CS1-T TEMPERATURE Indicator

■ DESCRIPTION

CS1-T economic type Temperature Indicator has been designed with high accuracy measurement, display and communication of Thermocouple or Pt100Ω.
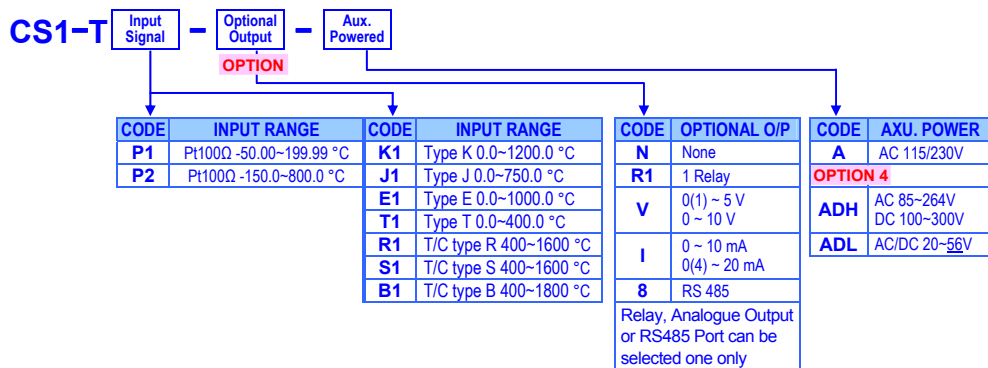
They are also available 1 option of 1 Relay outputs, 1 Analogue output or 1 RS485(Modbus RTU Mode) interface with versatile functions such as control, alarm, re-transmission or communication for a wide range of machinery and testing equipments applications.

■ FEATURE

- Measuring RTD: Pt100Ω; Thermocouple: K, J, E, T, R, S, B
- Option available 1 of 1 relay, 1 analogue output or RS485(Modbus RTU mode)
- 1 relay can be programmed individual to be a Hi / Lo / Hi Latch / Lo Latch energized with Start Delay / Hysteresis / Energized & De-energized Delay functions.
- Analogue output or RS 485 communication port in option
- CE Approved & RoHS

■ ORDERING INFORMATION

CS1-T [Input Signal] - [Optional Output] - [Aux. Powered]

OPTION

CODE	INPUT RANGE	CODE	INPUT RANGE
P1	Pt100Ω -50.00~199.99 °C	K1	Type K 0.0~1200.0 °C
P2	Pt100Ω -150.0~800.0 °C	J1	Type J 0.0~750.0 °C
		E1	Type E 0.0~1000.0 °C
		T1	Type T 0.0~400.0 °C
		R1	T/C type R 400~1600 °C
		S1	T/C type S 400~1600 °C
		B1	T/C type B 400~1800 °C

CODE	OPTIONAL O/P
N	None
R1	1 Relay
V	0(1) ~ 5 V 0 ~ 10 V
I	0 ~ 10 mA 0(4) ~ 20 mA
8	RS 485

Relay, Analogue Output or RS485 Port can be selected one only

CODE	AXU. POWER
A	AC 115/230V
OPTION 4	
ADH	AC 85~264V DC 100~300V
ADL	AC/DC 20~56V

■ TECHNICAL SPECIFICATION

Input

	Measuring Range	Input Impedance	Excitation Supply
P1	Pt100Ω -50.00~199.99 °C	≥1M ohm	Sensing Current: 1.6mA
P2	Pt100Ω -150.0~800.0 °C	≥1M ohm	
K1	Type K 0.0~1200.0 °C	≥1M ohm	
J1	Type J 0.0~750.0 °C	≥1M ohm	
E1	Type E 0.0~1000.0 °C	≥1M ohm	
T1	Type T 0.0~400.0 °C	≥1M ohm	
R1	T/C type R 400~1600 °C	≥1M ohm	
S1	T/C type S 400~1600 °C	≥1M ohm	
B1	T/C type B 400~1800 °C	≥1M ohm	

Calibration: Digital calibration by front key

A/D converter: 16 bits resolution

Accuracy: Pt100Ω: ≤ ±0.1% of FS ± 1C;
Thermocouple: ≤ ±0.2% of FS ± 1C;

Sampling rate: 15 cycles/sec

Response time: ≤100 m-sec.(when the AvG = "1") in standard

Cold junction in T/C: 25 ± 10°C, error ≤ 0.5°C

Display & Functions

LED: **Numeric:** 5 digits, 0.8"(20.0mm)H red high-brightness LED
Relay output indication: 1 square red LED
RS 485 communication: 1 square orange LED
E.C.I. function indication: 1 square green LED
Max/Mini Hold indication: 2 square orange LED
Down key function indication (Reset for Max.(Mini.) Hold / PV Hold / Relative PV): 1 square green LED

Display range: -19999~29999;

Scaling function: Fix range, please don't set.
Fix range, please don't set.

Decimal point: Fix range, please don't set.

Over range indication: ouFL, when input is over 20% of input range Hi

Under range indication: -ouFL, when input is under -20% of input range Lo

Max / Mini recording: Maximum and Minimum value storage during power on.

Display functions: **PV / Max(Mini) Hold / RS 485 Programmable**

Front key functions: **Relative PV / PV Hold / Reset for maxi(mini) hold / Reset for relay energized latch programmable**

Low cut: Settable range: -19999~29999 counts

Digital fine adjust: PuPro: Settable range: -19999~+29999
PuSPn: Settable range: -19999~+29999

Reading Stable Function

Average:	**Average:**
Moving average:	**Moving average:**
Digital filter:	**Digital filter:**

Control Functions(option)

Set-points: One set-point

Control relay: 1 Relay, FORM-C, 5A/230Vac, 10A/115V

Relay energized mode: Energized levels compare with set-points:
Hi / Lo / **Hi.HLd** / **Lo.HLd** programmable

Energizing functions: Start delay / Energized & De-energized delay / Hysteresis / Energized Latch

Start band(Minimum level for Energizing): 0~9999counts

Start delay time: 0:00.0~9(Minutes):59.9(Second)

Energized delay time: 0.00.0~9(Minutes):59.9(Second)

De-energized delay time: 0.00.0~9(Minutes):59.9(Second)

Hysteresis: 0~5000 counts

Analogue output(option)

Accuracy: ≤± 0.1% of F.S.;

Ripple: ≤± 0.1% of F.S.

Response time: ≤100 m-sec. (10~90% of input)

Isolation: AC 2.0 KV between input and output

Output range: Specify either Voltage or Current output in ordering
Voltage: 0~5V / 0~10V / 1~5V programmable
Current: 0~10mA / 0~20mA / 4~20mA programmable

Output capability: **Voltage: 0~10V: ≥ 1000Ω;**
Current: 4(0)~20mA: ≤ 500Ω max

Functions:	AoH5 (output range high): Settable range: -19999~29999
	AoL5 (output range Low): Settable range: -19999~29999
Digital fine adjust:	AoPro: Settable range: -38011~+27524
	AoSPn: Settable range: -38011~+27524

RS 485 Communication(option)

Protocol:	Modbus RTU mode
Baud rate:	1200/2400/4800/9600/19200/38400 programmable
Data bits:	8 bits
Parity:	Even, odd or none (with 1 or 2 stop bit) programmable
Address:	1 ~ 255 programmable
Remote display:	**to show the value from RS485 command of master**
Distance:	1200M
Terminate resistor:	150Ω at last unit.

Electrical Safety

Dielectric strength:	AC 2.0 KV for 1 min, Between Power / Input / Output / Case
Insulation resistance:	≥100M ohm at 500Vdc, Between Power / Input / Output
Isolation:	Between Power / Input / Relay, Analogue, RS485
EMC:	EN 55011:2002; EN 61326:2003
Safety(LVD):	EN 61010-1:2001

Environmental

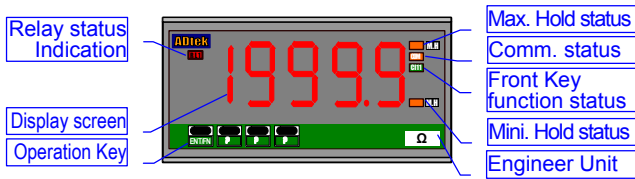| Operating temp.:	0~60 ˚C
Operating humidity:	20~95 %RH, Non-condensing
Temp. coefficient:	≤100 PPM/˚C
Storage temp.:	-10~70 ˚C
Enclosure:	Front panel: IEC 529 (IP52); Housing: IP20

Mechanical

Dimensions:	96mm(W) x 48mm(H) x 72mm(D)
Panel cutout:	92mm(W) x 44mm(H)
Case material:	ABS fire-resistance (UL 94V-0)
Mounting:	Panel flush mounting
Terminal block:	Plastic NYLON 66 (UL 94V-0)
	10A 300Vac, M2.6, 1.3~2.0mm²(16~22AWG)
Weight:	350g

Power

Power supply:	AC115/230V,50/60Hz;
	Optional: AC 85~264V / DC 100~300V or DC 20~56V
Excitation supply:	DC 5/10V, 30mA maximum in standard
Power consumption:	3.0VA maximum
Back up memory:	By EEPROM

■ FRONT PANEL

Relay status Indication
Display screen
Operation Key
Max. Hold status
Comm. status
Front Key function status
Mini. Hold status
Engineer Unit

■ DIMENSIONS

Front View — 48.0 — 96.0
8.0 — 60.0 — 12.0
Panel Cut out — 44.0+0.2 — 92.0+0.2

Dimension: 96mm x 48mm x 72mm
Panel Cut out: 92mm x 44mm

Unit: mm
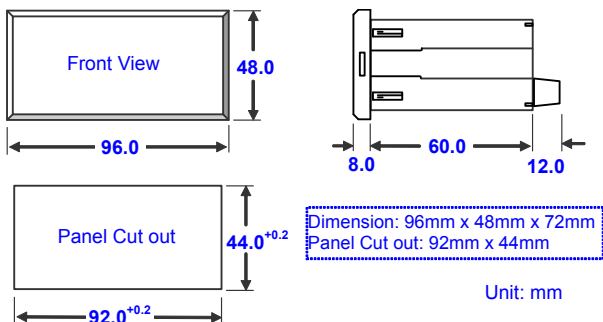
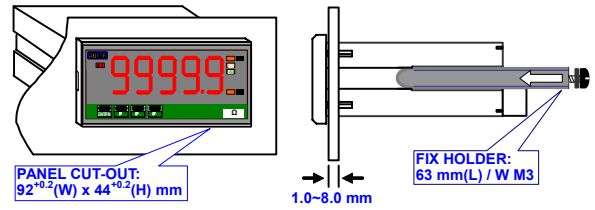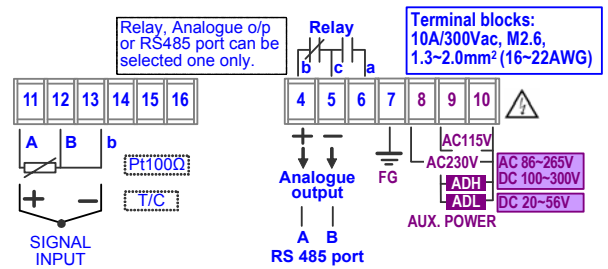## ■ INSTALLATION

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

PANEL CUT-OUT:
92+0.2(W) x 44+0.2(H) mm

FIX HOLDER:
63 mm(L) / W M3

1.0~8.0 mm

■ CONNECTION DIAGRAM

Relay, Analogue o/p or RS485 port can be selected one only.

Relay

Terminal blocks:
10A/300Vac, M2.6,
1.3~2.0mm² (16~22AWG)

| 11 | 12 | 13 | 14 | 15 | 16 | | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

A B b
Pt100Ω
T/C
SIGNAL INPUT

Analogue output
A B
RS 485 port

FG

AC115V
AC230V   AC 86~265V DC 100~300V
ADH
ADL   DC 20~56V
AUX. POWER

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.

Power Supply

| 7 | 8 | 9 | 10 |

1A Fuse
AC115/230V
AC85~264V

Filter or Transformer

RS485 Communication Port

Max. Distance: 1200M
Terminate Resistor
(at latest unit):
120~300ohm/0.25W
(typical: 150ohm)

A B

| 4 | 5 | 6 |

RS485 Port

Amend: 2010/4/26: Modify the range and terminals for DC power supply
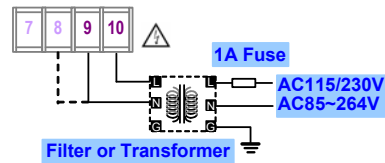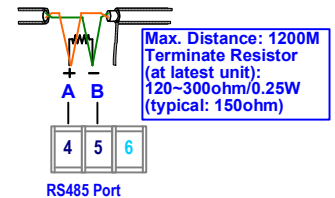
■ FUNCTION DESCRIPTION

Display & Functions

Max / Mini recording: The meter will storage the maximum and minimum value in [user level] during power on in order to review drifting of PV.

Display functions: PV / Max(Mini) Hold / RS 485 programmable in [dSPLY] function of [inPut GroUP]

(Please refer to step A-07)

Present Value Pu : The display will show the value that Relative to Input signal.

Maximum Hold MAxHd / **Minimum Hold** MinHd : The meter will keep display in maximum (minimum) value during power on, until press front key to reset (If the down key function in [inPut GroUP] has been set to MrSt) .

▶ Please find the 🟧 M.H sticker that enclosure the package of the meter to stick on the right side of square orange LED

Max. (Mini.) Hold & Reset

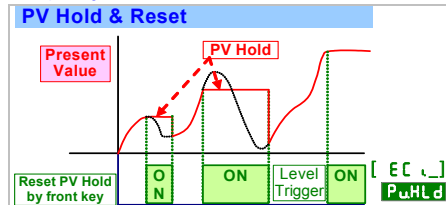Present Value — Maximum Hold — Reset the Max (Mini) Hold by Front Key — Level Trigger — ON
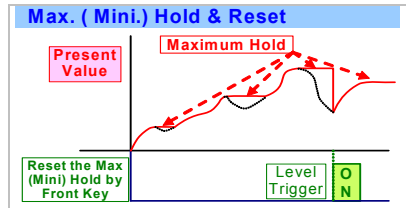
Remote Display by RS485 command rS485 : The meter will show the value that received from RS485 sending. In past, The meter normally receive 4~20mA or 0~10V from AO or digital output from BCD module of PLC .We support a new solution that PV shows the value from RS485 command of master can so that can be **save cost and wiring** from PLC.

Front key functions: Relative PV / PV Hold / Reset for maxi(mini) hold / Reset for relay energized latch programmable in [dnKEY] function of [inPut GroUP]
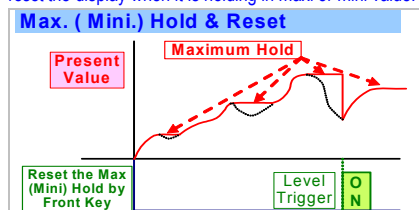
Relative PV rELPu : The [dnKEY] function can be set to be rELPu function.
(Tare function) When user presses the 🔽 key, the display will show the differential value (ΔPV), until press 🔽 key again.

PV Hold PuHLd : The [dnKEY] function can be set to be PuHLd function. When user presses the 🔽 key, the display will be hold until press the 🔽 key again.

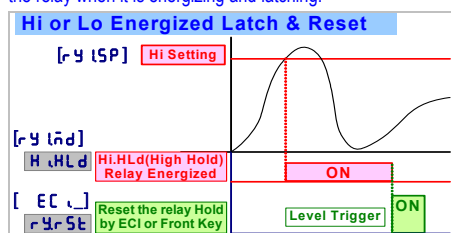▶ Please find the 🟥 P.H sticker to stick on the right side of square green LED.

PV Hold & Reset

Present Value — PV Hold — Reset PV Hold by front key — ON — ON — Level Trigger — ON [EC i] PuHLd

Reset for Max(Mini) Hold MrSt : when the [dSPLY] in [inPut GroUP] set to be MAxHd or MinHd , [dnKEY] function can be set to be MrSt to reset the display when it is holding in maxi or mini value.
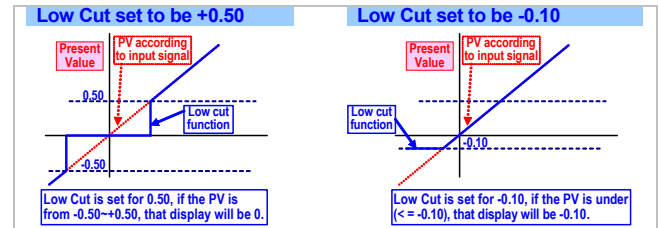
Max. (Mini.) Hold & Reset

Present Value — Maximum Hold — Reset the Max (Mini) Hold by Front Key — Level Trigger — ON

Reset for relay energized latch rYrSt : when the [rY lnd] in [rELAY GroUP] set to be HiHLd or LoHLd , [dnKEY] function can be set to be rYrSt to reset the relay when it is energizing and latching.

Hi or Lo Energized Latch & Reset

[rY iSP] Hi Setting
[rY lnd] HiHLd Hi.HLd(High Hold) Relay Energized — ON
[EC i] rYrSt Reset the relay Hold by ECI or Front Key — Level Trigger — ON

Low cut:
If the setting value is positive, it means when the absolutely value of PV ≤ Setting value, the display will be 0. If the setting value is negative, it means when the PV under setting value (PV≤ -Setting value), the display will be setting value.

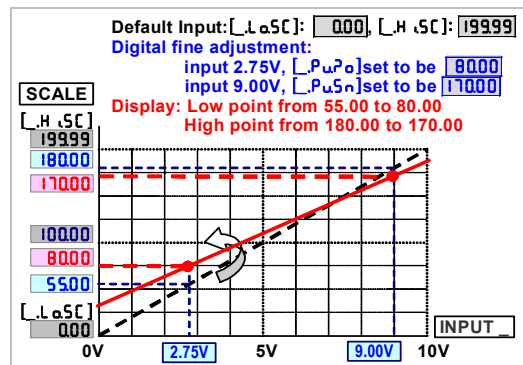| Low Cut set to be +0.50	Low Cut set to be -0.10
Present Value / PV according to input signal / 0.50 / -0.50 / Low cut function	Present Value / PV according to input signal / Low cut function / -0.10
Low Cut is set for 0.50, if the PV is from -0.50~+0.50, that display will be 0.	Low Cut is set for -0.10, if the PV is under (< = -0.10), that display will be -0.10.

Digital fine adjustment:
Users can get Fine Adjustment for Zero & Span of PV by front key of the meter, and "**Just Key In**" the value which user want to show in the current input signals.

Especially, the [PuPro] & [PuSPn] are not only in zero & span of PV, but also any lower point for [PuPro] & higher point for [PuSPn]. The meter will be linearization for full scale.

The adjustment can be clear in function [PSCLr]

Default Input:[.LoSC]: 0.00, [H iSC]: 19999
Digital fine adjustment:
input 2.75V, [.PuPo]set to be 80.00
input 9.00V, [.PuSn]set to be 170.00
Display: Low point from 55.00 to 80.00
High point from 180.00 to 170.00

SCALE
[H iSC] 19999 / 180.00 / 170.00 / 100.00 / 80.00 / 55.00 / [.LoSC] 0.00
INPUT
0V / 2.75V / 5V / 9.00V / 10V

Reading Stable Function

Average:
Basically, the sampling rate of meter is 15cycles/sec. If the function set to be 3 times, It means the meter will update of display will be 5 times/sec.

Average set to be 3

Sample 1 | Sample 2 | Sample 3 | Sample 4 | Sample 5 | Sample 6 | ....

Display Update Value = (Sample 1 + Sample 2 + Sample 3)/3
Display Update Value = (Sample 4 + Sample 5 + Sample 6)/3
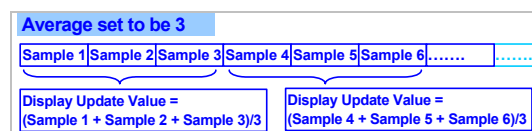
Remark: The higher average setting will cause the response time of Relay and Analogue output slower.

Moving average:
If the function to be set 3 times, the meter will update delay in first 3 samples, then it will update 15 times/sec continuously.

Moving Average set to be 3

Sample 1 | Sample 2 | Sample 3 | Sample 4 | Sample 5 | Sample 6 | ....

In first 3 samples, Display Update Value = (Sample 1 + Sample 2 + Sample 3)/3
Display Update Value = (Sample 2 + Sample 3 + Sample 4)/3
Display Update Value = (Sample 3 + Sample 4 + Sample 5)/3
Display Update Value = (Sample 4 + Sample 5 + Sample 6)/3
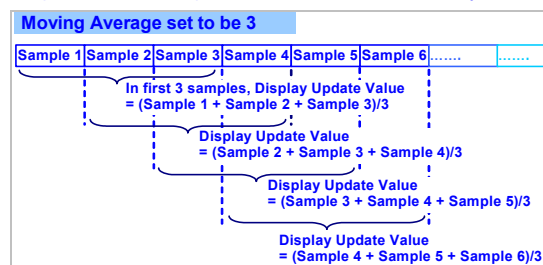
Remark: The higher moving average setting wouldn't cause the response time of Relay and Analogue output slower after first 3 samples.

Digital filter:
The digital filter can reduce the magnetic noise in field.

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Control Functions(option)

Relay energized mode: Hi / Lo / **Hi.HLd** / **Lo.HLd** programmable

Hi ` H ı`(Fig.1-①): Relay will energize when **PV > Set-Point**

Lo ` Lo`(Fig.1-②): Relay will energize when **PV < Set-Point**

Hi or Lo Relay Energized   Fig.1

Hi.HLd `H ıHLd` (Lo.HLd `LoHLd`) :

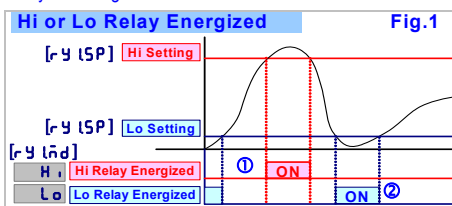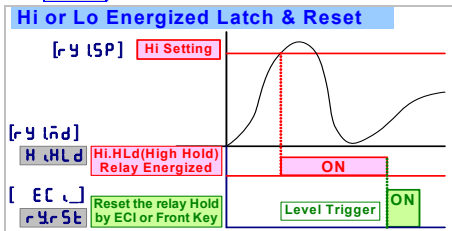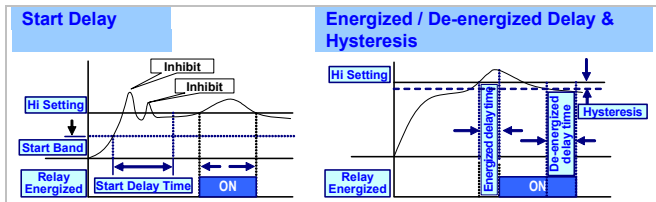When the PV is Higher (or lower) than set-point, the relay will be energized and latch until manual reset by from key in **[user level]** or press down key to reset(If the **[dnKEY]** function set to be `ryrSt`)

Hi or Lo Energized Latch & Reset

Energized functions: Start delay / Energized & De-energized delay / Hysteresis

| Start Delay	Energized / De-energized Delay & Hysteresis

Analogue output(option)

Please specify the output type either an o~10V or 4(0) ~20mA in ordering. The programmable output low and high scaling can be based on various display values. Reverse slope output is possible by reversing point positions.

Output range: Voltage: 0~5V / 0~10V / 1~5V programmable

Current: 0~10mA / 0~20mA / 4~20mA programmable

Functions:

Output range high `AoHS`:

Setting the Display value High to versus output range High(as like as 20mA in 4~20)

Output range low `AoLS`:

Setting the Display value Low to versus output range Low(as like as 4mA in 4~20)

Set Scaling: Lo.SC: 0.00, Hi.SC: 199.99;
Output: Ao.LS: 50.00(Display Value Low),
Ao.HS: 150.00(Display Value High)
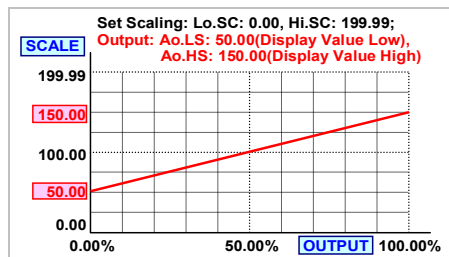
The range between `AoHS` and `AoLS` should be over 20% of span at least; otherwise, it will be got less resolution of analogue output.

Fine zero & span adjustment:

Users can get Fine Adjustment of analogue output by front key of the meter. Please connect standard meter to the terminal of analogue output. To press the front key (up or down key) of meter to adjust and check the output.

Zero adjust [`AoZro`]: Fine Zero Adjustment for Analog Output; Settable range: -38011~27524;

Span adjust [`AoSPn`]: Fine Span Adjustment for Analog Output; Settable range: -38011~27524;

RS 485 Communication(option)

The RS485's protocol is Modbus RTU mode, and baud rate up to 38400 bps. It's convenience to remote monitoring, display for reading.
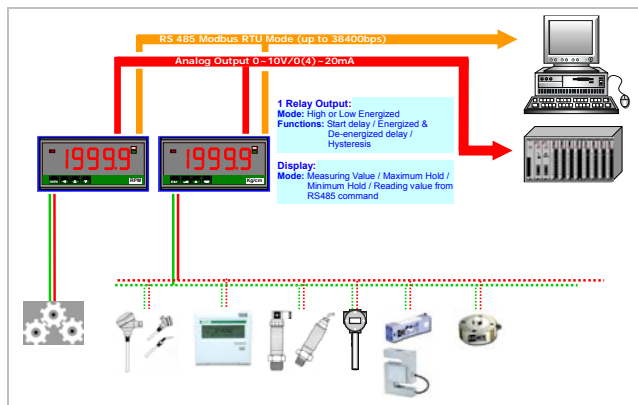
Remote display:

The meter will show the value that received from RS485 command. In past, The meter normally receive 4~20mA or 0~10V from AO or digital output from BCD module of PLC .We support a new solution that PV shows the value from RS485 command of master so that can be **save cost and wiring** from PLC.

When the **[dSPLY]** set to be RS485, it means, the PV screen will show the number from RS485 command & data. The data (number) will be same as PV that will compare with set-point, analogue output and ECI functions so that is to control analogue output, relay energized and so on.

Calibration

System calibration by front key. The process of calibration, please refer to the operating manual

Optional Function

Customize option with quantities is welcome. Please contact with our sales for detail. The appendix code of optional function will be added behind the code of auxiliary power.

CS1-T

■ERROR MESSAGE

BEFORE POWER ON, PLEASE CHECK THE SPECIFICATION AND CONNECTION AGAIN.

SELF-DIAGNOSIS AND ERROR CODE:

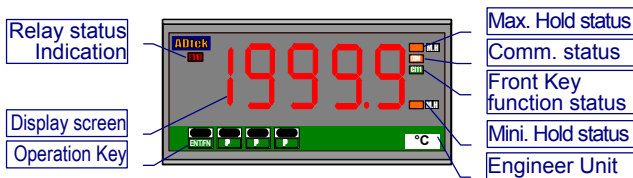| DISPLAY	DESCRIPTION	REMARK
ouFL	Display is positive-overflow (Signal is over display range)	(Please check the input signal)
-ouFL	Display is negative-overflow (Signal is under display range)	(Please check the input signal)
ouFL	ADC is positive-overflow (Signal is higher than input 120%)	(Please check the input signal)
-ouFL	ADC is negative-overflow (Signal is lower than input -120%)	(Please check the input signal)
EEP ⇌ FAiL	EEPROM occurs error	(Please send back to manufactory for repaired)
AiC.nG ⇌ Pu	Calibrating Input Signal do not process	(Please process Calibrating Input Signal)
AiC ⇌ FAiL	Calibrating Input Signal error	(Please check Calibrating Input Signal)
AoC.nG ⇌ Pu	Calibrating Output Signal do not process	(Please process Calibrating Output Signal)
AoC ⇌ FAiL	Calibrating Output Signal error	(Please check Calibrating Output Signal)

■ FRONT PANEL:

Relay status Indication

Display screen

Operation Key

Max. Hold status

Comm. status

Front Key function status

Mini. Hold status

Engineer Unit

■ Numeric Screens

0.8" (20.0mm) red high-brightness LED for 4 2/3 digital present values.

■ I/O Status Indication

● **Relay Energized:** 1 square red LED

RL1 display when Relay 1 energized;

● **RS485 Communication:** 1 square orange LED

COM will flash when the meter is receive or send data, and COM flash quickly means the data transient quicker.

● **Max/Mini Hold indication:** 2 square orange LEDs

▬ M.H displayed: When the display function has been selected in Maximum or Minimum Hold function.

■ Stickers:

Each meter has a sticker what are functions and engineer label enclosure.

● **Relay energized mode:** HH HI LO LL DO

● **Down key functions mode:**

PV.H PV.H(PV Hold) / Tare Tare / DI DI(Digital Input)

M.RS M.RS(Maximum or Minimum Reset) /

R.RS R.RS(Reset for Relay Latch)

● **Engineer Label:** over 80 types.

■ **Operating Key:** 4 keys for ▪Enter(Function) / ▪Shift(Escape) / ▪Up key / ▪Down key

■ **Pass Word:** Settable range:0000~9999;

User has to key in the right pass word so that get into **[Programming level]**. Otherwise, the meter will go back to measuring page. If user forgets the password, please contact with the service window.

■ **Function Lock:** There are 4 levels programmable.

● **None** nonE : no lock all.

● **User Level** USEr : User Level lock. User can get into User Level for checking but setting.

● **Programming Level** EnG : Programming level lock. User can get into programming level for checking but setting.

● **ALL** ALL : All lock. User can get into all level for checking but setting.

■ **Front Key Function:**

● The ▪ Key can be set to be rELPu / PuHLd / mrSt / ryrSt programmable.

■ OPERATING KEY

*Please access to the Programming Level to check and set the parameters when users start to run the meter

■ **Operating Key:** 4 keys for ▪Enter(Function) / ▪Shift(Escape) / ▪Up key / ▪Down key

■ The meter has designed operation similar as PC's ⇦⇨ and Enter. In any page, press ▪key means "enter" or "confirm setting", and press ▪key means "escape(Esc)" or "shift".

■ In Programming Level, the screen will return to Measuring Page after do not press any key over 2 minutes, or press ▪ for 1 second.

	Function Index	Setting Status
▪ (= FUN/ENT) **Enter/Fun key**	(1) In any page, press ▪ to access the level or function index (2) From the function index to access setting status	(3) Setting Confirmed, save to EEProm and go to next function index
▪ (= ◄) **Shift key**	(1) In measuring page, press ▪ for 1 second to access user level. (2) In function index, press ▪ for 1 second to go back upper level. (3) In function group index, press ▪ for 1 second to go back measuring page	(4) In setting status, press ▪ to Shift the setting position. (5) In setting status, press ▪ for 1 second to abort setting and go back this function index.
▪ (= ▲) **Up key**	(1) In function index, press ▪ to go back to previous function index	(2) In setting status for function, press ▪ to select function (3) During number Setting, press ▪ can roll the digit up
▪ (= ▼) **Down key**	(1) In Function Index Page, press ▪ will go to the next Function Index Page.	(2) In setting status for function, press ▪ to select function (3) During number Setting, press ▪ can roll the digit down.

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■ OPERATING DIAGRAM (The detail description of operation, please refer to operating manual.)

Power ON
↓
`8.8.8.8.8` **Self-diagnosis**
↓
`C 5 1t` **Show the model number**
↓
`uEr 1.0` **Show the firmware version**
↓

`2999.9` **MEASURING PAGE**
`[EN]` **Press ◄1sec ➡**
↓ **⬅ Press◄1sec**

`EntEr`
`P.CodE` **Enter the password to access Engineer Level**
`[EN]` ↓

◇ **Pass Code** — NO / YES↓
Default:1000

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User Level
Press 🔲 for 1 sec. can back to Measuring

0-0-1 `2999.9` / `Pu` ⬇️ ⬆️	If the [dSPLY] function has been set `rS485` **Pu**: Present Value	**0-3** `0.0000` / `n in` ⬇️ ⬆️	`n in`: the Minimum value of PV saving **Checking only**
0-1 `10000` / `rY 1.SP` ⬇️ ⬆️	`rY 1.SP`: Relay 1 Set-point -19999~29999	**0-4** `29999` / `nAH` ⬇️ ⬆️	`nAH`: the Maximum value of PV saving **Checking only**
0-2 `no` / `rY.rSt` ⬇️ ⬆️	`rY.rSt`: Reset for energized Latch of Relay `YES` / `no`	**0-5** `no` / `nrSt` ⬇️ ⬆️	`nrSt`: Reset the saved value of Maximum & Minimum `YES` / `no`

0-6 `uEr 1.0` / `C 5 1t` ⬇️ ⬆️	model number firmware version **Checking only**
0-0-1 `2999.9` / `Pu` ⬇️	**Cyclic to first page**

Programming Level
Press 🔲 for 1 sec. can back to Measuring

▲ ➡ ⬅ ▼

INPUT GROUP	**RELAY GROUP**	**ANALOGUE OUTPUT GROUP**	**RS485 GROUP**
`inPUt` / `GroUP` [EN] ↓	`rELAY` / `GroUP` [EN] ↓	`Ao` / `GroUP` [EN] ↓	`rS485` / `GroUP` [EN] ↓

A-1 `0` / `PudP` ⬇️ ⬆️	`PudP`: Decimal Point **Don't set**	**B-1** `0` / `rY5b` ⬇️ ⬆️	`rY5b`: Start band for Relay energized 0~9999counts
A-2 `0` / `Lo.SC` ⬇️ ⬆️	`LoSC`: Low scale of PV **Don't set**	**B-2** `0.00.0` / `rY5d` ⬇️ ⬆️	`rY5d`: Start delay time for Relay energized 0.00.0~ 9(M).59.9(S)
A-3 `10000` / `H i.SC` ⬇️ ⬆️	`H iSC`: High scale of PV **Don't set**	**B-3** `H i` / `rY ind` ⬇️ ⬆️	`rY ind`: Relay 1 energized mode `oFF` / `Lo` / `H i` / `LoHLd` / `H iHLd` / `do`
A-4 `0` / `Pu.Pro` ⬇️ ⬆️	`PuPro`: Fine Low point Adjustment for PV display -19999~29999	**B-4** `0` / `rY 1HY` ⬇️ ⬆️	`rY 1HY`: Relay 1 Hysteresis 0~5000 counts
A-5 `0` / `Pu.SPn` ⬇️ ⬆️	`PuSPn`: Fine High point Adjustment for PV display -19999~29999	**B-5** `0.00.0` / `rY 1rd` ⬇️ ⬆️	`rY 1rd`: Relay 1 energized delay time 0.00.0~ 9(M).59.9(S)
A-6 `nonE` / `P.S.CLr` ⬇️ ⬆️	`P.S.CLr`: Clear Fine Zero & Span Adjustment for PV display `nonE` / `PuPro` / `PuSPn` / `botH`	**B-6** `0.00.0` / `rY 1Fd` ⬇️ ⬆️	`rY 1Fd`: Relay 1 de-energized delay time 0.00.0~ 9(M).59.9(S)
A-7 `Pu` / `dSPLY` ⬇️ ⬆️	`dSPLY`: Display Function `Pu` / `n inHd` / `nAHHd` / `rS485`		

D-1 `A.4-20` / `AotYP` ⬇️ ⬆️	`AotYP`: Analogue Output type selection `u.0-10` / `u.0-5` / `u.1-5` / `A0-10` / `A0-20` / `A4-20`	**E-1** `1` / `AdrES` ⬇️ ⬆️	`AdrES`: Device number of the meter 1~255
D-2 `0.0` / `AoLS` ⬇️ ⬆️	`AoLS`: Analogue Low Output versus Low Scale -19999~29999	**E-2** `9600` / `bAUd` ⬇️ ⬆️	`bAUd`: Baud rate `1200` / `2400` / `4800` / `9600` / `19200` / `38400`
D-3 `10000` / `AoHS` ⬇️ ⬆️	`AoHS`: Analogue High Output versus High Scale -19999~29999	**E-3** `n.Stb2` / `Pr itY` ⬇️ ⬆️	`Pr itY`: Parity `nStb1` / `nStb2` / `odd` / `EuEn`
D-4 `0` / `AoPro` ⬇️ ⬆️	`AoPro`: Fine Zero Adjustment for Analogue Low Output -38011~27524		
D-5 `0` / `AoSPn` ⬇️ ⬆️	`AoSPn`: Fine Span Adjust. for Analogue High Output -38011~27524		
D-6 `nonE` / `P.S.CLr` ⬇️ ⬆️	`P.S.CLr`: Zero & Span Clear for Adjustment `nonE` / `AoPro` / `AoSPn` / `botH`		
D-7 `110.00` / `AoLnt` ⬇️ ⬆️	`AoLnt`: Analog Output High Limit 0.00~110.00%		

Next Page

A-8	`0` `LoCUt`	**LoCUt** : Low Cut Function -19999~29999
A-9	`5` `AuG`	**AuG** : Average update for PV 1(None)~ 99 times
A-10	`1` `n.AuG`	**n.AuG** : Moving Average update for PV 1(None)~ 10 times
A-11	`0` `dF iLt`	**dF iLt** : Digital filter 0(None)/1~ 99 times
A-12	`nonE` `dn.KEY`	**dn.KEY** : Down key function nonE / rEL.Pu / Pu.HLd / n.r5t / r.Yr5t
A-13	`0` `P.CodE`	**P.CodE** : Pass Code for enter Engineer Level 0000~9999
A-14	`nonE` `F.LoCK`	**F.LoCK** : Function Level Lock nonE / USEr / EnG / ALL

▶ **Plesae refer to operating manual for detail description**

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