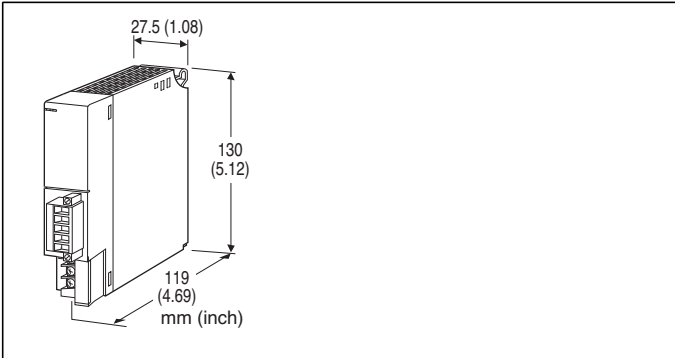


Remote I/O R3 Series

T-Link INTERFACE MODULE

(Fuji Electric T-Link interface module equivalent)



MODEL: R3-NF2-[1][2]

ORDERING INFORMATION

- Code number: R3-NF2-[1][2]
Specify a code from below for each of [1] and [2].
(e.g. R3-NF2-R/Q)
- Specify the specification for option code /Q
(e.g. /C01/SET)

[1] POWER INPUT

N: No power supply
AC Power
K3: 100 - 120 V AC
(Operational voltage range 85 - 132 V, 47 - 66 Hz) *
L3: 200 - 240 V AC
(Operational voltage range 170 - 264 V, 47 - 66 Hz) *
DC Power
R: 24 V DC
(Operational voltage range 24 V \pm 10 %, ripple 10 %p-p max.) *
* Not selectable for use with independent power modules or network modules with the internal power input options.

[2] OPTIONS

blank: none
/Q: With options (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
EX-FACTORY SETTING
/SET: Preset according to the Ordering Information Sheet
(No. ESU-8438)

GENERAL SPECIFICATIONS

Connection

T-Link: Euro type connector terminal (applicable wire size: 0.2 to 2.5 mm², stripped length 7 mm)

Internal bus: Via the Installation Base (model: R3-BSx)

Internal power: Via the Installation Base (model: R3-BSx)

Power input, RUN contact output: M3 separable screw terminal (torque 0.5 N·m)

Screw terminal: Nickel-plated steel

Isolation: T-Link to internal bus or internal power to power input to RUN contact output to FG

Input error data setting: Input value setting at input module error with side DIP SW

Dual communication setting: Set with the side DIP switch

RUN indicator: Bi-color (green/red) LED; Green ON in normal communication; Red blinks when receiving data (Function selected with DIP SW)

ERR indicator: Bi-color (green/red) LED; Green ON in communication errors or minor failure, blinks at errors in the internal circuits; Red blinks when transmitting data (Function selected with DIP SW)

■ RUN CONTACT OUTPUT

Rated load: 250 V AC @ 0.5 A (cos ϕ = 1)
30 V DC @ 0.5 A (resistive load)

Maximum switching voltage: 250 V AC or 30 V DC

Maximum switching power: 250 VA or 150 W

Minimum load: 1 V DC @ 1 mA

Mechanical life: 2 \times 10⁷ cycles (rate 300 cycles/min.) When driving an inductive load, external contact protection and noise quenching recommended.

T-Link SPECIFICATIONS

Configuration: Multi-drop

Communication: Half-duplex

Baud rate: 500 kbps

Max. transmission data capacity: 117 words for input, 125 words for output

Node address: Rotary switch; 00 - 99

Transmission media/distance:

KPEV-SB, 0.75 mm² \times 1 pair, 700 m

T-KPEV-SB, 1.25 mm² \times 1 pair, 1000 m

INSTALLATION

Power consumption

•AC: Approx. 20 VA

•DC: Approx. 12 W

Current consumption (no power supply): 120 mA

Output current (power supply): 230 mA continuous at 20 V DC; 380 mA for 10 minutes

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: R3-BSx)

Weight: 200 g (0.44 lb)

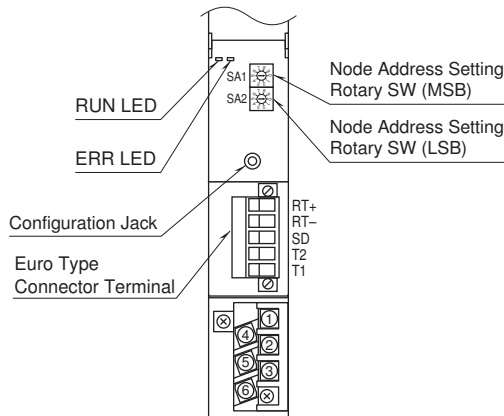
PERFORMANCE

Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC

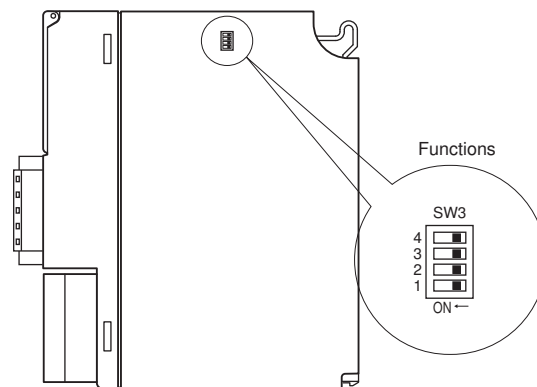
Dielectric strength: 1500 V AC @ 1 minute (T-Link to internal bus or internal power to power input to RUN contact output to FG)

EXTERNAL VIEW

FRONT VIEW



SIDE VIEW



TRANSMISSION DATA DESCRIPTIONS

This module allocates T-link addresses in order from slot 1. Set the begin address to the module's node address (T-Link address.) For example; if the formation of the I/O modules is: slot 1: R3-SV4, slot 2: R3-YV4, slot 3: R3-DA16 and slot 4: R3-DC16, the I/O data is assigned as detailed on the table below. Set "10" to the module address. Discrete I/O data can be also represented with bit address. Ch.1 through 16 are assigned to 0 thr. F.

SLOT	MODULE	ADDRESS	WORD ADDRESS	CONTENTS
1	R3-SV4	10	0	CH1 input data
			1	CH2 input data
			2	CH3 input data
			3	CH4 input data
2	R3-YV4	11	0	CH1 output data
			1	CH2 output data
			2	CH3 output data
			3	CH4 output data
3	R3-DA16	12	0	Input data
4	R3-DC16	13	0	Output data

I/O DATA DESCRIPTIONS

The data allocations for typical I/O modules are shown below.
Refer to the manual for each module for detailed data allocations.

■ ANALOG DATA (16-bit data, models: R3-SV4, YV4, DS4, YS4, US4, etc.)

16-bit binary data.

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

-15 to 0 % is a negative range represented in 2's complement.

In case of R3-US4, -10 to 0% is a negative range represented in 2's complement.



■ TEMPERATURE DATA (16-bit data, models: R3-RS4, TS4, US4, etc.)

16-bit binary data.

With °C 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.

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

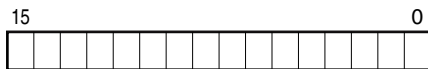


■ ANALOG DATA (16-bit data, models: R3-CT4A, CT4B, etc.)

16-bit binary data.

Integer obtained by multiplying unit value (A) by 100.

In case of CLSE-R5, integer obtained by multiplying unit value (A) by 1000.



■ ACCUMULATED COUNT DATA (32-bit data, models: R3-PA2, PA4A, WT1, WT4, etc.)

32-bit binary data is used for accumulated counts and encoder positions.

Lower 16 bits are allocated from the lowest address to higher ones, higher 16 bits in turn.



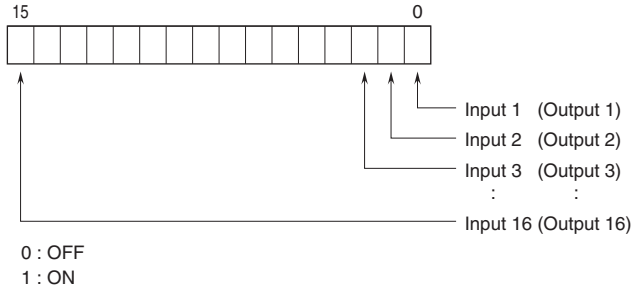
■ BCD DATA (32-bit data, models: R3-BA32A, BC32A, etc.)

32-bit binary data is used for BCD.

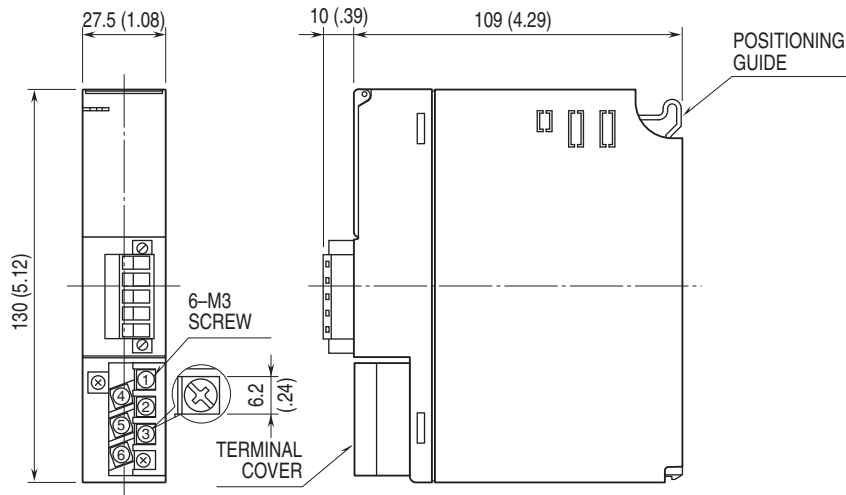
Lower 16 bits are allocated from the lowest address to higher ones, higher 16 bits in turn.



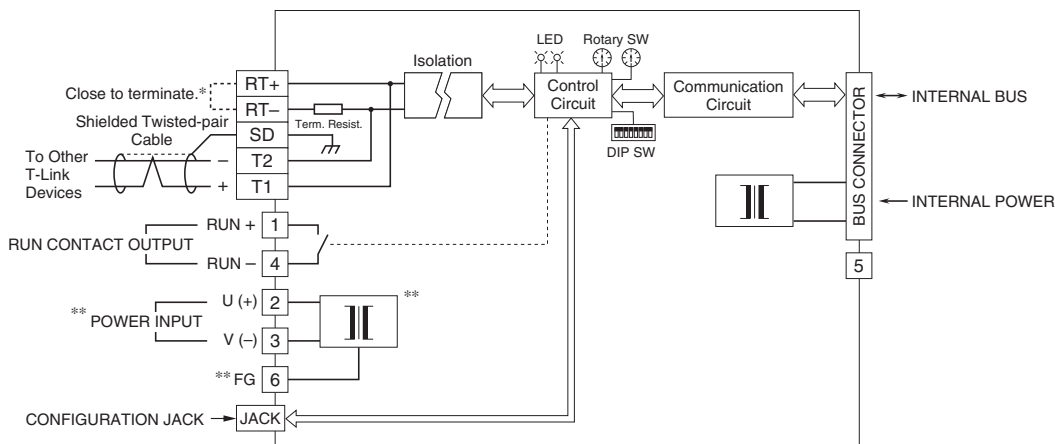
■ 16-POINT DISCRETE DATA (models: R3-DA16, DC16, etc.)



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS 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.
 **Not provided with 'No Power Supply' type module.
 Caution: FG terminal is NOT a protective conductor terminal.



Specifications are subject to change without notice.