

# BK6-M

## Multi input digital indicator

- Multi input (thermocouple, RTD, voltage/Current)
- Retransmission output (4 – 20 mA DC)
- Temperature unit selection
- Measured value compensating function



**A**  
Temperature  
Controller

### ●● Suffix code

Model	Code	Description
B K 6 – M	<input type="checkbox"/>	Multi input digital indication thermometer 72(W) X 36(H) mm
Optional	0	None
	1	RET (Retransmission output 4 – 20 mA DC)

### ●● Specification

#### Input

Input	Multi input (select by using the parameter)
Thermocouple	K, J, E, T, R, B, S, L, N, U, W, PL2
RTD	Pt100 $\Omega$ (IEC), KPt100 $\Omega$
Input sampling time	500 ms
DC voltage	1 – 5 V (4 – 20 mV), –10 – 20 mV, 0 – 100 mV
Input impedance	Thermocouple and DC voltage input(mV) : 1 M $\Omega$ min. DC voltage input(V) : approx 1 M $\Omega$
Allowable signal source resistance	Thermocouple (100 $\Omega$ max). DC voltage (2 k $\Omega$ max)
Allowable wiring resistance	RTD 10 $\Omega$ max (but resistances among 3 wires should be same)
Allowable input voltage	Within $\pm 10$ V (thermocouple, RTD, DC voltage(mV)). within $\pm 20$ V (DC voltage(V))
Input compensation	Compensation by internal parameter
Standard contact compensation error	$\pm 2.0$ $^{\circ}\text{C}$ (0 ~ 50 $^{\circ}\text{C}$ )

#### Performance

Display accuracy	Thermocouple	$\pm 0.5$ % of FS $\pm 1$ Digit)
	RTD	$\pm 0.5$ % of FS $\pm 1$ Digit)
	DC voltage, current	$\pm 0.5$ % of FS $\pm 1$ Digit)
Insulation resistance	20 M $\Omega$ min (500 V DC)	
Dielectric strength	2000 V AC 50 / 60 Hz for 1 min, (between the different recharging part from each other)	

※ Please refer to the range and input code chart for detailed display accuracy

### General specification

Power Supply Voltage	100 – 240 V AC 50 – 60 Hz
Voltage fluctuation	±10 % of power supply voltage
Power consumption	4 VA max
Ambient temperature	0 ~ 50 °C (without dew condensation)
Ambient humidity	35 ~ 85% RH
Storage temperature	-25 ~ 65 °C (without dew condensation)
Vibration resistance	10 – 55 Hz peak amplitude 0.76 mm for 2 hours each in 3 axis direction
Shock resistance	300 ㉫ to the 6 direction each 3 times
Weight	120 g

### Range and input code

Classification	Code	Input	Range (°C)	Accuracy	
Thermocouple (TC)	1	K	−200 ~ 1,370 *2	±0.5 % of FS ± 1 digit	
	2	K	−199.9 ~ 999.9 *2		
	3	J	−199.9 ~ 999.9 *2		
	4	E	−199.9 ~ 999.9 *2		
	5	T	−199.9 ~ 400.0 *2		
	6	R	0 ~ 1700 *2		
	7	B	0 ~ 1800 *1		
	8	S	0 ~ 1700		
	9	L	−199.9 ~ 900.0 *2		
	10	N	−200 ~ 1300	±1.0 % of FS ± 1 digit	
	11	U	−199.9 ~ 400.0 *2	±0.5 % of FS ± 1 digit	
	12	W	0 ~ 2300		
	13	PL2	0 ~ 1390		
RTD	20*	KPt100 Ω	−199.9 ~ 500.0 *3	±0.5 % of FS ± 1 digit	
	21*	Pt100 Ω	−199.9 ~ 640.0 *3		
DC voltage	30	1 – 5 V	Scaling set (−1999 ~ 9999)		±0.5 % of FS ± 1 digit
	32	−10 – 20 mV			
	33	0 – 100 mV			
DC current	30*	4 – 20 mA			

\*1 range 0 ~ 400 °C : ±10 % of FS ±1 Digit

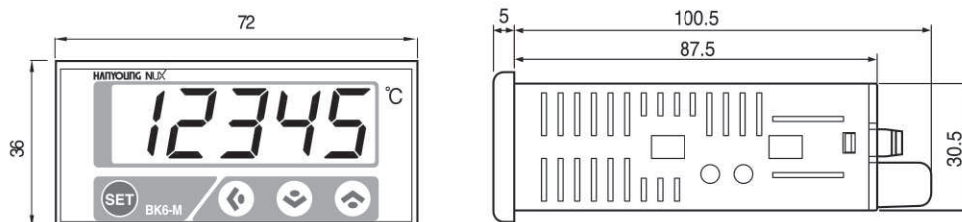
\*2 less than 0 °C : ±1.0 % of FS ±1 Digit

\*3 -150.0 ~ 150.0 °C max : ±1.0 % of FS ±1 Digit

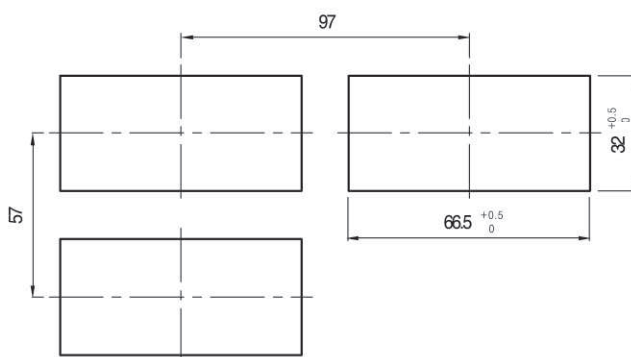
※ When using DC current input, please attach 0.1 % of 250 ㉫ resistance in between the input terminals after selecting the code number "30".

## ● Dimension and panel cutout (Unit : mm)

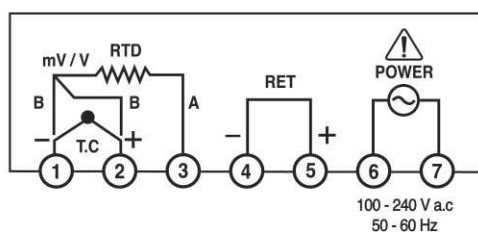
### ● Dimension



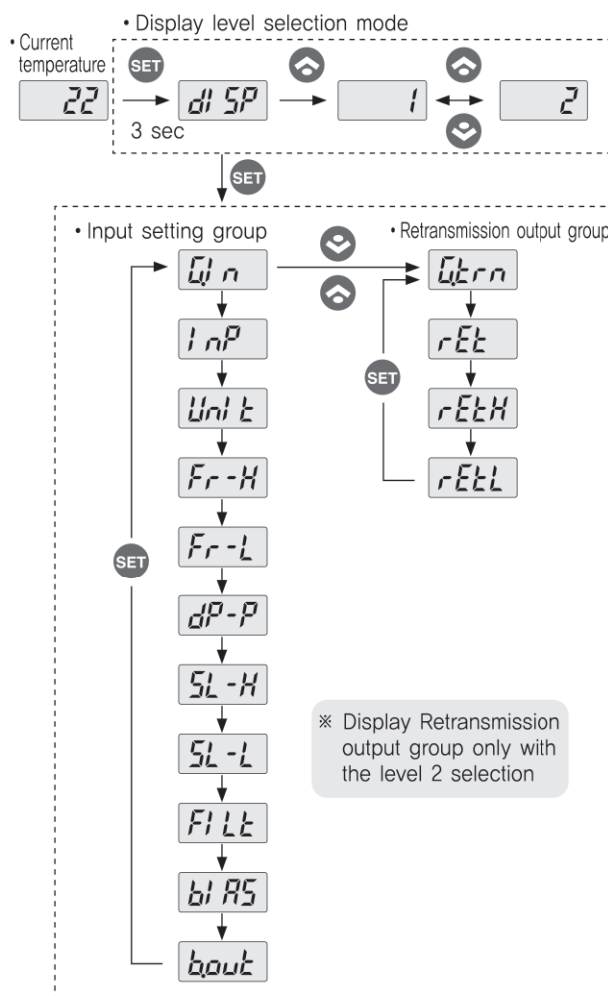
### ● Panel cutout



## ● Connection diagram



## Parameter composition and initial setting value



Meaning	Set information	Display condition	Default value
① Input group display	select the input types and set the mode that is related to the inputs.	—	—
② Input type selection	select the input signal and measurement range number (refer)	display at all times	selection number 1
③ Unit selection	°C / °F	thermocouple and RTD	°C
④ High range	Within the range limit	display at all times	1370
⑤ Low range	(refer to the input types and range) FR-H > FR-L		- 200
⑥ Position of decimal point selection (with voltage input)	DC voltage : 0 - 3 select the position with 0-3 setting	with voltage input (mV, V)	1
⑦ High scale	-1 999 - 9 999 but SL-H > SL-L	with voltage input (mV, V)	100.0
⑧ Low range	position of decimal point is selected by DP-P		0.0
⑨ Process value filter setting	Select the Process value filter	display at all times	OFF
⑩ Process value compensation setting	Measured value compensation setting	display at all times	EUS(0.0 %)
⑪ Burn-out	Burn-out	display at all times	ON