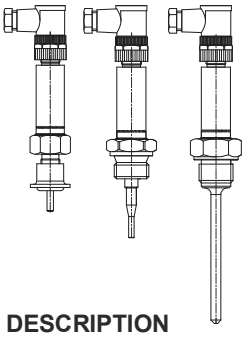
KY-MST27-0224-1



E-MST27 Miniature Temperature Transmitter User Manuel

Manufacturer / Technical Support:
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1. DESCRIPTION

The E-MST27 Series Miniature Temperature Transmitters are products used in the industry, designed using a microprocessor and integrated with temperature sensors along with the transmitter.
They are particularly preferred in all processes suitable for use, especially in the food sector. These transmitters convert temperature values into a standard 4-20 mA signal. The configuration of the transmitter unit can be easily configured by the user in any desired way, without the need for any power supply, by connecting to a PC via the E-IB14 communication unit using a USB interface on the PC, and with the converter configuration program loaded on the PC.

3. WARNINGS

The E-MST27 miniature temperature transmitter is designed for use in an industrial environment.

- The package of the E-MST27 transmitter contains; the Transmitter, 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.

EU DIRECTIVE COMPLIANCE

EMC Directive: EN 61326-1

K - Q TSE-ISO-EN 9000
TS EN ISO 9001
Quality Management System Certificate

2. TECHNICAL SPECIFICATIONS

Parameter	Explanation
Operating Voltage	10 - 30 V DC
Voltage Drop	10 V DC
Power Consumption	0.5 VA (When operating voltage is 24 V DC)
Sensor Type	Resistance Thermometer (Pt-100)
Measurement Range	Between -50 °C and 200 °C
Measurement Accuracy	±0.25 °C
Error Signal	Sensor Break
Output Type	4 - 20 mA (2 wire)
Output Accuracy	±0.1 % Full Scale
EMC Immunity	≥ ± 0.5% Full Scale
Load Resistance	[Voperating (min) - 10] x 50 Ω
Operating Temperature	Between -20 °C and 85 °C (*)
Storage Temperature	Between -30 °C and 85 °C
Protection Class	IP 67

* The temperature of the converter section should not exceed 85 °C.

4. USAGE

The connections should be made according to section **6.WIRING DIAGRAM**.

When the operating voltage is applied, it starts working. The E-MST27 device reads the temperature information from the internal resistance thermometer (Pt-100) sensor.

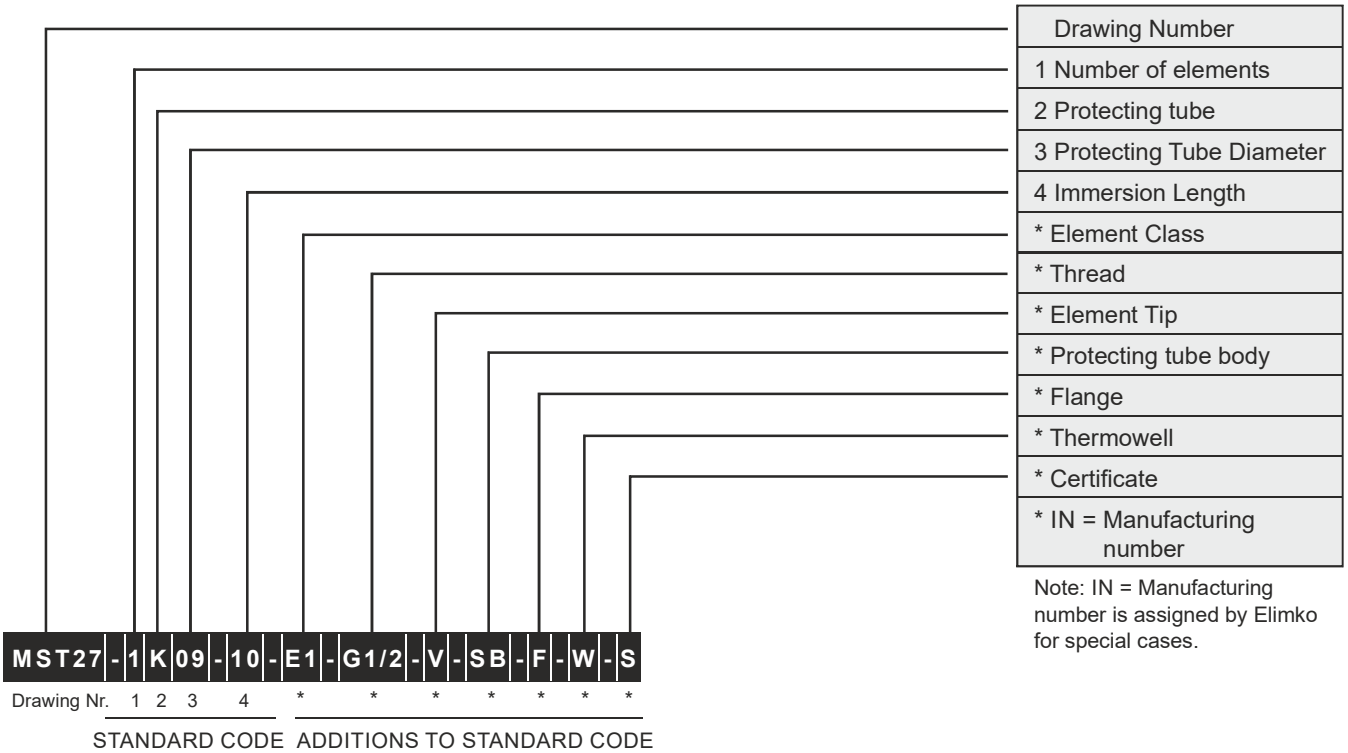
It adjusts the output current based on the configured scale values. It can measure temperatures between -50°C and 200°C. Therefore, scale values can be entered within this range.

In case of an error (such as a sensor break), the output current can be selected as the lower value (4 mA) or the higher value (20 mA).

Additionally, the output current can be configured by the user to operate in 4-20 mA or 20-4 mA format.M12 connector is also used for E-MST-27 device configuration.

The device can be connected to a PC using the E-IB-14 device to adjust the scale, error signal level, and output format.

5. CODING



Note: IN = Manufacturing number is assigned by Elimko for special cases.

STANDARD CODE: It is coded with digits and letters containing the drawing number and 5 separate pieces of information.
ADDITIONS TO STANDARD CODE: In addition to the technical specifications contained in the standard codes, the required features are listed in the "ADDITIONS TO STANDARD CODE"**.** These features are given below. In this section only needed features are written. See examples.
SPECIAL CASES
Additional features which are not fully defined with "STANDARD CODE" and "ADDITIONS TO STANDARD CODE" are coded with special drawing number. This code is expressed with IN=Manufacturing number

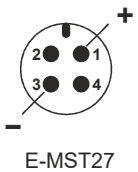
5. CODING

KY-MST27-0224-1

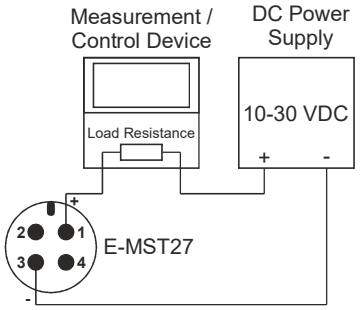
Drawing Nr.	MST27	
1- Element Number	(1) Tek Eleman	First column shows sensing element nuber. It should be 1.
2- Protecting Tube	D St-35.8 E 1.4401 (316) J 1.4541 (321) N 1.4841 / 1.4845 / 310S P 1.4301 (304) H 1.4404 (316L) K 1.4571 (316 Tİ) T Teflon	
3- Protecting Tube Diameter (mm)	02 04 06 09 11 Not: These sizes 03 05 08 10 12 are mm.	In 3.digit, the material of protecting tube is given by selecting in accordance with the process.
4- Immersion Length (cm)	05 16 25 50 100 10 18 35 71 Not: These sizes are cm.	In 4.digit, the immersion length is given. In order to ensure an accurate measurement, immersion length should be at least 6 or 10 times of the protecting tube diameter
* Element Class	E1 Pt-100 - Ceramic - A class E2 Pt-100 - Ceramic - B class	E3 Pt-100 - Film - A class E4 Pt-100 - Film - B class
* Thread	G1 G¼ 1NPT ¼NPT M10x1 M12x1.5 G½ G⅛ ½NPT ⅛NPT M12x1 M27x2	If there is a thread, it is indicated by the letters in the standard. Note: Some of these field standards are written. All standards are in production. Specify your request.
* Element Tip	H Air Slot UA Open Ended I Needle Type V Vibration Resistant HD Air Hole	Details of the E-MST27 end point are given with their codes. In stsndarts, the tip is closed.
* Protecting Tube Body	SB Bar Stock PSB Half Pipe - Half Full	Protecting tube can be machined from pipe and bar stock material. If the protecting tube is a pipe, no letters written.
* Flange	F Flange exists. Flange codes are valid.	If there is an “F” in the code, it indicates the presence of a flange. Please refer to the catalog for flange details.
* Thermowell	W Thermowell exists. Thermowell codes are valid.	If there is an “W” in the code, it indicates the presence of a thermowell. Please refer to the catalog for thermowell details.
* Certificate	S Calibration Certificate	Note: Please refer to Elimko for your certificate.

6. WIRING DIAGRAM

Pin No.	Description
1	+ (positive)
2	No Connection **
3	- (negative)
4	No Connection **

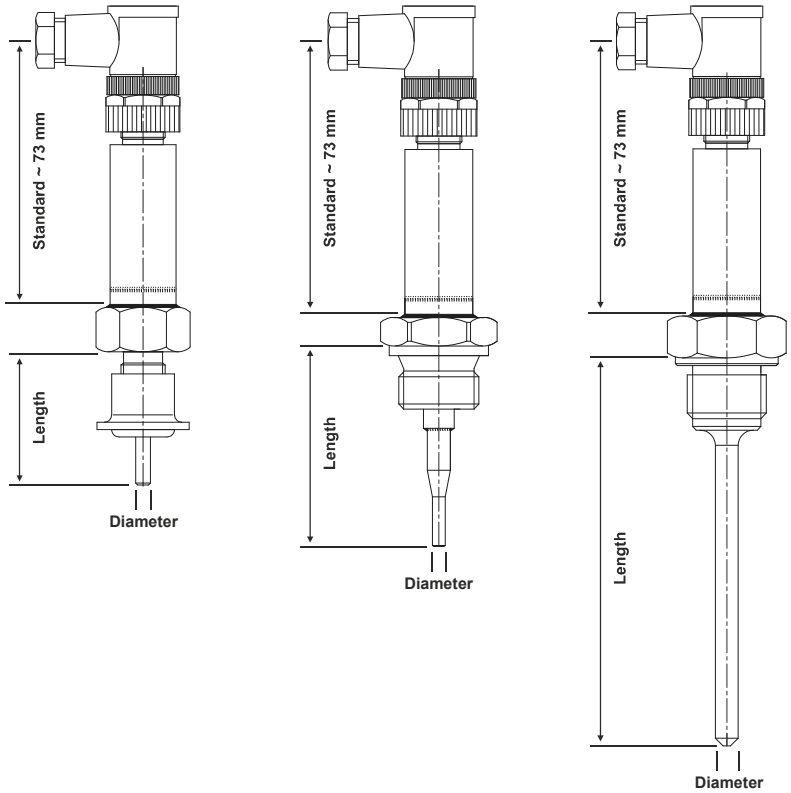


E-MST27
M12 Socket



(**) Pins 2 and 4 of the M12 socket are used for the configuration of the transmitter and should not have any external connections.
Connecting to these pins can potentially damage the device.

7. DIMENSIONS



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