

Terminal Type Extremely Small DC V/A Isolated Transducer (AC Power)

MODEL TZ-1FA

NEW!



Input Specification

Code No.	Input signal	Input resistance	Input allowable range
0	0 to 5mVDC	More than 1MΩ	-50 to +150% F.S
1	0 to 10mVDC		
2	0 to 50mVDC		
3	0 to 60mVDC		
4	0 to 100mVDC		
A	0 to 10μADC	1kΩ	
B	0 to 100μADC		
C	0 to 200μADC	500Ω	
Y	Other than the above		

For Code No. Y

Limit of specifications

Voltage input : Less than +100 mVDC and more than -100 mVDC

Minimum span : Less than +200 mVDC and more than 5 mVDC

Current input : Less than +5 mADC and more than -5 mADC

Minimum span : Less than +10 mADC and more than 10 μADC

Output Specification

Code No.	Output signal	Allowable Loadresistance
0	0 to 5V DC	More than 2kΩ
1	1 to 5V DC	
2	0 to 10V DC	More than 4kΩ
3	-10 to 10V DC	Negative output:more than 10kΩ
4	-2 to 2VDC	More than 2kΩ Negative output:more than 10kΩ
5	-2.5 to 2.5VDC	
6	-5 to 5VDC	
7	0 to 4VDC	More than 2kΩ
A	4 to 20mADC	Less than 550Ω
B	0 to 20mADC	
Y	Other than the above	

For code No. Y

Limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC

Minimum span : Less than +27 VDC and more than 0.06 VDC

(Road resistance : 10kΩ at the output exceeding 10V, and a negative output)

(Base accuracy : ±0.15 %F.S and temperature characteristic : ±0.03 %F.S/°C for a span of less than 1V)

Current output : Less than +20 mADC and more than 0 mADC

Minimum span : Less than +20 mADC and more than 1 mADC

Outputs can be reversed for both voltage and current outputs.

General Specifications

Base Accuracy : ±0.1 %F.S (At 25±2°C)

Power supply variation : ±0.06 %F.S

Load resistance variation : ±0.06 %F.S

Temperature characteristic : ±0.02 %F.S/°C

Response time : Less than 50msec or 3msec (TYP)(0→90%)

Front adjustments : ±5% for zero and span

Insulation resistance : Between input and output/power supply ;
More than 100MΩ at 500 VDC

Dielectric strength : Between input and output/power supply ;
For 1 min. at 2000VAC

Power supply voltage : 100 to 240VAC ±10 %

Consuming current : Less than 20mA (100VAC at voltage output)

Less than 30mA (100VAC at current output)

Operating ambient temperature : -5 to 50°C

Operating ambient humidity : Less than 90 %RH (No-condensing)

Storage temperature : -10 to 70°C

Storage humidity : Less than 60%RH (No-condensing)

Case material : ABS resin (Black) 94V-2

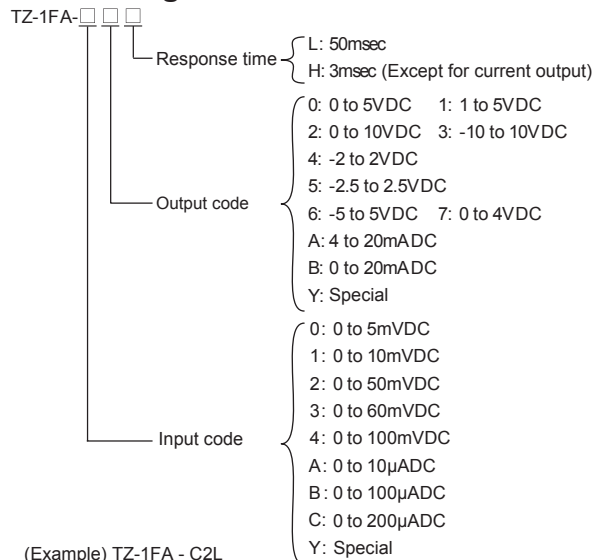
Weight : Approx. 80g

Vibration resistance : Frequency: 10 to 55Hz; amplitude(half):
0.15mm to 10 sweeps of 5 min each in X, Y, and Z directions

Features

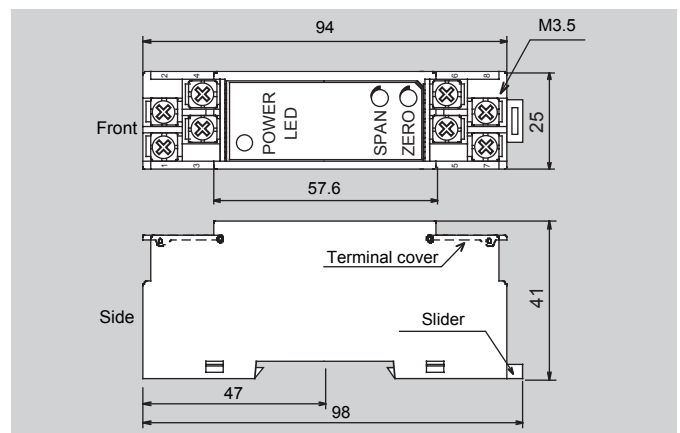
- AC power supply 90 VAC to 240 VAC
- DIN rail mounting
- Input/Output/Power supply isolated

Ordering Code

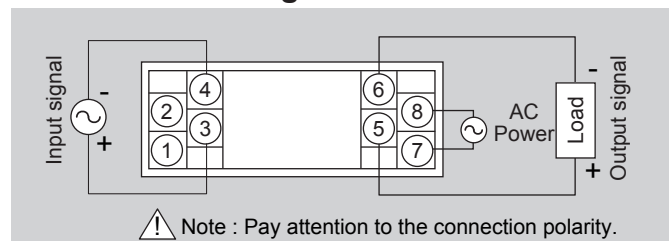


(Example) TZ-1FA - C2L

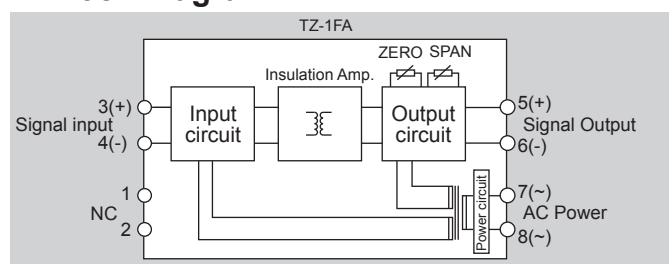
Dimensions



Connection Diagram



Block Diagram



Terminal Type Extremely Small DC V/A Isolated Transducer

MODEL TZ-5FA

NEW!



Input Specification

Code No.	Input signal	Input resistance	Input allowable range
0	0 to 5mVDC	More than 1MΩ	-50 to +150% F.S
1	0 to 10mVDC		
2	0 to 50mVDC		
3	0 to 60mVDC		
4	0 to 100mVDC		
A	0 to 10μADC	1kΩ	
B	0 to 100μADC		
C	0 to 200μADC	500Ω	
Y	Other than the above		

For Code No. Y

Limit of specifications

Voltage input : Less than +100 mVDC and more than -100 mVDC

Minimum span : Less than +200 mVDC and more than 5 mVDC

Current input : Less than +5 mADC and more than -5 mADC

Minimum span : Less than +10 mADC and more than 10 μADC

Output Specification

Code No.	Output signal	Allowable Loadresistance
0	0 to 5V DC	More than 2kΩ
1	1 to 5V DC	
2	0 to 10V DC	More than 4kΩ
3	-10 to 10V DC	Negative output:more than 10kΩ
4	-2 to 2VDC	More than 2kΩ Negative output:more than 10kΩ
5	-2.5 to 2.5VDC	
6	-5 to 5VDC	
7	0 to 4VDC	More than 2kΩ
A	4 to 20mADC	Less than 550Ω
B	0 to 20mADC	
Y	Other than the above	

For code No. Y

Limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC

Minimum span : Less than +27 VDC and more than 0.06 VDC

(Load resistance : 10kΩ at the output exceeding 10V, and a negative output)

(Base accuracy : ±0.15 %F.S and temperature characteristic : ±0.03 %F.S/°C for a span of less than 1V)

Current output : Less than +20 mADC and more than 0 mADC

Minimum span : Less than +20 mADC and more than 1 mADC

Outputs can be reversed for both voltage and current outputs.

General Specifications

Base Accuracy : ±0.1 %F.S (At 25±2°C)

Power supply variation : ±0.06 %F.S

Load resistance variation : ±0.06 %F.S

Temperature characteristic : ±0.02 %F.S/°C

Response time : Less than 50msec or 3msec (TYP)(0→90°)

Front adjustments : ±5% for zero and span

Insulation resistance : Between input and output/power supply ;
More than 100MΩ at 500 VDC

Dielectric strength : Between input and output/power supply ;
For 1 min. at 1500VAC

Power supply voltage : 24VDC ±10 %

Consuming current : Less than 30mA (24VDC at voltage output)

Less than 50mA (24VDC at current output)

Operating ambient temperature : -5 to 50°C

Operating ambient humidity : Less than 90 %RH (No-condensing)

Storage temperature : -10 to 70°C

Storage humidity : Less than 60%RH (No-condensing)

Case material : ABS resin (Black) 94V-2

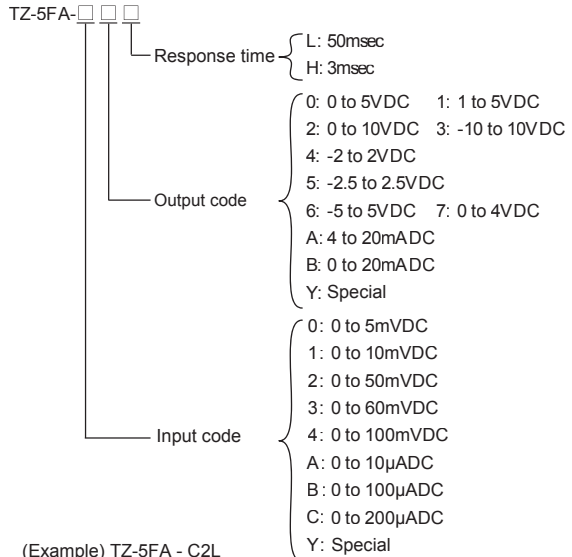
Weight : Approx. 80g

Vibration resistance : Frequency: 10 to 55Hz; amplitude(half): 0.15mm
to 10 sweeps of 5 min each in X, Y, and Z directions

Features

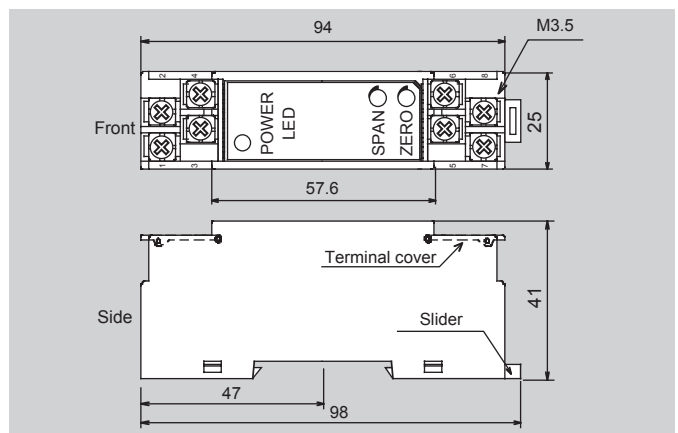
- DC power supply 24V DC
- DIN rail mounting
- Input/Output/Power supply isolated

Ordering Code

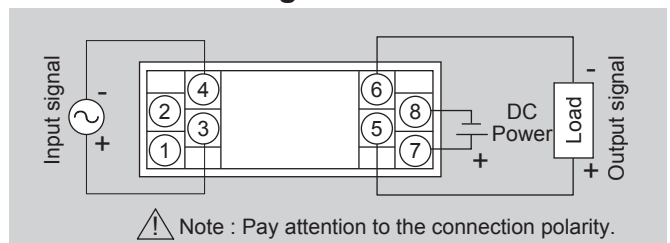


(Example) TZ-5FA - C2L

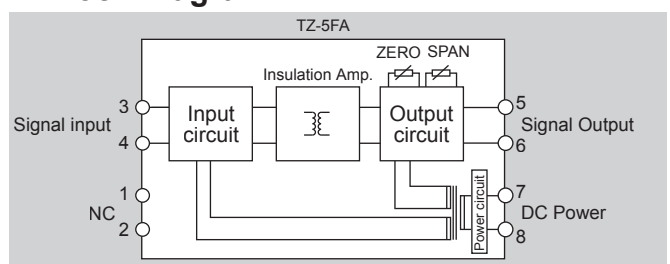
Dimensions



Connection Diagram



Block Diagram



Terminal Type DC V/A to DC V/A Isolated Transducer (AC Power)

MODEL TZ-1XA

NEW!



Input Specification

Code No.	Input signal	Input resistance	Input allowable range
0	0 to 5VDC	More than 1MΩ	-50 to +150% F.S
1	1 to 5VDC		
2	0 to 10VDC		
3	-10 to 10VDC		
4	0 to 1VDC		
5	0 to 0.1VDC		
6	0 to 0.06VDC		
7	0 to 20VDC		
8	-2 to 2VDC		
9	-5 to 5VDC		
A	4 to 20mADC	250Ω	
B	0 to 20mADC		
Y	Other than the above		

For Code No. Y

Limit of specifications

Voltage input : Less than +250 VDC and more than -250 VDC

Minimum span : Less than +500 VDC and more than 60 mVDC

Current input : Less than +50 mADC and more than -50 mADC

Minimum span : Less than +100 mADC and more than 1 mADC

Output Specification

Code No.	Output signal	Allowable Load resistance
0	0 to 5V DC	More than 2kΩ
1	1 to 5V DC	
2	0 to 10V DC	
3	-10 to 10V DC	Negative output: more than 10kΩ
4	-2 to 2VDC	More than 2kΩ
5	-2.5 to 2.5VDC	
6	-5 to 5VDC	
7	0 to 4VDC	More than 2kΩ
A	4 to 20mADC	
B	0 to 20mADC	Less than 550Ω
Y	Other than the above	

For code No. Y

Limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC

Minimum span : Less than +27 VDC and more than 0.06 VDC

(Load resistance : 10kΩ at the output exceeding 10V, and a negative output)

(Base accuracy : ±0.15 %F.S and temperature characteristic :

±0.03 %F.S/°C for a span of less than 1V)

Current output : Less than +20 mADC and more than 0 mADC

Minimum span : Less than +20 mADC and more than 1 mADC

Outputs can be reversed for both voltage and current outputs.

General Specifications

Base Accuracy : ±0.1 %F.S (At 25±2°C)

Power supply variation : ±0.06 %F.S

Load resistance variation : ±0.06 %F.S

Temperature characteristic : ±0.02 %F.S/°C

Response time : Less than 50msec or 1msec (TYP)(0→90%)

Front adjustments : ±5% for zero and span

Insulation resistance : Between input and output/power supply ;
More than 100MΩ at 500 VDC

Dielectric strength : Between input and output/power supply ;
For 1 min. at 2000VAC

Power supply voltage : 90 to 240VAC ±10 %

Consuming current : Less than 20mA (100VAC at voltage output)
Less than 30mA (100VAC at current output)

Operating ambient temperature : -5 to 50°C

Operating ambient humidity : Less than 90 %RH (No-condensing)

Storage temperature : -10 to 70°C

Storage humidity : Less than 60%RH (No-condensing)

Case material : ABS resin (Black) 94V-2

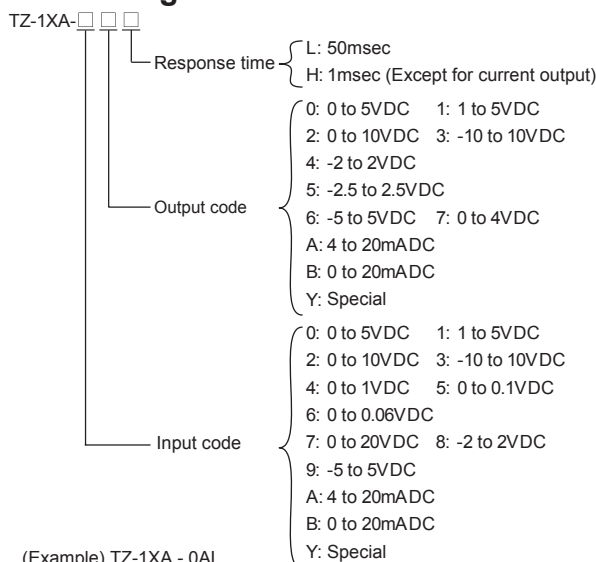
Weight : Approx. 80g

Vibration resistance : Frequency: 10 to 55Hz; amplitude(half): 0.15mm to
10 sweeps of 5 min each in X, Y, and Z directions

Features

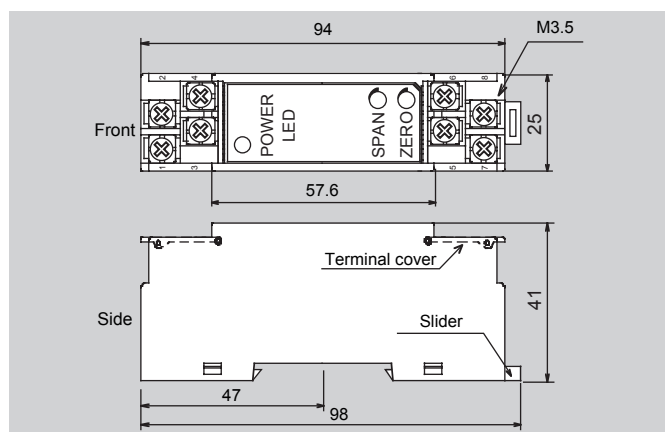
- AC power supply 90 VAC to 240 VAC
- DIN rail mounting
- Input/Output/Power supply isolated

Ordering Code

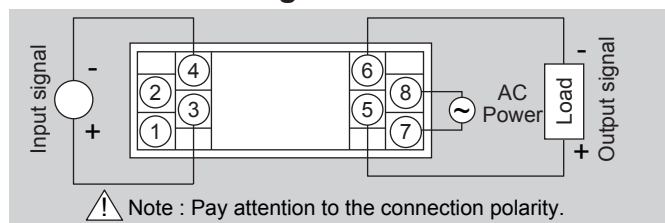


(Example) TZ-1XA - 0AL

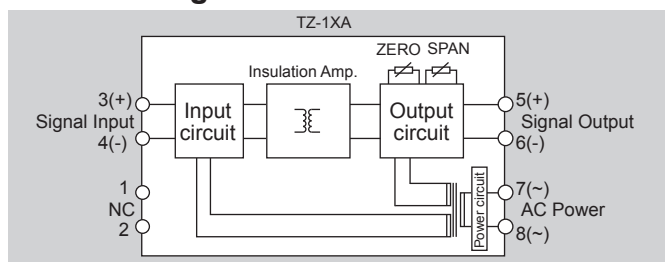
Dimensions



Connection Diagram



Block Diagram



Terminal Type DC V/A to DC V/A Isolated Transducer

MODEL TZ-5XA

NEW!



Input Specification

Code No.	Input signal	Input resistance	Input allowable range
0	0 to 5VDC	More than 1MΩ	-50 to +150% F.S
1	1 to 5VDC		
2	0 to 10VDC		
3	-10 to 10VDC		
4	0 to 1VDC		
5	0 to 0.1VDC		
6	0 to 0.06VDC		
7	0 to 20VDC		
8	-2 to 2VDC		
9	-5 to 5VDC		
A	4 to 20mADC	250Ω	
B	0 to 20mADC		
Y	Other than the above		

For Code No. Y limit of specifications

Voltage input : Less than +250 VDC and more than -250 VDC
 Minimum span : Less than +500 VDC and more than 60 mVDC
 Current input : Less than +50 mADC and more than -50 mADC
 Minimum span : Less than +100 mADC and more than 1 mADC

Output Specification

Code No.	Output signal	Allowable Loadresistance
0	0 to 5V DC	More than 2kΩ
1	1 to 5V DC	
2	0 to 10V DC	More than 4kΩ
3	-10 to 10V DC	Negative output:more than 10kΩ
4	-2 to 2VDC	More than 2kΩ Negative output:more than 10kΩ
5	-2.5 to 2.5VDC	
6	-5 to 5VDC	
7	0 to 4VDC	More than 2kΩ
A	4 to 20mADC	Less than 550Ω
B	0 to 20mADC	
Y	Other than the above	

For code No. Y limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC
 Minimum span : Less than +27 VDC and more than 0.06 VDC
 (Road resistance : 10kΩ at the output exceeding 10V, and a negative output)
 (Base accuracy : ±0.15 %F.S and temperature characteristic :
 ±0.03 %F.S/°C for a span of less than 1V)
 Current output : Less than +20 mADC and more than 0 mADC
 Minimum span : Less than +20 mADC and more than 1 mADC
 Outputs can be reversed for both voltage and current outputs.

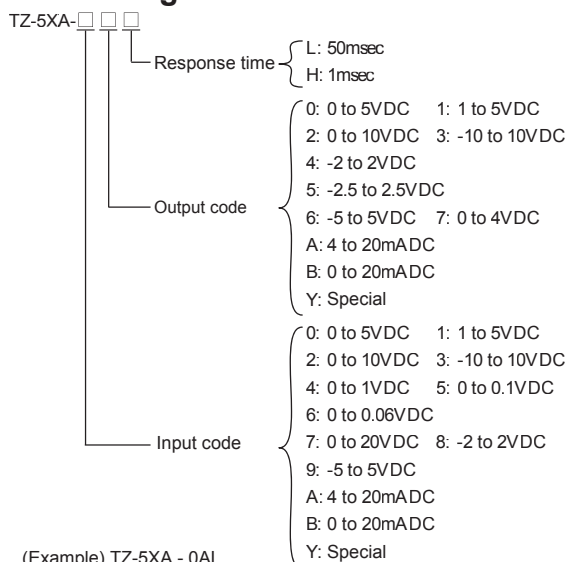
General Specifications

Base Accuracy : ±0.1 %F.S (At 25±2°C)
 Power supply variation : ±0.06 %F.S
 Load resistance variation : ±0.06 %F.S
 Temperature characteristic : ±0.02 %F.S/°C
 Response time : Less than 50msec or 1msec (TYP)(0→90%)
 Front adjustments : ±5% for zero and span
 Insulation resistance : Between input and output/power supply ;
 More than 100MΩ at 500 VDC
 Dielectric strength : Between input and output/power supply ;
 For 1 min. at 1500VAC
 Power supply voltage : 24VDC ±10 %
 Consuming current : Less than 30mA (24VDC at voltage output)
 Less than 50mA (24VDC at current output)
 Operating ambient temperature : -5 to 50°C
 Operating ambient humidity : Less than 90 %RH (No-condensing)
 Storage temperature : -10 to 70°C
 Storage humidity : Less than 60%RH (No-condensing)
 Case material : ABS resin (Black) 94V-2
 Weight : Approx. 80g
 Vibration resistance : Frequency: 10 to 55Hz; ampliutde(half): 0.15mm to
 10 sweeps of 5 min each in X, Y, and Z directions

Features

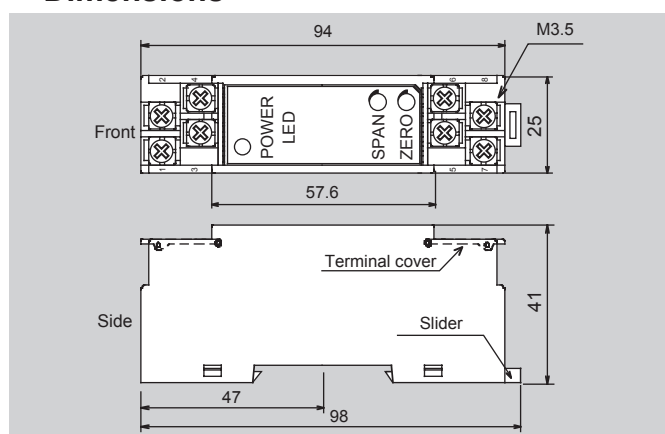
- DC power supply 24V DC
- DIN rail mounting
- Input/Output/Power supply isolated

Ordering Code

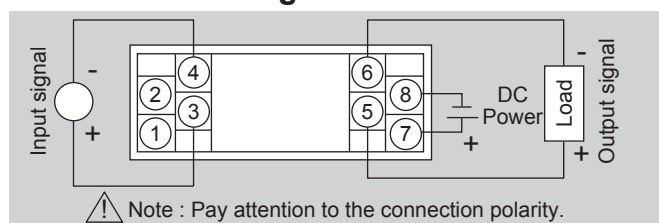


(Example) TZ-5XA - 0AL

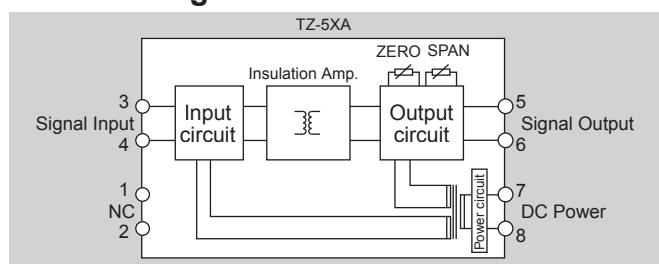
Dimensions



Connection Diagram



Block Diagram



Terminal Type Thermocouple Transducer (AC Power)

MODEL TZ-1CA

NEW!



Input Specification

Code No.	Thermo couple	Input signal	For code No.Y	Input resistance	Input allowable range
J0	J	0 to 1000°C	-50 to 1000°C span	More than 1MΩ	±150%
JY		Other than the above	200 to 1050°C		
K2	K	-50 to 200°C	-50 to 1200°C span 200 to 1250°C		
K3		0 to 200°C			
K4		-50 to 1200°C			
K5		0 to 1200°C			
KY		Other than the above			
R0	R	0 to 1700°C	0 to 1700°C span		
RY		Other than the above	400 to 1700°C		
S0	S	0 to 1700°C	0 to 1700°C span		
SY		Other than the above	500 to 1700°C		
T0	T	-50 to 350°C	-50 to 350°C span		
T1		0 to 350°C	200 to 400°C		
TY		Other than the above			

Output Specification

Code No.	Output signal	Allowable Load resistance
0	0 to 5VDC	More than 2kΩ
1	1 to 5VDC	
2	0 to 10VDC	More than 4kΩ
3	-10 to 10VDC	
4	-2 to 2VDC	More than 2kΩ
5	-2.5 to 2.5VDC	
6	-5 to 5VDC	
7	0 to 4VDC	More than 2kΩ
A	4 to 20mADC	
B	0 to 20mADC	Less than 550Ω
Y	Other than the above	

For code No. Y

Limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC
 Minimum span : Less than +27 VDC and more than 0.06 VDC
 (Road resistance : 10kΩ at the output exceeding 10V, and a negative output)
 (Base accuracy : ±0.15 %F.S and temperature characteristic : ±0.03 %F.S/°C for a span of less than 1V)
 Current output : Less than +20 mADC and more than 0 mADC
 Minimum span : Less than +20 mADC and more than 1 mADC
 Outputs can be reversed for both voltage and current outputs.

General Specifications

Base Accuracy : ±0.2 %F.S (25 ±2°C)
 Power supply variation : ±0.06 %F.S
 Load resistance variation : ±0.06 %F.S
 Temperature characteristic : ±0.02 %F.S/°C
 Accuracy of cold junction compensation : ±1°C (10 to 30°C)
 Disconnection detection : Upside (.135±15%F.S)
 Response time : 500msec (0→90%)
 Front adjustments : ±5% for zero and span
 Insulation resistance : Between input and output/power supply ; More than 100MΩ at 500 VDC
 For 1 min. at 2000VAC
 Dielectric strength : Between input and output/power supply ; 100 to 240VAC ±10 %
 Consuming current : Less than 35 mA (At current output 100VAC)
 Less than 30 mA (At voltage output 100VAC)
 Vibration resistance : Frequency : 10 to 55Hz ; amplitude (half) : 0.15mm to 10 sweeps of 5min each in X,Y and Z directions
 Operating ambient temperature : -5 to 50°C
 Operating ambient humidity : Less than 90 %RH (No-condensing)
 Storage temperature : -10 to 70°C
 Storage humidity : Less than 60%RH (No-condensing)
 Case material : ABS resin (Black) 94V-2
 Weight : Approx. 80g

Features

- AC power supply 90 VAC to 240 VAC
- DIN rail mounting
- Input/Output/Power supply isolated

Ordering Code

TZ-1CA-□□□

Output code

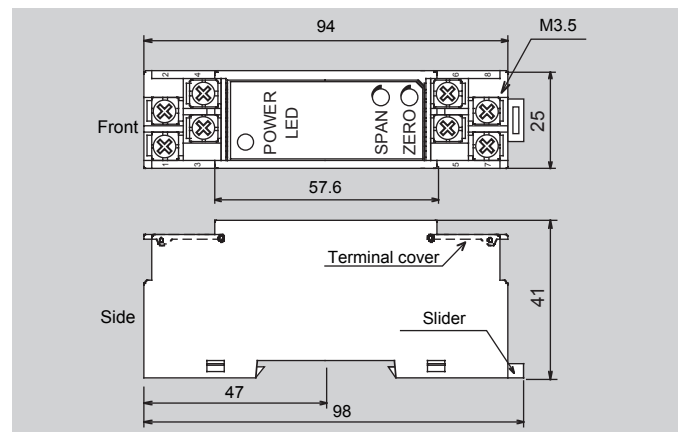
- 0: 0 to 5VDC 1: 1 to 5VDC
- 2: 0 to 10VDC 3: -10 to 10VDC
- 4: -2 to 2VDC
- 5: -2.5 to 2.5VDC
- 6: -5 to 5VDC 7: 0 to 4VDC
- A: 4 to 20mADC
- B: 0 to 20mADC
- Y: Special

Input code

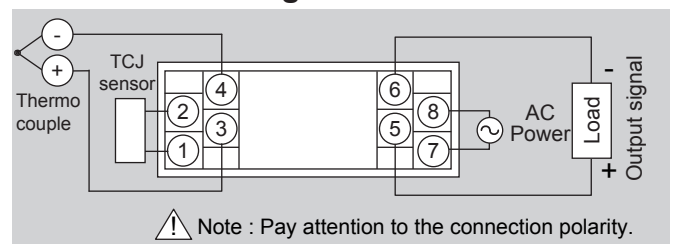
- J0 : 0 to 1000°C JY : Special
- K2 : -50 to 200°C K3 : 0 to 200°C
- K4 : -50 to 1200°C K5 : 0 to 1200°C
- KY : Special Input code
- R0 : 0 to 1700°C RY : Special
- S0 : 0 to 1700°C SY : Special
- T0 : -50 to 350°C T1 : 0 to 350°C
- TY : Special

(Example) TZ-1CA - K3A

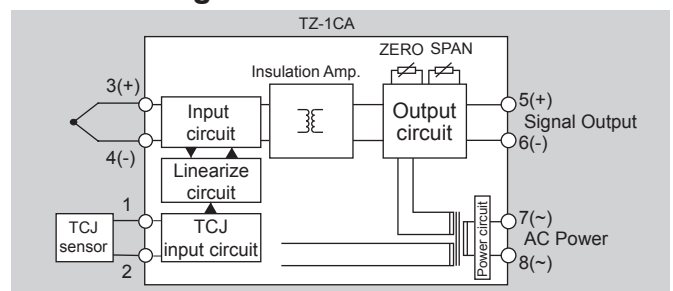
Dimensions



Connection Diagram



Block Diagram



Terminal Type Thermocouple Transducer

MODEL TZ-5CA

NEW!



Input Specification

Code No.	Thermo couple	Input signal	For code No.Y	Input resistance	Input allowable range
J0	J	0 to 1000°C	-50 to 1000°C span	More than 1MΩ	±150%
JY		Other than the above	200 to 1050°C		
K2	K	-50 to 200°C	-50 to 1200°C span 200 to 1250°C		
K3		0 to 200°C			
K4		-50 to 1200°C			
K5		0 to 1200°C			
KY		Other than the above			
R0	R	0 to 1700°C	0 to 1700°C span		
RY		Other than the above	400 to 1700°C		
S0	S	0 to 1700°C	0 to 1700°C span		
SY		Other than the above	500 to 1700°C		
T0	T	-50 to 350°C	-50 to 350°C span		
T1		0 to 350°C	200 to 400°C		
TY		Other than the above			

Output Specification

Code No.	Output signal	Allowable Load resistance
0	0 to 5VDC	More than 2kΩ
1	1 to 5VDC	
2	0 to 10VDC	More than 4kΩ
3	-10 to 10VDC	
4	-2 to 2VDC	More than 2kΩ
5	-2.5 to 2.5VDC	
6	-5 to 5VDC	
7	0 to 4VDC	More than 2kΩ
A	4 to 20mADC	
B	0 to 20mADC	Less than 550Ω
Y	Other than the above	

For code No. Y

Limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC
 Minimum span : Less than +27 VDC and more than 0.06 VDC
 (Load resistance : 10kΩ at the output exceeding 10V, and a negative output)
 (Base accuracy : ±0.15 %F.S and temperature characteristic : ±0.03 %F.S/°C for a span of less than 1V)
 Current output : Less than +20 mADC and more than 0 mADC
 Minimum span : Less than +20 mADC and more than 1 mADC
 Outputs can be reversed for both voltage and current outputs.

General Specifications

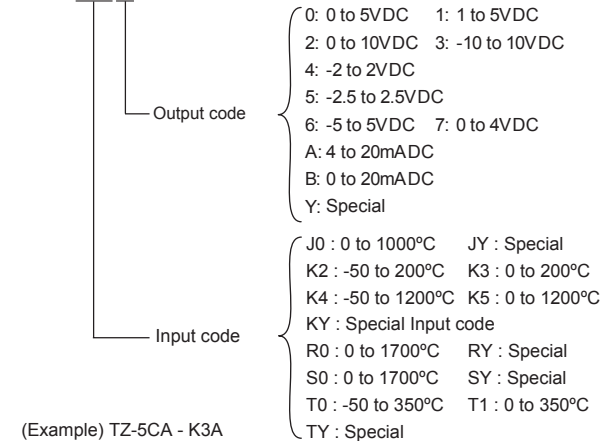
Base Accuracy : ±0.2 %F.S (25±2°C)
 Power supply variation : ±0.06 %F.S
 Load resistance variation : ±0.06 %F.S
 Temperature characteristic : ±0.02 %F.S/°C
 Accuracy of cold junction compensation : ±1°C (10 to 30°C)
 Disconnection detection : Upside (135±15%F.S)
 Response time : 500msec (0→90%)
 Front adjustments : ±5% for zero and span
 Insulation resistance : Between input and output/power supply ;
 More than 100MΩ at 500 VDC
 Between input and output/power supply ;
 For 1 min. at 1500VAC
 Dielectric strength : Between input and output/power supply ;
 For 1 min. at 1500VAC
 Power supply voltage : 24VDC ±10 %
 Consuming current : Less than 35 mA (At current output 24VDC)
 Less than 30 mA (At voltage output 24VDC)
 Vibration resistance : Frequency : 10 to 55Hz ; amplitude (half) : 0.15mm
 to 10 sweeps of 5min each in X,Y and Z directions
 Operating ambient temperature : -5 to 50°C
 Operating ambient humidity : Less than 90 %RH (No-condensing)
 Storage temperature : -10 to 70°C
 Storage humidity : Less than 60%RH (No-condensing)
 Case material : ABS resin (Black) 94V-2
 Weight : Approx. 80g

Features

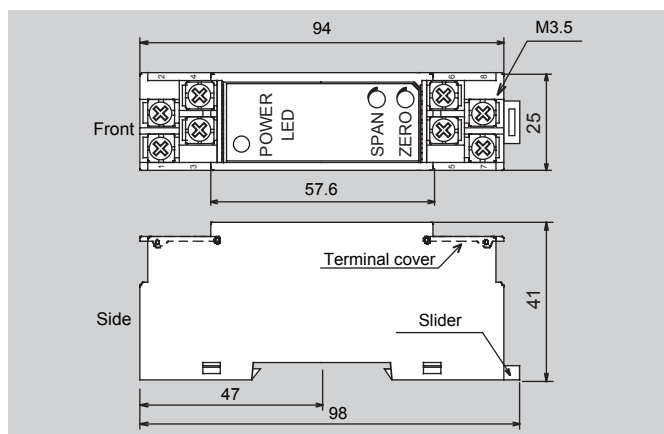
- DC power supply 24V DC
- DIN rail mounting
- Input/Output/Power supply isolated

Ordering Code

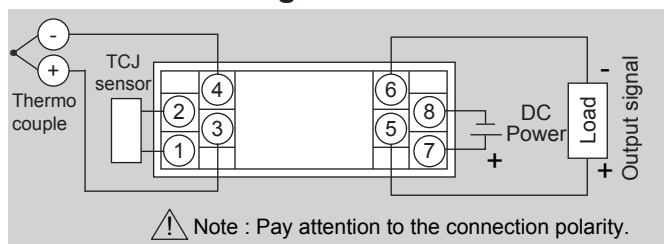
TZ-5CA-□□□



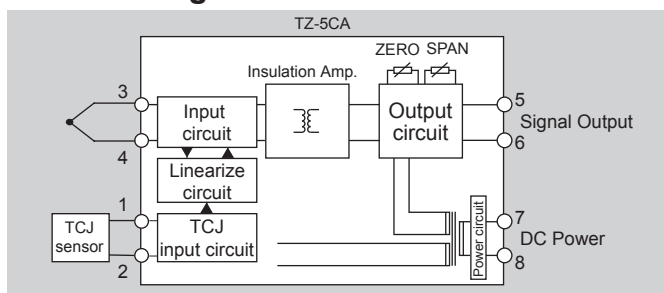
Dimensions



Connection Diagram



Block Diagram



MODEL TZ-1AA

NEW!



Code No.	Input signal	Input allowable range
0	Pt -50 to 50°C	-50 to 150%
1	Pt 0 to 100°C	
2	Pt 0 to 200°C	
3	Pt 0 to 300°C	
4	Pt -20 to 80°C	
Y	Other than the above	

(Temperature characteristic: $\pm 0.03\%$ F.S./ $^{\circ}\text{C}$ for a span of less than 100°C)

Code No.	Output signal	Allowable Load resistance
0	0 to 5V DC	More than 2kΩ
1	1 to 5V DC	
2	0 to 10V DC	More than 4kΩ
3	10 to 10V DC	Negative output:more than 10kΩ
4	-2 to 2VDC	More than 2kΩ Negative output:more than 10kΩ
5	-2.5 to 2.5VDC	
6	-5 to 5VDC	More than 2kΩ
7	0 to 4VDC	
A	4 to 20mADC	Less than 550Ω
B	0 to 20mADC	
Y	Other than the above	

Outputs can be reversed for both voltage and current outputs.

Weight : Approx. 80g

TZ-1AA-□□

Output code

Input code

0: 0 to 5VDC 1: 1 to 5VDC
2: 0 to 10VDC 3: -10 to 10VDC
4: -2 to 2VDC
5: -2.5 to 2.5VDC
6: -5 to 5VDC 7: 0 to 4VDC
A: 4 to 20mADC
B: 0 to 20mADC
Y: Special

0: -50 to 50°C
1: 0 to 100°C
2: 0 to 200°C
3: 0 to 300°C
4: -20 to 80°C
Y: Special

(Example) TZ-1AA - 12

(Example) TZ-1AA - 12

The technical drawing consists of two views:

- Front View:** Shows the top of the module. It has a total length of 94mm and a height of 25mm. On the left, there are four circular LEDs arranged in a 2x2 grid, labeled "Front". The central area contains the text "POWER LED" and "SPAN ZERO" with corresponding symbols. On the right, there is a rectangular component labeled "M3.5". A dimension line indicates a width of 57.6mm for the main body.
- Side View:** Shows the profile of the module. It has a total width of 98mm and a height of 41mm. The base is divided into two sections: a 47mm wide section on the left and a 51mm wide section on the right. A "Terminal cover" is shown at the top right, and a "Slider" is indicated on the bottom right.

Note : Pay attention to the connection polarity.

The diagram illustrates the internal components and wiring of the TZ-1AA transmitter. A Pt100 sensor is connected to terminals 1 (NC), 2, 3, and 4. The signal path goes through an 'Input circuit', an 'Insulation Amp.' (isolating amplifier), and an 'Output circuit' which includes a 'ZERO SPAN' potentiometer. The output is taken from terminals 5 (+) Signal Output and 6 (-). Terminals 7 (~) and 8 (~) are for AC Power, connected to a 'Power circuit' block.

Terminal Type RTD Isolated Transducer

MODEL TZ-5AA

NEW!



Input Specification Pt100Ω 3-wire type (C1604-1997)

Code No.	Input signal	Input allowable range
0	Pt -50 to 50°C	-50 to 150%
1	Pt 0 to 100°C	
2	Pt 0 to 200°C	
3	Pt 0 to 300°C	
4	Pt -20 to 80°C	
Y	Other than the above	

For Code No. Y

Limit of specifications

Pt input : Less than 800°C and more than -50°C

Minimum span : Less than 850°C and more than 50°C

(Temperature characteristic: ± 0.03 %F.S/°C for a span of less than 100°C)

Output Specification

Code No.	Output signal	Allowable Loadresistance
0	0 to 5V DC	More than 2kΩ
1	1 to 5V DC	
2	0 to 10V DC	More than 4kΩ
3	-10 to 10V DC	Negative output:more than 10kΩ
4	-2 to 2VDC	More than 2kΩ Negative output:more than 10kΩ
5	-2.5 to 2.5VDC	
6	-5 to 5VDC	
7	0 to 4VDC	More than 2kΩ
A	4 to 20mADC	Less than 550Ω
B	0 to 20mADC	
Y	Other than the above	

For code No. Y

Limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC

Minimum span : Less than +27 VDC and more than 0.06 VDC

(Load resistance : 10kΩ at the output exceeding 10V, and a negative output)

(Base accuracy : ± 0.15 %F.S and temperature characteristic :

± 0.03 %F.S/°C for a span of less than 1V)

Current output : Less than +20 mADC and more than 0 mADC

Minimum span : Less than +20 mADC and more than 1 mADC

Outputs can be reversed for both voltage and current outputs.

General Specifications

Base Accuracy : ± 0.1 %F.S (25 \pm 2°C) ± 0.2 %F.S at more than 500°C

Power supply variation : ± 0.06 %F.S

Load resistance variation : ± 0.06 %F.S

Temperature characteristic : ± 0.02 %F.S/°C

Response time : 50msec (TYP)(0 \rightarrow 90%)

Detect disconnection : (135 \pm 10 %F.S)

Front adjustments : $\pm 5\%$ for zero and span

Insulation resistance : Between input and output/power supply ;

More than 100MΩ at 500 VDC

Between input and output/power supply ;

For 1 min. at 1500VAC

Power supply voltage : 24VDC ± 10 %

Consuming current : Less than 35 mA (At current output 24VDC)

Less than 30 mA (At voltage output 24VDC)

Operating ambient temperature : -5 to 50°C

Operating ambient humidity : Less than 90 %RH (No-condensing)

Storage temperature : -10 to 70°C

Storage humidity : Less than 60%RH (No-condensing)

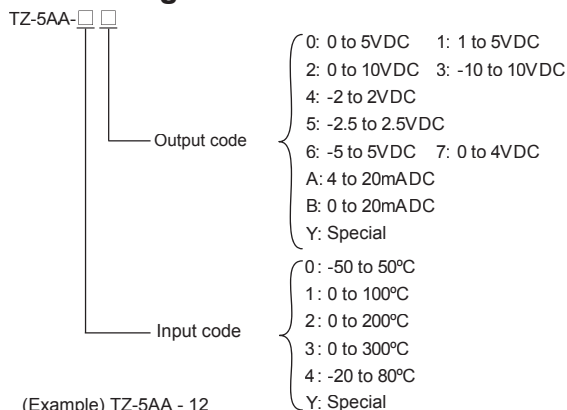
Case material : ABS resin (Black) 94V-2

Weight : Approx. 80g

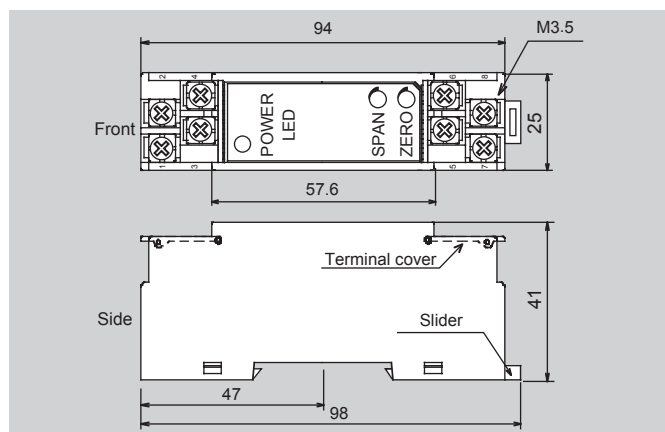
Features

- DC power supply 24V DC
- DIN rail mounting
- Input/Output/Power supply isolated

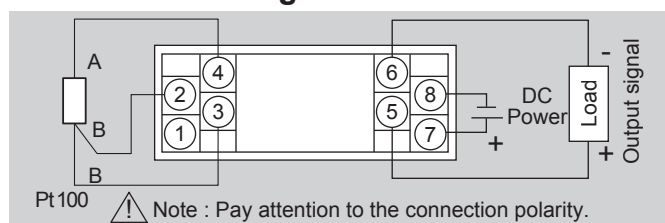
Ordering Code



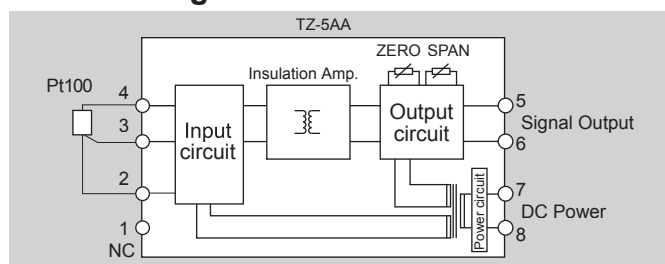
Dimensions



Connection Diagram



Block Diagram



Terminal Type AC Current Isolated Transducer (AC Power)

MODEL TZ-1DA



Input Specification

Code No.	Input (A)	Input resistance	Input allowable range
1	0 to 1A AC	less than 0.05Ω	less than 7.5AAC (less than 5s 25AAC)
2	0 to 5A AC		
Y	Other than the above		

For Code No. Y

Limit of specifications

Less than 5 AAC and more than 0 AAC

Span : Less than 5 AAC and more than 1 AAC

Input frequency : 40 to 1000Hz

Note : A measurement error may become larger when higher harmonic wave components of more than input frequency are contained.

Output Specification

Code No.	Output signal	Allowable Loadresistance
0	0 to 5V DC	More than 2kΩ
1	1 to 5V DC	
2	0 to 10V DC	More than 4kΩ
3	-10 to 10V DC	Negative output:more than 10kΩ
4	-2 to 2VDC	More than 2kΩ Negative output:more than 10kΩ
5	-2.5 to 2.5VDC	
6	-5 to 5VDC	More than 2kΩ
7	0 to 4VDC	
A	4 to 20mADC	Less than 550Ω
B	0 to 20mADC	
Y	Other than the above	

For code No. Y

Limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC

Minimum span : Less than +27 VDC and more than 0.06 VDC

(Load resistance : 10kΩ at the output exceeding 10V, and a negative output)

(Base accuracy : ±0.25 %F.S and temperature characteristic : ±0.03 %F.S/°C for a span of less than 1V)

Current output : Less than +20 mADC and more than 0 mADC

Minimum span : Less than +20 mADC and more than 1 mADC

Outputs can be reversed for both voltage and current outputs.

General Specifications

Base Accuracy : ±0.2%F.S (5 to 100%F.S)(25°C±2°C)

±1.0%F.S (0 to 5%F.S)(25°C±2°C)

Power supply variation : ±0.06 %F.S (±0.5% to the input of 0 to 5%)

Load resistance variation : ±0.1 %F.S (±0.5% to the input of 0 to 5%)

Frequency variation : ±3 %F.S (Based on 60Hz)

Temperature characteristic : ±0.02 %F.S/°C

Response time : Less than 700msec (0→90%)

Front adjustments : ±5% for zero and span

Insulation resistance : Between input and output/power supply ;
More than 100MΩ at 500 VDC

Dielectric strength : Between input and output/power supply ;
For 1 min. at 2000VAC

Power supply voltage : 100 to 240VAC ±10 %

Consuming current : Less than 20mA (100VAC at voltage output)
Less than 25mA (100VAC at current output)

Operating ambient temperature : -5 to 50°C

Operating ambient humidity : Less than 90 %RH (No-condensing)

Storage temperature : -10 to 70°C

Storage humidity : Less than 60%RH (No-condensing)

Case material : ABS resin (Black) 94V-2

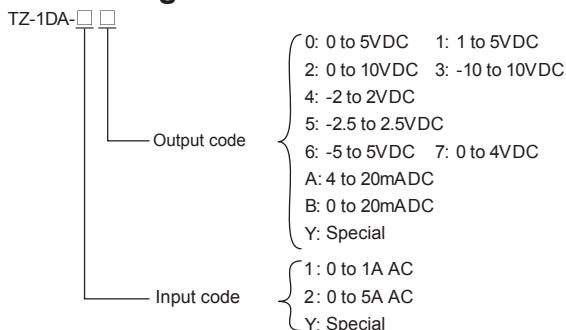
Weight : Approx. 80g

Vibration resistance : Frequency: 10 to 55Hz; amplitude(half):
0.15mm to 10 sweeps of 5 min each in X, Y, and Z directions

Features

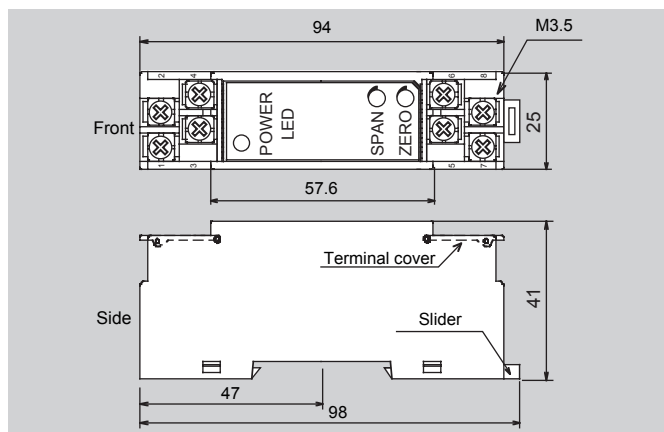
- AC power supply 90 VAC to 240 VAC
- DIN rail mounting
- Input/Output/Power supply isolated

Ordering Code

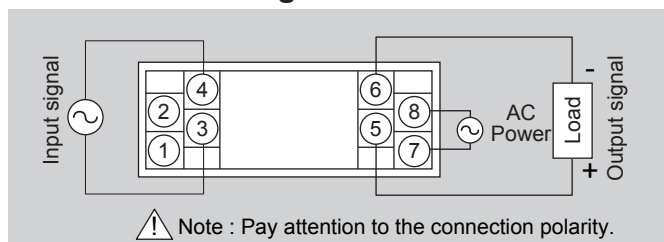


(Example) TZ-1DA - 1A

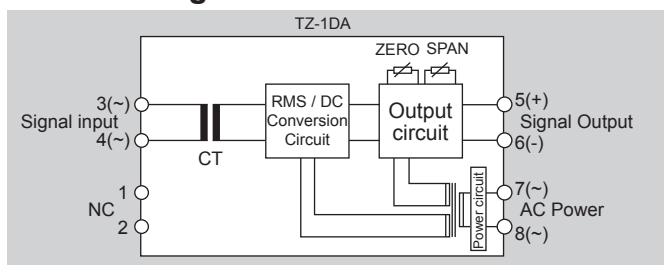
Dimensions



Connection Diagram



Block Diagram



Terminal Type AC Current Isolated Transducer

MODEL TZ-5DA



Input Specification

Code No.	Input (A)	Input resistance	Input allowable range
1	0 to 1AAC	less than 0.05Ω	less than 7.5AAC (less than 5s 25AAC)
2	0 to 5AAC		
Y	Other than the above		

For Code No. Y

Limit of specifications

Less than 5 AAC and more than 0 AAC

Span : Less than 5 AAC and more than 1 AAC

Input frequency : 40 to 1000Hz

Note : A measurement error may become larger when higher harmonic wave components of more than input frequency are contained.

Output Specification

Code No.	Output signal	Allowable Load resistance
0	0 to 5V DC	More than 2kΩ
1	1 to 5V DC	
2	0 to 10V DC	More than 4kΩ
3	-10 to 10V DC	Negative output: more than 10kΩ
4	-2 to 2VDC	More than 2kΩ Negative output: more than 10kΩ
5	-2.5 to 2.5VDC	
6	-5 to 5VDC	More than 2kΩ
7	0 to 4VDC	
A	4 to 20mADC	Less than 550Ω
B	0 to 20mADC	
Y	Other than the above	

For code No. Y

Limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC

Minimum span : Less than +27 VDC and more than 0.06 VDC

(Load resistance : 10kΩ at the output exceeding 10V, and a negative output)

(Base accuracy : ±0.25 %F.S and temperature characteristic : ±0.03 %F.S/°C for a span of less than 1V)

Current output : Less than +20 mADC and more than 0 mADC

Minimum span : Less than +20 mADC and more than 1 mADC

Outputs can be reversed for both voltage and current outputs.

General Specifications

Base Accuracy : ±0.2%F.S (5 to 100%F.S)(25°C±2°C)

±1.0%F.S (0 to 5%F.S)(25°C±2°C)

Power supply variation : ±0.06 %F.S (±0.5% to the input of 0 to 5%)

Load resistance variation : ±0.1 %F.S (±0.5% to the input of 0 to 5%)

Frequency variation : ±3 %F.S (Based on 60Hz)

Temperature characteristic : ±0.02 %F.S/°C

Response time : Less than 700msec (0→90%)

Front adjustments : ±5% for zero and span

Insulation resistance : Between input and output/power supply ;
More than 100MΩ at 500 VDC

Dielectric strength : Between input and output/power supply ;
For 1 min. at 1500VAC

Power supply voltage : 24VDC ±10 %

Consuming current : Less than 25mA (24VDC at voltage output)
Less than 40mA (24VDC at current output)

Operating ambient temperature : -5 to 50°C

Operating ambient humidity : Less than 90 %RH (No-condensing)

Storage temperature : -10 to 70°C

Storage humidity : Less than 60%RH (No-condensing)

Case material : ABS resin (Black) 94V-2

Weight : Approx. 80g

Vibration resistance : Frequency: 10 to 55Hz; amplitude(half): 0.15mm
to 10 sweeps of 5 min each in X, Y, and Z directions

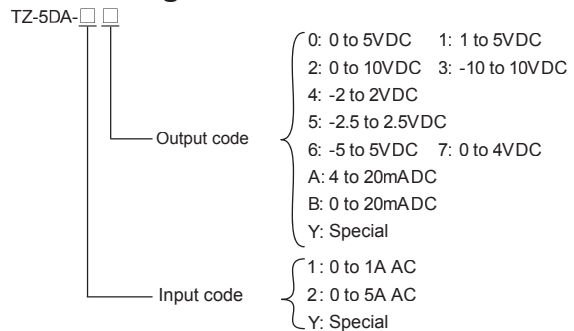
Applicable standards : EN61326: 1997 +A1: 1998 +A2: 2001 +A3:2003
Only in the case of lines < 30m.

The above standards do not apply to the converter with "Y" specifications.

Features

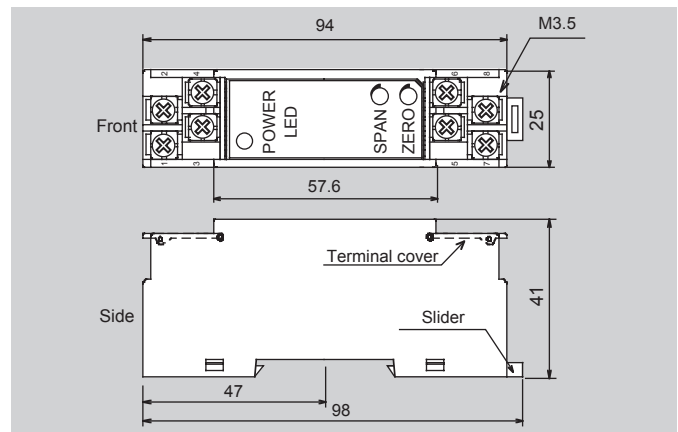
- DC power supply 24V DC
- DIN rail mounting
- Input/Output/Power supply isolated

Ordering Code

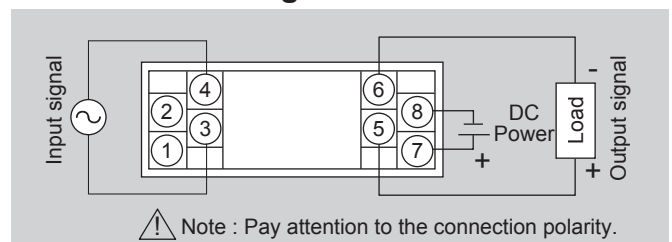


(Example) TZ-5DA - 1A

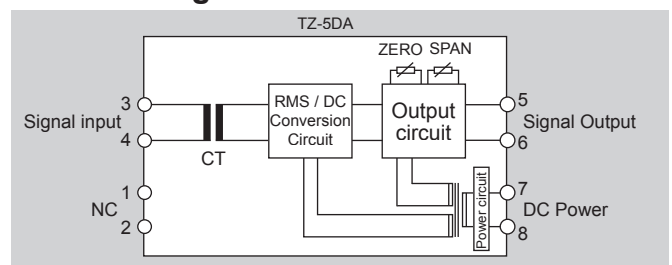
Dimensions



Connection Diagram



Block Diagram



Terminal Type AC Voltage Isolated Transducer (AC Power)

MODEL TZ-1EA

NEW!



Input Specification

AC Voltage (AC-coupled true RMS measurement)

Code No.	Input signal	Input resistance	Input allowable range
1	0 to 35V AC	More than 200kΩ	less than 150% (The upper limit 300V AC)
2	0 to 100V AC	More than 1MΩ	
3	0 to 110V AC		
4	0 to 200V AC		
5	0 to 220V AC		
Y	Other than the above		

For Code No. Y

Limit of specifications

Less than 300 V AC and more than 0 V AC

Span : Less than 300 V AC and more than 4 V AC

Input frequency : 40 to 1000Hz

Note : A measurement error may become larger when higher harmonic wave components of more than input frequency are contained.

Output Specification

Code No.	Output signal	Allowable Loadresistance
0	0 to 5V DC	More than 2kΩ
1	1 to 5V DC	
2	0 to 10V DC	More than 4kΩ
3	-10 to 10V DC	Negative output: more than 10kΩ
4	-2 to 2VDC	More than 2kΩ
5	-2.5 to 2.5VDC	Negative output: more than 10kΩ
6	-5 to 5VDC	More than 2kΩ
7	0 to 4VDC	
A	4 to 20mADC	Less than 550Ω
B	0 to 20mADC	
Y	Other than the above	

For Code No. Y

Limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC

Minimum span : Less than +27 VDC and more than 0.06 VDC

(Load resistance : 10kΩ at the output exceeding 10V, and a negative output)

(Base accuracy : $\pm 0.25\%$ F.S and temperature characteristic : $\pm 0.03\%$ F.S/ $^{\circ}$ C for a span of less than 1V)

Current output : Less than +20 mADC and more than 0 mADC

Minimum span : Less than +20 mADC and more than 1 mADC

Outputs can be reversed for both voltage and current outputs.

General Specifications

BaseAccuracy : $\pm 0.2\%$ F.S (5 to 100% F.S)(25 $^{\circ}$ C $\pm 2^{\circ}$ C)

$\pm 1.0\%$ F.S (0 to 5% F.S)(25 $^{\circ}$ C $\pm 2^{\circ}$ C)

Power supply variation : $\pm 0.06\%$ F.S ($\pm 0.5\%$ to the input of 0 to 5%)

Load resistance variation : $\pm 0.06\%$ F.S

Frequency variation : $\pm 0.2\%$ F.S (Based on 60Hz)

Temperature characteristic : $\pm 0.02\%$ F.S/ $^{\circ}$ C

Response time : Less than 700msec (0 \rightarrow 90%)

Front adjustments : $\pm 5\%$ for zero and span

Insulation resistance : Between input and output/power supply ;

More than 100MΩ at 500 VDC

For 1 min. at 2000VAC

Dielectric strength : Between input and output/power supply ;

100 to 240VAC $\pm 10\%$

Power supply voltage : Less than 20mA (100VAC at voltage output)

Consuming current : Less than 30mA (100VAC at current output)

Operating ambient temperature : -5 to 50 $^{\circ}$ C

Operating ambient humidity : Less than 90 %RH (No-condensing)

Storage temperature : -10 to 70 $^{\circ}$ C

Storage humidity : Less than 60%RH (No-condensing)

Case material : ABS resin(Black) 94V-2

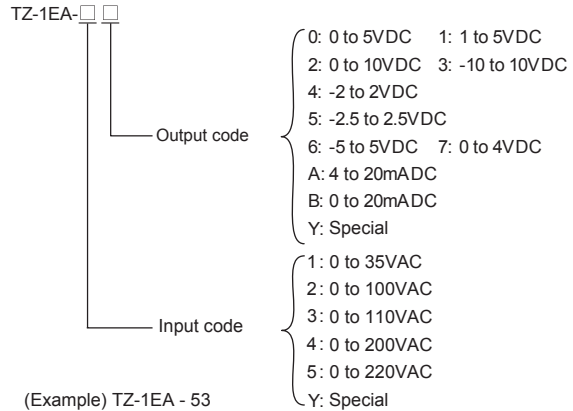
Weight : Approx. 80g

Vibration resistance : Frequency: 10 to 55Hz; amplitude(half): 0.15mm to 10 sweeps of 5 min each in X, Y, and Z directions

Features

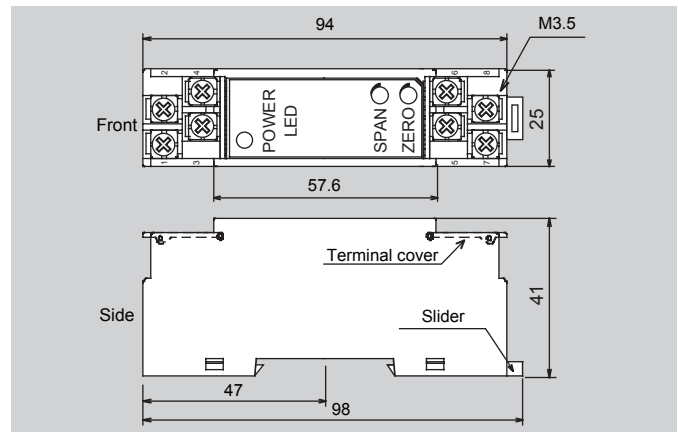
- AC power supply 90 VAC to 240 VAC
- DIN rail mounting
- Input/Output/Power supply isolated

Ordering Code

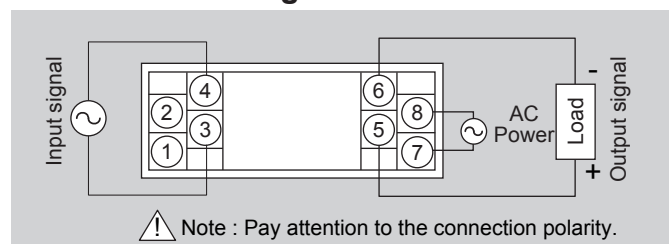


(Example) TZ-1EA - 53

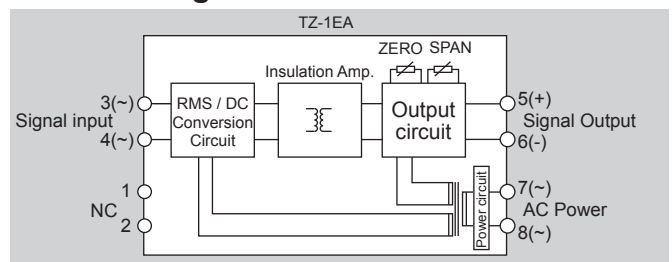
Dimensions



Connection Diagram



Block Diagram



Terminal Type AC Voltage Isolated Transducer

MODEL TZ-5EA

NEW!



Input Specification

AC Voltage (AC-coupled true RMS measurement)

Code No.	Input signal	Input resistance	Input allowable range
1	0 to 35V AC	More than 200kΩ	less than 150% (The upper limit 300V AC)
2	0 to 100V AC	More than 1MΩ	
3	0 to 110V AC		
4	0 to 200V AC		
5	0 to 220V AC		
Y	Other than the above		

For Code No. Y

Limit of specifications

Less than 300 V AC and more than 0 V AC

Span : Less than 300 V AC and more than 4 V AC

Input frequency : 40 to 1000Hz

Note : A measurement error may become larger when higher harmonic wave components of more than input frequency are contained.

Output Specification

Code No.	Output signal	Allowable Load resistance
0	0 to 5V DC	More than 2kΩ
1	1 to 5V DC	
2	0 to 10V DC	More than 4kΩ
3	-10 to 10V DC	Negative output: more than 10kΩ
4	-2 to 2VDC	More than 2kΩ
5	-2.5 to 2.5VDC	Negative output: more than 10kΩ
6	-5 to 5VDC	More than 2kΩ
7	0 to 4VDC	
A	4 to 20mADC	Less than 550Ω
B	0 to 20mADC	
Y	Other than the above	

For Code No. Y

Limit of specifications

Voltage output : Less than +15 VDC and more than -12 VDC

Minimum span : Less than +27 VDC and more than 0.06 VDC

(Load resistance : 10kΩ at the output exceeding 10V, and a negative output)

(Base accuracy : $\pm 0.25\%$ F.S and temperature characteristic : $\pm 0.03\%$ F.S/ $^{\circ}$ C for a span of less than 1V)

Current output : Less than +20 mADC and more than 0 mADC

Minimum span : Less than +20 mADC and more than 1 mADC

Outputs can be reversed for both voltage and current outputs.

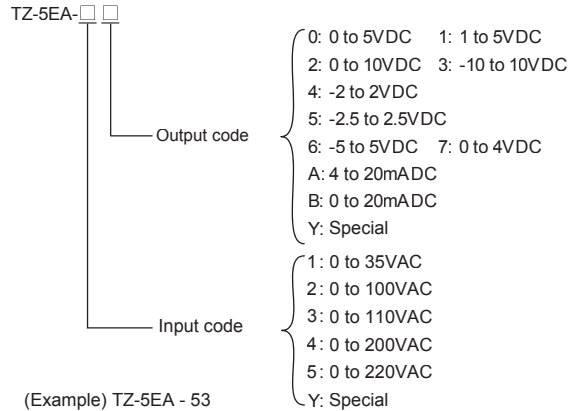
General Specifications

Base Accuracy :	$\pm 0.2\%$ F.S (5 to 100% F.S)(25°C \pm 2°C)
	$\pm 1.0\%$ F.S (0 to 5% F.S)(25°C \pm 2°C)
Power supply variation :	$\pm 0.06\%$ F.S ($\pm 0.5\%$ to the input of 0 to 5%)
Load resistance variation :	$\pm 0.06\%$ F.S
Frequency variation :	$\pm 0.2\%$ F.S (Based on 60Hz)
Temperature characteristic :	$\pm 0.02\%$ F.S/ $^{\circ}$ C
Response time :	Less than 700msec (0 \rightarrow 90%)
Front adjustments :	$\pm 5\%$ for zero and span
Insulation resistance :	Between input and output/power supply ; More than 100MΩ at 500 VDC For 1 min. at 1500VAC
Dielectric strength :	Between input and output/power supply ; For 1 min. at 1500VAC
Power supply voltage :	24VDC $\pm 10\%$
Consuming current :	Less than 30mA (24VDC at voltage output) Less than 50mA (24VDC at current output)
Operating ambient temperature :	-5 to 50°C
Operating ambient humidity :	Less than 90 %RH (No-condensing)
Storage temperature :	-10 to 70°C
Storage humidity :	Less than 60%RH (No-condensing)
Case material :	ABS resin(Black) 94V-2
Weight :	Approx. 80g
Vibration resistance :	Frequency: 10 to 55Hz; amplitude(half): 0.15mm to 10 sweeps of 5 min each in X, Y, and Z directions

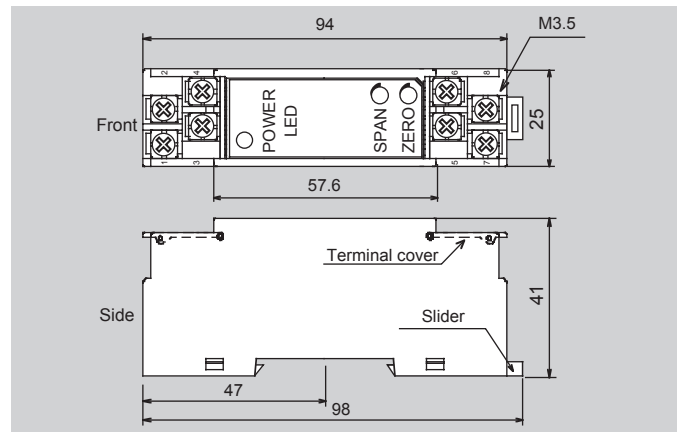
Features

- DC power supply 24V DC
- DIN rail mounting
- Input/Output/Power supply isolated

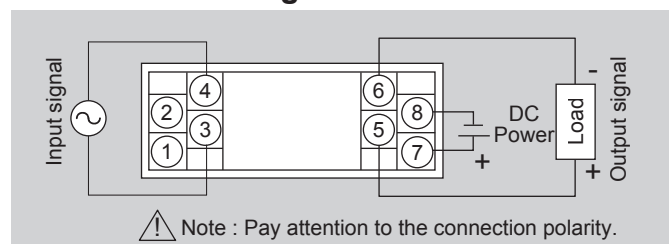
Ordering Code



Dimensions



Connection Diagram



Block Diagram

