

## FEATURES

- 3Ch Signal acceptance (mV, V, mA)
- High accuracy 16bit A/D converter
- Various operation functions  
(Add, Sub, Multiplication, Division)
- Flow, Temperature and  
Pressure compensation function
- Each channel setting input, Gain and Bias
- Isolation current output & Output scaling



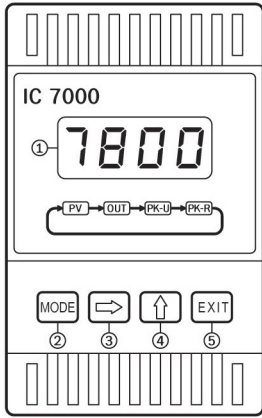
## SPECIFICATIONS

- ▶ Measuring and display cycle : 400ms/3Ch
- ▶ Input resistance : 100k $\Omega$
- ▶ Signal source resistance : 100 $\Omega$ /line
- ▶ CMRR(Common Mode Rejection Ratio) : 140dB or more
- ▶ NMRR(Normal Mode Rejection Ratio) : 60dB or more
- ▶ Moving average filter
- ▶ Accuracy :  $\pm 0.2\%$  FS
- ▶ Isolation current output  
(2 output is isolation between output)  
Current : DC 4.00~20.00mA  
Maximum load resistance : 600 $\Omega$   
Isolation resistance(Input-Output, Two-Output) :  
100M $\Omega$  or more (DC 500V)
- ▶ Isolation voltage output  
(2 output is isolation between output)  
Voltage : DC 0~10V  
Minimum load resistance : 1k $\Omega$  or more  
Isolation resistance(Input-Output, Two-Output) :  
100M $\Omega$  or more (DC 500V)
- ▶ Ambient temperature & Humidity  
Operation : -10~50 $^{\circ}$ C, 10~90%  
Storage : -20~70 $^{\circ}$ C, 5~95%
- ▶ Power supply  
Voltage : AC 110/220V(50~60Hz) by S/W  
DC 24V(Optional)  
Power consumption : Max 4VA  
Isolation resistance : 100M $\Omega$ , DC 500V  
(FG-Input, FG-Power,  
Power-Input, Input-Output)
- ▶ Etc  
Weight : 500g  
Mounting : Din rail & wall mounted  
Dimension : 50(W) X 80(H) X 102(D)mm

다기능 연산 변환기

MULTI FUNCTION CONVERTER

PARTS NAME



- ① Measured value display
- ② **MODE** Key :  
Storage the set data and change the operation menu
- ③ **MODE** Key :  
Enter into the data setting mode and modify the changed location
- ④ **MODE** Key :  
Change the data value
- ⑤ **EXIT** Key : Out of mode

INPUT TYPE

Sensor Type		Range	Scale	Symbol
Volt	mV	-100.0~100.0mV	-1999~9999	$\bar{n}\mu$
	Volt	-10.0~10.0V	-1999~9999	$\mu$
mA	mA	4.00~20.00mA	-1999~9999	$\bar{n}A$

MAJOR FUNCTIONS

▷ Math function

K0, K1, K2, K3  
=Scale Parameter(Setting Range : 0.01~99.99, -0.01~-19.9)  
A0, A1, A2, A3  
=Offset Parameter(Setting Range : 0.0~999.9, -0.0~-199.9)

**ADD**

$Y=K0 * \{(K1 * X1+A1) + (K2 * X2+A2) + (K3 * X3+A3)\} + A0$   
Ex) In case of 3 input average:  
input 4.00~20.00mA and display 0.0~5.0 setting to  
K0=5.0, K1=K2=K3=0.33, A0=A1=A2=A3=0.0,  
display point=3, Output Scale H10t=5.0, L1ot=0.0

**nPY**

$Y=K0 * \{(K1 * X1+A1) * (K2 * X2+A2) * (K3 * X3+A3)\} + A0$   
Ex) In case of 3 input multiplication:  
input 4.00~20.00mA and display 0.0~100.0 setting to  
K0=1.0, K1=K2=K3=0.1, A0=A1=A2=A3=0.0,  
display point=1, Output Scale H10t=100.0, L1ot=0.0

**d.u**

$Y=K0 * \{(K1 * X1+A1) * (K2 * X2+A2) / (K3 * X3+A3)\} + A0$   
Ex) In case of 2 input multiplication and 1 input division:  
input 4.00~20.00mA and display 0.0~10.0 setting to  
K0=1.0, K1=K2=K3=1, A0=A1=A2=A3=0.0,  
display point=2, Output Scale H10t=10.0, L1ot=0.0

**COP**

$Y=K0 * \{(K1 * X1+A1) \sqrt{(K2 * X2+A2) / (K3 * X3+A3)}\} + A0$   
Ex) In case of steam measuring flow temperature and pressure compensation input 4.00~20.00mA and display 0.0~10.0.  
K0=0.1, K1=K2=K3=1, A0=A1=A2=A3=0.0,  
display point=2, Output Scale H10t=10.0, L1ot=0.0

▷ High selector

Output the highest value of 3 input

▷ Low selector

Output the lowest value of 3 input

※ Note

Function(ADD), Input(mA), H-Range(20.00),  
L-Range(4.00), A-Factor(0.00), K-Factor(1.00),  
Display-Point(1), H-Out(100.0), L-Out(0.0)

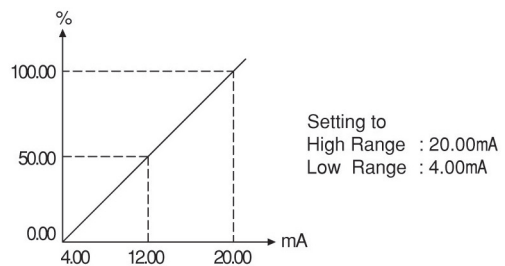
▷ Range setting function

This Function can change and set channel display by input range.

In case of thermocouple, Temperature is displayed.

In case of mV, V, mA, Scale is set as 0~100%.

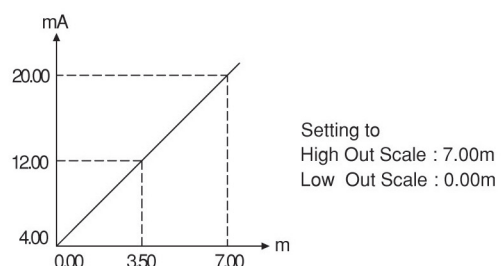
Ex) In case of range 4.00~20.00mA and Scale 0.0~100.0%



▷ Output setting function

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

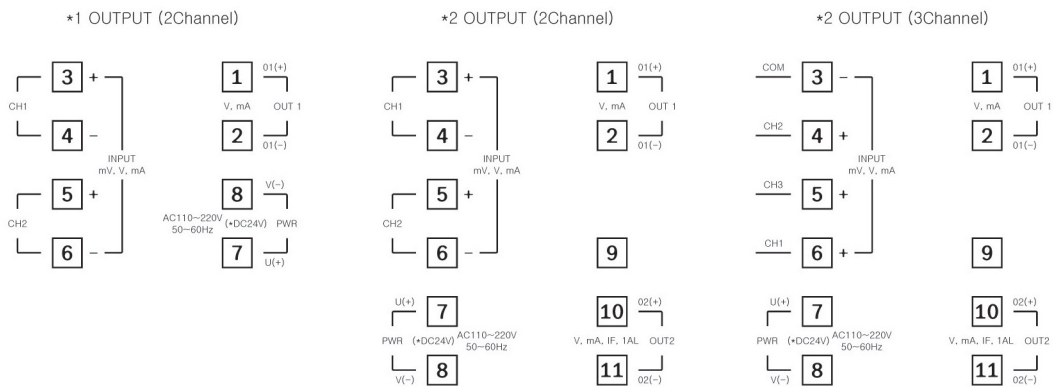
Ex) In case of display value 0.00~7.00m, Output 4.00~20.00mA



ORDERING CODE

IC 78		Description
Analog output	0	DC 4.00~20.00mA
	1	DC 4.00~20.00mA (2 Output)
	2	DC 0~10V
	3	DC 0~10V (2 Output)
	4	Etc
Power	0	AC 110/220V by S/W
	1	DC 24V

TERMINAL DIAGRAM



\*NOTE  
 1. mA Input (+,-)Needs 250 OHM 0.05% 25ppm Resistance  
 2.\*OPTION

DIMENSION & PANEL CUT

