

General Specifications

Model GT5 Thermocouple Converter (Free Range Type)

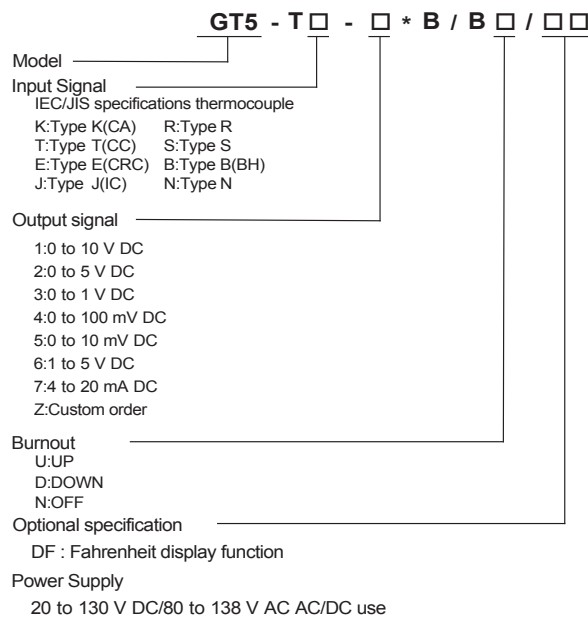
GS 77M01T05-01E

General

The GT5 is a free range type thermocouple converter that is connected to an IEC/JIS-standard thermocouple (TC), such as a Type K, T, E, J, R, S, B or N thermocouples to convert temperature signals into isolated DC current or DC voltage signals.

- Selection of input type (sensor type), temperature unit (°C, K), input range setting, burnout setting, output adjustment, I/O monitoring can be made using the optional Parameter Setting Tool (VJ77) or Handy Terminal (JHT200).
- Seven different types of output signals are available. it can be set easily by plugging a short-circuiting socket into pin-header for a output signal setting.
- For the Fahrenheit display, specify the option “/DF”.

Model and Suffix Codes



Ordering Information

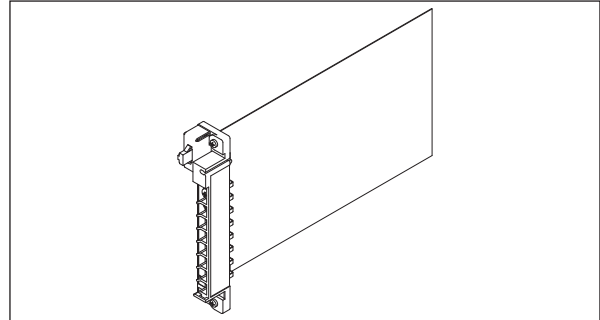
Specify the following when ordering.

- Model and suffix codes: e.g. GT5 -TK-6*B/BU
- Input range: e.g. 0 to 500 °C

When the burnout is not specified, the product is manufactured as /BU.

Input/Output Specifications

Input signal: An IEC/JIS-standard thermocouple (ITS-90, JIS C 1602: '95, IEC 584: '95)



Input type and Measuring range:

InputType	Measuring Range (°C)	Measuring Span	Zero Elevation
Type K	- 200 to + 1200	3 mV or more	Within 3 times of the measuring span or ± 25 mV , whichever is smaller
Type T	- 200 to + 350		
Type E	- 200 to + 800		
Type J	0 to 750		
Type R	0 to 1600		
Type S	0 to 1600		
Type B	600 to 1700		
Type N	- 200 to + 1200		

Input resistance: 1 MΩ or more (10 kΩ or more when power off)

Burnout detective current: 0.1 μA

Permissible applied voltage: - 0.5 to + 4.0 V DC

Signal source resistance: 500 Ω or less

Output signal: DC voltage or DC current signal

Output resistance and Allowable load resistance:

DC voltage signal			
Code	Output signal	Output resistance	Allowable load resistance
1	0 to 10 V DC	1 Ω or less	10 kΩ or more
2	0 to 5 V DC	1 Ω or less	2 kΩ or more
3	0 to 1 V DC	1 Ω or less	2 kΩ or more
4	0 to 100 mV DC	100 or less	250 kΩ or more
5	0 to 10 mV DC	100 or less	250 kΩ or more
6	1 to 5 V DC	1 Ω or less	2 kΩ or more
DC current signal			
7	4 to 20 mA DC	500 kΩ or more	750 Ω or less

Input adjustment: ± 1% of span (Zero/Span)

Output adjustment: ± 10% of span (Zero/Span)

Standard Performance

Accuracy rating: ± 0.3% of span

If you have changed the factory default settings, the adjustment should be made.

Accuracy of reference junction compensation:

Other than Type R and S: ± 1 °C (0 to 50 °C)

Type R and S: ± 2 °C (0 to 50 °C)

Type B: Reference junction compensation is not included.

Response speed: 150 ms, 63% response (10 to 90%)

Burnout: Up, Down or Off; the maximum burnout time is specified as 60 seconds.

- Effect of power supply voltage fluctuations: $\pm 0.1\%$ of span or less for the fluctuation within the operating range of power supply voltage specification.
- Effect of ambient temperature change: $\pm 0.2\%$ of span or less for a temperature change of $10\text{ }^\circ\text{C}$.
- Effect of leadwire resistance change: $\pm 15\text{ }\mu\text{V}$ or less for a change of $100\text{ }\Omega$ (Need adjustment when combining with BARD-600)

Environmental Conditions

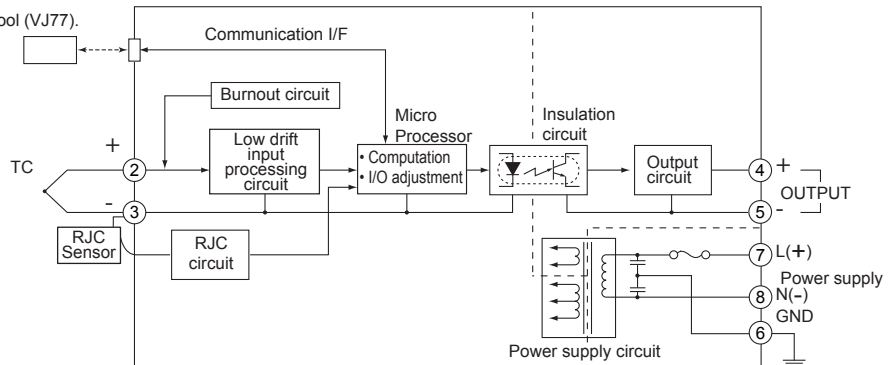
- Operating temperature range: $0\text{ to }50\text{ }^\circ\text{C}$
- Operating humidity range: $5\text{ to }90\%$ RH (no condensation)
- Avoid the following environments for installation locations:
 - Areas with vibration, corrosive gases, dust, water, oil, solvents, direct sunlight, radiation, a strong electric field, and/or a strong magnetic field, altitude of more than 2000 m above sea level.

Power Supply and Isolation

- Supply input voltage range: $20\text{ to }130\text{ V DC}$ or $80\text{ to }138\text{ V AC}$ ($47\text{ to }63\text{ Hz}$) (Ripple content 5% p-p or less).
- Power consumption current: $24\text{ V DC } 2.8\text{ W } 100\text{ V AC } 7.2\text{ VA}$
- Insulation resistance: $100\text{ M}\Omega$ minimum at 500 V DC between input, output, power supply and grounding terminals mutually.

Block Diagram

Handy terminal (JHT200) or PC-based parameter setting tool (VJ77).



Withstanding voltage: 1000 V AC/minute between input, output, power supply and grounding terminals mutually.

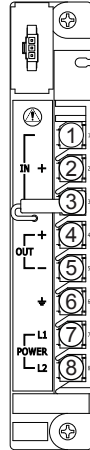
Mounting and Appearance

- Mounting method: Rack mounting
- Connection method: M4 screw terminals
- External dimensions: $148\text{ (H)} \times 27\text{ (W)} \times 248\text{ (D)}\text{ mm}$
- Weight: Approx. 350 g

Accessories

Spare fuse (0.5 A): 1, Tag number label: 4

Terminal Assignments



1	DO NOT use	
2	Input	+
3	Input	RJC -
4	Output	+
5	Output	-
6	GND	⊕
7	Power supply	L +
8	Power supply	N -

External Dimensions

