MIEPL

MILLENNIUM ISTRUMENT LTD.

UI Series Universal Process Indicator

Thanks you selecting MIEPL products! before operating this instrument, please read this manual carefully and fully understand its contents. In case of any problems, please contact our sales Deptt. or distributors from whom the instrument has been purchased. The manual contents is subject to change without prior notice.

DO's and DONT's

- Please do not turn on the power supply until the wiring is completed, otherwise electrical shock, fire or malfunction may result.
- Do not connect the unused terminals.
- Do not turn on the power supply while cleaning the instrument.
- Do not disassemble. repair or modify the instrument. This may cause electrical shock, fire or malfunction.
- Use this instrument in the scope of its specifications, otherwise fire or malfunctions may result.
- The life of the output relay is different depending upon capacity and conditions. If used out of its scope, fire or malfunctions may result.

Working Environment

- The operation temperature environment should between 0 (32F) to 50 (122F).
- To avoid using this instrument in environment full of dust or caustic gas.
- To avoid using this instrument in environments of strong shock or concussion.
- To avoid using this instrument in environment of excess moisture water or inflammable substances.

Output starts in about 10 seconds after instrument being powered.

■ Applications

The instrument can be used to measure Current, millivolt, resistance or Voltage signal input. The Display value range may be programmed for desired range. It provides necessary Excitation (24Vdc or 12 VDC). It can be used to display non-linear input(RTD, Thermocouples) as well or could be programmed for 20 stages. The input, output and the power supply is isolated. It could be opted with RS 485 Communication also

■ Name of parts
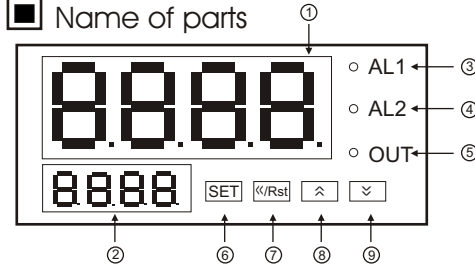
1. Measured value (PV)Various parameter symbol.
2. Parameter value/Rate value/ot/AL1
3. Idication lamps for Alarm 1
   On: Output   Off: No Alarm
4. Indication lamps for Alarm 2
   On: Output   Off: No. Alarm
6. Select/Confirm key.
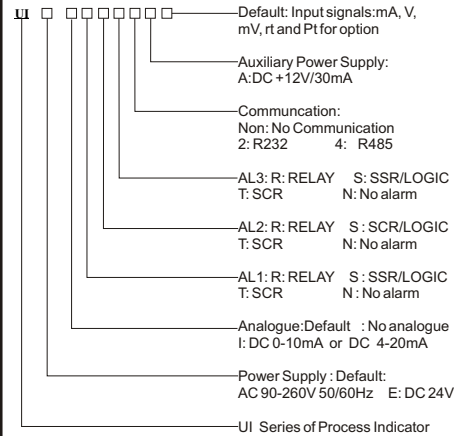7. Shift/Clear/Reset key
8. Up key
9. Down key

■ Input Singnals selection

Input Signal Types		Input Impedance	Factory Settings
mA	0~1 mA, 0~10 mA, 4-20 mA	≤ 150 Ω	4~20 mA
V(AV/DV)	0~5 V, 0~10 V, 0~500 V	≤ 200 K Ω	DC 0~10 V
mV	0~10 mV,±100 mV	≤ 2 MΩ	0~75 mV
Rt	0~400 Ω, 0~10 K	≤ 0.2 mA	0~400 Ω
	Cu50 Cu100 -50~150 °C		
Pt	-200~650 °C	≤ 0.2 mA	Pt100
Pr	20 Non-linear input		

- The factory setting of the input is 4-20mA, 0-10V, 0-75mV for mA, V, mV. If the customer needs other input signal such as 0-4000hm, Pt100, please contact the manufacturer or your local ABUS distributors.

- High Voltage/Current input or date remained function need special order.
- Only one can be selected from Analogue retransmission output or Al3.
- Non-Linear input need special order

■ Models

UI □ □ □□□□□□□

- Default: Input signals:mA, V, mV, rt and Pt for option
- Auxiliary Power Supply: A:DC +12V/30mA
- Communcation: Non: No Communication 2: R232 4: R485
- AL3: R: RELAY S: SSR/LOGIC T: SCR N: No alarm
- AL2: R: RELAY S: SCR/LOGIC T: SCR N: No alarm
- AL1: R: RELAY S: SSR/LOGIC T: SCR N: No alarm
- Analogue:Default : No analogue I: DC 0-10mA or DC 4-20mA
- Power Supply : Default: AC 90-260V 50/60Hz E: DC 24V
- UI Series of Process Indicator

Power Supply	90-260V AC or 18-30V AC/DC
Consumption	≤ 5VA
Accuracy	0.3 % F. S.±2 digit
Sampling Rate	Sampling Rate
Alarm	Relay : NO AC 250V/3A or DC 30 V/3A
Input	Refer to the Input Signal selection
Analogue	0-10 V or 4-20 mA, for Control Output
Auxiliary Power	DC 12/24/30 VDC
Communication	Rs232 or Rs485 Optional

■ Dimensions

96
48
80
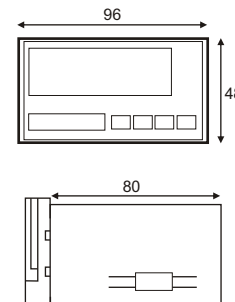
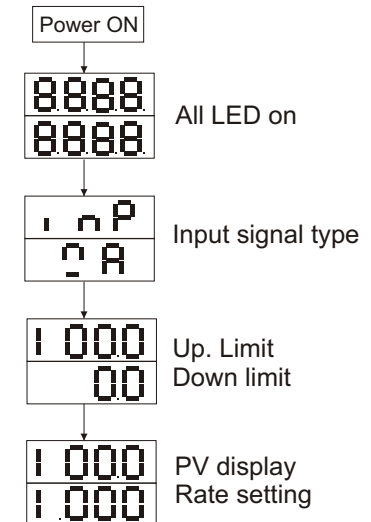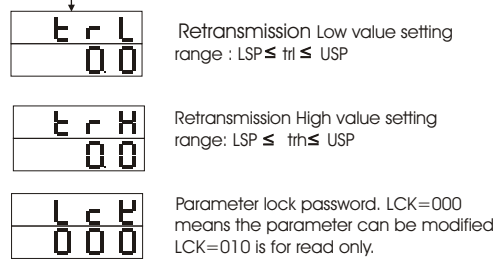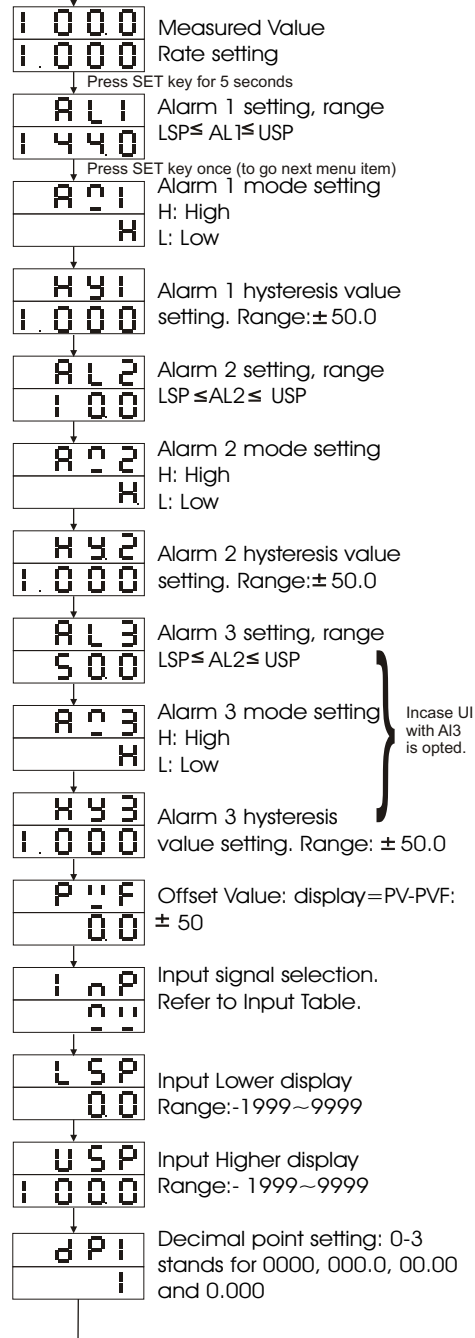## ■ Parameter setting

1. Alarm setting: In the displaying state press and hold SET key for 5 seconds to enter alarm mode parameters setting menu. Press **<<** /RST Key, LED flashes, press ⌃/⌄ key to modify, and them press SET key to confirm. Press SET key to read the following parameters one by one.

2. Rate setting: In displaying estate, press **<<**/RST key and LED flashes, then you can modify the value by Up and Down key. The factory setting is 1.00. Once the user want to set it to be other value then PV=Rate X (USP-LSP)+LSP. USP means Up limit, LSP means Down limits.

3. Zero point clear: In the displaying estate. without key operation, when the input zero point, press and hold **<<**/RST key for more than 2 seconds. It is for the sensor zero point clear.

4. The instrument will return to the measuring estate without any operation for 25 seconds.

■ Operation Function

Power ON

All LED on

Input signal type

Up. Limit
Down limit

PV display
Rate setting

Alarm parameter setting

```
1 0 0 0
1 . 0 0 0
```
Measured Value
Rate setting

Press SET key for 5 seconds

```
A L 1
1 4 4 0
```
Alarm 1 setting, range
LSP≤ AL1≤ USP

Press SET key once (to go next menu item)

```
A n 1
      H
```
Alarm 1 mode setting
H: High
L: Low

```
H Y 1
1 . 0 0 0
```
Alarm 1 hysteresis value
setting. Range:± 50.0

```
A L 2
1 0 0
```
Alarm 2 setting, range
LSP ≤AL2≤ USP

```
A n 2
      H
```
Alarm 2 mode setting
H: High
L: Low

```
H Y 2
1 . 0 0 0
```
Alarm 2 hysteresis value
setting. Range:± 50.0

```
A L 3
5 0 0
```
Alarm 3 setting, range
LSP≤ AL2≤ USP

```
A n 3
      H
```
Alarm 3 mode setting
H: High
L: Low

Incase UI with AI3 is opted.

```
H Y 3
1 . 0 0 0
```
Alarm 3 hysteresis
value setting. Range: ± 50.0

```
P V F
0 0
```
Offset Value: display=PV-PVF:
± 50

```
i n P
n  u
```
Input signal selection.
Refer to Input Table.

```
L S P
0 0
```
Input Lower display
Range:-1999~9999

```
U S P
1 0 0 0
```
Input Higher display
Range:- 1999~9999

```
d P 1
    1
```
Decimal point setting: 0-3
stands for 0000, 000.0, 00.00
and 0.000

```
t r L
0 0
```
Retransmission Low value setting
range : LSP≤ trl ≤ USP

```
t r H
0 0
```
Retransmission High value setting
range: LSP ≤ trh≤ USP

```
L C K
0 0 0
```
Parameter lock password. LCK=000
means the parameter can be modified
LCK=010 is for read only.

- Only one can be selected from AL3 or Retransmission Output.

- The values shown are the default values. These can be modified as per requirement.
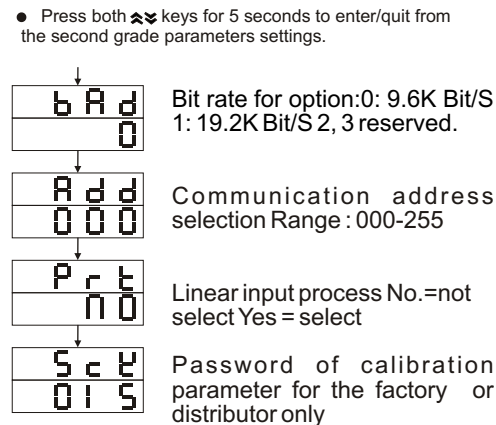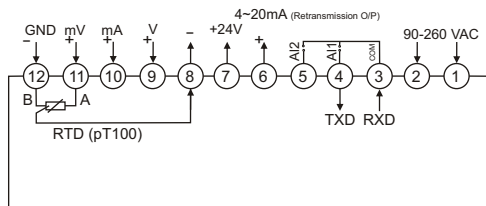
RS 485 Communication Configuration

- Press both ⌃⌄ keys for 5 seconds to enter/quit from the second grade parameters settings.

```
b A d
    0
```
Bit rate for option:0: 9.6K Bit/S
1: 19.2K Bit/S 2, 3 reserved.

```
A d d
0 0 0
```
Communication address
selection Range : 000-255

```
P r t
n 0
```
Linear input process No.=not
select Yes = select

```
S c K
0 1 5
```
Password of calibration
parameter for the factory or
distributor only

■ Diagram connections

- For any change, please refer to the label shown.
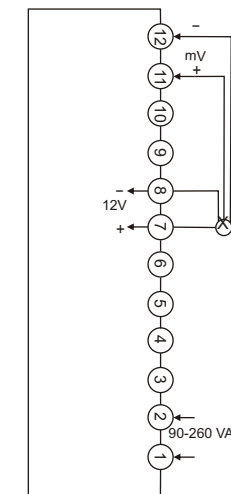

■ Application example

1. Used with 2 wire transmitter with 4~20mA O/P and 24V excitation supply. The instrument can supply DC 24V auxiliary power to transmitter, and provide isolated analogue output 4~20mA.
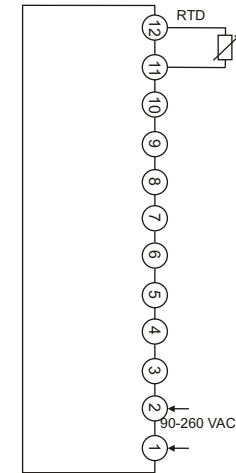
Select input signal mA.
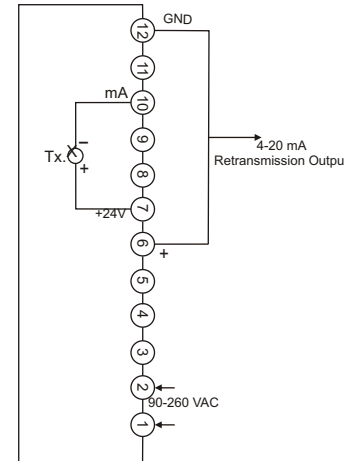
2. Used with pressure sensor. The instrument can supply DC 12V auxiliary power, and the sensor output is 2mV/V.

Select input signal mV.

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3. Used with Ohm meter. Input 0-400 OHM,

Select input signal RTD.

■ TroubleShooting

1. No display : Check all the connection and wiring wether it is correct. Pay special attention to the power supply terminals and signal input terminals . Also check if the output terminals are not shorted by strong currents.

2. Wrong display : Check if the PVF= 0.00 Check if the input signal is conformity with the selected symbol.
For RTD input, please use low impedance cable. The 3 wires should be at the same length.

3. Wrong control : In case instrument loses the control, check if the output diagram connection is correct or check if the components for output part, if damaged.

4. UUUU, LLLL : When the instrument displays "UUUU", it means the input signal exceeds the measured USP range. When the instrument displays "LLLL, it means the input signal is below the measured LSP range.

Authorised Distributor :