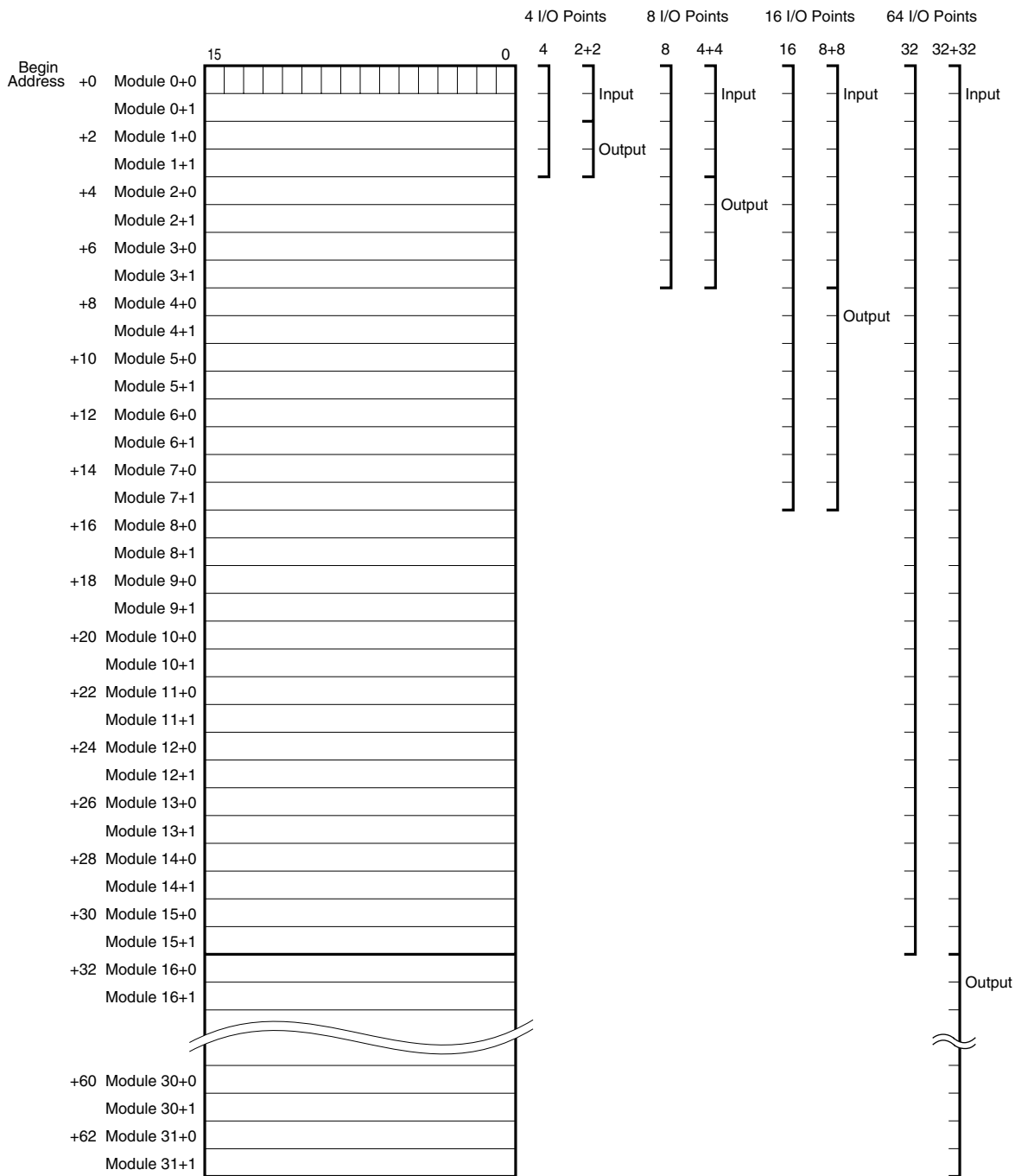


Assigned I/O Points	No. of Modules	Input Modules Only	Output Modules Only	I/O Modules Mixed
4	4	4	4	2 + 2
8	8	8	8	4 + 4
16	16	16	16	8 + 8
64	32	32	32	32 + 32

The number of assigned I/O points is the same as the number of modules, except 64 points. Modules of the number of I/O Points preset with SW 5 and 6 are assigned to the transmission data continuously from zero (0). When I/O signals are to be mixed, the former half addresses are assigned to the inputs and the latter half are to the outputs. For example, if you have selected '8' I/O points and 'mixed' I/O type, the input modules must be assigned to Module address 0 through 3, and the output modules must be assigned to 4 through 7. When the number of I/O points is '64' and I/O type is NOT mixed, 32 points of the latter half are not used. However, the PLC requires 64 addresses.

When the number of I/O points is '64' and I/O type is mixed, the former half 32 addresses are assigned to inputs and the latter half are to outputs. Only this assignment does not require continuous module addresses. However, the total number of modules is limited to 32.

## ■ Data Allocation Mode 2



Assigned I/O Points	No. of Modules	Input Modules Only	Output Modules Only	I/O Modules Mixed
4	2	4	4	2 + 2
8	4	8	8	4 + 4
16	8	16	16	8 + 8
64	32	64	64	32 + 32

The number of assigned I/O points is the same as the doubled number of modules. Modules of the number of I/O Points preset with SW 5 and 6 are assigned to the transmission data continuously from zero (0). When I/O signals are to be mixed, the former half addresses are assigned to the inputs and the latter half are to the outputs. For example, if you have selected '8' I/O points and 'mixed' I/O type, the input modules must be assigned to Module address 0 and 1, and the output modules must be assigned to 2 and 3.

## I/O DATA DESCRIPTIONS

### ■ 16-BIT ANALOG DATA

0 to 100% of the selected I/O range is converted into 0 to 10000 (binary).

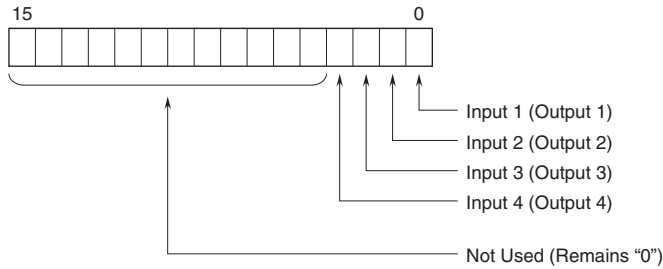
With °C or Kelvin temperature unit, raw data is multiplied by 10. For example, 25.5°C is converted into 255.

With °F temperature unit, the integer section of raw data is directly converted into the data. For example, 135.4°F is converted into 135.

Negative values are represented in 2's complements.

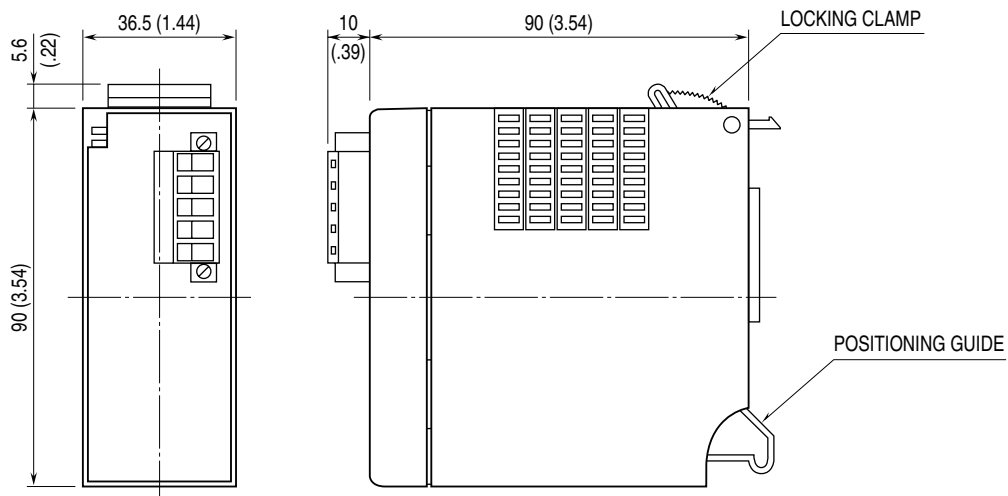


### ■ DISCRETE DATA

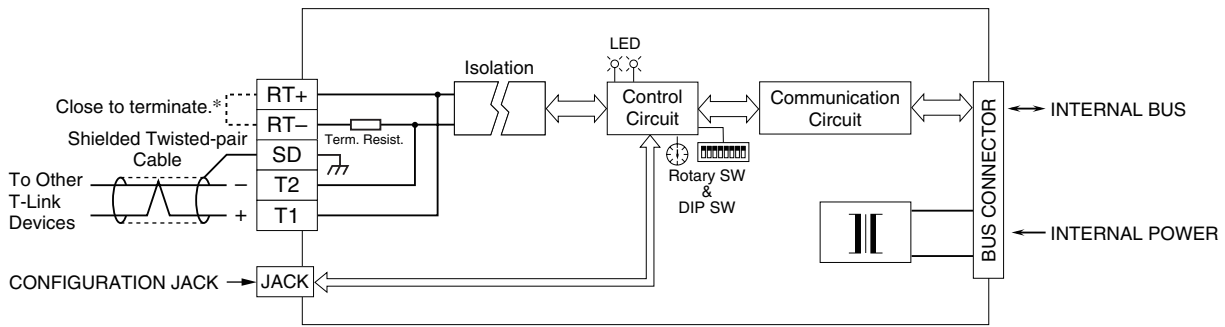


0 : OFF  
1 : ON

## EXTERNAL DIMENSIONS unit: mm (inch)



**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



\* When the module is at an end of the transmission line via twisted-pair cable (= when there is no cross wiring), close across the RT+ and RT- terminals with the jumper included in the product package. Remove the jumper for all other locations.



Specifications are subject to change without notice.