

## Description

CS3-TR Temperature Indicator has been designed with Pt100 (3 wire) high accuracy measurement.

A compact body design for small equipment, laboratory instrument, and others. Also are available with relay output, analog output, RS485 Modbus RTU communication to cover a wide range of applications



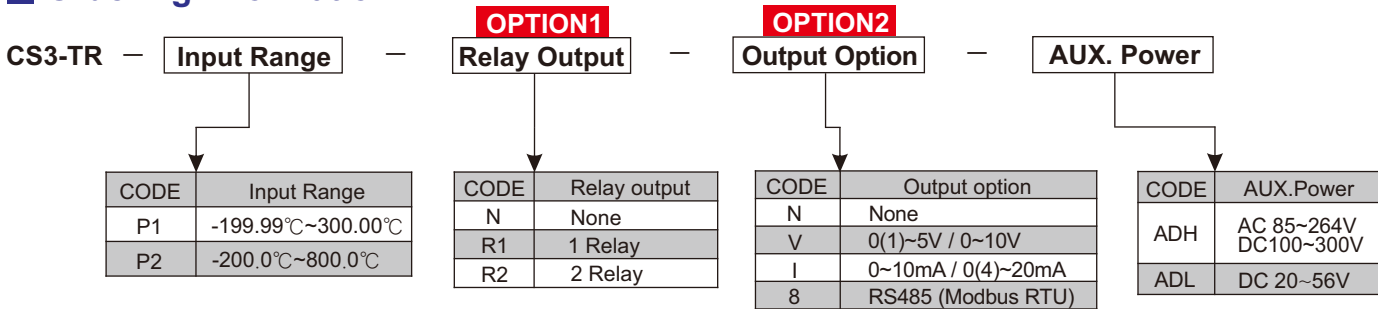
## Features

1. Unit can be switched °C or °F
2. Relay output can be set to Hi / Lo / Hi Hold /Lo Hold / DO mode and can setting as Start delay band / Hysteresis band / Delay on & Delay off function
3. Analog output or RS485 communication is optional
4. External control input can be set to PV Hold / Max or Min value reset / Relay Reset
5. CE and FCC approved

## Application

Temperature display, control, measurement and data record by RS485

## Ordering Information



## Technical Specification

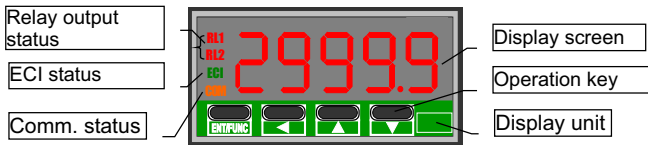
Input	
P1 Temp. Range	-199.99°C~300.00°C / -327.98°F~572.00°F
P2 Temp. Range	-200.0°C~800.0°C / -328.0°F~1472.0°F
Excitation supply	1.0mA
Calibration	Digital calibration
A/D converter	16 bits resolution
Accuracy	≤ ± 0.1% of FS ±1 count
Sampling rate	15 times / sec
Response time	≤ 100mS ( when R.U.C. = "1" )

<b>Display &amp; Functions</b>	
LED	4 $\frac{2}{3}$ digits, 0.4" (10.0mm) red high-brightness LED Relay output indication: square red LED RS485 communication: square orange LED ECI indication: square green LED
Display range	-19999~29999
Over range indication	[O U F L.] Over input Hi limit value
Under range indication	[- O U F L.] Under input Low limit value
Max /Min recording	Maximum and Minimum value storage during power on
Display functions	PV / Max( Min) value Hold / RS485 programmable
Front key functions	Down key can be set same as ECI function
Low cut	- 19999~29999 counts
Digital fine adjust	PV zero [P U P r o ]-19999~29999 PV span [P U S P n ]-19999~29999
<b>Reading Stable Functions</b>	
Average	[R U C ]1~99 times
Moving average	[M R U C ]1~10 times
Digital filter	[d L t ] 0~99 times
<b>Relay Output (Option)</b>	
Set points	2 Set points, range: -19999~29999
Relay contact form	2 Sets SPDT (1c), 2A/250Vac
Relay action mode	Hi / Lo / Hi.HLd / Lo.HLd / DO
Relay action function	Each Relay can set Start delay / Delay off time / Hysteresis Start band setting: 0~9999 counts Start delay time setting: 0:00.0~9(Min)~59.9(Sec) Active delay time setting: 0:00.0~9(Min)~59.9(Sec) Delay off time setting: 0:00.0~9(Min)~59.9(Sec) Hysteresis setting: 0~5000 counts
<b>External Control Input (ECI)</b>	
Input mode	One Channel input, mechanical contact or open collect input are available
Input function	Tare / PV Hold / Max. and Min. value reset / DI / Relay reset
Debouncing time	5~255 (x8mS) programable

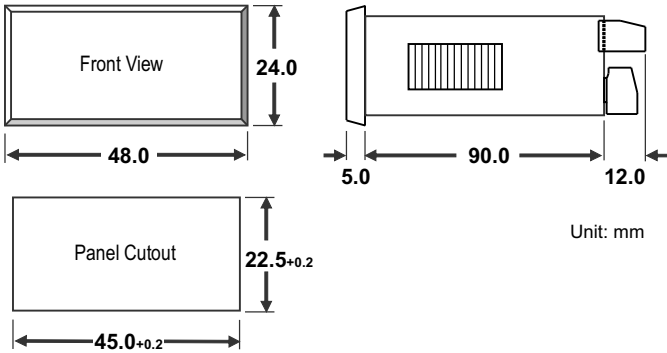
<b>Analog Output (Option)</b>	
Accuracy	≤±0.1% of F.S. ; 16 bits DA converter
Ripple	≤±0.1% of F.S.
Response time	≤100 mS ( 10~90% of input)
Output range	Voltage output: 0~5V / 0~10V / 1~5V Current output: 0~10mA / 0~20mA / 4~20mA
Output capability	0~10V: ≥1000Ω 4(0)~20mA: ≤600Ω max
Scaling	[ R o H 5 ] Output High setting: -19999~29999 [ R o L 5 ] Output Low setting: -19999~29999 [ R o L n t ] Output High Limit: 0.00~110.00%
Digital fine adjust	[ R o 2 r o ] adjust range: -19999~+32766 [ R o 5 P n ] adjust range: -19999~+32766
<b>RS485 Communication (Option)</b>	
Protocol	RS485 Modbus RTU mode
Baud rate	1200/2400/4800/9600/19200/38400 bps
Data bits	8 bits
Parity	None / Even / Odd
Stop bits	1 or 2
Address	1~247
Distance	1200M max
Terminate resistor	120~300Ω/0.25W(typical: 150Ω)
<b>Power Supply</b>	
Range	ADH: AC 85~264V ; DC 100~300V ADL: AC/DC 20~56V
Power consumption	AC: ≤8VA @ 230V / DC:≤3W
Memory storage	EEPROM

<b>Safety</b>	
Isolation	AC 2KV, 50/60Hz, for 1 min, Between Power / Input / Output / Case
Insulation resistance	100MΩ @ 500Vdc, Between Power / Input / Output / Case
EMC	En61326: 1:2013 / CISPR11 Class A EN61000-3-2: 2014 / EN61000-3-3: 2013 IEC61000-4-2: 2008 IEC61000-4-3: 2006+A1: 2007+A2: 2010 IEC61000-4-4: 2012/IEC 61000-4-5: 2005 IEC61000-4-6: 2013 / IEC61000-4-8: 2009 IEC61000-4-11: 2004
LVD	EN61010-1: 2010
FCC	FCC part 15 subpart B: Class A
<b>Environmental Characteristics</b>	
Operating Temp.	0~60°C
Humidity rating	20~95%RH, Non-condensing
Temp. coefficient	≤100 PPM/°C
Storage Temp.	- 10~70°C
IP Enclosure	Front panel: IEC 529 (IP52) ; Housing: IP20
<b>Mechanical Characteristics</b>	
Dimensions	48mm(W)x24mm(H)x107mm(L)
Panel cutout	45mm(W)x22.5mm(H)
Case material	ABS (with fire-retardant )
Mounting	Panel mounting
Terminal block	PA 66 (UL 94V-0) AWG 28~14 / 0.5~1.5mm <sup>2</sup> Screw Torque Value : M2.0 / 2.0kgf.cm(Max)
Weight	110g

## Front Panel

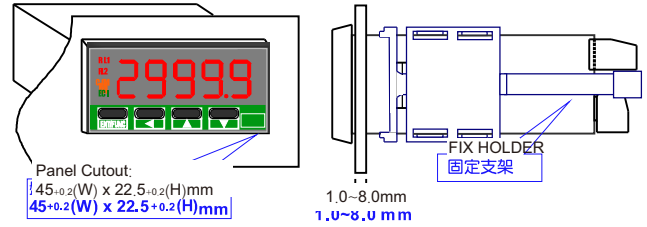


## Dimension

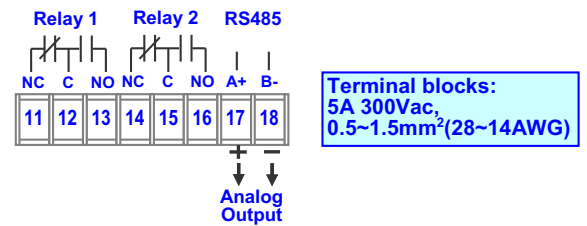


## Installation

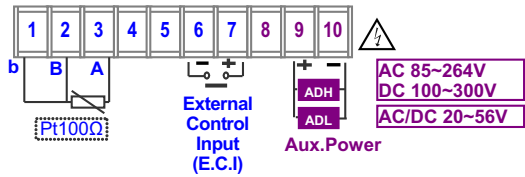
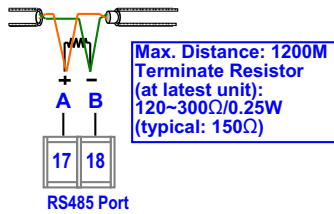
The meter should be installed in a location that does not exceed the maximum operating temperature and provides good air circulation.



## Connection Diagram



## RS485 Communication Port



Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker

