KV-TF40

PID Temperature Adjustment Unit (Multi-input 4-channel)

*Please note that accessories depicted in the image are for illustrative purposes only and may not be included with the product.

Specifications

Model		KV-TF40
Type		Temperature control unit
Memory elements		EEPROM rewritable one million times
Number of temperature input points		4 ch
Input		Thermocoupler/Platinum temperature measuring resistor*1
Temperature sensor types		Thermocoupler: K, J, T, E, R, B, N, S, W5Re/W26Re Platinum temperature measuring resistor: JPt100, Pt100
Indicated accuracy		±0.3% of F.S. ±1 digit (at 25°C 77°F), ±0.7% of F.S. ±1 digit (at 0 to 50°C 32 to 122°F)
Cold junction correction precision		±1°C ±1.8°F
Sampling cycle		125 ms/ch (500 ms/4 ch)
Control period		1 to 100 seconds
Operation mode		PID control (with auto-tuning and 3 mode stabilizer function installed), Heat/cool PID control (with auto-tuning and 3 mode stabilizer function installed), ON/OFF control
Tuning mode		PID auto-tuning mode
Control output		Transistor (sink)
Alarm output		Transistor (sink)*2
Alarm mode		Absolute value upper limit, absolute value lower limit, deviation upper limit, deviation lower limit, deviation upper limit unexcited, deviation lower limit unexcited, deviation upper and lower limits, within upper and lower limit deviation, absolute value upper limit unexcited, absolute value lower limit unexcited*3
Output	Rated load	30 VDC, 100 mA or less
	Leakage current at OFF	100 µA or less
	Residual voltage at ON	1.5 V or less
Current sensor (CT) input		4 ch*4
Current measurement precision		Larger of ±5% of an input value and ±2 A of an input value
Insulation mode		Between inputs and outputs: Photocoupler and transformer insulation, Between input channels: Photocoupler and transformer insulation
Others		Heater wire breaking alarm, control loop wire breaking alarm, measured value bias, output limit, slope setup, manual reset, output control when an error occurs
Internal current consumption		210 mA or less
Weight		Approx. 270 g

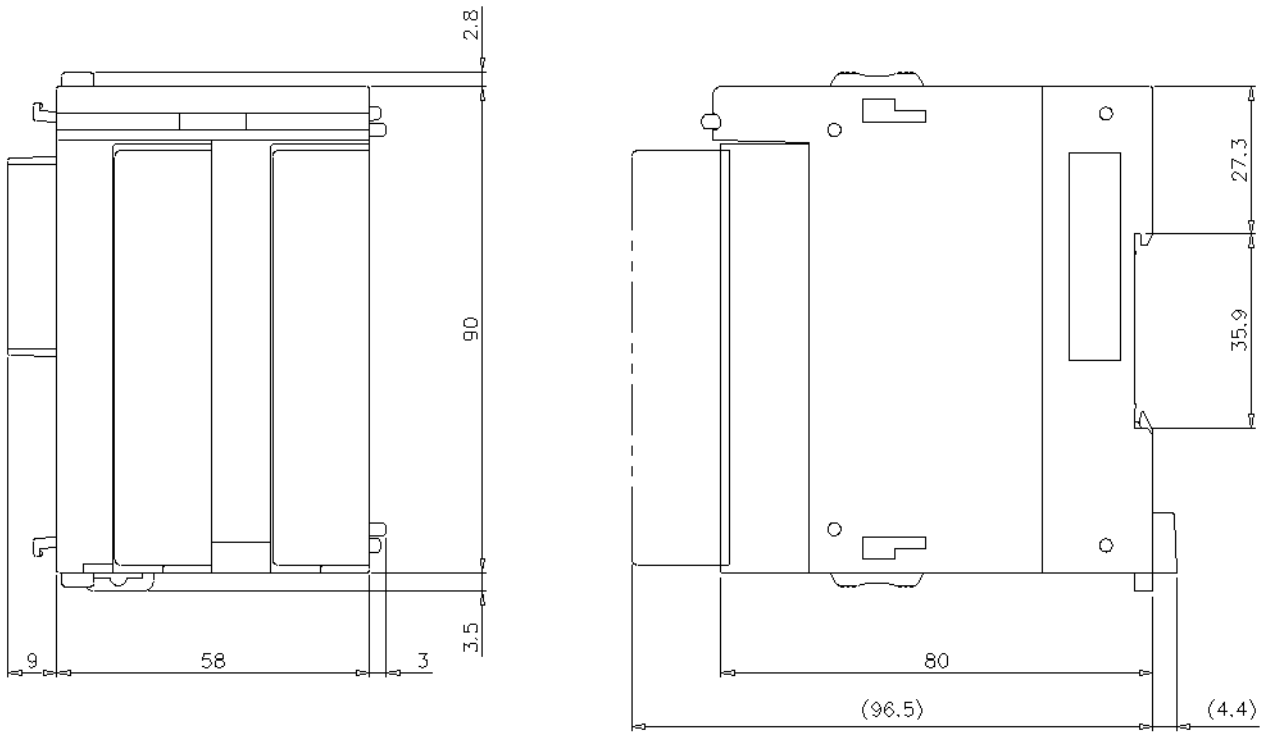
*1 Can be set for each channel.
*2 Because the alarm output is used as cooling control output when heat/cool control is used, the alarm output cannot be used as an alarm output function.
*3 Standby operation ON/OFF can be selected in each alarm mode.

*4 Use a KEYENCE sensor (OP-6694). (Sold separately.)

Dimensions

* Download CAD file or product manual for larger image/text and more detail.

KV-TF40



I/O Circuit Connection diagram

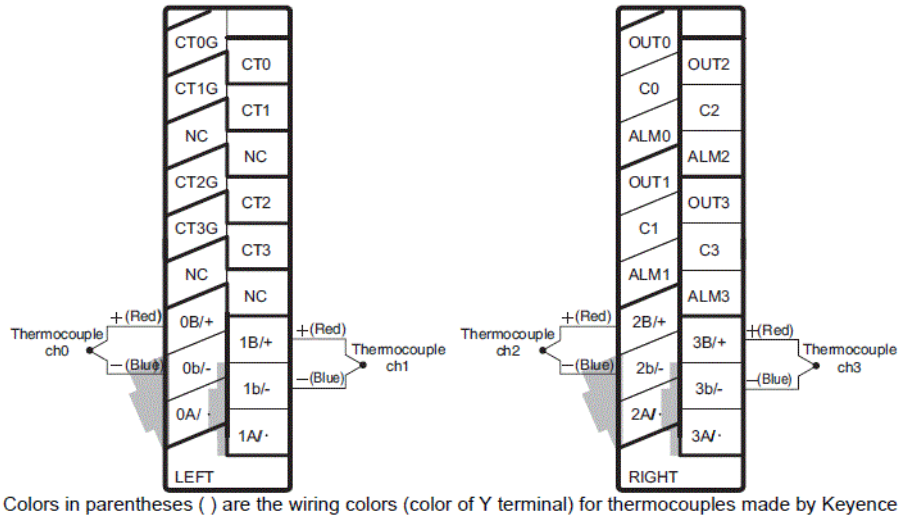
* Download CAD file or product manual for larger image/text and more detail.

I/O Terminal Wiring Diagram

Refer to the following wiring diagram when wiring the I/O terminal.

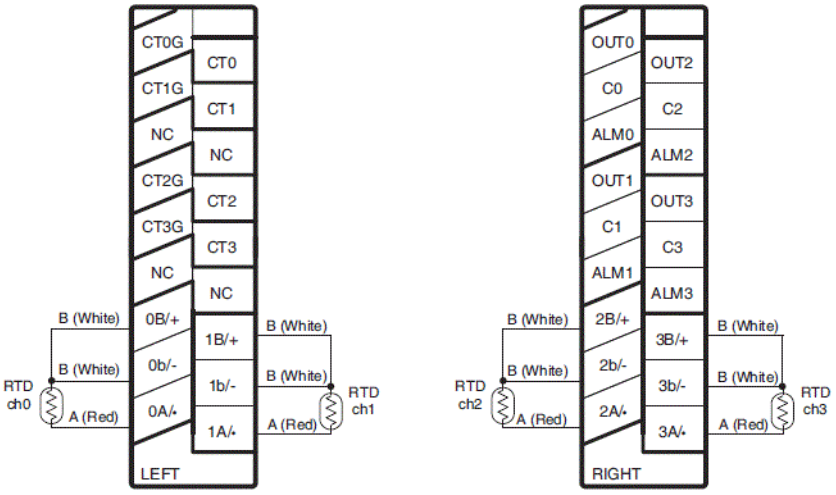
■ Wiring a temperature sensor

Thermocouple wiring



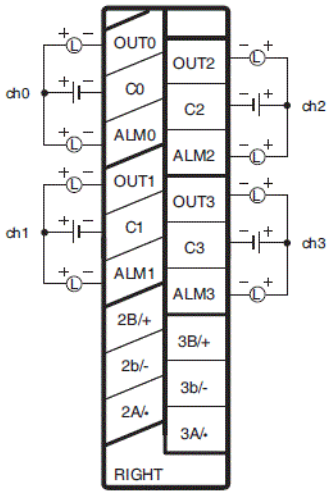
* Colors in parentheses ( ) are the wiring colors (color of Y terminal) for thermocouples made by Keyence Corporation. In the case of a non-contact thermocouple, these become + (yellow) and - (red).

RTD wiring

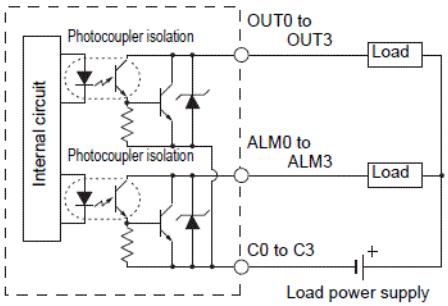


* Colors in parentheses ( ) are the wiring colors (color of Y terminal) for RTDs made by Keyence Corporation.

■ Control output and alarm output wiring

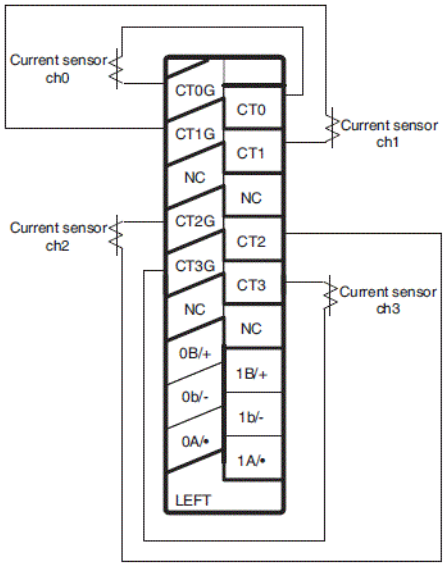


■ Output circuit diagram



C0 to C3 is isolated.

■ Current sensor (OP-6694) wiring



NOTE

- **The current sensor (OP-6694) does not have polarity.**
- **All current sensor input GNDs (CT0G to CT3G) are short-circuited internally.**