

# Thermometers

TX10



Easy operation  
**TX Series**



Simplicity Allows for Ease of Use

# TX10 Series of Digital Thermometers

TX10 Series offers thermocouple thermometers that support K, J, E and T type thermocouples. There are three models available: 1-channel single-function, 1-channel multi-function, and 2-channel multi-function models.

TX1001



## 1-channel Single-function Model (TX1001)

### TC TYPE

#### Operation

Select the thermocouple type (K, J, E, and T) for the initial setting.  
(The type K is factory-set at shipment)

Press and hold down the TC TYPE key while pressing the POWER key.  
The TX10 enters the thermocouple type selection mode, and each press of the TC TYPE key switches between the thermocouple types.  
Then accept the setting with the POWER key.  
(Make sure that the characters in the display have changed.)

### DATA HOLD

Press this key to hold the measured value.

## Multi-function Models (TX1002/03)

### Memory-in Function

Up to ten data items can be stored. When recalled, the stored data value is displayed with its memory number.

### User calibration function

Calibration and adjustment can be made easily by operating the panel keys on instrument and a measurement-standard.

### TC TYPE

**Thermocouple type (K, J, E, and T) select key**  
(Operation is the same as TX1001)

### CH

(TX1003 only)

### Input channel select key

With each press, the channel switches through the sequence of "chA," "chB," and then "chA-chB."

### DATA HOLD

### Data hold key

A held measured value, can be stored in the memory of an optional memory number, which is selected with the ▲, ▼ keys.

### RECORD

### Maximum and minimum record key

Stores the maximum and minimum values from the time the RECORD key is pressed.

### Data record key

Stores the held measured value in memory. (Up to ten)

### RANGE

### Resolution select key

With each press, resolution alternates between 0.1 C and 1 C.  
(Within the range of -200.0 C to 199.9 C)

### READ

### Maximum and minimum values, and stored data read key

Every time this key is pressed, the maximum and minimum values, stored data, and the current measured data are displayed in sequence.

### REL/ADJ

### Relative display select key

Displays measured values with reference to the value obtained immediately before this key was pressed (relative value). Each press of this key can select or release the relative display.

### Simplified correction mode key

Sets the correction value, and selects active/inactive of the simplified correction function.

### ▲, ▼ Data call-up key

Used to select a memory number when calling up stored data. Also used to adjust the correction value for simplified correction mode.

TX1002  
TX1003



Light  
Weight:  
180 g

## Can Be Used in Wide Variety of Applications



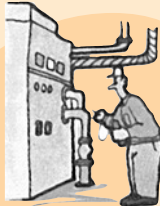
● Temperature management in a refrigerated warehouse



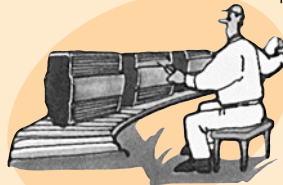
● Frozen food products quality control



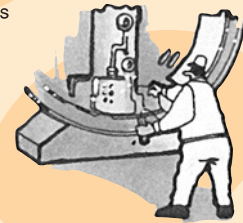
● Perishable foods quality control



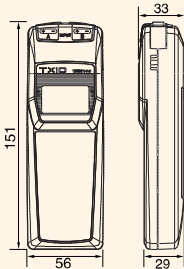
● Temperature management in production processes



● Product temperature measurement test



● Temperature checks in equipment maintenance  
● Temperature management for research and development

Product name	Digital Thermometer		
	Single-function, 1 channel	Multi-function, 1 channel	Multi-function, 2 channels
Model	TX1001	TX1002	TX1003
Number of input channels	1		2
Measuring range (only the main unit)	Thermocouple type	Type K: -200°C to 1372°C Type J: -200°C to 1000°C	Type E: -200°C to 700°C Type T: -200°C to 400°C
Resolution	-200.0°C to 199.9°C: 0.1°C 200°C or above: 1°C		-200.0°C to 199.9°C: 0.1°C or 1°C (when 1°C resolution is set) +200°C or above: 1°C
Accuracy (only the main unit)	-200.0°C to -100.1°C: ±(0.1% of rdg + 1.0°C) -100.0°C to 199.9°C: ±(0.1% of rdg + 0.7°C) +200°C or above, or when 1°C resolution is set: ±(0.2% of rdg + 1°C)		*Accuracy of reference junction compensation is included ±0.4°C when the temperature of the input terminal is in equilibrium.
Temperature coefficient	± (0.015% of rdg +0.06°C)/°C		
Measurement interval	Approx. 1 sec.		Approx. 1 sec. (1 channel measurement) Approx. 2 sec. (2 channel measurement)
Data storage	None	Capable of storing up to 10 measured data items	
Simplified correction	None	Correction range: ±20°C of measured value	
Display items	HOLD, °C, ch A, TC type K, J, E, T, Battery alarm	HOLD, RCD, REL, ADJ, MAX, MIN, MEM, °C chA, TC type K, J, E, T Battery alarm	HOLD, RCD, REL, ADJ, MAX, MIN, MEM, °C chA, chB, chA-chB TC type K, J, E, T Battery alarm
Other functions	Auto power-off, battery alarm		
Display	LCD		
Operating temperature and humidity	0°C to 50°C, 20 to 80% RH (no condensation)		
Power requirements	Two AA-size alkaline dry batteries (LR6)		
Battery life	About 450 hours		
Drip-proof construction	Conforms to IP54 (dust-proof and drip-proof requirements of IEC529)		
Compliance with standards	EMC standards	EMI (interference signal): EN55011;1998, EN61326-1;1998+A1 (Class B, Group 1) EMS (immunity): EN50082-1;1997, EN61326;1998+A1	
External dimensions	<div></div> <div>Approx. 151(H) × 56(W) × 33(D) mm (excluding protrusions)    Weight: Approx. 180 g (including batteries)</div>		
Supplied accessories	Two AA-size alkaline dry batteries (LR6) and instruction manual		
Optional accessories	Temperature probes (for K type thermocouple) Rounded end probe (90020B, 90021B, 90022B) Needle probe (90023B, 90024B) Surface probe (90030B, 90031B, 90032B, 90033B) Bead TC (90029B) Extension cable 5 m (245921) /10 m (245922) Soft case (93012) Waterproof cover (5-per package) (93011)		

## Specifications of Accessories

### Probes for TX10

Temperature Probe (for type K)						
Model	Probe type	Measuring range	Tolerance	Response time (second)	Sensor Dimension / Length (mm)	Cord length
90020B	rounded end	-50 to 600°C	$T < 375^{\circ}\text{C}: \pm 1.5^{\circ}\text{C}$ $375^{\circ}\text{C} \leq T: \pm 0.004 \times T^{\circ}\text{C}$	1.4	$\phi 3.2 / 200$	1.2 m
90021B	rounded end	-50 to 600°C		0.4	$\phi 1.6 / 150$	1.2 m
90022B	rounded end	-50 to 600°C		1.4	$\phi 3.2 / 500$	1.2 m
90023B	needle	-50 to 500°C		0.4	$\phi 1.6 / 100$	1.2 m
90024B	needle	-50 to 500°C		1	$\phi 2.1 / 100$	1.2 m
90030B	Surface straight	-20 to 250°C	$(T-T_s) \leq 100^{\circ}\text{C}: \pm 2.5^{\circ}\text{C}$ $100^{\circ}\text{C} < (T-T_s): -0.03 \times T^{\circ}\text{C} \text{ to } +2.5^{\circ}\text{C}$	2	$\phi 15$ (temp. sensing portion)	1.2 m
90031B	Surface angled	-20 to 250°C		2	$\phi 15$ (temp. sensing portion)	1.2 m
90032B	Surface straight	-20 to 500°C	$(T-T_s) < 333^{\circ}\text{C}: \pm 2.5^{\circ}\text{C}$ $333^{\circ}\text{C} \leq (T-T_s): +0.0075 \times T^{\circ}\text{C}$ $(T-T_s) < 167^{\circ}\text{C}: \pm 2.5^{\circ}\text{C}$ $167^{\circ}\text{C} \leq (T-T_s): -0.015 \times T^{\circ}\text{C}$ $T: -20^{\circ}\text{C} \text{ to } 500^{\circ}\text{C}, T_s: 0^{\circ}\text{C} \text{ to } 40^{\circ}\text{C}$	2	$\phi 15$ (temp. sensing portion)	1.2 m
90033B	Surface angled	-20 to 500°C		2	$\phi 15$ (temp. sensing portion)	1.2 m
90029B	Bead TC	-40 to 260°C	$\pm 2.5^{\circ}\text{C}$		1200 (included cord)	

(90% response)

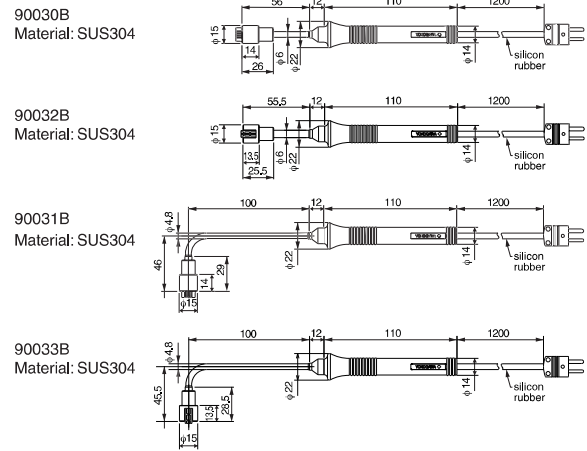
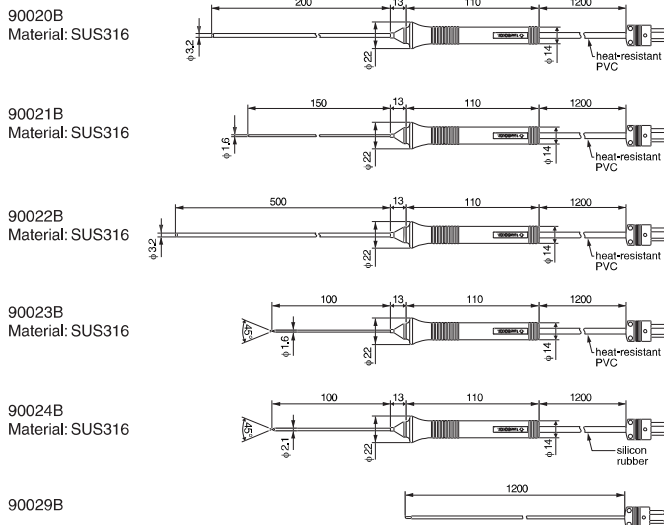
NOTE: 90030 is using polyimide to insulate from objects to be measured.  
Manufacturers of polyimide are announcing not to apply polyimide directly for food, internal and body fluid.

### Optional Accessories for TX10

Product name	Model
Temperature probe (for type K)	90020/21/22/23/24/30/31/32/33
Bead TC (for type K)	245907
K-shape connector	99009
U-shape connector (for input voltage) (for TM20 only)	99008
Extension cable (5 m)	245921
Extension cable (10 m)	245922
Soft case	93012
Waterproof cover (5 per package) (for TM10, TM20, TX10)	93011

NOTE: Please purchase commercially available thermocouples (Type-E/J/T), connectors and extension cables.

### External Dimensions for 900 series



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### NOTICE

- Before using the product, read the instruction manual carefully to ensure proper and safe operation.

<http://tmi.yokogawa.com/>

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