

DESCRIPTION

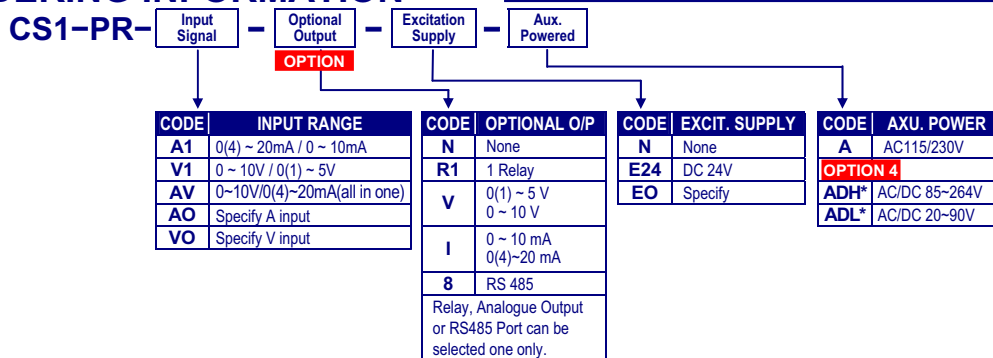
CS1-PR **economic** type Process Indicator has been designed with high accuracy measurement, display and communication of **DC signal 0~10V and 4(0)~20mA**. They are also available 1 option of 1 Relay outputs, 1 Analogue output or 1 RS485(Modbus RTU Mode) interface with versatile functions such as control, alarm, re-transmission or communication for a wide range of industrial applications.



FEATURE

- Measuring linear signal 0~10V and 0(4)~20mA in one indicator(input code: AV)
- Square Root function available by programming
- 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



TECHNICAL SPECIFICATION

Input

Input Range	Input Impedance	Input Range	Input Impedance
Voltage 0 ~ 10 V	≥ 1M ohm	Current 4(0)~20 mA	250 ohm

► The Meter can be 0~10V and 0~20mA in one unit, according to connection #11 or #12

Calibration:

Digital calibration by front key

A/D converter:

16 bits resolution

Accuracy:

±0.04% of FS ± 1C;

Sampling rate:

15 cycles/sec

Response Time:

≤100 msec.(when the AvG = "1") in standard

Input type:

0~10V / 0~5V / 1~5V / 0~10mA / 0~20mA / 4~20mA programmable for coding AV(option)

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 / Rel. PV): 1 square green LED

Display range:

-19999~29999;

Scaling function:

Lo.SC: Low Scale; Settable range: -19999~+29999

Hi.SC: High Scale; Settable range: -19999~+29999

Programmable from 0 / 0.0 / 0.00 / 0.000 / 0.0000

Decimal point:

ovFL, when input is over 120% of input range Hi

Over range indication:

-ovFL, when input is under -20% of input range Lo

Under range indication:

Maximum and Minimum value storage during power on.

Max / Mini recording:

PV / Max(Mini) Hold / RS 485 Programmable

Display functions:

Relative PV / PV Hold / Reset for maxi(mini) hold /

Front key functions:

Reset for relay energized latch programmable

Low cut:

Settable range: -19999~29999 counts

Digital fine adjust:

Pv.Zro: Settable range: -19999~+29999

Pv.SPn: Settable range: -19999~+29999

Reading Stable Function

Average:

Settable range: 1~99 times

Moving average:

Settable range: 1(None)~10 times

Digital filter:

Settable range: 0(None)/1~99 times

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 msec. (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: ≤ 600Ω max

Functions:

Ao.HS(output range high): Settable range: -19999~29999

Ao.LS(output range Low): Settable range: -19999~29999

Digital fine adjust:

Ao.Zro: Settable range: -38011~+27524

Ao.SPn: 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:	<i>to show the value from RS485 command of master</i>
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 549 (IP54); Housing: IP20

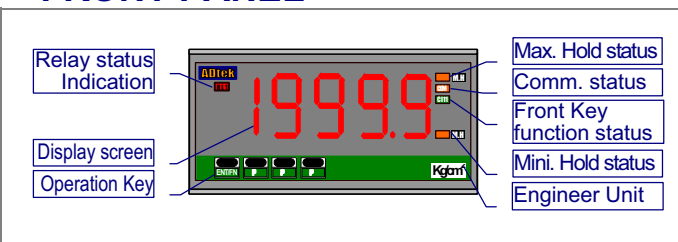
Mechanical

Dimensions:	96mm(W) x 48mm(H) x 72mm(D)
Panel cutout:	92mm(W) x 44mm(H)
Case materiel:	ABS fire-resistance (UL 94V-0)
Mounting:	Panel flush mounting
Terminal block:	Plastic NYLON 66 (UL 94V-0) 10A 300Vac, M2.6, 1.3~2.0mm ² (16~12AWG)
Weight:	350g / 300g(Aux. Power Code: ADH or ADL)

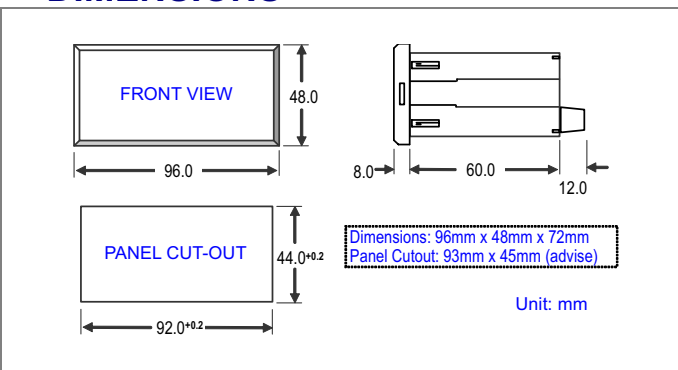
Power

Power supply:	AC115/230V,50/60Hz; Optional: AC/DC 85~264V or 20~90V(RoHS version)
Excitation supply:	DC24V/30mA maximum in standard
Power Consumption:	4.5VA maximum
Back up memory:	By EEPROM

FRONT PANEL

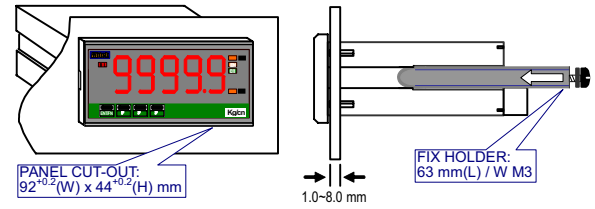


DIMENSIONS

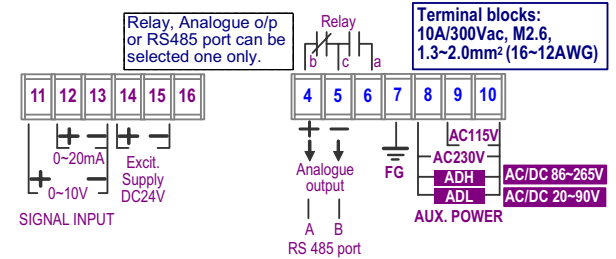


INSTALLATION

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

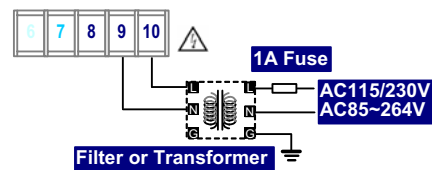


CONNECTION DIAGRAM

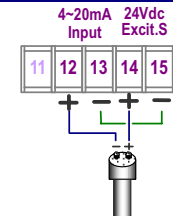


Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker.

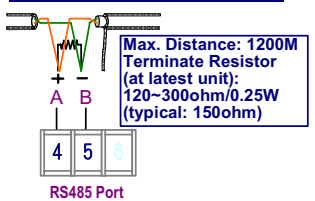
Power Supply



2 wire Transmitter connection



RS485 Communication Port



FUNCTION DESCRIPTION

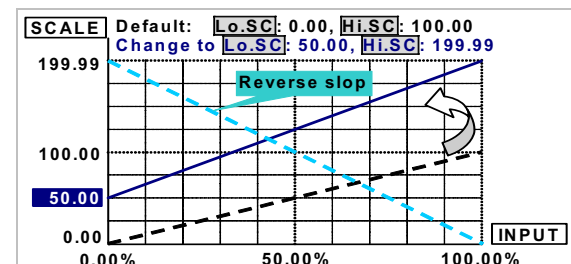
Input & Scaling Functions

Dual input types: (Option Code: AV)

Voltage and Current Type are in one unit available in option. If the customer specify the input coding for AV, the meter will be calibrated for 0~10V and 0~20mA in factory. The user can use in 0~10V or 4(0)~20mA by difference terminals connection(#11 & #13 for 0~10V or #12 & #13 for 4(0)~20mA) and programming in **[Ai.tYP]** of **[inPUt GroUP]**.

Scaling function:

Setting the **Lo.SC**(Low scale) and **Hi.SC**(High scale) in **[inPUt GroUP]** to relative input signal. **Reverse scaling will be done too.** Please refer to the figure as below,



*Too narrow scale may course display lower resolution.