

KC series is digital indication controller capable of most suitable temperature control with excellent functions like PID auto-tuning, multi-input by group, multi-output and self-diagnosis.

Features

- Universal-input
- Universal-output
- Self-diagnosis
- Scaling function automatic decimal point movement
- Sensor correction
- Burn out
- Alarm
- Key lock
- Unit

Ordering codes

CONTENT	INPUT	CONTENT
KC-44		96W X 96H X 100Dmm
KC-33		72W X 72H X 100Dmm
KC-24		48W X 96H X 100Dmm
KC-42		96W X 48H X 100Dmm
	T	Group T(R,K,J,T,RTD,mV)
	A	Group A(mA,V)

Specifications

- **INPUT** : Universal Range Type, Only within GROUP

GROUP	INPUT	TYPE	SET CODE	SCALE RANGE	
				°C	°F
T	T/C	R(PR13%)	Ⓡ-Ⓡ	0~175	32~3182
		K(CA)	Ⓚ-Ⓚ	-200~135	-328~2462
		J(IC)	Ⓜ-Ⓜ	-200.0~800.0	-328~1472
		T(CC)	Ⓣ-Ⓣ	-200.0~400.0	-328~752
	RTD	Pt100	ⓉⓅⓉ	-200~600	-328~1112
		JPt100	ⓂⓅⓉ	-200~600	-328~1112
		JPt100	ⓂⓅⓉ	-200.0~600.0	-328~1112
	mV	0~20mV	ⓉⓉ̄	-1999~+9999,	-1.999~+9.999
A	mA	4~20mA	4-20	-1999~+9999,	-1.999~+9.999
	V	1~5V	1-5	-1999~+9999,	-1.999~+9.999

- **Input resistance** : Volt type 200KΩ or more
mA Type 250Ω remote resistance
Others 1MΩ or more
- **Accuracy** : Higher value of ±0.3% or digit(Full Scale)
- **Scale** : T/C, RTD : Set within the full scale
mV, V, mA : -1.999~+9.999, -1999~+9999
- **Signal resistance(MAX)** : VOLT TYPE :400Ω or less
OTHERS :300Ω or less
- **RTD TYPE** : 5Ω(MAX) or less per line Display :
PV, SV Display simultaneously -1999~+9999
LED 7Segment 4Digit PV...RED,
SV or out ... GREEN
- **Multi insulating** :
Current...4~20mA(Load resistance Max 600Ω or less)
Relay...contact(capacity-8A250VAC,-5ADC30V)SSR
Drive ON ... DC24V(Max 20mA)OFF.. DC 0V
- **Direct/reverse action change** :Standard
- **Input measuring & controlling cycle** : 250mS
- **Control mode** : PID
- **Control constant** : Proportional Band(P) 0.1~999.9%
Integral Time (I) 0.1~99.99min
Derivative Time(D) 0~20.00min
- **Auto-tuning function** : Standard
- **Cycle time** : 1~120sec (In case of Relay/SSR Drive Output)
- **C. M.R.R** : 140dB or more
- **N.M.R.R** : 60dB or more
- **Burn out** : TC, RTD, mV, Scale upV, mA, Scale Down
- **Input filter function** : Fir filter built in
- **Sensor correction** : ±30.0
- **All reset function** : Initialize setup by key operation
- **Alarm** : High. Low limit alarm 0~± set point deviation
Dead band ... 0~99
- **Key-locks** : Inside s/w or key operation
- **°C ↔ °F change** : Inside s/w
- **Self-diagnosis** : Standard
- **Insulation resistance** : FG-input ...100Ω or more (500VAC)
FG-power ...100Ω or more (500VAC)
Power-input ...100Ω or more (500VAC)
Input-output ...100Ω or more (500VAC)
- **Data backup** : Save by EEOPOM
- **Ambient temp-humidity** : Operating Temp Humidity
-5 °C ~55 °C/ 10~90%
Storage Temp. Humidity
-20 °C ~70 °C / 5~95%
- **Automatic return** : No key operation for 30seconds automatically
return to normal display mode
- **Power supply** : Ac85~264V, 47~63Hz
- **Power consumption** : 5VA(110V AC)
- **Weight** : Approx. 350g or less (KC-44)
- **Mounting** : Front panel mounting



Functions

• Operation mode

(PV) MENU MESSAGE	(SV) Set up MESSAGE	DESCRIPTION
OPERATION MODE START		MODE PUT ON THE KEY
SP	-200	SET THE SV VALUE
AL-H	1550	SET THE ALARM HIGH VALUE
AL-L	4550	SET THE ALARM LOW VALUE
Auto	Auto	CHANGE OF AUTO/MAN
Auto	Stop	CHANGE FROM AUTO-TUNING TO STOP/START
CYCL	60	CYCLE TIME SET THE (IN CASE SSR or RELAY TYPE)
P	2.0	SET THE P VALUE
I	3.00	SET THE I VALUE
D	0.00	SET THE D VALUE
LoC	no	SET THE KEY-LOCK

• Setting Mode

(PV) MENU MESSAGE	(SV) Set up MESSAGE	DESCRIPTION
SETTING MODE START		KEY PUT ON FOR 3SECOND AT THE SAME TIME
IN-P	LC-L	SET OF INPUT TYPE
dP	.	SET OF LOCKION FOR DECIMAL POINT (IN CASE mV, V, mA TYPE)
SC-H	1350	SET THE SCALE HIGH VALUE
SC-L	-200	SET THE SCALE LOW VALUE
SRdJ	0.0	SET THE SENSOR CORRECTION VALUE
oL-H	100.0	SET THE OUTPUT HIGH LIMIT
oL-L	0.0	SET THE OUTPUT LOW LIMIT
ACT	REV	SET THE OUTPUT ACTION
ALdb	1	SET THE ALARM DEAD BAND

• Factor set

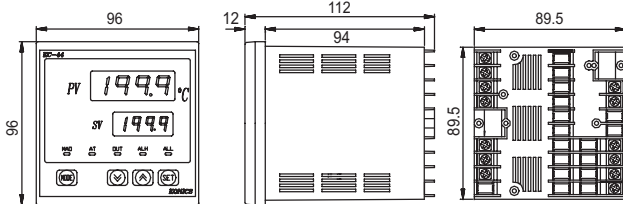
This controller is set up as below status at shipment.

	FUNCTION	INITIAL VALUE	
DISPLAY INPUT	T Type	RANGE	K TYPE:-200~1350 °C
		PV OVER SCALE	1505 °C
		PV UNDER SCALE	-355 °C
	A Type	RANGE	4-20mA:0~100.0%
		PV OVER SCALE	110.0%
		PV UNDER SCALE	-10.0%
		KEY LOCK	no
		SENSOR CORRECTION	0.0
		UNIT	°C
	CONTROL	CONTROL MODE(FIXED)	PID
DIRECT REVERSE ACTION CHANGE		REVERSE ACTION	
MULTI OUT		mA	
OUTPUT High Limit		100.0%	
OUTPUT Low Limit		0.0%	
AUTO/MAN MODE		AUTO	
P VALUE		2.0%	
I VALUE		3.00	
MinD VALUE		0.00Min	
SP		LOW SCALE VALUE	
	CYCLE TIME	60Sec	
ALARM	DEVIATION HIGH LIMIT ALARM	+High/Low SCALE DEVIATION	
	DEVIATION LOW LIMIT ALARM	-HIGH/LOW SCALE deviation	
	DEAD BAND	1	

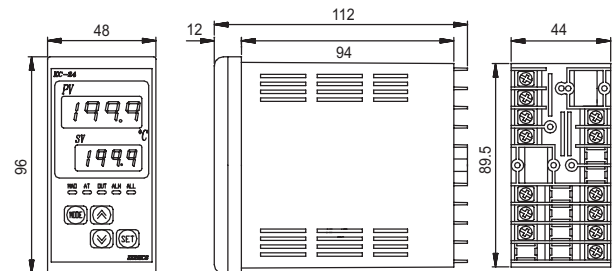
Dimensions

(Unit : mm)

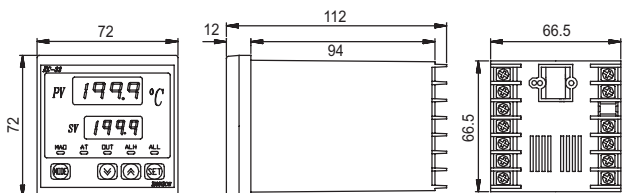
KC-44



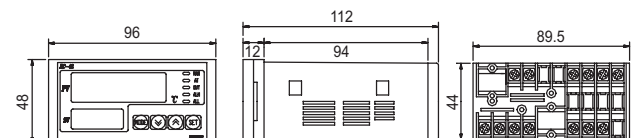
KC-24



KC-33



KC-42



A

Recorders

B

Data Loggers

C

Indicators

D

Converters

E

Controllers

F

Thyristor Units

G

Transmitters

H

Temp. Sensors

I

Thermo Meters

J

Pressure Gauges

K

Others

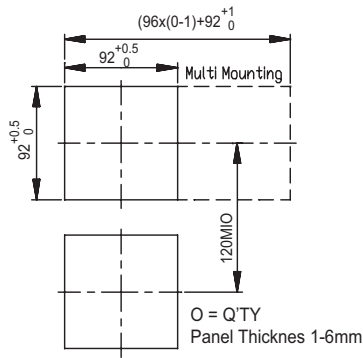
KC Series

KP Series

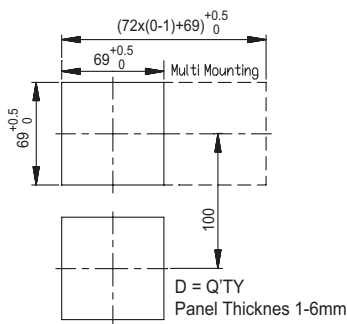
Panel Cutout

(Unit : mm)

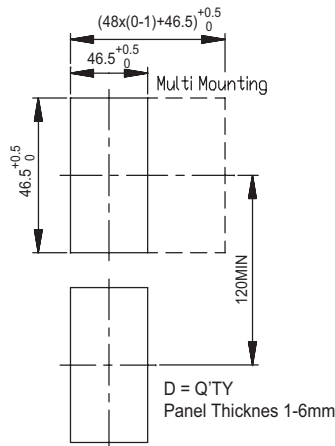
KC-44



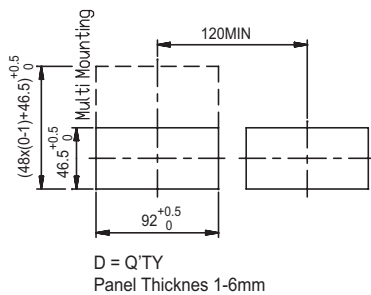
KC-33



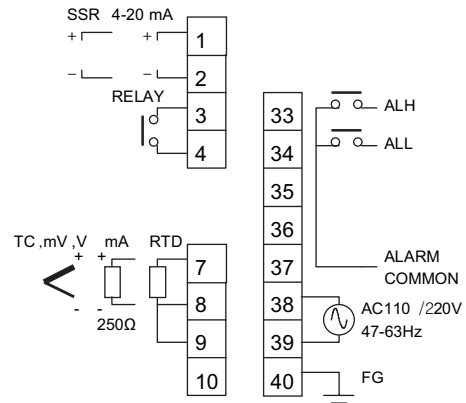
KC-24



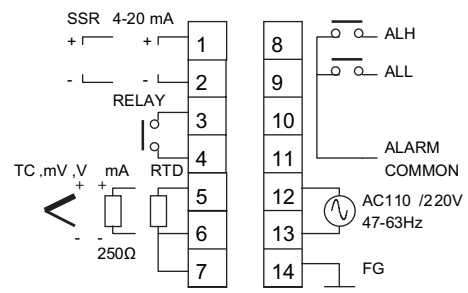
KC-42



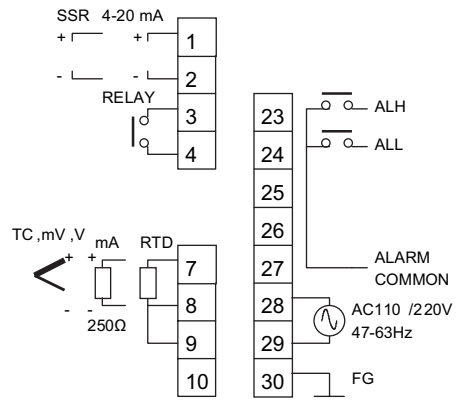
Connections



< KC-44 >



< KC-33 >



< KC-24,42 >