NEWINS

소형 3색 칼라 바−지시 & 경보계

IC 100M Series (INDICON)

SMALL RGO BAR TYPE INDICATOR WITH ALARM

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FEATURES

◎ **RGO Color bar display setting** (Auto alarm point)

◎ **Clear bar by 50mm** (20 bar LED)

◎ **Multi-range input** (TC, RTD, Volt, mA)

◎ **Peak hold function** (Highest & Lowest)

◎ **RS-485(Modbus) Communication interface**

◎ **2 Wire sensor power source DC 24V**

◎ **Filter function** (4, 8, 16, 32, 64)

◎ **Small size 34.8(W) x 84.5(H) x 127.0(D)mm**

◎ **2Points alarm & Isolation current 2output** (mA & Volt) **output scaling**

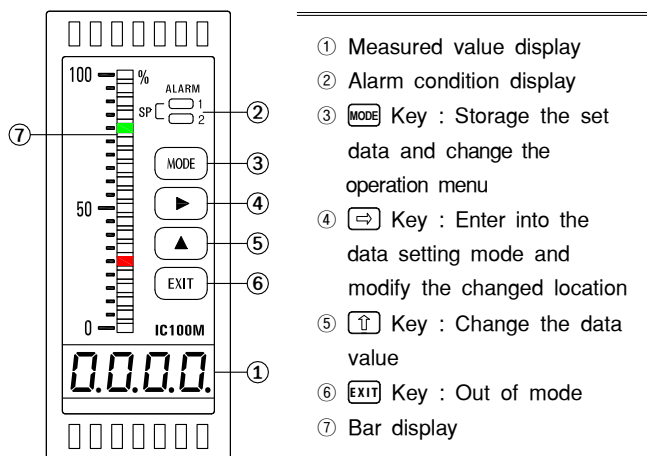## SPECIFICATIONS

▷ **Bar color :** Red, Green, Orange

▷ **Measuring and display cycle :**
  200ms(mV, Volt, mA type)
  400ms(TC, RTD type)

▷ **Input resistance :**
  Volt-400kΩ
  Others type-1MΩ

▷ **Signal source resistance :**
  Pt 100Ω type-30Ω/line
  Others type-300Ω/line

▷ **CMRR(Common Mode Rejection Ratio)** 140dB or more

▷ **NMRR(Normal Mode Rejection Ratio)** : 60dB or more

▷ **Moving average filter :** 4, 8, 16, 32, 64

▷ **Built-in sensor power source** : DC 24V 30mA ±0.5%

▷ **Accuracy :** ±0.2% FS

▷ **Isolation current output**
  (2 output is isolation between output)
  Current : DC 4.00~20.00mA
  Maximum load resistance : 600Ω
  Isolation resistance(Input-Output) : 100MΩ or more
                        (DC 500V)

▷ **Isolation voltage output(Option)**
  Voltage : DC 0~10V
  Minimum load resistance : 1kΩ
  Isolation resistance(Input-Output) : 100MΩ or more
                        (DC 500V)

▷ **Alarm output(Alarm setter)**
  Contact output type : Normal open, Normal close
  Max switching power : 60W 125VA
  Max switching voltage : DC 220V, AC 250V
  Max switching current : DC 2A, AC
  Max Carrying current : DC 3A, AC

▷ **Ambient temperature & Humidity**
  Operation : -10~50℃, 10~90%
  Storage : -20~70℃, 5~95%

▷ **Power supply**
  Voltage : AC 85~265V(45~65Hz)
        : DC 24V(Option)
  Power consumption : Max 4VA
  Isolation resistance : 100MΩ, DC 500V
  (FG-Input, FG-Power, Power-Input, Input-Output)

▷ **Etc**
  Weight : 200g
  Mounting : Panel mount
  Dimension : 34.8(W) X 84.5(H) X 127.0(D)mm

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PARTS NAME

① Measured value display
② Alarm condition display
③ MODE Key : Storage the set data and change the operation menu
④ ⇨ Key : Enter into the data setting mode and modify the changed location
⑤ ⇧ Key : Change the data value
⑥ EXIT Key : Out of mode
⑦ Bar display

INPUT TYPE

▷ Multi range input

• Free input selection by code

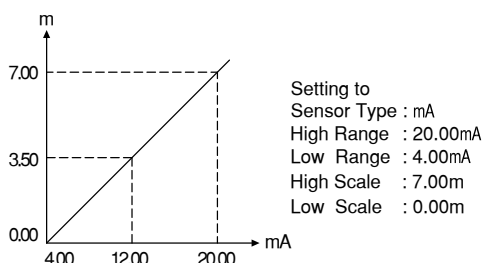| Sensor Type		Range	Scale	Symbol
TC	B(PR)	0~1800℃	-	tC-b
	R(PR)	0~1750℃	-	tC-r
	S(PR)	0~1750℃	-	tC-S
	K(CA)	-200~1350℃	-	tC-K
	E(CRC)	-199.9~700.0℃	-	tC-E
	J(IC)	-199.9~800.0℃	-	tC-J
	T(CC)	-199.9~400.0℃	-	tC-t
Volt	mV	-50.0~50.0mV	-1999~9999	ṁu
	Volt	-1.000~1.000V	-1999~9999	ḷu
	Volt	-10.0~10.0V	-1999~9999	ḷ0u
mA	mA	4.00~20.00mA	-1999~9999	ṁA
PT	Pt100Ω	-199.9~800.0℃	-	d-Pt
	JPt100Ω	-199.9~500.0℃	-	J-Pt

* mA input needs 250Ω 0.05% 25ppm resistance spiral on outside

MAJOR FUNCTIONS

▷ Display scaling function(mV, Volt, mA only)

This function changes and sets the display value according to scale and input range.
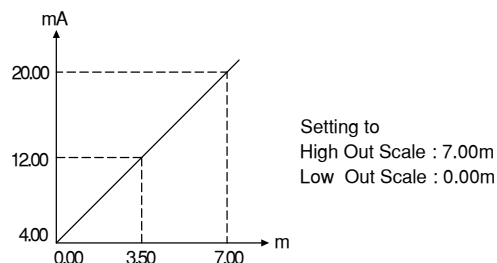
Ex) In case of input range 4.00~20.00mA and Level 0.00~7.00m

Setting to
Sensor Type : mA
High Range : 20.00mA
Low Range : 4.00mA
High Scale : 7.00m
Low Scale : 0.00m

▷ Output scaling function

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

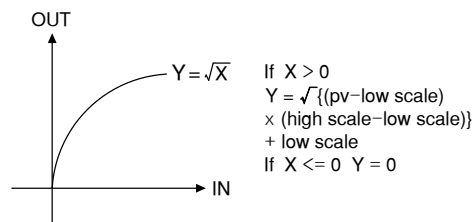Ex) In case of display value 0.00~7.00m, Output 4.00~20.00mA

Setting to
High Out Scale : 7.00m
Low Out Scale : 0.00m

▷ Function(mV, Volt, mA type)

L in

Pass the input as it is.
Used for general input type and linearity input.

root

Pass the input after √. Used for flow rate by orifice.

$Y = \sqrt{X}$

If X > 0
$Y = \sqrt{\{(pv-low\ scale)}$
$\times (high\ scale-low\ scale)\}$
$+ low\ scale$
If X <= 0 Y = 0

L iṁt

Like level measuring, when it does not display measuring under zero, it always can display zero by using limit function.
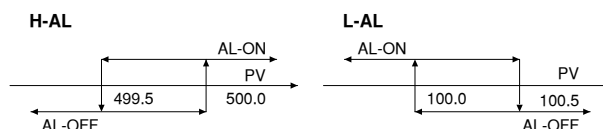
▷ Alarm function

Alarm type : High, Low
The alarm consists of 2 relays, and it can output relay contact output individually

Ex) AL-1 : 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.

H-AL

AL-ON
PV
499.5 500.0
AL-OFF

L-AL

AL-ON
PV
100.0 100.5
AL-OFF

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▷ Filter function

5-Kinds of average transfer filter function.

1) Because input is irregular use when output and display are unstable.

2) When need high speed reply, if use filter, response is slow.
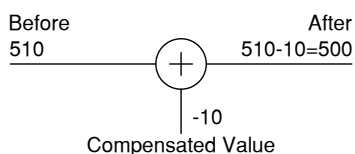
▷ Sensor compensation function

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

Ex) Before sensor adjust = 510℃

After sensor adjust

= measured value + compensated value

= 510 - 10 = 500℃

Before 510 ———⊕——— After 510-10=500
            |
           -10
     Compensated Value

▷ Peak hold function

Peak mode 0 High peak mode

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

Peak mode 1 Low peak mode

Remember the lowest input value and display the lowest value when pressing the key.
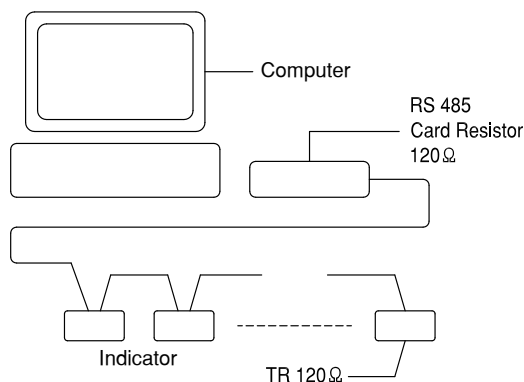
Peak mode 2 High peak & Display mode

Remember the highest input value, display the highest value in ordinary times, and output the highest transmit output.

Peak mode 3 Low peak & Display mode

Remember the lowest input value, display the lowest value in ordinary times, and output the lowest transmit output.
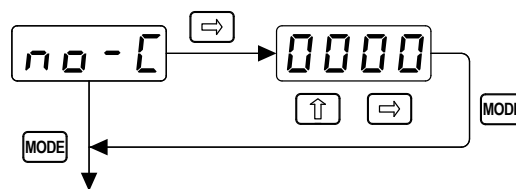
▷ Communication interface

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

Computer

RS 485
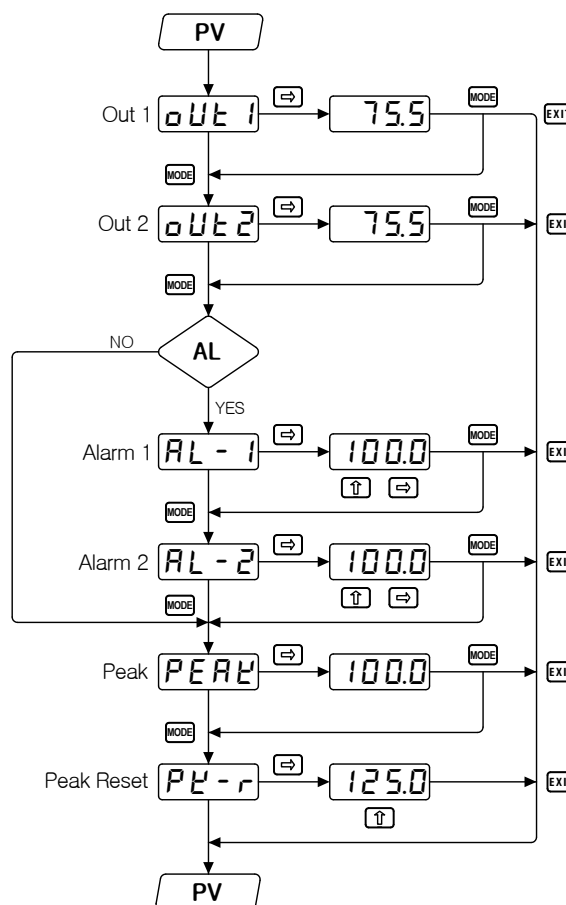Card Resistor
120Ω

Indicator   TR 120Ω

RGO Bar Color Setting

▷ Main bar color setting

no-C ⇨ 0000

▷ Auto alarm color point

① Main bar (**Red**)
  • AL1 : Orange
  • AL2 : Green

② Main bar (**Green**)
  • AL1 : Red
  • AL2 : Orange

③ Main bar (**Orange**)
  • AL1 : Green
  • AL2 : Red

OPERATION MODE

PV

Out 1 oUt 1 ⇨ 75.5

Out 2 oUt 2 ⇨ 75.5

AL   NO / YES

Alarm 1 AL-1 ⇨ 100.0

Alarm 2 AL-2 ⇨ 100.0

Peak PEAK ⇨ 100.0

Peak Reset PE-r ⇨ 125.0

PV

※ Note
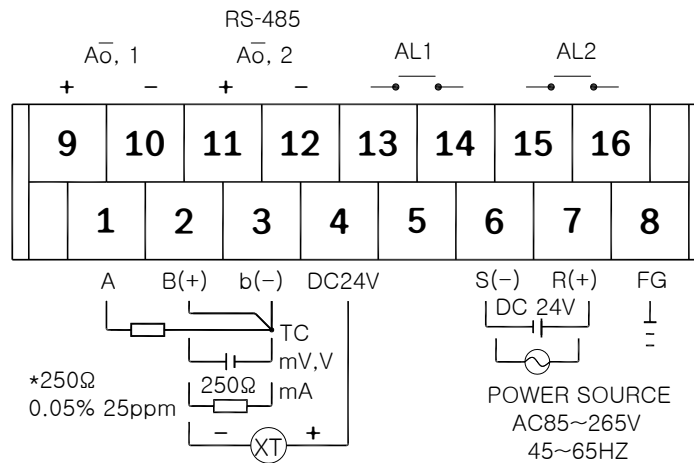
- After alarm setting presses [EXIT] key, the set being completed.

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ORDERING CODE

IC 1			M		Description
Analog output	0				2ALARM
	1				2ALARM + DC 4.00~20.00mA
	2				2ALARM + DC 1~5V
	3				2ALARM + DC 4.00~20.00mA (2 Out)
	4				2ALARM + DC 1~5V (2 Out)
	5				2ALARM + DC 4.00~20.00mA + 1~5V
	6				2ALARM + DC 4.00~20.00mA + RS-485
	7				2ALARM + DC 1~5Volt + RS-485
	8				DC 4.00~20.00mA
	9				DC 1~5V
	10				Etc
Power		0			AC 85~265V (45~65㎐)
		1			DC 12~32V
		2			Etc
Interface			0		None
			1		RS-485
			2		Modbus RTU

TERMINAL DIAGRAM

DIMENSION & PANEL CUT

* N = QTY

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