E-KC-102 SERIES HEAD MOUNTED TYPE TEMPERATURE CONVERTER USER MANUAL

KY-KC102-1224-1

The E-KC-102 converter is designed for use in an industrial environment.

- The package of the E-KC-102 converter contains; the Converter, user manual and guarantee certificate.
- After opening the package, please visually check whether the type of the transmitter is suitable for the order, whether the above-mentioned parts are missing and whether the transmitter has been damaged during shipment.
- Before installing and operating the controller, please read the user manual thoroughly.
- The installation and configuration of the controller must only be performed by a person qualified in instrumentation.
- Keep the unit away from flamable gases, that could cause explotions.
- Do not use alcohol or other solvents to clean the transmitter. Use a clean cloth soaked in water tightly squeezed to gently wipe the outer surface of the transmitter.
- It is not used in medical applications.

1. DESCRIPTION

E-KC-102 series two wire transmitters are microprocessor based industrial instruments in plastic case. E-KC-102 transmitters are used to convert the thermocouple and resistance thermometer signals into standard 4-20 mA The configuration of the transmitter is done by PC, using a software programme supplied by Elimko.
The RS 232 connection hardware is also available from Elimko.

2. TECHNICAL SPECIFICATIONS

2.1. OPERATING RANGE and MEASURING ACCURACY (at 24 V supply voltage and 25°C ± 3°C ambient temperature)

SENSOR		STANDARD	LOWER LIMIT	UPPER LIMIT	MINIMUM SPAN	ACCURACY	
						A/D	D/A
RTD	Pt-50	IEC 60751	-200°C	850°C	50°C	±0.5°C	±0.1% Span
	Pt-100		-200°C	850°C	50°C	±0.25°C	
	Pt-500		-200°C	850°C	50°C	±0.25°C	
	Pt-1000		-200°C	850°C	50°C	±0.25°C	
	Ni-50	DIN 43760	-60°C	180°C	50°C	±0.25°C	
	Ni-100		-60°C	180°C	50°C	±0.25°C	
	Ni-120		-60°C	180°C	50°C	±0.25°C	
	Ni-200		-60°C	180°C	50°C	±0.25°C	
	Ni-500		-60°C	180°C	50°C	±0.25°C	
	Ni-1000		-60°C	180°C	50°C	±0.25°C	
TC	J	IEC 60584	-200°C	1100°C	50°C	±0.50°C	
	K		-200°C	1300°C	50°C	±0.50°C	
	L	DIN 43710	-200°C	900°C	50°C	±0.50°C	

If the input type and scale is not specified while ordering, factory settings are;
For KC-102-RT **Input Type** : Pt-100, and **Scale** : 0-200°C,
For KC-102-TC **Input Type** : Type K, and **Scale** : 0-400°C.

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2.2. General Specifications

Electrical:	
Supply Voltage	10.0 - 30 V DC
Voltage Drop	10.0 V
Environmental Conditions:	
Operating Temperature	-10°C to +55°C
Protection Class	IP 00, IP 66 (DIN 43729 mounted on type B head)
Calibration Temp.	25°C ±3°C
Mechanical:	
Dimensions	Ø 44.0 mm x 21.5 mm
Weight (approx.)	40 g
Connection Cables	Max. 1.5 mm² (AWG 16)
Resistance Thermometer (RTD) / Resistance Input:	
Sensor Connection	3-wire or 4-wire (Configurable)
Maximum Wire Resistance	100 Ω
Error Signaling	Wire Break (Output current can be configured Up / Down.)
Thermocouple (TC) / mV Input:	
Input Impedance	> 10 MΩ
Maximum Wire Resistance	100 Ω
Cold Junction Compensation (CJC)	Constant, Internal NTC, External Pt-100 (Configurable)
Error Signaling	Wire Break (Output current can be configured Up / Down.)
Output:	
Output Signal	4 - 20 mA or 20 - 4 mA
Load Resistance	$[V_{supply}-10]\times 50\ \Omega$ (600 Ω at 22 V DC)
Operating Influences:	
Ambient Temperature	< ± 0.01% / °C
CJC Error (For TC Inputs)	< ± 1.0 °C
EMC Immunity	< ± 0.5% Span

Electromagnetic Compatibility:
The E-KC-102 meets the requirements of TS EN 61326-1.

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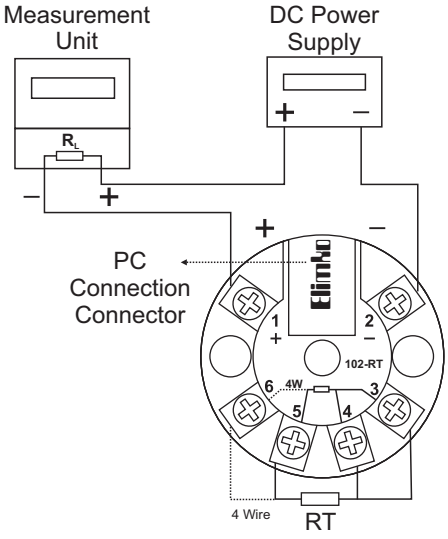
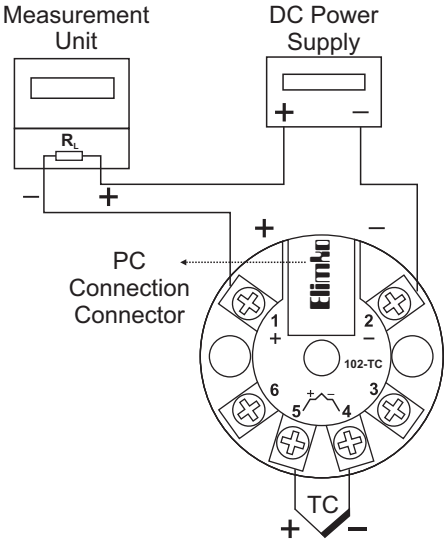
3. CONNECTION DIAGRAM



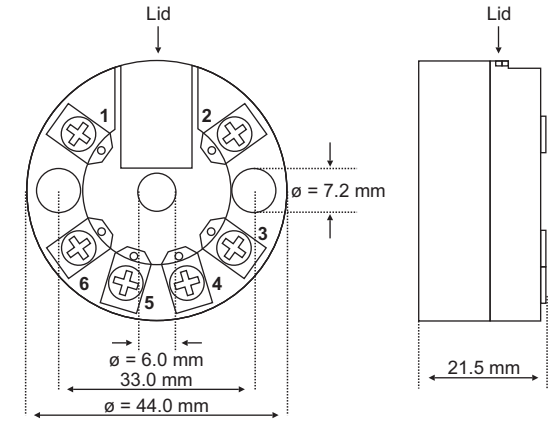
E-KC-102-R Connection Diagram



E-KC-102-T Connection Diagram

- ❍ Before operating the converter, ensure that the converter is correctly configured. Incorrect configuration could result in damage to the process being controlled.
- ❍ To minimize the pick-up of electrical noise, the wiring of low voltage lines, particularly the sensor input should be routed away from the high-current power cables. Where it is not possible, use shielded cable and ground the shielded cable.
- ❍ The cables used for powering the transmitter and the power outputs must conform to the standarts IEC 60245 and IEC 60227.

4. DIMENSIONS



For thermocouple inputs, be sure to use the proper compensation cables and pay attention to the polarity of the connection.

Manufacturer / Technical Support :
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