

TB SERIES 4 DIGITAL PID CONTROLLER

FEATURE

- Measuring T/C, Pt100Ω, Process signal mA, Vdc
- Accuracy: ±0.25% of full scale
- 4 Digital display: -1999~9999
- Automatic / manual output in standard
- Heating / Cooling control output available in option
- Analog re-transmission function option
- Outside dimensions is 1/4, 1/8, 1/16 DIN
- High stability & low cost
- CE Approval



SPECIFICATIONS

Measuring Range	Resolution	Input Impedance
Thermo-couple	K 0.0~400.0°C / 0~1200°C	≥1M ohm
	J 0.0~400.0°C / 0~1200°C	≥1M ohm
	E 0~1000°C	≥1M ohm
	T -199.9~400.0°C / 0.0~350.0°C	≥1M ohm
	R 0~1796°C	≥1M ohm
	S 0~1796°C	≥1M ohm
	B 0~1820°C	≥1M ohm
	N 0~1300°C	≥1M ohm
	W 0~2320°C	≥1M ohm
	PLII 0~1390°C	≥1M ohm
	U -199.9~400.0°C / 0.0~400.0°C	≥1M ohm
L 0~800°C	≥1M ohm	
Pt100Ω	-199.9~600.0°C / 0~600°C	≥1M ohm
Current	0~20 mA	2.4 ohm
	4~20 mA	2.4 ohm
Voltage	0~50 mV	≥1M ohm
	0~10 V	≥20K ohm
	1~5 V	≥10K ohm

- Measuring accuracy: ±0.25% F.S. ±1 digit
- Scaling: -1999~9999; 14 bit resolution
- Sampling time: About 2 cycles/sec.
- Display functions**
- LED: Dual display for PV & SV
8 square LED for status of output, alarm...
10 segments bar display for output percentage
- Decimal point: Settable any digit by front key (linear input)
- Unit: °C and °F changeable
- Compensation: For PV and SV
- Over-range indication: "UUU1" display
- Operating**
- Operation key: Five key for Function setting / Auto-Manual output
Up key / Down key / Shift key
- Skip function: Skip the functions showing what the customer don't use.
- Control mode**
- ON/OFF control: when P sets to be 0(P=0),
Hysteresis (Hy): 0~1000 counts
- PID control: Auto tuning
Proportional Band (P): 0.0~200.0% of span
Cooling side Proportional Band (P1): 0.0~200.0% of span
Reset time (Integral): 0~900 sec.
Rate time (Deviation): 0~1000 sec.
Cycle time: 0~150 sec.
H/C dual control output
Direct/Reverse programmable
- Control output: Relay SPDT x 1, 5A/240Vac
SSR, 24V, 20mA
4~20 mA, Load: 600Ω
0~10 V, Load: 1MΩ

Alarm

- Relay contact: Standard: Alarm 1: SPDT 5A/240V
Option: Alarm 2: SPDT 3A/240V
- Alarm functions: Wait, Hysteresis, Alarm time, Alarm delay, Alarm hold,
13 action modes programmable
Deviation High, Low or High & Low alarm,
Absolute value High, Low or High & Low alarm,
Absolute value high & low range
A/D error, Heater break
- Alarm mode:

Analogue output (option)

- Accuracy: ±0.25% of RO
- Output capability: Max. load resistance : 600 ohms
- Isolation: Isolation between input and output
- Calibration: By front key

Power

- Excitation Supply: DC 24V, 30mA
- Power Supply: AC 85~265V, 50/60 Hz
Option: DC 24V
- Power consumption: 4.5VA
- Back up memory: By EEPROM

Environmental

- Operating temperature: 0~55 °C
- Operating relative humidity: 20~90%RH(Non-condense)
- Temperature coefficient: ≤100 PPM/°C (0~50°C)
≤50 PPM/°C (23 ± 3°C)
- Storage temperature: -10~70 °C
- Enclosure: IP 42

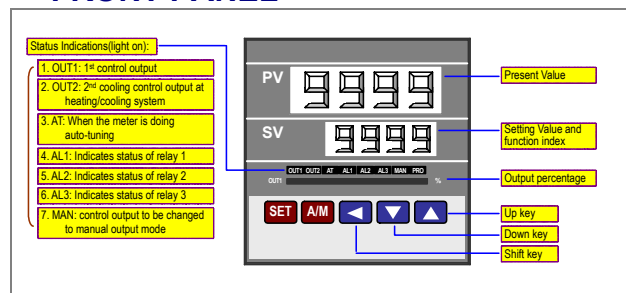
Electrical safety

- Dielectric Strength: AC 2.0KV for 1 min
Between Input / Output / Power / Case
- Insulation: ≥20M ohm
- LVD: EN61010-1
- EMC: EN 55022; EN50204
EN61000-3-2; EN61000-4-2

Mechanical

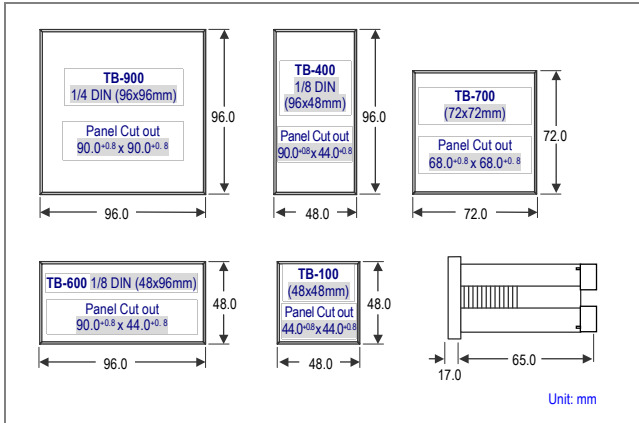
- Case material: Black ABS fire-protection
- Mounting: Panel flush mounting
- Connection: Screw terminal
- Weight: About 325g

FRONT PANEL

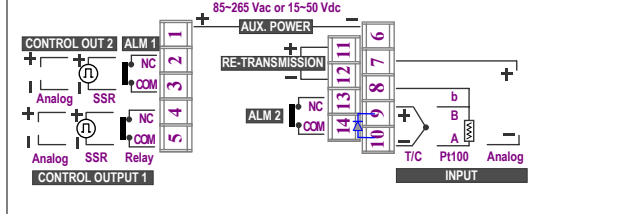


TB SERIES 4 DIGITAL PID CONTROLLER

DIMENSIONS

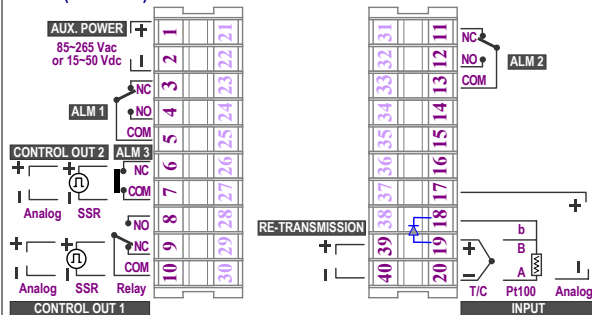


TB-100 (48x48mm):

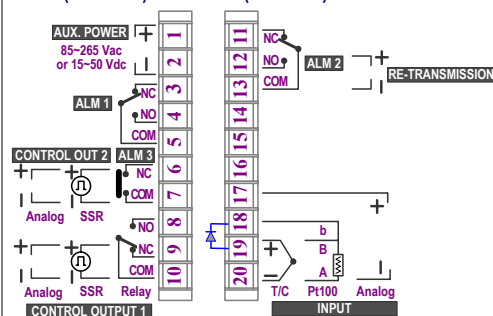


CONNECTION DIAGRAM

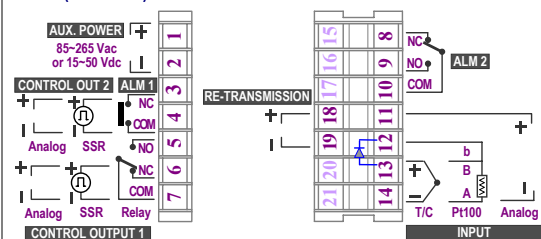
TB-900 (96x96mm):



TB-400 (48x96mm) and TB-600 (96x48mm):



TB-700 (72x72mm):



ORDERING INFORMATION



CODE	DIMENSION	CODE	CONTOL O/P 1	CODE	CONTOL O/P 2	CODE	ALARM O/P	CODE	ANALOG O/P	CODE	AUX. POWER
900	96x96mm	0	None	0	None	0	None	0	None	A	AC 86-264V
700	72x72mm	1	Relay	1	Relay	1	1 Relay	1	4 ~ 20 mA	D	DC 10-50V
600	96x48mm(V)	2	Volt (for SSR)	2	Volt (for SSR)	2	2 Relay	2	0 ~ 20 mA		
400	48x96mm(H)	3	4 ~ 20 mA	3	4 ~ 20 mA	3	3 Relay				
100	48x48mm										