



## Temperature Transmitter



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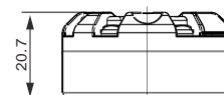
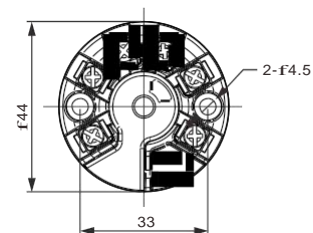
TYPE	TR110 Series	TR120 Series
	Non-Isolation	Isolation
Input : RTD 、 TC 、 Rohm 、 mV 、 Linear Current 、 Linear Voltage		

**Function Summary:**
**Features:**

Features:	TR110 Series	TR120 Series
Power Supply(Vdc)	18~32V(Loop-Powered)	18~32V(Loop-Powered)
Ambient temperature range(°C)	-20~60	-20~60
Isolation	None	1500Vac
Channels	1	1
CJC Accuracy(°C)	≤A1(Internal)	≤A1(Internal)
<b>Input:</b>		
PT100 Span /min. span(°C)	-200~850 / 10	-200~850 / 10
Rohm Span /min. Span(Ω)	0~400 / 5	0~400 / 5
TC types	B, E, J, K, N, R, S, T	B, E, J, K, N, R, S, T
Linear Current, signal range	0~20mA, 4~20mA	0~20mA, 4~20mA
Linear Voltage, signal range	0~0.5V, 0~1V, 0~5V, 0~10V, 0~20V	0~0.5V, 0~1V, 0~5V, 0~10V, 0~20V
<b>Output:</b>		
2-wire output	4~20mA	4~20mA
Communication	HART	HART

**Technical Summary:**

	Basic Accuracy	Temperature Coefficient
PT100	≤A0.5°C	≤A0.005% / °C
Rohm	≤A0.04Ω	≤A0.005% / °C
TC type: E, J, K, N, T	≤A2°C	≤A0.01% / °C
TC type: B	≤A5.5°C	≤A0.04% / °C
TC type: R, S	≤A3°C	≤A0.04% / °C
Voltage	≤A0.01mV	≤A0.005% / °C

**Dimensions**


(Unit: mm)

**Ordering Information**

TR199-09-9999-9

Type	10: none isolation 20: isolation 1.5KV
Communication	0: none      2: HART
Input type	V : DC Voltage      T : Thermocouple/RTD I : DC Current      R : ohm
Unit	0: 1C    1: 1F    9: Other
Input range	on right
Output	0: 4-20mA

Input type	Unit	Input range
V	V	01 DC Voltage 0~0.5V
		02 DC Voltage 0~1V
		03 DC Voltage 0~5V
		04 DC Voltage 0~10V
		05 DC Voltage 0~20V
I	mA	01 DC Current 0~20mA
		02 DC Current 4~20mA
R	Ohm	01 Resistance 0~400Ohm

Input type	Unit	Input range
T	°C	01 K Type -200°C~1370°C
		11 K Type -90°C~320°C
		02 J Type -210°C~1200°C
		12 J Type -90°C~320°C
		03 T Type -200°C~400°C
		04 E Type -200°C~1000°C
		05 R Type -50°C~1760°C
		06 S Type -50°C~1760°C
		07 B Type 250°C~1820°C
08 N Type -200°C~1300°C		
09 PT100 -200°C~850°C		



TYPE	TR130/131 Series		TR140/141 Series		Dimensions TR130/ 131/ 140/ 141 Series	
	DIN Rail Non-Isolation		DIN Rail Isolation			
	1 Channel	2 Channels	1 Channel	2 Channels		
Input : RTD 、 TC 、 Rohm 、 mV 、 Linear Current 、 Linear Voltage						
<b>Function Summary:</b>						
<b>Features:</b>						
Power Supply(Vdc)	18~32V(Loop-Powered)		18~32V(Loop-Powered)			
Ambient temperature range(°C)	-20~60		-20~60			
Isolation	None		1500Vac			
Channels	1 or 2		1 or 2			
CJC Accuracy(±C)	≤A1(Internal)		≤A1(Internal)			
<b>Input:</b>						
PT100 Span /min. span(±C)	-200~850 / 10		-200~850 / 10			
Rohm Span /min. Span(Ω)	0~400 / 5		0~400 / 5			
TC types	B, E, J, K, N, R, S, T		B, E, J, K, N, R, S, T			
Linear Current, signal range	0~20mA, 4~20mA		0~20mA, 4~20mA			
Linear Voltage, signal range	0~0.5V, 0~1V, 0~5V, 0~10V, 0~20V		0~0.5V, 0~1V, 0~5V, 0~10V, 0~20V			
<b>Output:</b>						
2-wire output	4~20mA		4~20mA			
Communication	HART		HART			
<b>Technical Summary:</b>						
	Basic Accuracy		Temperature Coefficient			
PT100	≤A0.5±C		≤A0.005% / ±C			
Rohm	≤A0.04Ω		≤A0.005% / ±C			
TC type: E, J, K, N, T	≤A2±C		≤A0.01% / ±C			
TC type: B	≤A5.5±C		≤A0.04% / ±C			
TC type: R, S	≤A3±C		≤A0.04% / ±C			
Voltage	≤A0.01mV		≤A0.005% / ±C			

### Ordering Information

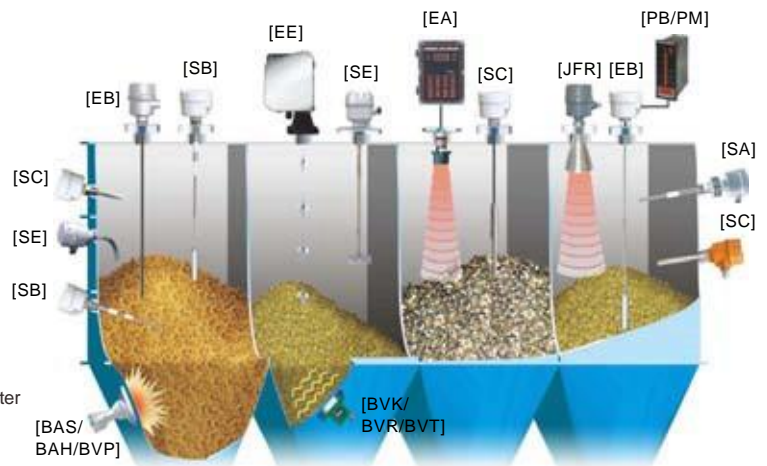
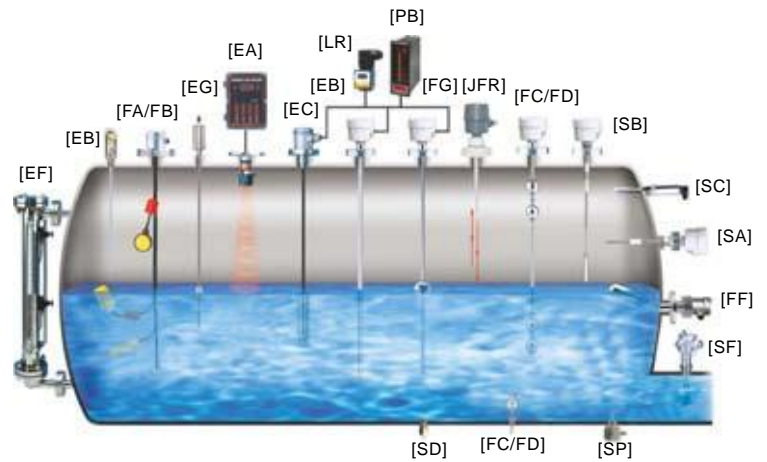
TR199-09-9999-9					
Type	30: DIN Rail none isolation (1 Channel) 31: DIN Rail none isolation (2 Channels) 40: DIN Rail isolation 1.5KV (1 Channel) 41: DIN Rail isolation 1.5KV (2 Channels)				
Communication	0: none	2: HART			
Input type	V: DC Voltage	T: Thermocouple/RTD			
	I: DC Current	R: ohm			
Unit	0: 1C	1: 1F	9: Other		
Input range	on right				
Output	0: 4-20mA				

Input type	Unit	Input range
V	V	01 DC Voltage 0~0.5V
		02 DC Voltage 0~1V
		03 DC Voltage 0~5V
		04 DC Voltage 0~10V
		05 DC Voltage 0~20V
I	mA	01 DC Current 0~20mA
		02 DC Current 4~20mA
R	Ohm	01 Resistance 0~400Ohm

Input type	Unit	Input range
T	°C	00 All Type BY Type
		01 K Type -200°C~1370°C
		11 K Type -90°C~320°C
		02 J Type -210°C~1200°C
		12 J Type -90°C~320°C
		03 T Type -200°C~400°C
		04 E Type -200°C~1000°C
		05 R Type -50°C~1760°C
		06 S Type -50°C~1760°C
		07 B Type 250°C~1820°C
08 N Type -200°C~1300°C		
09 PT100 -200°C~850°C		

# EXAMPLES OF TANK MOUNTING

- [FC/FD] Mini Float/Magnetic Float Level Switch
- [FG] Magnetic Float Level Transmitter
- [FF] Side Mounting Float Switch
- [FA/FB] Cable Float Level Switch
- [SP] Thermal Dispersion Flow Switch
- [SF] Paddle Flow Switch
- [SD] Optical Level Switch
- [SE] Rotary Paddle Level Switch
- [SA] Capacitance Level Switch
- [EC] Pressure Level Transmitter
- [LR] Loop Power Indicator
- [SC] Vibrating Probe Level Switch
- [SC] Tuning Fork Level Switch
- [EB] RF-Capacitance Level Transmitter
- [SB] RF-Capacitance / Admittance Level Switch
- [EG] Magnetostrictive Level Transmitter
- [EF] By-Pass Level Transmitter
- [MEF] Mini By-Pass Level Transmitter
- [EA] Ultrasonic Level Transmitter
- [JFR] FMCW Radar Level Transmitter
- [EE] Electromechanical Level Measuring System
- [ED] Speed Monitor
- [SRT/SRS] Conveyor Belt Misalignment Switch & Safety Cable Pull Switch
- [PB/PM] Microprocessor Based Bargraphic Display Scaling Meter
- [BRD/AE] Valve and Controller for Dust Collector System
- [BAS/BAH/BVP] Air Hammer
- [BVK/BVR/BVT] Pneumatic Vibrator



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