XZ14 Series DIN Alarm Trip

mTech's DIN-Style Model XZ14 alarm trip accepts many standard process signals. The model XZ14 offers the following state-of-the-art features and options.

- **Single and Dual Alarm Models.**
  The dual alarm models allow you to configure two separate trip points per module (Hi/Lo, Hi/Hi, or Lo/Lo).

- **Easy Access Trip Point Settings.**
  Potentiometer settings are located on the front panel to allow for easy adjustments. To further simplify trip point settings, you can display the upper and/or lower settings on the front panel indicator.

- **Bright LEDs on Front Panel Indicate an Alarm Condition.**
  When you unit is in an alarm condition, bright LEDs appear on the front panel for immediate notification.

- **Input Monitoring Displays.**
  The optional front panel indicator displays the input value in a percentage or in engineering units.

- **Input/Output/Power Isolation and RFI/EMI Protection.**
  Built-in RFI/EMI protection and isolated input/output/power prevents the occurrence of false alarms in noisy environments.

Model XZ14 Input Options

Model XZ14 two-wire transmitters can accept the following input types:

- **Thermocouple**
- **DC Current/Voltage**
- **AC Current/Voltage**
- **RTD**
- **Resistance**

Model XZ14-T Alarm Specifications

Inputs

Thermocouple types:	N, E, J, K, R, S, and T
Span:	Adjustable from 2.6 – 80 mV (factory configured)
Zero:	Adjustable ±20 mV (factory configured)
Linearization:	Midpoint adjustable, ±1% of input span

Output

Single or Dual SPDT hermetically sealed relays

Contact Rating:	120 Vac @ 5 Amp
Relay Configuration:	HI – Energized (Non-failsafe) HI – De-energized (Failsafe) LO – Energized (Non-failsafe) LO – De-energized (Failsafe)

Performance

Temperature Effect:	0.01%/°C + 1 uV/°C (0<T (°C)<=70) 0.015%/°C + 1 uV/°C (-20<=T(°C)<=0)
Cold Junction Error:	0.03°C per degree C
Display Accuracy:	(±0.1% of input span) and (±1 count to include repeatability, hysteresis, and adjustment resolution)
Trip Point Repeatability:	±0.1% of input span Adjustable over the range of -100% to 100% of span
Operating Temperature:	-20 to 70°C
Storage Temperature:	-40 to 100°C
CMRR:	Better than 120 dB (60 Hz)
Deadband:	Adjustable from 0 – 20% of span

Options

RFI Protection (ZR option):	Input and Output connections AC de-coupled to ground
Alarm Response Time:	100 milliseconds (standard) Adjustable up to 20 seconds (optional)
Power Supply:	120 ± 10% Vac/60 Hz standard 240 ± 10% Vac/50 Hz optional
Indicator:	3.5 digits LCD displays either input or trip points (optional backlight)

Classification

Classification:	General Purpose CSA approval pending

Dimensions

Size:	WxHxL = 2.5”W x 3.15”H x 5.41”L (62.55mm x 80mm x 137.5mm)
Weight:	18 ounces (510.3 grams)

Model XZ14-D Alarm Specifications

Inputs

DC Current/Voltage Input:

Input Range	Input Range
1 – 5 mA	0 – 0.1 V
4 – 20 mA	1 – 5 V
0 – 20 mA	0 – 10 V
0 – 30 mA	0 – 50 V
10 – 50 mA	0 – 100 V
0 – 1 A	0 – 150 V
0 – 5 A	-10 -+10 V

Span:	Adjustable from 0.1 – 150 V or 0.1 – 5 A (factory configured)
Zero:	Adjustable from –10 – 150 V or -1 mA to 5 A (factory configured)

Model XZ14-D Alarm Specifications (continued)

Output

Single or Dual SPDT hermetically sealed relays

Contact Rating:	120 Vac @ 5 Amp
Relay Configuration:	HI – Energized (Non-failsafe) HI – De-energized (Failsafe) LO – Energized (Non-failsafe) LO – De-energized (Failsafe)

Performance

Temperature Effect:	0.01%/°C + 1 uV/°C (0<T (°C)<=70) 0.015%/°C + 1 uV/°C (-20<=T(°C)<=0)
Display Accuracy:	(±0.1% of input span) and (±1 count to include repeatability, hysteresis, and adjustment resolution)
Trip Point Repeatability:	±0.1% of input span Adjustable over the range of -100% to 100% of span
Operating Temperature:	-20 to 70°C
Storage Temperature:	-40 to 100°C
CMRR:	Better than 120 dB (60 Hz)
Deadband:	Adjustable from 0 – 20% of span

Options

RFI Protection (ZR option):	Input and Output connections AC de-coupled to ground
Alarm Response Time:	100 milliseconds (standard) Adjustable up to 20 seconds (optional)
Power Supply:	120 ± 10% Vac/60 Hz standard 240 ± 10% Vac/50 Hz optional
Indicator:	3.5 digits LCD displays either input or trip points (optional backlight)

Classification

Classification:	General Purpose CSA approval pending

Dimensions

Size:	WxHxL = 2.5”W x 3.15”H x 5.41”L (62.55mm x 80mm x 137.5mm)
Weight:	18 ounces (510.3 grams)

Model XZ14-A Alarm Specifications

Inputs

AC Current/Voltage Input: Frequency from 50 – 400 Hz

Input Range	Input Range
0 – 1 A	0 – 150 V
0 – 5 A	0 – 300 V

Span:	Adjustable from 1 – 300 V or 1 – 5 A (factory configured)
Zero:	Adjustable from 0 – 300 V or 0 – 5 A (factory configured)
Burden Voltage:	100 mV maximum
Input Impedance:	1M minimum

Output

Single or Dual SPDT hermetically sealed relays

Contact Rating:	120 Vac @ 5 Amp
Relay Configuration:	HI – Energized (Non-failsafe) HI – De-energized (Failsafe) LO – Energized (Non-failsafe) LO – De-energized (Failsafe)

Performance

Temperature Effect:	0.02%/°C (0<T(°C)<=70) 0.04%/°C (-20<=T(°C)<=0)
Display Accuracy:	(±0.1% of input span) and (±1 count to include repeatability, hysteresis, and adjustment resolution)

Model XZ14-A Alarm Specifications (continued)

Performance (continued)

Trip Point Repeatability:	±0.1% of input span Adjustable over the range of -100% to 100% of span
Operating Temperature:	-20 to 70°C
Storage Temperature:	-40 to 100°C
CMRR:	Better than 120 dB (60 Hz)
Deadband:	Adjustable from 0 – 20% of span

Options

RFI Protection (ZR option):	Input and Output connections AC de-coupled to ground
Alarm Response Time:	100 milliseconds (standard) Adjustable up to 20 seconds (optional)
Power Supply:	120 ± 10% Vac/60 Hz standard 240 ± 10% Vac/50 Hz optional
Indicator:	3.5 digits LCD displays either input or trip points (optional backlight)

Classification

Classification:	General Purpose CSA approval pending

Dimensions

Size:	WxHxL = 2.5”W x 3.15”H x 5.41”L (62.55mm x 80mm x 137.5mm)
Weight:	18 ounces (510.3 grams)

Model XZ14-V Alarm Specifications

Inputs

RTD:	3-Wire Resistance Bulb Sensor, *Pt*100, *Ni*120, *Cu*10
Span and Zero:	Factory confugured from 5 – 500
Excitation Current:	Constant current of 1 – 1.3 mA maximum
Leadwire Resistance Effect:	Negligible up to 20% of nominal resistance
Linearization (ZL option):	*Pt*100 only ±0.2% of span (factory configured)

Output

Single or Dual SPDT hermetically sealed relays

Contact Rating:	120 Vac @ 5 Amp
Relay Configuration:	HI – Energized (Non-failsafe) HI – De-energized (Failsafe) LO – Energized (Non-failsafe) LO – De-energized (Failsafe)

Performance

Temperature Effect:	± (0.01%/°C of span + 2M /°C) for RTD input ± (0.012%/°C of span) for slidewire input
Display Accuracy:	(±0.1% of input span) and (±1 count to include repeatability, hysteresis, and adjustment resolution)
Trip Point Repeatability:	±0.1% of input span Adjustable over the range of -100% to 100% of span
Operating Temperature:	-20 to 70°C
Storage Temperature:	-40 to 100°C
CMRR:	Better than 120 dB (60 Hz)
Deadband:	Adjustable from 0 – 20% of span

Options

RFI Protection (ZR option):	Input and Output connections AC de-coupled to ground
Alarm Response Time:	100 milliseconds (standard) Adjustable up to 20 seconds (optional)
Power Supply:	120 ± 10% Vac/60 Hz standard 240 ± 10% Vac/50 Hz optional
Indicator:	3.5 digits LCD displays either input or trip points (optional backlight)

(supports both 35mm and G DIN rail mounting)

Model XZ14-V Alarm Specifications (continued)

Classification

Classification:	General Purpose CSA approval pending

Dimensions

Size:	WxHxL = 2.5”W x 3.15”H x 5.41”L (62.55mm x 80mm x 137.5mm)
Weight:	18 ounces (510.3 grams)

Model XZ14-R Alarm Specifications

Inputs

Resistance:	3-Wire Resistance Potentiometer or Slidewire 0 - 100 through 0 - 10K
Span:	10 - 100% of range (factory configured)
Zero:	0 - 90% of range (factory configured)
Excitation Voltage:	80 - 500 mV
Bias Current:	60 µA - 800 µA

Output

Single or Dual SPDT hermetically sealed relays

Contact Rating:	120 Vac @ 5 Amp
Relay Configuration:	HI – Energized (Non-failsafe) HI – De-energized (Failsafe) LO – Energized (Non-failsafe) LO – De-energized (Failsafe)

Performance

Temperature Effect:	± (0.01%/°C of span + 2M /°C) for RTD input ± (0.012%/°C of span) for slidewire input
Display Accuracy:	(±0.1% of input span) and (±1 count to include repeatability, hysteresis, and adjustment resolution)
Trip Point Repeatability:	±0.1% of input span Adjustable over the range of -100% to 100% of span
Operating Temperature:	-20 to 70°C
Storage Temperature:	-40 to 100°C
CMRR:	Better than 120 dB (60 Hz)
Deadband:	Adjustable from 0 – 20% of span

Options

RFI Protection (ZR option):	Input and Output connections AC de-coupled to ground
Alarm Response Time:	100 milliseconds (standard) Adjustable up to 20 seconds (optional)
Power Supply:	120 ± 10% Vac/60 Hz standard 240 ± 10% Vac/50 Hz optional
Indicator:	3.5 digits LCD displays either input or trip points (optional backlight)

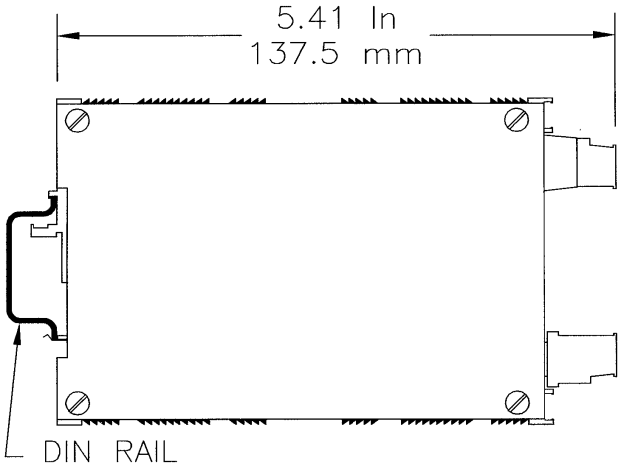
Classification

Classification:	General Purpose CSA approval pending

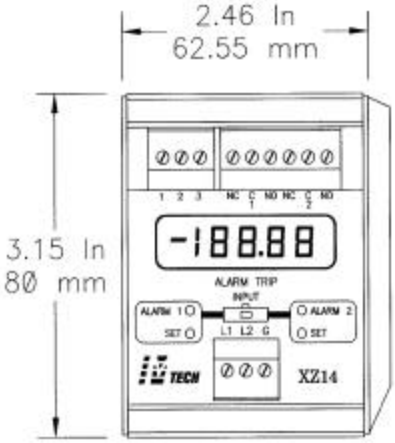
Dimensions

Size:	WxHxL = 2.5”W x 3.15”H x 5.41”L (62.55mm x 80mm x 137.5mm)
Weight:	18 ounces (510.3 grams)

Side View



Front View



Ordering Information

When ordering, specify the following:

XZ14-____-____-____-____-____-____-____-____-____
input power option 1 option 2 option 3 option 4 alarm relay action

Input: T = Thermocouple,
(specify type: J, K, B, E, R, S, T, or N)
D = DC current or voltage
(specify zero and span)
A = AC current or voltage
(specify zero and span)
V = RTD (specify type: *Pt*100, *Ni*120, or *Cu*10)
R = Resistance (specify span and
zero, 0 through 10K)

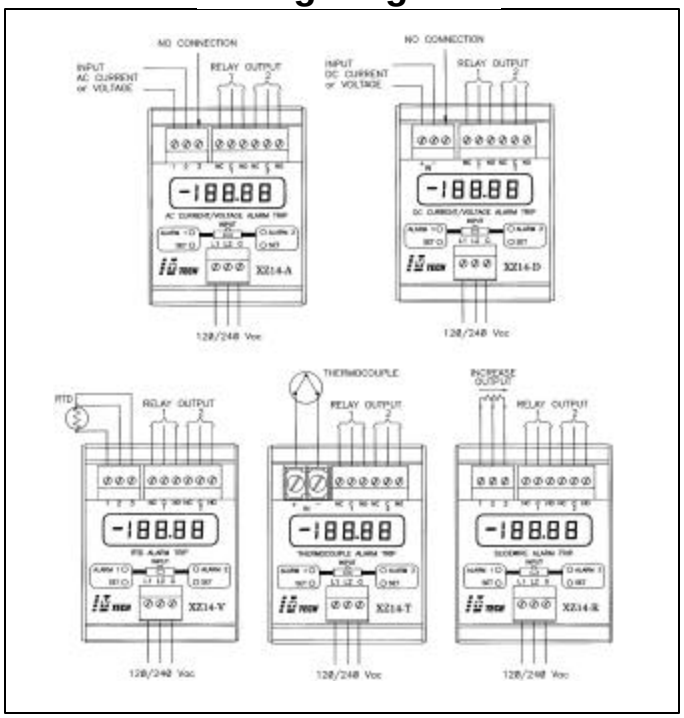
Power: 120 Vac, 60 Hz (standard)
240 Vac, 50 Hz (optional)

Input Display: Percentage of span
Engineering units

Display: Backlight (optional)

Options:
RFI Protection: -ZR
*Pt*100 Linearization: -ZL (XZ14-V only)
Downscale burnout: -ZB (XZ14-T only)
Adjustable Response time: 0 - 20 seconds
Adjustable Deadband: 0 - 20% span
LCD w/o Backlight
LCD w/Backlight

Wiring Diagrams



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XZ14 Rev1/081402