

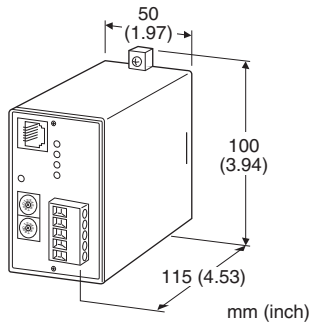
## Field Network Modules 61-UNIT Series

### ANALOG I/O MODULE

(Fuji Electric T-Link use)

#### Functions & Features

- Interfacing analog I/O signals from/to Mini-M or Pico-M modules with T-LINK
- Saving power and I/O wiring inside an instrumentation panel



### MODEL: 61F-[1][2]-[3][4]

#### ORDERING INFORMATION

- Code number: 61F-[1][2]-[3][4]
- Specify a code from below for each [1] through [4].  
(e.g. 61F-161-K/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

#### [1] NO. OF CHANNELS

- 04: 4 points  
08: 8 points  
16: 16 points

#### [2] I/O TYPE

- 1: Input  
2: Output

#### [3] POWER INPUT

##### AC Power

K: 85 - 132 V AC  
(Operational voltage range 85 - 132 V, 47 - 66 Hz)

##### DC Power

R: 24 V DC  
(Operational voltage range 24 V  $\pm$ 10 %, ripple 10 %p-p max.)  
(Specify power suffix code R (24 V DC) when the UNIT is to be combined with the M8BS2.)

#### [4] 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  
/C03: Rubber coating

#### RELATED PRODUCTS

- Installation Base (model: M2BS2)
- Installation Base (model: M8BS2)

#### GENERAL SPECIFICATIONS

**Construction:** Plug-in

##### Connection

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

**I/O:** Via Installation Base (model: MxBS2)

**Power input:** Via Installation Base (model: MxBS2)

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

**Isolation:** I/O or T-Link to power

**Power indicator:** Green LED turns on with power supplied.

#### T-Link SPECIFICATIONS

**Configuration:** Multi-drop

**Communication:** Half-duplex

**Baud rate:** 500 kbps

**Transmission media/distance:**

KPEV-SB 0.75 mm<sup>2</sup>  $\times$  1 pair, 700 m

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

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

(Factory default setting: 00)

**L RUN indicator:** Red LED ON at normal communication

**L ERR. indicator:** Red LED ON/blinking at communication abnormality

**L I/O indicator:** Red LED blinking at normal I/O

**L COM indicator:** RED LED blinking at T-Link normal communication

##### ■ NUMBER OF CONNECTABLE UNITS WITH T-LINK

Up to a maximum of 32 T-LINK devices can be connected in a single T-LINK system. There is a limit of 100 words in processor memory. Make sure that the configured word area to be occupied does not exceed the 100-word range. (According to the Fuji Electric MICREX-F Users Manual) It is necessary to consider these criteria when connecting to this device.

The below describes the number of words occupied per device by number of modules.

- For input 4 / output 4 modules: 4
- For input 8 / output 8 modules: 8
- For input 16 / output 16 modules: 16

Permissible power failure duration:  $\leq 10$  msec.

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

Dielectric strength: 1500 V AC @ 1 minute (I/O or T-Link to power)

## INPUT SPECIFICATIONS

### ■ Analog Input

Input range: 1 - 5 V DC

Input resistance:  $\geq 1$  M $\Omega$

(Each input must be isolated by signal conditioners. Non-isolated modules such as M2BW and M8BW are not usable.)

### A/D conversion

Moving averaging: 4 samples

Sampling rate: 160 ms

A/D conversion output: Signed binary

Signal range 0 - 100 % is converted into hexadecimal 0000 - 2710 (0 - 10000). -15 to 0 % is a negative range represented by 2's complements.

Overall range is represented by hexadecimal FA24 - 2CEC (-1500 - +11500), for -15 - +115 %.

## OUTPUT SPECIFICATIONS

### ■ Analog Output

Output range: 1 - 5 V DC

Load resistance: 20 k $\Omega$  minimum

(Output must be isolated with signal conditioners.

When the transmission line is open, the last value sampled before failure is held. Non-isolated modules such as M2BW and M8BW are not usable. )

D/A conversion input: Signed binary

Signal range 0 - 100 % is converted into hexadecimal 0000 - 2710 (0 - 10000).

-15 to 0 % is a negative range represented by 2's complements.

Overall range is represented by hexadecimal FA24 - 2CEC (-1500 - +11500), for -15 - +115 %.

## INSTALLATION

### Power consumption

•AC: Approx. 3 VA

•DC: Approx. 4 W (160 mA)

Operating temperature: -5 to +55°C (23 to 131°F)

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

Atmosphere: No corrosive gas or heavy dust

Mounting: Installation Base (model: MxBS2)

Weight: 250 g (0.55 lb)

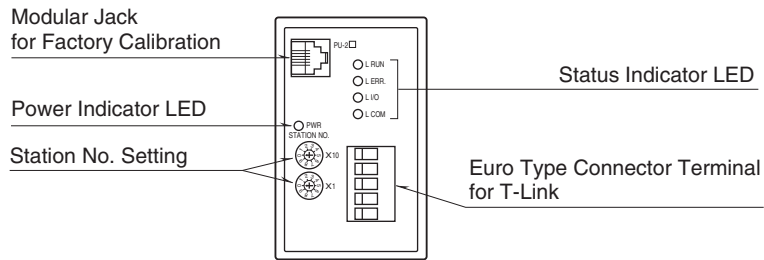
## PERFORMANCE in percentage of span

A/D conversion:  $\pm 0.1$  %

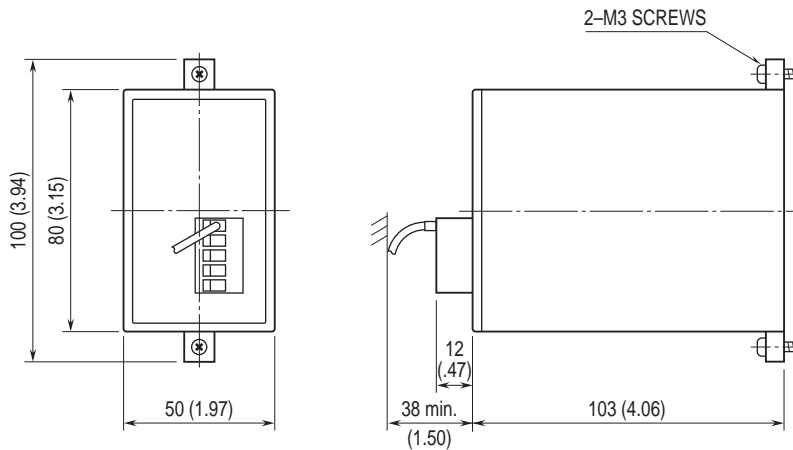
D/A conversion:  $\pm 0.1$  %

Temp. coefficient:  $\pm 0.015$  %/°C ( $\pm 0.008$  %/°F)

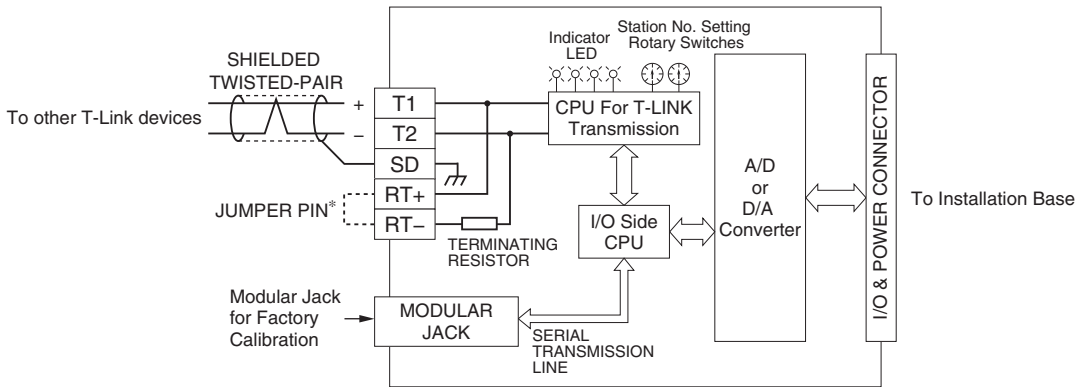
## EXTERNAL VIEW



## EXTERNAL DIMENSIONS unit: mm (inch)



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\* When the unit is located at the end of transmission line via twisted-pair cable (= no cross-wiring), short across terminals RT+, RT- with the jumper pin (or wire) provided with the unit. Remove the jumper pin for the one not located at the end.  
 Note: Use T1, T2, SD terminals for cross-wiring.



Specifications are subject to change without notice.