

**IC5000 Series**  
**(5Ch Input Digital Indicators with Alarm)**



<http://www.newins.co.kr>

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※ Be sure to observe following warning / cautions and those provided in the text.  
In order to secure safety in handling the instrument.

#### ⚠ WARNING

- |                         |  |
|-------------------------|--|
| General                 | ▶ In order to prevent electric shock, be sure to disconnected this instrument from the main power source when wiring.  |
| Protective Grounding    | ▶ In order to prevent electric shock ; be sure to provided protective grounding prior to turning on this instrument.<br>Do not cut a protective grounding conductor disconnected protective grounding. |
| Power Source            | ▶ Make sure that the supply voltage for this instrument conforms to the voltage source.<br>▶ Attach protective cover prior to turning on this instrument.  |
| Fuse                    | ▶ In order to prevent a fire, use only our specified fuse.<br>▶ Don't short-circuit a fuse.  |
| Working Environment     | ▶ Do not operate this instrument in the environment where it is exposed to a combustible, explosive, corrosive gas or water, steam.  |
| Input and Output wiring | ▶ Provide input and output wiring after turning off the power.   |

#### ⚠ CAUTION

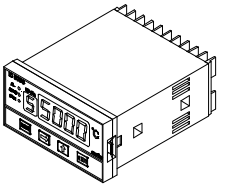
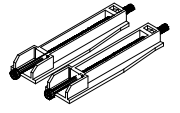
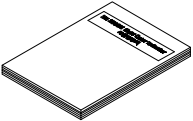
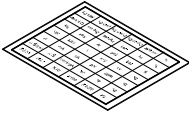
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|-------------------------|--|
| Inside of instrument    | ▶ Do not disassemble the inside of the instrument.<br>▶ Prevent inflow of dust, water, oil and wiring dregs in to the instrument.  |
| Input and Output wiring | ▶ Do not use empty terminals for other purposes such as relaying, etc.<br>▶ Wire correctly after checking the polarity and purpose of the terminal.<br>▶ When wiring the instrument, separate from high voltage cables, power lines, and motor lines to prevent inductive noise. |
| Transportation          | ▶ When transporting this instrument or the equipment with this instrument incorporated in it, take measures to prevent opening the door and falling out the inner module.  |

#### ⚠ NOTE

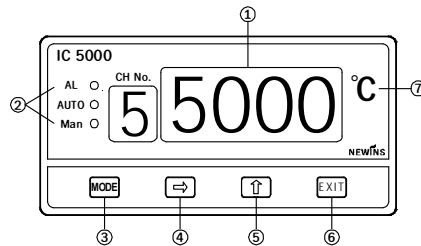
- |                                     |  |
|-------------------------------------|--|
| Instruction manual                  | ▶ Deliver this instruction manual to an end user.<br>▶ prior to handing the instrument be sure to read this manual.<br>▶ If you have any question on this manual or fine any errors omissions in this manual, contact our sales representative<br>▶ After reading this manual, keep it carefully by the instrument.<br>▶ When the manual, is lost or stained, contact our sales representative.<br>▶ It is prohibited to copy or reproduce this manual without our permission. |
| Checking the accessories            | ▶ Upon delivery instrument, unpack and check its accessories and appearance. if there are missing accessories or damage on the appearance contact our dealer where you purchased the instrument or our sales representative.   |
| Installation                        | ▶ When installing this instrument, put on a protective gear such as safety shoes, helmet, etc. for your safety.  |
| Maintenance                         | ▶ Only our serviceman or persons authorized by NEWINS are allowed to remove and take the inner module, the main unit and printed circuit boards apart.   |
| Disposal                            | ▶ Disposed the used products in a correct way.<br>▶ Do not incinerate plastics of maintenance parts and replacement parts. A harmful gas mat be produced.<br>▶ To disposed of this instrument, consign to the special agent as an industrial waste.  |
| Cleaning                            | ▶ Use dry cloth to clean the surface of this instrument<br>▶ Do not use any organic solvent.<br>▶ Cleaning the instrument after turning off the power.   |
| Revisions                           | ▶ This instruction manual is subject to change without prior notice.   |
| Evasion of responsibility guarantee | ▶ Be sure to observe the caution in operating, maintaining, and repairing this instrument. We will not be responsible for or guarantee the damage resulting from negligence of them.   |



## 1. Checking the Accessory

when you received the product, please check the deficient accessories and defective products shape. If the lack of parts, please contact the company.

			
INDICATOR	BRACKET	USER MANUAL	unit sticker

## 2. Part Name



- ① Measured value display
- ② Alarm condition display
- ③ **mode** key : Memorize the setting data, and change the operation menu.
- ④  key: into the data setting mode, and collect the changed location.
- ⑤  key : Change the data value.
- ⑥ **EXIT** key : Out of mode.
- ⑦ Unit

## 3. Feature

### 1. IC5000

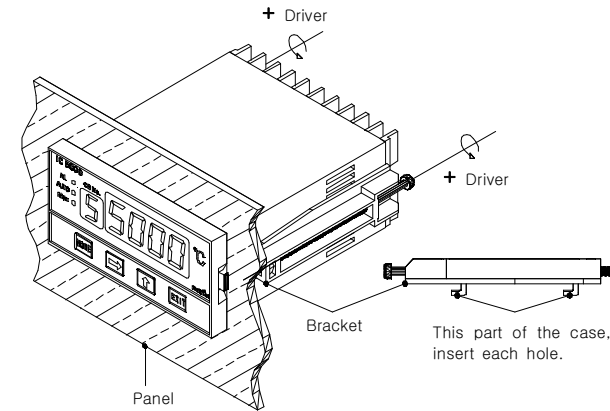
- ▶ 5 channel individually setting signal input
- ▶ Multi-range input (T/C, RTD, Volt, mA)
- ▶ Display & Output scaling (mV, V, mA)
- ▶ Peak hold function (Highest & Lowest)
- ▶ RS-485 Communication interface
- ▶ 2 points alarm & Dead band set
- ▶ Isolation current output (DC 4.00~20.00mA) & Output scaling (Choice - Ch, Hi, Low, Av)
- ▶ Sensor compensation function

### 2. IC5100

- ▶ 2 channel RTD only
- ▶ 2 points alarmed Dead band set (PV 2, absolute value of deviation)
- ▶ Isolation current output 2 output scaling option

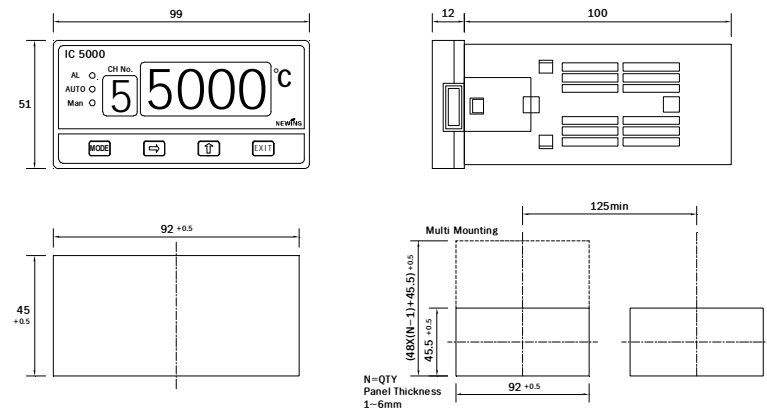
## 4. Installation

### 1. Mounting to the panel



- ⚠ **Caution** : ① Recommended that the panel thickness is more than 1.2mm.
- ② The maximum thickness of the panel is 5mm.

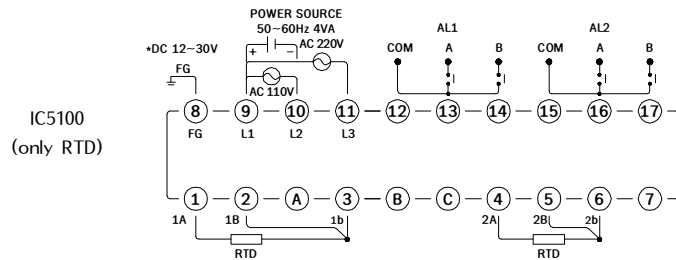
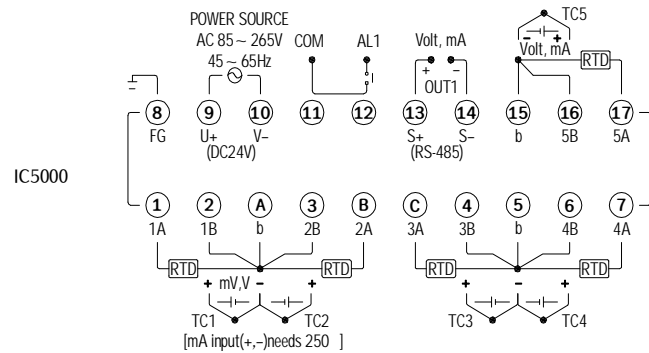
### 2. Outside and panel cut dimension



- ⚠ **Attention** : Maintenance and to ensure the safety of the device if you add a space to more than 125mm size is recommended.

## 5. Wiring

### 1. Terminal wiring



### 2. A power source wiring

#### ⚠ Caution

1. For an electric shock prevention to turn on electricity to the machinery and tools which after one sees a protective ground connection surely.
2. To the electric wire terminal to use the insulation sleeve compression terminal.
3. The device's power supply voltage to match the voltage of the power is in check.
4. For the protection of life to turn on an electric current to the instrument after attaching the cover.

#### ⚠ Attention

1. To all the member front line 600V vinyl insulation front lines (JIS C3307), or to use the front line of above considerable width.
2. To the protective ground terminal to connect above of 3rd type(to connect below earth resistance 100Ω and smallest size 1.6mm).
3. Other protection devices and grounding, the grounding in public may be affected by noise. Accordingly the public are advised not to other devices.

## 6. Specification

### 1. Input Type (standard Input)

Sensor Type		Range	Scale	Symbol
TC	B(PR)	0 ~ 1800℃	-	TC-B
	R(PR)	0 ~ 1750℃	-	TC-R
	S(PR)	0 ~ 1750℃	-	TC-S
	K(CA)	-200 ~ 1350℃	-	TC-K
	E(CRC)	-199.9 ~ 700.0℃	-	TC-E
	J(IC)	-199.9 ~ 800.0℃	-	TC-J
	T(CC)	-199.9 ~ 400.0℃	-	TC-T
Volt	mV	-50.0 ~ 50.0mV	-1999 ~ 9999	MV
	Volt	-1.000 ~ 1.000V	-1999 ~ 9999	1V
	Volt	-10.0 ~ 10.0V	-1999 ~ 9999	10V
mA	mA	4.00 ~ 20.00mA	-1999 ~ 9999	MA
PT	Pt100Ω	-199.9 ~ 800.0℃	-	D-PT
	JPt100Ω	-199.9 ~ 500.0℃	-	J-PT

\* mA input requires a external resistor 250Ω(±0.1% 25ppm)

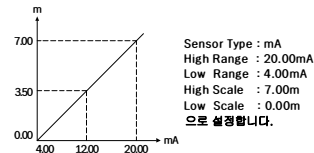
2. Measuring and display cycle : 1sec, display cycle : 1~9 sec set
3. Input resistance : Volt-400kΩ Others type-1MΩ
4. Signal source resistance : Pt 100Ω type-30Ω/line, Others type-300Ω/line
5. CMRR(Common Mode Rejection Ratio) : 140dB or more
6. NMRR(Normal Mode Rejection Ratio) : 60dB or more
7. Moving average filter
8. Accuracy : ±0.2% FS
9. Isolation current output(Optional)
  - Current : DC 4.00 ~ 20.00mA
  - Maximum load resistance : 600Ω
  - Isolation resistance(Input-Output) : 100MΩ or more (DC 500V)
10. Alarm(Optional)
  - Contact output type : Normal open (Normal close-Order made)
  - Max switching power : 60W 125VA
  - Max switching voltage : DC 220V, AC 250V
  - Max switching current : DC 2A, AC
  - Max Carrying current : DC 3A, AC
11. Ambient temperature & Humidity
  - Operation : -10 ~ 50℃, 10 ~ 90%
  - Storage : -20 ~ 70℃, 5 ~ 95%
12. Power supply
  - Voltage : AC 110/220V(50/60Hz), DC 24V(Optional)
  - Power consumption : Max 4VA
  - Isolation resistance : 100MΩ, DC 500V
  - (FG-Input, FG-Power, Power-Input, Input-Output)
13. Communication interface(Optional)
  - Type : RS-485
  - Speed : 4800, 9600, 19200bps
  - ID(address) setting : 0 ~ 15
14. Weight : 500g
15. Mounting : Panel mount
16. Dimension : 96(W) X 48(H) X 112(D)mm

## 7. Major Function

### 1. Display scaling function(mV, Volt, mA only)

This Function changes and sets the display value according to scale and input range.

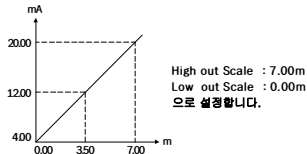
Ex) In case of input range 4.00~20.00mA and Level 0.00~7.00m



### 2. Output scaling function

This function can change the 4.00~20.00mA value as the output scale.

Ex) In case of display value 0.00~7.00m,  
Output 4.00~20.00mA

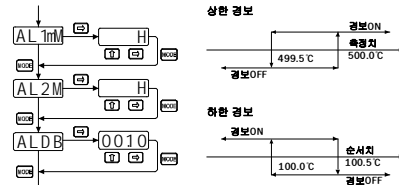


### 3. Alarm function

Alarm type : High, Low

The alarm consists of 4 relays, and it can output relay contact output individually.

ex) AL1:High alarm value 500.0,  
AL-2:Low alarm value 100.0,  
Alarm dead band setting 0.5



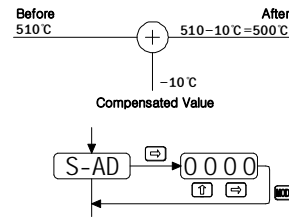
The high alarm(AL-1) is ON when the present value(PV) is 500.0 or more, and OFF when 499.5 or less. The low alarm(AL-2) is OFF when the present value(PV) is 100.5 or more, and ON when 100.0 or less.

### 4. Sensor compensation function

The function is useful for compensating error by long sensor line or changed zero point by aged sensor.

Ex) Before = 510℃

After = measured value + compensated value  
= 510 - 10  
= 500℃



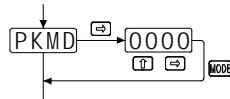
### 5. Peak hold function

Peak Mode0:High peak mode

Remember the highest input value and display the highest value when pressing the key.

Peak Mode1:Low peak mode

Remember the lowest input value and display the lowest value when pressing the key.



### 6. Communication interface

It is possible to communicate with computer and to monitor remote by using RS-485 communication interface.

## 8. Operation and Setting Mode

### ⚠ CAUTION Initialization of the data (All Reset)

It is All reset when ship the goods from factory. If you want initialize all parameter, please reset the instrument. Push the **MODE** key and **EXIT** key at the same time and ON the power. It is initialized and operation by new setting value.

▶ Initial setting value is,  
Sensor type(10V), H-RN(5.00), L-RN(1.00), H-SC(100.0), L-SC(0.0), S-AD(0.0),H-A(100.0)

### 1. operation mode

▶ Make flickering the wanted place by **⇐** key and setting the value for data setting.

▶ Push the **↑↓** key the figure repeat to 0,1,2... 9,0 and the best position repeat to 0,1,2...,9, -, -1,0 . If you want to output the mode,

▶ push the **EXIT** key then will go out into the PV value Mode.

### 2. setting mode

▶ Change the setting **⇐** **↑↓** key push at the same time to move setting mode.

▶ Move to display mode in every mode push the **EXIT** key

▶ Data setting method

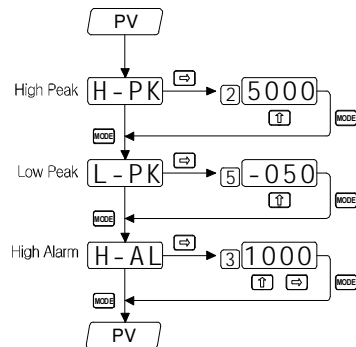
- ① Setting the decimal point by **↑↓** key
- ② Flickering the purpose digit by **⇐** key
- ③ Selecting the data by **↑↓** key
- ④ Setting data by pushing the "mode"
- ⑤ Decimal point can set only the input range high or input scale high mode.

## 1. Operation Mode

- Usually user may setting the Alarm value and confirming the Peak value during operation.
- The peak value must not erased at least 10years because it stored in the semipermanent EEP-ROM.
- The Alarm mode (High, Low) is operated setting value which set in the setting mode.

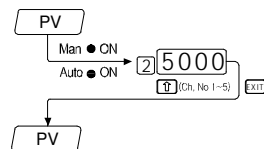
### ※ IC5000 ※

- ① Checking and reset the alarm, high and low peak value in operation.



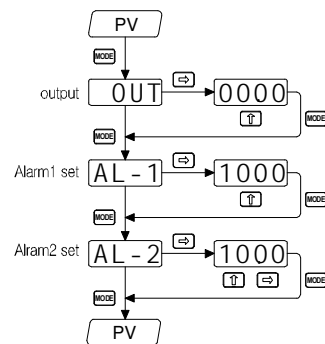
- ② Auto/Manual switch Mode.

As press the [EXIT], then manual lamp on and it will be manual mode. As press the [EXIT], again, then auto lamp on and it will be Auto mode.



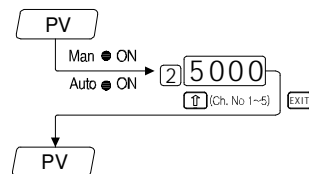
### ※ IC5100 ※

- ① Checking and reset the alarm, high and low peak value in operation.



- ② Auto/Manual switch Mode.

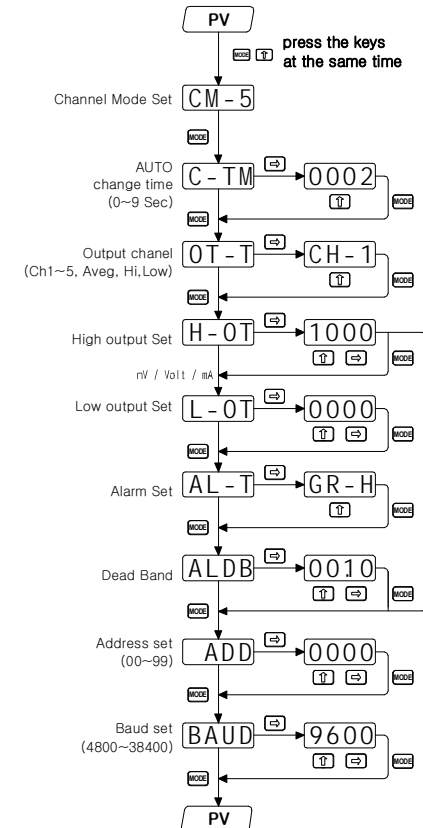
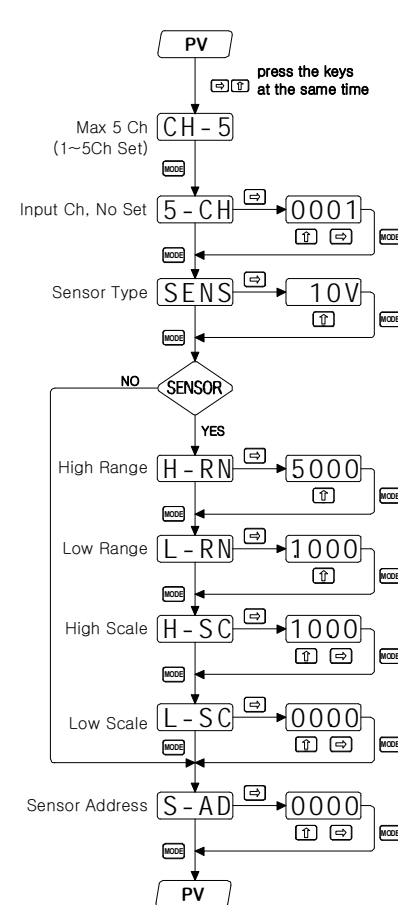
As press the [EXIT], then manual lamp on and it will be manual mode. As press the [EXIT], again, then auto lamp on and it will be Auto mode.



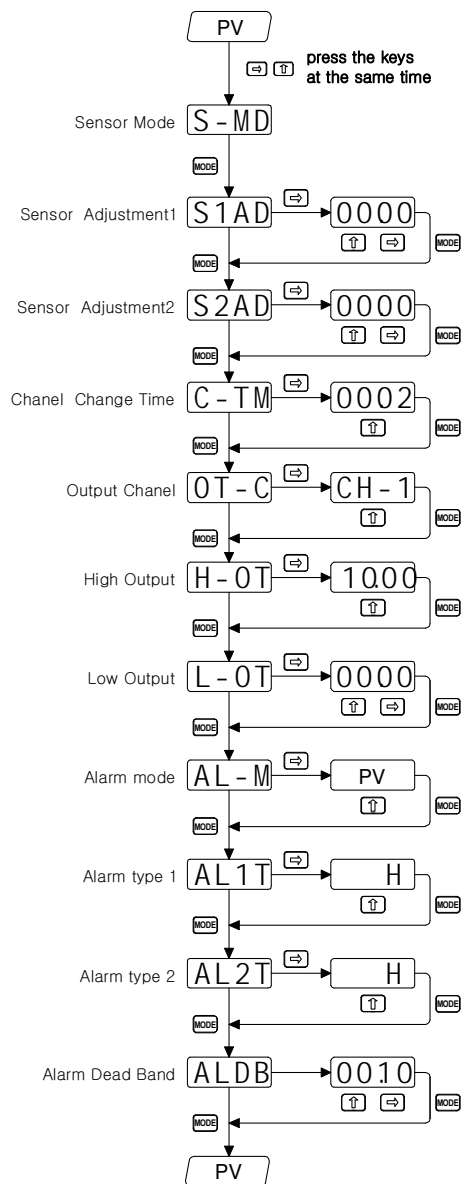
## 2. Setting Mode

### ※ IC5000 ※

- ① Fit for the purpose of using the user.  
setting the input channel Number, Sensor type, Range, Scale
- ② setting the Auto switching time, the current output Type, Alarm type.



※ IC5100 ※



## 9. Ordering Code

IC5			0		Description
Input	0				5 Channel Input
	1				2 Channel RTD
Type		0			Indicator
		1			Indicator with Alarm
		2			DC 4.00 ~ 20.00mA Output
		3			Indicator with RS-485
		4			Etc
Power				0	AC 85 ~ 265V (45 ~ 65Hz)
				1	DC 24V

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