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Authorized Distributor



Safety Barrier



TX10 ISOLATED SAFETY BARRIER

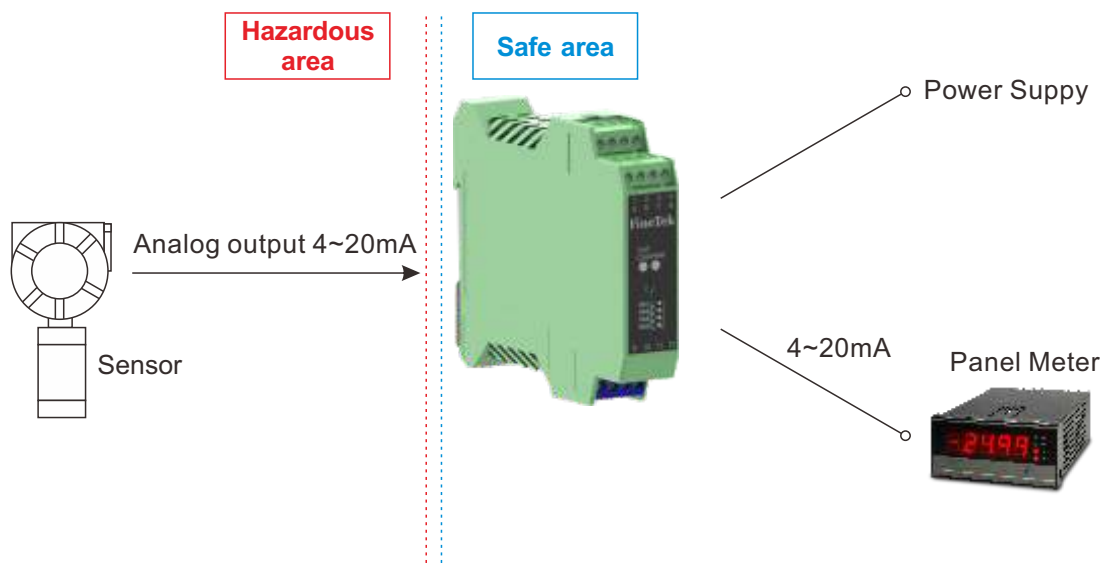
OPERATING PRINCIPLE

Isolated safety barrier provides power supply to transmitters located in hazardous zone and transmit isolated supply current signal to safe zone. Max. input 0~20mA which can be transformed to different analog outputs, such as 0~20mA / 4~20mA / 0~5V / 0~10V.


FEATURES

- 1 current input port to connect with continuous current or current output products. Applicable for use in hazardous zone.
- 3 output ports - relay output, current output, and RS-485.
- LED indicator, user friendly.
- DIP switch for function selection.
- In house programming per customers' criteria.
- Self-test function for system function monitoring.
- Setting relay output as alarm for optional external sensing unit connection.
- Optional RS-485 interface enables easy system configuration & supply current data retrieve.
 - * RS485(only for host communication) when multiple TX1 safety barriers operating parallelly, the max. quantity for parallel connection is 20 units.
- Product design complies with explosion proof standard.
- 2 dual-color LEDs
 - ▶ PWR LED: Green - Normal
Red - Abnormal
 - ▶ OUT/CHK LED: Yellow - Relay activated
Red (Flash) - Input current abnormal

SCHEMATIC DIAGRAM



TX10 SPECIFICATION

Dimensions (Unit: mm)		
Certification	 NEPSI Ex-proof GYB14.1529 Ex ia Ga IIC Intrinsic safety GB3836.1-2010GB3836.4-2010、GB3836.20-2010	
Model No.	TX100R	TX101F
Supply voltage	20~35 Vdc	20~250 Vdc/Vac, 50/60 Hz
Power supply protection	Power supply reverse protection	Non-directionality input
Current consumption	< 100 mA @24 V, Load 20mA	< 200 mA @24 V, Load 20mA
Hazardous Zone		
Input	0~20/4~20	
Open loop supply voltage	< 28 Vdc	
Distribution supply voltage	> 15 Vdc (Load 20 mA)	
Safe Zone		
Output	Current: 0~20/4~20 mA Load resistance: <550 ohm or Voltage: 0~5/0~10V Load resistance: <20k ohm	
Response time	< 5 ms	
Accuracy	0.1 % F.S., 0.5% @ <0.3V (20°C)	
Temp. coefficient	< 2.0μA/°C (25°C~60°C); < 3.0μA/°C (-20°C~25°C)	
Isolation	2500Vac : Current leakage < 1mA : 1min. 1. Intrinsic end & Non-Intrinsic end 2. Non-Intrinsic end power supply & output	
Ambient temp.	-20~60 °C	
Applicable zone	Zone 0, Zone 1, Zone 2, IIA, IIB, IIC T4~T6	
External equipments	1. 2-Wire transmitter 2. 3-Wire transmitter 3. Current output transmitter	

INTRINSICAL SAFETY PARAMETERS

Transmitter (2 wire type)

Max. Voltage input U_i (V)	Max. Current input i_i (mA)	Max.Power input P_i (mW)	Max. internal equivalent parameter	
			C_i (μ F)	L_i (mH)
20	120	—	0	0
Max. Voltage output U_o (V)	Max. Current output i_o (mA)	Max.Power output P_o (mW)	Max. external parameter	
			C_o (μ F)	L_o (mH)
5.355	—	—	See below table	
Gas group	Max. External parameter			
	C_o (μ F)	L_o (mH)		
II C	65	—		
II B	1000	—		
II A	1000	—		

Transmitter (3 wire type)

Max. Voltage output U_o (V)	Max. Current output i_o (mA)	Max.Power output P_o (mW)	Max. internal equivalent parameter	
			C_i (nF)	L_i (μ H)
28	93	651	0	0
Gas group	Max. External parameter			
	C_o (μ F)	L_o (mH)		
II C	0.083	4.2		
II B	0.65	12.6		
II A	2.15	33.6		

FUNCTION SETTING

Current Mode

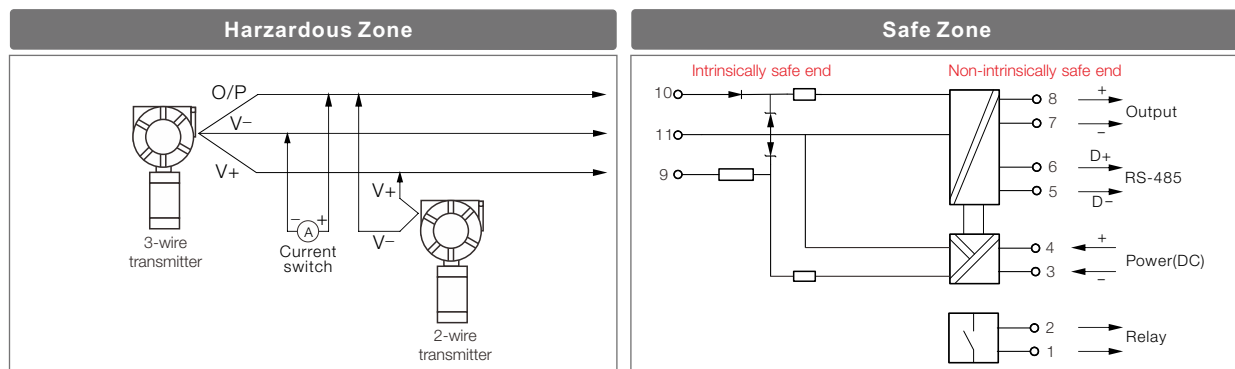
DIP	Action mode	Description	DIP switch position
SW1	Working mode	Continuous current output	I
SW2	Analog output mode	Increment : 0~20mA/4~20mA/0~5V/0~10V	I
		Decrement 20~0mA/20~4mA/5~0V/10~0V	II
SW3	Relay action	ON, as value setted	I
		ON, as value setted	II
SW4	Relay output mode	Boot mode	I
		Alarm mode	II

Switch Mode

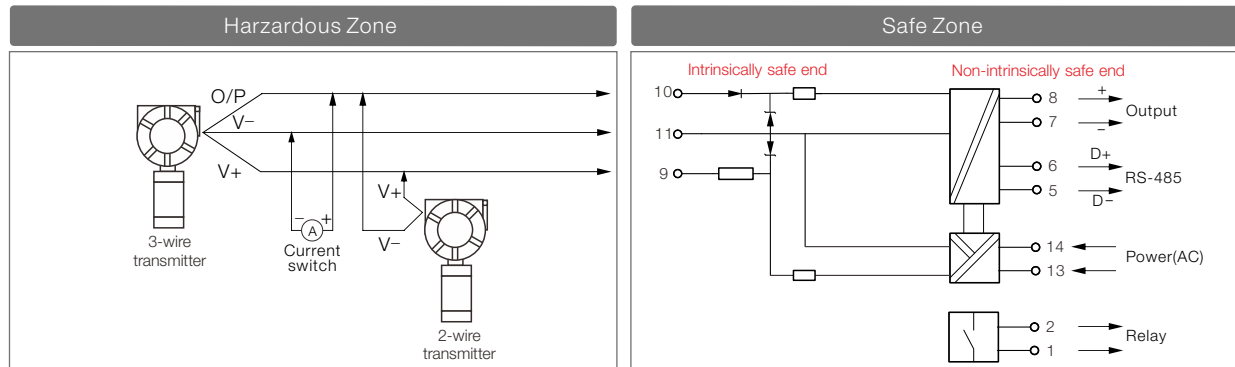
DIP	Action mode	Description	DIP switch position
SW1	Working mode	Current output for switch	II
SW2	Relay action	ON, as \geq value setted	I
		ON, as \leq value setted	II
SW3	Delay time setting	NO time delay	I
		5 second delay	II
SW4	Relay output mode	Boot mode	I
		Alarm mode	II

WIRING

TX100R



TX101F



MODEL NUMBER / ORDER CODE COMPARISON TABLE

ORDERING INFORMATION

Model Number	Order Code
TX100R	TXX1017BB
TX101F	TXX1007BC

TXX 1 ⁰⁵ ⁰⁶ ⁰⁷ ⁰⁸ - ⁰⁹ ¹⁰ ¹¹ ¹² ¹³

⑤ ⑥ Model

00: Standard(W45.2×H113.6×D99)
01: Economic(W22.6×H113.6×D99)

⑦ ⑧ Certification

00: None
7B: NEPSI-Exia

⑨ Power supply

B: DC 20~35 Vdc
C: AC 20~250 Vac

⑩ Input

A: 4~20mA
B: 0~20mA

⑪ Output 1

A: 4~20 mA
B: 0~20 mA
C: 0~5 V
D: 0~10 V

⑫ Output 2

0: None
A: RS485

⑬ Output 3

0: None
C: Relay



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