

Analog Setting Non-Indicating Type

Analog and Non-indicating type, Set temperature by dial

■ Features

- Non-indicating type
- Setting temperature by Dial
- Includes burn out function
- Universal power : TOS



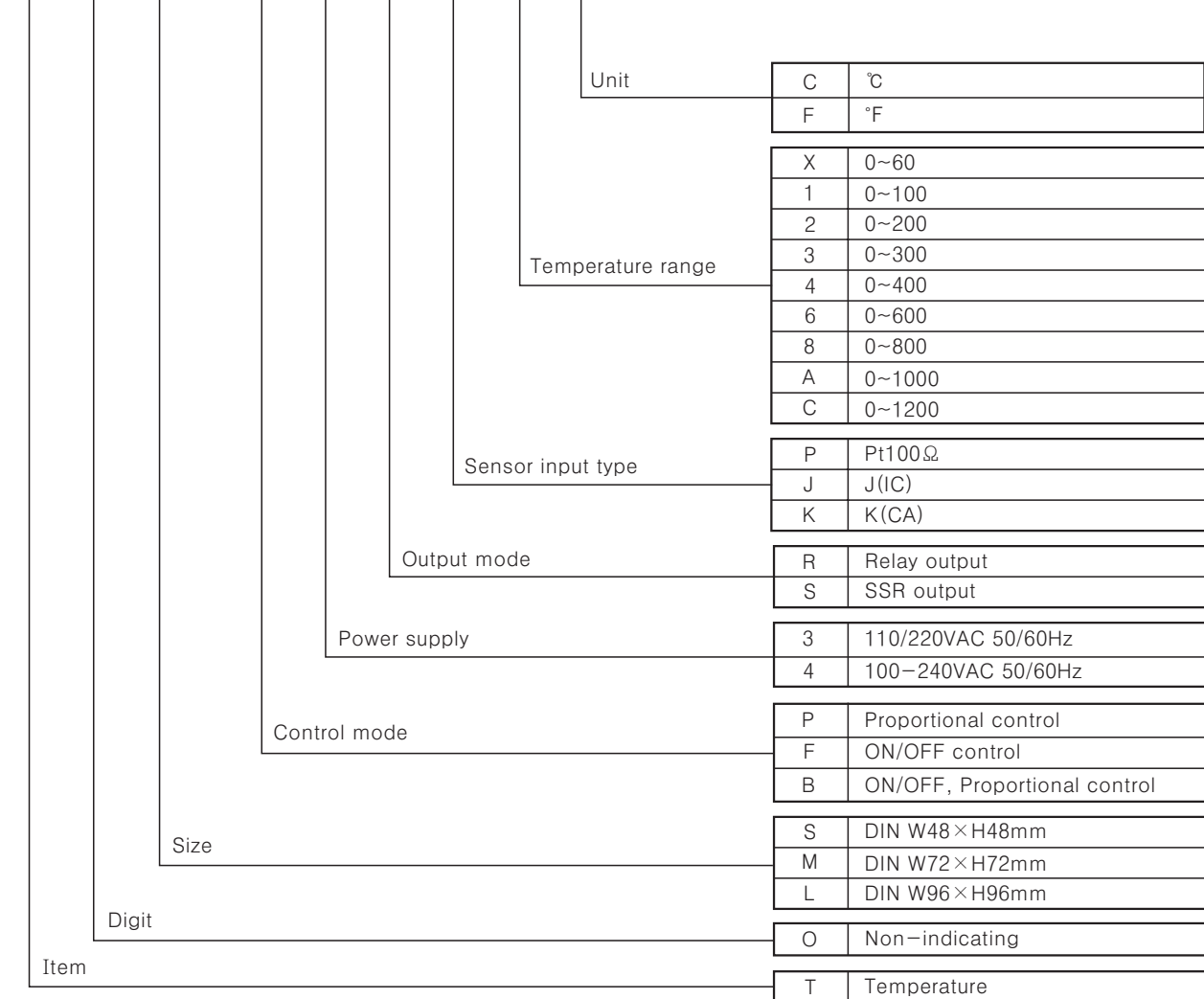
⚠ Please read "Caution for your safety" in operation manual before using.



(TOS Series only)

■ Ordering information

T O S - B 4 R P 4 C

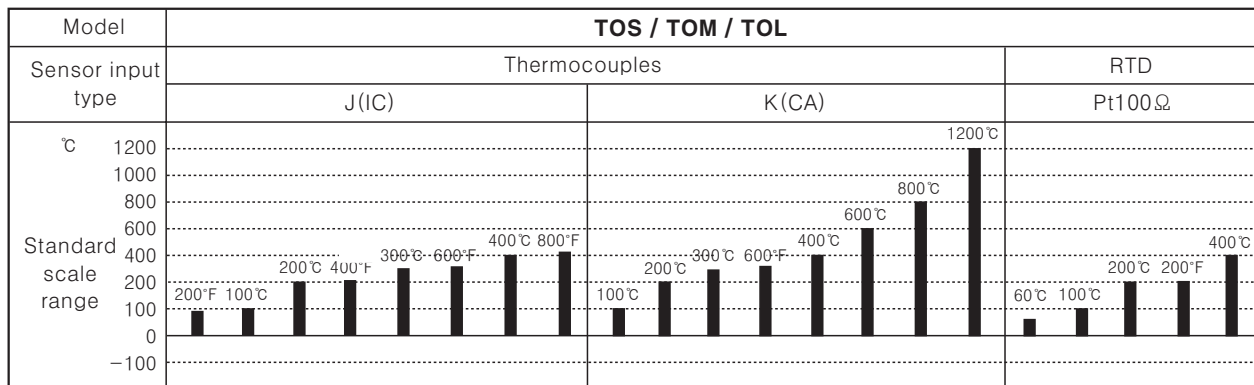


※ See C-43 about sensor temperature range for selection.

- (A) Counter
- (B) Timer
- (C) Temp. controller
- (D) Power controller
- (E) Panel meter
- (F) Tacho/Speed/Pulse meter
- (G) Display unit
- (H) Sensor controller
- (I) Switching power supply
- (J) Proximity sensor
- (K) Photo electric sensor
- (L) Pressure sensor
- (M) Rotary encoder
- (N) Stepping motor & Driver & Controller
- (O) Graphic panel
- (P) Production stoppage models & replacement

TOS/TOM/TOL

Temperature range for each sensor



Specifications

| Model | | TOS | TOM | TOL |
|-------------------------|--------------|--|---|--------------|
| Power supply | | 100-240VAC 50/60Hz | 110/220VAC 50/60Hz | |
| Allowable voltage range | | 90 ~ 110% of rated voltage | | |
| Power consumption | | 2.2VA | 3VA | |
| Display method | | LED ON | LED ON/OFF | |
| Setting type | | Dial setting | | |
| Setting accuracy | | F · S ±2% | | |
| Sensor input | | Thermocouples : K (CA), J (IC) / RTD : Pt100Ω | | |
| Input line resistance | | Thermocouples : Max. 100Ω, RTD : Max. 5Ω per a wire | | |
| Control | ON/OFF | Hysteresis : F · S 0.5 ±0.2% fixed | | |
| | Proportional | Proportional band : F · S 3% fixed, Period : 20sec. fixed | | |
| Control output | | <ul style="list-style-type: none"> Relay output : 250VAC 2A 1c SSR Output : 12VDC ±3V Load 20mA Max. | <ul style="list-style-type: none"> Relay contact output : 250VAC 3A 1c SSR Output : 12VDC ±3V 20mA max. | |
| Self-diagnosis | | Includes burn out function | | |
| Insulation resistance | | Min. 100MΩ (at 500VDC mega) | | |
| Dielectric strength | | 2000VAC 50/60Hz for 1 minute | | |
| Noise strength | | ±1kV the square wave noise (pulse width:1μs) by the noise simulator | | |
| Vibration | Mechanical | 0.75mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 1 hour | | |
| | Malfunction | 0.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 10 minutes | | |
| Shock | Mechanical | 300m/s ² (Approx. 30G) 3 times at X, Y, Z direction | | |
| | Malfunction | 100m/s ² (Approx. 10G) 3 times at X, Y, Z direction | | |
| Relay life cycle | Mechanical | Min. 10,000,000 times | | |
| | Electrical | Min. 100,000 times (250VAC 3A at resistive load) | | |
| Ambient temperature | | -10 ~ +50°C (at non-freezing status) | | |
| Storage temperature | | -20 ~ +60°C (at non-freezing status) | | |
| Ambient humidity | | 35 ~ 85%RH | | |
| Approval | | | | |
| Unit weight | | Approx. 104g | Approx. 419g | Approx. 426g |

*F.S is same with sensor measuring temperature range.

Ex) In case of using temperature is from 0~800°C, Full scale is "800".

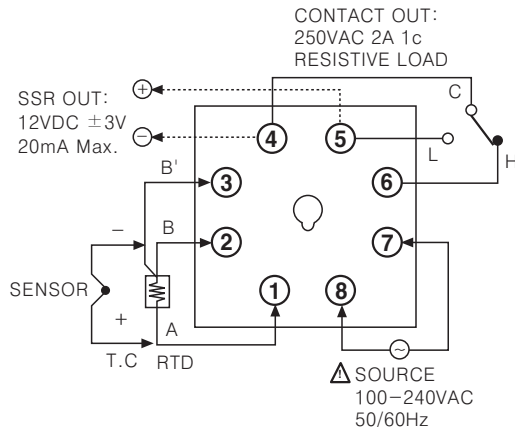
Analog Setting Non-Indicating Type

Connections

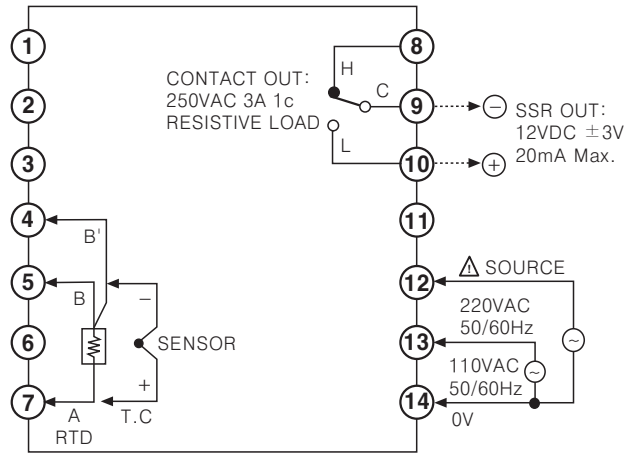
※RTD(Resistance Temperature Detector) : Pt 100Ω(3-wire type) ※ Thermocouple : K, J, R

| | |
|-----|--|
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| (F) | Tacho/Speed/Pulse meter |
| (G) | Display unit |
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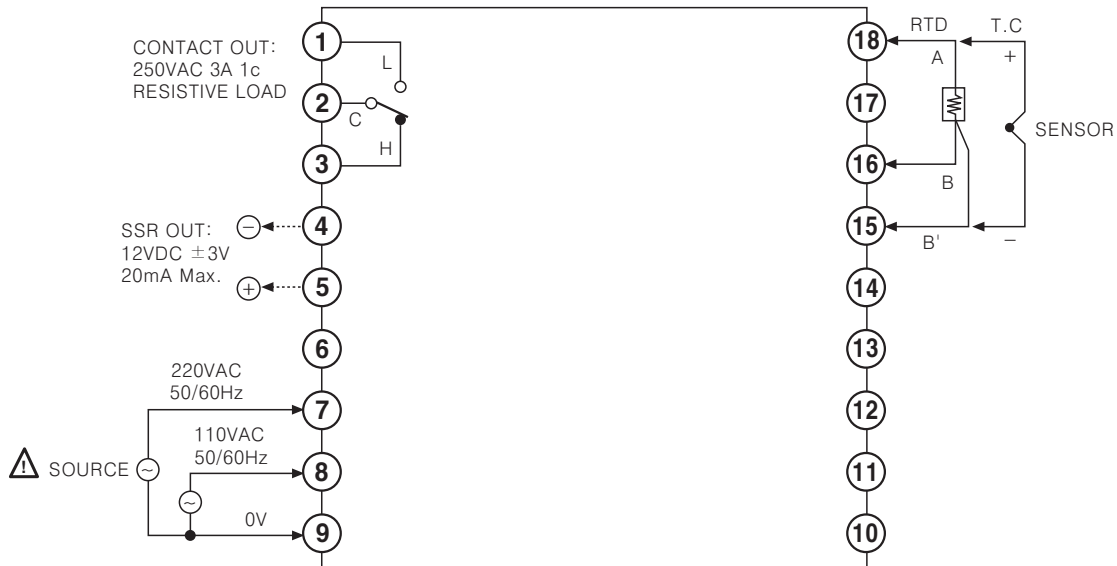
●TOS



●TOM

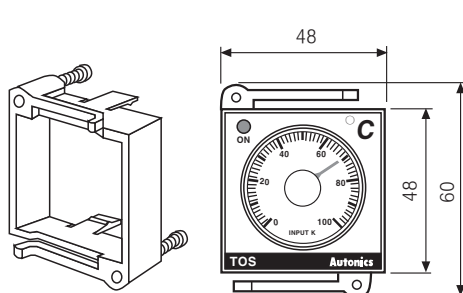


●TOL

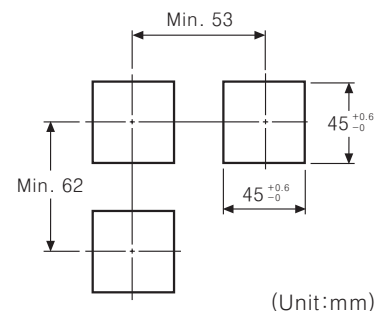


Dimensions

●TOS



●Panel cut-out

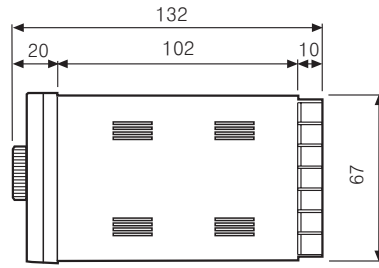
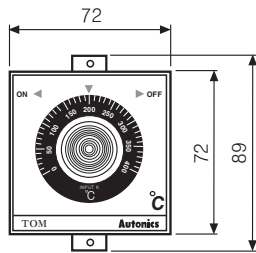


※Socket : PG-08, PS-08(Sold separately)

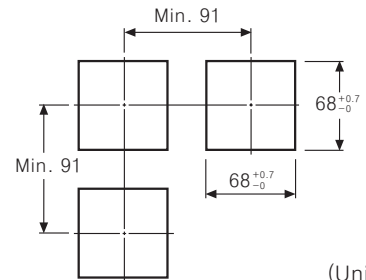
TOS/TOM/TOL

Dimensions

•TOM

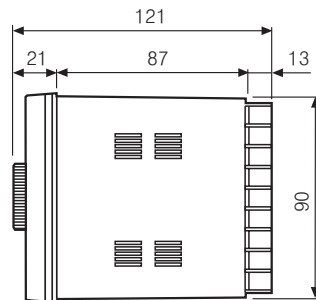
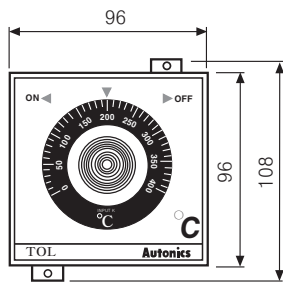


•Panel cut-out

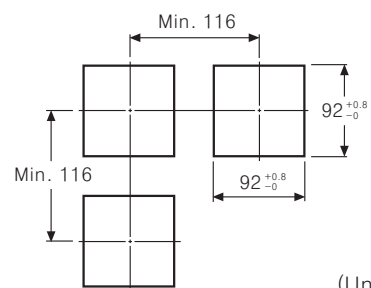


(Unit:mm)

•TOL, TDL



•Panel cut-out

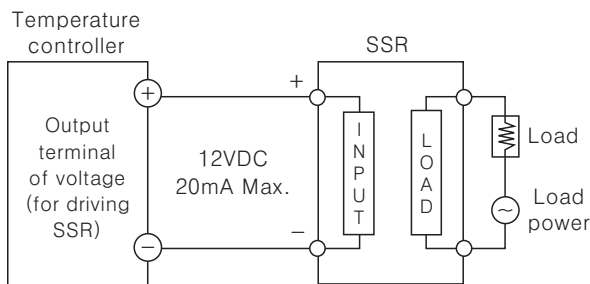


(Unit:mm)

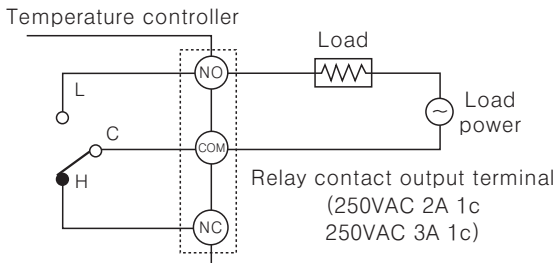
Proper usage

Application of temperature controller and load connection

•SSR output



•Relay output



Normal/Reverse operation

Reverse operation executes to output ON when processing value is lower than setting value, and it is used for heating.

Normal operation is executed conversely and used for cooling.

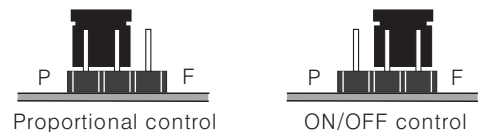
(This item runs as a reverse operation.)

How to select ON/OFF or proportional by plug pin

Factory specification is proportional control.

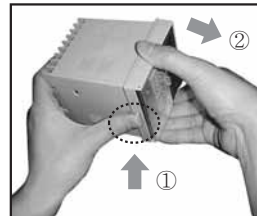
When using ON/OFF control, transfer the switch of control mode from P to F after detaching the case from its body.

Note) Several models require to change control mode by jump line or solder.



Case detachment

•TOM, TOL



Pressing the front guide of Lock toward ① and squeeze and pull toward ②, it is detached.

•TOS



Pressing Pin plug ①, raise it up with a driver as ② and it is detached.