AC Current/Voltage Alarms
ET-1200L/U
ET-1202L/U

- AC current/voltage input
- Single or dual trips
- Fixed deadband
- Conforms to IEEE SWC Test

These single and dual trip alarms accept AC current or voltage inputs (field alterable) and provide one DPDT 5 amp (ET-1200L/U or two SPDT 5 amp (ET-1202L/U) universal relay contact outputs. Basic input spans are 16 to 200 VAC or 0-1 to 0-7.5 amps.

All models come with fixed deadband less than 0.5% of span. Response time is less than 400 milliseconds. The frequency range of all models is 50-500 Hz. Series 1200 ac current/voltage alarms conform to the IEEE SWC test.

Specifications

Inputs:
a. Any AC current from 0-1 amp to 0-7.5 amps AC, burden less than 0.5 VA
b. Any AC voltage from 0-16 to 0-200 VAC signal, burden less than 1.5 VA

Input Frequency Range: 50-500 Hz

Input Surge Capability:
AC Current: 20 amps continuous; 250 amps for 1 second per hour
AC voltage: 200% of input specified, continuous

Deadband: Fixed deadband; less than 0.5% of span

Outputs:
a. single relay: one DPDT contact rated 5 A at 30 VDC; 5A at 250 VAC resistive
b. dual relay: two SPDT contacts rated 5 A at 30 VDC; 5 A at 250 VAC resistive
c. standard LED: alarm display to indicate trip condition

Optional Outputs:
a. contacts rated at 10 A at 28 VDC or 115 VAC resistive (T10 option); not available on the P-11 enclosure; uses dual slot on the A-12 enclosure
b. environmentally-sealed contacts rated 2 A at 30 VDC or 115 VAC resistive (D option)

Repeatability: ±0.1% of span, maximum

Response Time: Less than 400 milliseconds

Controls:
ET-1200L/U: Multiturn trip-set potentiometers with clockwise rotation to increase setting
ET-1202L/U: Two multiturn trip-set potentiometers with clockwise rotation to increase setting

Trip Set Adjustment: 0-100% continuous, independent adjustment per trip-set point by infinite resolution potentiometer

Trip Point Stability and Drift:
For 25° to 125°F (-4° to 52°C): ±0.5% of span maximum for a 50°F (28°C) change in ambient temperature; ±0.2% typical

LED Visual Indication of Alarm Condition:
ET-1200L/U: One
ET-1202L/U: Two

Relay Action: Specify normally energized (failsafe) or de-energized (non-failsafe)
ET-1200L/U: Hi Trip or Lo Trip
ET-1202L/U: Hi/Lo Trip
Lo/Hi Trip
Hi/Hi Trip or
Lo/Lo Trip

Ambient Temperature Range:
0° to 140°F (-18° to 60°C)

Operating Power Supplies:
a. 115 VAC ±20%, 50/60 Hz 5 watts (standard)
b. 24 VDC +20%-15%, 3.5 watts, H suffix (non-isolated)
c. 230 VAC ±20%, 50/60 Hz, 5 watts (H2 suffix)
d. 115 VAC ±10%, 60 Hz, 5 watts (H3 suffix; P-11 or A-12 option)
e. 115 VAC ±10%, 50/60 Hz, 5 watts (H4 suffix; P-11 or A-12 option)
f. 230 VAC ±10%, 50/60 Hz, 5 watts (H5 suffix; P-11 or A-12 option)
g. 24 VDC ±20%, 4.5 watts (I suffix; isolated)
h. 48 VDC ±20%, 5 watts (I1 suffix; isolated)
i. Refer to Option section for a complete list of options for each model.

Power Supply Effect: ±0.15% for specified power variation

Isolation: 600 VAC or 1000 VDC input/output/power for the AC or isolated DC power version

Net Weight: 3.4 lbs (1.54 kg) approximate

Enclosures:
a. single unit surface mount (standard)
b. A-12, high-density, 19" rack or surface mount with front access terminal blocks; units with AC input require 2 slots
c. NEMA 4 and 12, from one to 24 units
d. explosion-proof single unit; FM approved for Class 1, Division 1, Groups C and D
e. Refer to Options section for a complete list of options for each model

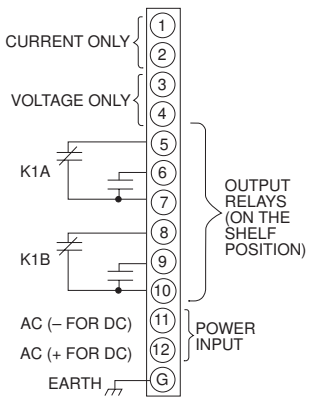
Agency Approvals:
FM approved for ordinary locations and hazardous locations Divisions 1 and 2, Class I, Groups C & D; Class II, Groups E, F & G. Ametek explosion-proof housing required for hazardous locations.

Ordering Information:
refer to pages 7.38, 7.39

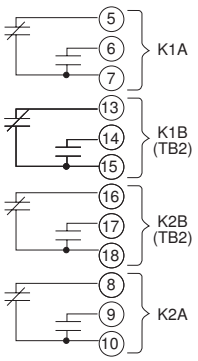
Dimensions:
refer to page 7.40

ET-1200L/U and ET-1202L/U Connections

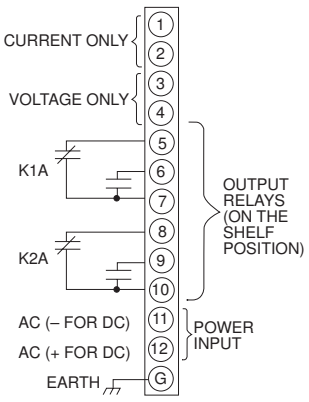
ET-1200L/U



T2 Option ET-1200 L/U only



ET-1202L/U



T/C and mV Alarms

ET-1205

- T/C or mV inputs
- Dual relay outputs
- 0-100% continuously adjustable set point
- Fixed deadband

ET-1208

- T/C or mV inputs
- Single relay output
- 0-100% continuously adjustable set point
- Adjustable deadband

ET-1205 and ET-1208

The ET-1205 accepts inputs from any standard thermocouple or millivolt source and provides a dual universal relay output with a 0-100% continuously adjustable set point. Cold junction compensation is standard on all thermocouple alarms.

The ET-1208 is similar to the ET-1205 but provides a single relay and an adjustable deadband.

Specifications

Inputs:

a. any thermocouple type (R, S, E, K, T, J, B) providing input spans between 10 and 100 mV, standard; calculated from input temperature range.
b. input spans between 10 and 100 mV, standard
c. zero offsets available from -5 to +70 mV, standard
d. optional input spans:
SS1: 3.00 to 4.99 mV
SS2: 5.00 to 9.99 mV

Input Impedance: One megohm minimum input impedance without upscale protection

Outputs:

a. single relay: one DPDT contact rated
5 A at 30 VDC; 5 A at 250 VAC resistive
b. dual relay: two SPDT contacts rated 5 A at 30 VDC; 5 A at 250 VAC resistive
c. standard LED: alarm display to indicate trip condition

Optional Outputs:

a. contacts rated at 10 A at 28 VDC or 115 VAC resistive (T10 option); not available on the P-11 enclosure; uses dual slot on the A-12 enclosure
b. environmentally-sealed contacts rated 2 A at 30 VDC or 115 VAC resistive (D option)
c. analog output module with the following available outputs (O option):

Voltage Outputs	Current Outputs
2-10 VDC	10-50 mA
1-5 VDC	4-20 mA
0.2-1 VDC	2-10 mA
20-100 mV	1-5 mA
2-10 mV	0.2-1 mA

Note: Any analog output may also be zero based.

d. Refer to Options section for options for each model.

Trip Point Stability and Drift:

$$\pm 0.02\%/°F + \left(\frac{\text{offset}}{\text{span}} \times 0.01\%/°F\right) \text{ maximum}$$

$$\left[\pm 0.036\%/°C + \left(\frac{\text{offset}}{\text{span}} \times 0.018\%/°C\right) \text{ max.}\right]$$

For 25°F to 125°F (-4°C to 52°C)

Typical is 0.5 x maximum. For spans <10 mV, maximum temperature effect is:

$$\left(\frac{10\text{mV}}{\text{spanmV}}\right) \times 0.02\%/°F + \left(\frac{\text{offset}}{\text{span}} \times 0.01\%/°F\right)$$

Deadband:
ET-1205: Fixed deadband; unless otherwise specified, fixed to 0.5% of span (typical); field alterable from 0.2 to 10%
ET-1208: Adjustable deadband; from less than 1 to 100% of span continuously adjustable (blind set)

Controls:
ET-1205: Two multiturn trip-set potentiometers
ET-1208: One multiturn trip-set potentiometer. Manual override deadband cancel pushbutton

Trip Adjustment: 0-100% of span continuously adjustable

LED Visual Indication of Alarm Condition:
ET-1205: Two
ET-1208: One

Relay Action: Must specify normally energized (failsafe) or de-energized (non-failsafe)
ET-1205: Hi/Lo Trip, Lo/Hi Trip, Hi/Hi Trip or Lo/Lo Trip
ET-1208: Hi Trip or Lo Trip

Repeatability: ±0.1% of span, maximum

Response Time: Less than 200 milliseconds

Ambient Temperature Range:
0° to 140°F (-18° to 60°C)

Operating Power Supplies:
a. 115 VAC ±20%, 50/60 Hz 5 watts (standard)
b. 24 VDC +20%-15%, 3.5 watts, H suffix (non-isolated)
c. 230 VAC ±20%, 50/60 Hz, 5 watts (H2 suffix)
d. 115 VAC ±10%, 60 Hz, 5 watts (H3 suffix; P-11 or A-12 option)
e. 115 VAC ±10%, 50/60 Hz, 5 watts (H4 suffix; P-11 or A-12 option)
f. 230 VAC ±10%, 50/60 Hz, 5 watts (H5 suffix; P-11 or A-12 option)
g. 24 VDC ±20%, 4.5 watts (I suffix; isolated)
h. 48 VDC ±20%, 5 watts (I1 suffix; isolated)
i. refer to Option section for a complete list of options for each model.

Power Supply Effect: ±0.15% for specified power variation

Power Supply Isolation: 600 VAC or 1000 VDC input/output/power for the AC or isolated DC power version

Net Weight: 3.4 lbs (1.54 kg) approximate

Enclosures:
a. single unit surface mount (standard)
b. P-11, high-density, 19" rack mount with rear access terminal blocks
c. A-12, high-density, 19" rack or surface mount with front access terminal blocks
d. NEMA 4 and 12, from one to 24 units
e. explosion-proof single unit, FM approved for Class 1, Division 1, Groups C and D
f. refer to Options section for a complete list of options for each model

Agency Approvals:
FM approved for ordinary locations and hazardous locations Divisions 1 and 2, Class I, Groups C & D; Class II, Groups E, F & G. Ametek explosion-proof housing required for hazardous locations.

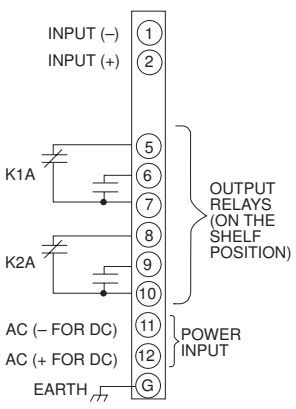
CSA approved for ordinary locations, all unit types with either 117 VAC, 24 VDC isolated or 24 VDC non-isolated power versions. ET-1200 series contact rating at 117 VAC/24 VDC is 3 amps.

Ordering Information:
see pages 7.38, 7.39

Dimension Drawings:
see page 7.40

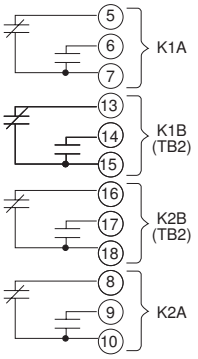
ET-1205 & ET-1208 Connections

ET-1205

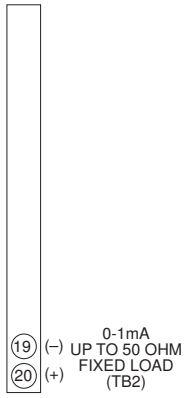


ET-1205 only

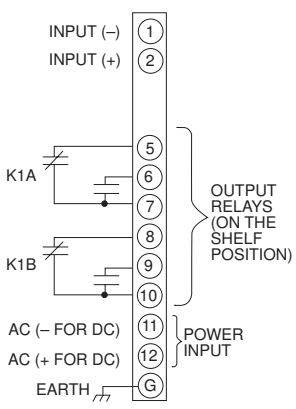
T2 Option



M Option



ET-1208



Current & Voltage Alarms

ET-1214, ET-1218

- Single trips
- DC current/voltage inputs
- Fixed/adjustable deadband
- Single or dual inputs

ET-1215, ET-1219

- Dual trips
- DC current/voltage inputs
- Fixed/adjustable deadband
- Single or dual inputs

The ET-1214 and ET-1218 accept DC current or voltage inputs and provide a single universal relay output with a 0-100% continuously adjustable set point.

The ET-1218 differs from the ET-1214 by offering an adjustable deadband.

The ET-1215 and ET-1219 accept DC current or voltage inputs and provide a dual universal relay output with a 0-100% continuously adjustable set point.

The ET- 1219 differs from the ET-1215 by offering an adjustable deadband.

The ET-1218 and ET-1219 include deadband cancel buttons for manual override.

Specifications

The alarms described above have the following common specifications.

Outputs:

a. single relay: one DPDT contact rated 5 A at 30 VDC; 5A at 250 VAC resistive
b. dual relay: two SPDT contacts rated 5 A at 30 VDC; 5 A at 250 VAC resistive
c. standard LED: alarm display to indicate trip condition

Optional Outputs:

a. contacts rated at 10 A at 28 VDC or 115 VAC resistive (T10 option); not available on the P-11 enclosure; uses dual slot on the A-12 enclosure
b. environmentally-sealed contacts rated 2 A at 30 VDC or 115 VAC resistive (D option)
c. see Options, pages 7.38, 7.39.

Repeatability: ±0.1% of span, maximum

Response Time: Less than 200 milliseconds.

Inputs: For ET-1215 and 1219, specify if dual input required.

Input	Input Impedance
0-200 mV	400 kΩ
0-500	1 MΩ
0-1 VDC	2 MΩ
0.25-1.25 VDC	2 MΩ
1-5 VDC	5 MΩ
2-10 VDC	200 kΩ
0-1 mA	5000 Ω
1-5 mA	1000 Ω
2-10 mA	500 Ω
4-20 mA	250 Ω
10-50 mA	100 Ω

Note: Any of the above ranges can also be zero based.

X-Option: Voltage inputs — 20,000 ohms per volt input impedance; maximum voltage input, 200 VDC

Low Input Impedance: (LZ Option)

Input	Input Impedance
1-5 mA	40.2 Ω
2-10 mA	20.0 Ω
4-20 mA	10.0 Ω
10-50 mA	4.5 Ω

Note: Any of the above ranges can also be zero based.

Deadband:
ET-1214 & 1215: Fixed deadband; fixed to 0.5% (typical) of span; field alterable from 0.2% to 10%
ET-1218 & 1219: Adjustable deadband; from less than 1 to 100% of span

Controls:
ET-1214: Multiturn trip-set potentiometer with clockwise rotation to increase setting
ET-1215: Two multiturn trip-set potentiometers with clockwise rotation to increase setting
ET-1218, ET-1219 Multiturn trip-set and deadband potentiometers with clockwise rotation to increase setting. Manual override deadband cancel pushbutton

Trip Point Stability and Drive:
For 25° to 125°F (-4° to 52°C)
±0.01%/°F (±0.018%/°C) maximum
±0.004%/°F (±0.007%/°C) typical

LED Visual Indication of Alarm Condition:
ET-1214 & 1218: One
ET-1215 & 1219: Two

Relay Action: Specify normally energized (failsafe) or de-energized (non-failsafe)
ET-1214/1218: Hi Trip or Lo Trip
ET-1215/1219: Hi/Lo Trip
Lo/Hi Trip
Hi/Hi Trip or
Lo/Lo Trip

Ambient Temperature Range:
0° to 140°F (-18° to 60°C)

Operating Power Supplies:
a. 115 VAC ±20%, 50/60 Hz 5 watts (standard)
b. 24 VDC +20%-15%, 3.5 watts, H suffix (non-isolated)
c. 230 VAC ±20%, 50/60 Hz, 5 watts (H2 suffix)
d. 115 VAC ±10%, 60 Hz, 5 watts (H3 suffix; P-11 or A-12 option)
e. 115 VAC ±10%, 50/60 Hz, 5 watts (H4 suffix; P-11 or A-12 option)
f. 230 VAC ±10%, 50/60 Hz, 5 watts (H5 suffix; P-11 or A-12 option)
g. 24 VDC ±20%, 4.5 watts (I suffix; isolated)
h. 48 VDC ±20%, 5 watts (I1 suffix; isolated)
i. Refer to Option section for a complete list of options for each model.

Power Supply Effect: ±0.15% for specified power variation

Isolation: 600 VAC or 1000 VDC input/output/power for the AC or isolated DC power version

Net Weight: 3.4 lbs (1.54 kg) approximate

Ordering Information:
refer to page 7.38, 7.39

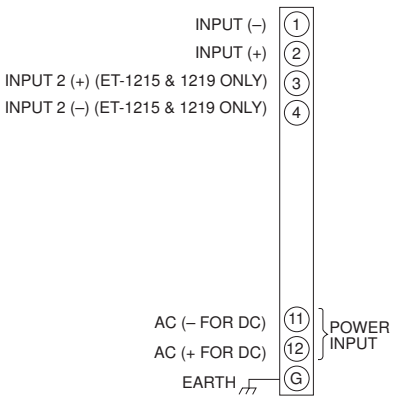
Dimensions:
refer to page 7.40

Enclosures:
a. single unit surface mount (standard)
b. P-11, high-density, 19" rack mount with rear access terminal blocks, DC inputs only
c. A-12, high-density, 19" rack or surface mount with front access terminal blocks; units with AC input require 2 slots
d. NEMA 4 and 12, from one to 24 units
e. explosion-proof single unit; FM approved for Class 1, Division 1, Groups C and D
f. Refer to Options section for a complete list of options for each model

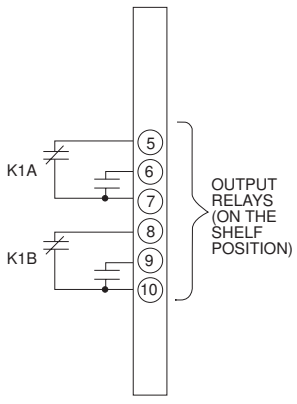
Agency Approvals:
FM approved for ordinary locations and hazardous locations Divisions 1 and 2, Class I, Groups C & D; Class II, Groups E, F & G. Ametek explosion-proof housing required for hazardous locations.

CSA approved for ordinary locations, (except L/U) with either 117 VAC, 24 VDC isolated or 24 VDC non-isolated power versions. ET-1200 Series contact rating at 117 VAC/24 VDC is 5 amps.

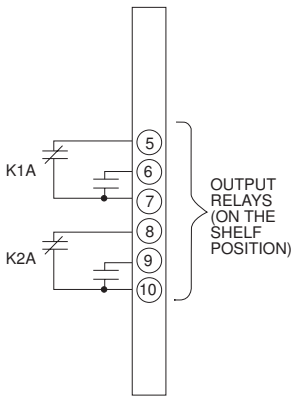
ET-1214/15/18/19



ET-1214 & ET-1218

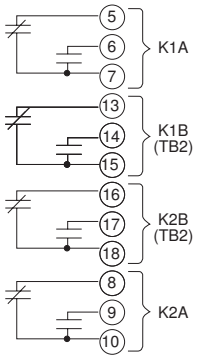


ET-1215 & ET-1219



T2 Option

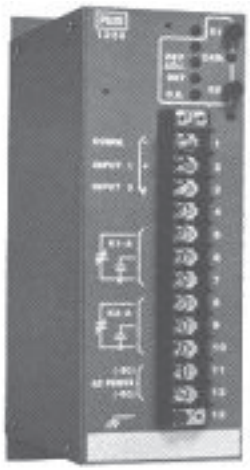
ET-1215 & ET-1219 Only



Deviation Alarm

ET-1228

- DC current/voltage input
- Single or dual inputs
- Two independent trips
- Adjustable deadband



The ET-1228 accepts either two inputs or a single input with an internal reference and provides dual contact outputs based on the deviation from set point.

ET-1228 Specifications

Inputs:

Input	Input Impedance
0-100 mV	200 kΩ
0-500 mV	1 MΩ
0-1 VDC	2 MΩ
0.25-1.25 VDC	2 MΩ
1-5 VDC	5 MΩ
0-1 mA	5000 Ω
1-5 mA	1000 Ω
2-10 mA	500 Ω
4-20 mA	250 Ω
10-50 mA	100 Ω

Note: Any of the above ranges can also be zero based.

Low Input Impedance: (LZ Option)

Input	Input Impedance
0.2-1 mA	100 Ω
1-5 mA	20 Ω
2-10 mA	10 Ω
4-20 mA	5 Ω
10-50 mA	2 Ω

Note: Any of the above ranges can also be zero based.

Outputs:

a. single relay: one DPDT contact rated 5 A at 30 VDC; 5A at 250 VAC resistive
b. dual relay: two SPDT contacts rated 5 A at 30 VDC; 5 A at 250 VAC resistive
c. standard LED: alarm display to indicate trip condition

Optional Outputs:

a. contacts rated at 10 A at 28 VDC or 115 VAC resistive (T10 option); not available on the P-11 enclosure; uses dual slot on the A-12 enclosure
b. environmentally-sealed contacts rated 2 A at 30 VDC or 115 VAC resistive (D option)

Deadband: Adjustable deadband; from less than 1 to 100% of deviation

Controls: Multiturn trip-set and deadband potentiometers with clockwise rotation to increase setting. Manual override deadband cancel pushbutton

Trip Point Stability and Drive:
For 25° to 125°F (-4° to 52°C)
±0.01%/°F (±0.018%/°C) maximum
±0.004%/°F (±0.007%/°C) typical

Deviation Set: 0 to 20% of span, continuously adjustable with infinite resolution 20 turn potentiometer

Input Reference Option: Used to compare a single input to an adjustable reference point.

LED Visual Indication of Alarm Condition: Two

Relay Action: Specify normally energized (failsafe) or de-energized (non-failsafe)
Hi Trip or Lo Trip referenced to input 2
K1 trips on positive deviation of input 1
K2 trips on negative deviation of input 1

Ambient Temperature Range:
0° to 140°F (-18° to 60°C)

Operating Power Supplies:
a. 115 VAC ±20%, 50/60 Hz 5 watts (standard)
b. 24 VDC +20%-15%, 3.5 watts, H suffix (non-isolated)
c. 230 VAC ±20%, 50/60 Hz, 5 watts (H2 suffix)
d. 115 VAC ±10%, 60 Hz, 5 watts (H3 suffix; P-11 or A-12 option)
e. 115 VAC ±10%, 50/60 Hz, 5 watts (H4 suffix; P-11 or A-12 option)
f. 230 VAC ±10%, 50/60 Hz, 5 watts (H5 suffix; P-11 or A-12 option)
g. 24 VDC ±20%, 4.5 watts (I suffix; isolated)
h. 48 VDC ±20%, 5 watts (I1 suffix; isolated)
i. Refer to Option section for a complete list of options for each model.

Enclosures:
a. single unit surface mount (standard)
b. P-11, high-density, 19" rack mount with rear access terminal blocks, DC inputs only
c. A-12, high-density, 19" rack or surface mount with front access terminal blocks; units with AC input require 2 slots
d. NEMA 4 and 12, from one to 24 units
e. explosion-proof single unit; FM approved for Class 1, Division 1, Groups C and D
f. Refer to Options section for a complete list of options for each model

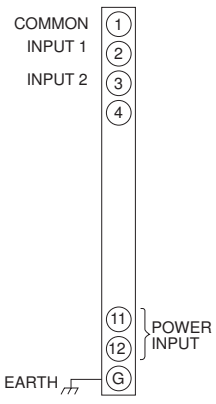
Agency Approvals:
FM approved for ordinary locations and hazardous locations Divisions 1 and 2, Class I, Groups C & D; Class II, Groups E, F & G. Ametek explosion-proof housing required for hazardous locations.

CSA approved for ordinary locations, with either 117 VAC, 24 VDC isolated or 24 VDC non-isolated power versions. ET-1200 Series contact rating at 117 VAC/24 VDC is 5 amps.

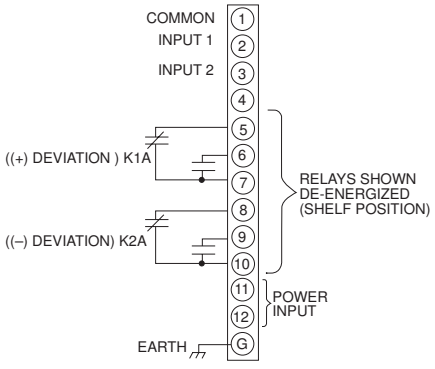
Ordering Information:
see page 7.38, 7.39

Dimensions:
see page 7.40

ET-1228 Connections



T2 Option



RTD Alarms

ET-1275

- RTD input
- Dual trips
- Fixed deadband
- Optional voltage/current output

ET-1278

- RTD input
- Single trip
- Adjustable deadband
- Optional voltage/current output

ET-1275 & ET-1278

The ET-1275 accepts inputs from any standard RTD and provides a dual universal relay output with a 0-100% continuously adjustable set point.

The ET-1278 is similar to the ET-1275 but provides a single relay output and an adjustable deadband.

ET-1275 & ET-1278 Specifications

Inputs:

a. Spans from 10 to 1260 ohm. Specify two or three-wire RTDs, RTD type, input temperature range and the minimum/maximum resistance.
b. The span must be minimum of 5% of the minimum RTD resistance
c. Optional input spans:
SS3: 2.50 to 4.99 ohms
SS4: 5.00 to 9.99 ohms

Outputs:

a. single relay: one DPDT contact rated 5 A at 30 VDC; 5A at 250 VAC resistive
b. dual relay: two SPDT contacts rated 5 A at 30 VDC; 5 A at 250 VAC resistive
c. standard LED: alarm display to indicate trip condition

Optional Outputs:

a. contacts rated at 10 A at 28 VDC or 115 VAC resistive (T10 option); not available on the P-11 enclosure; uses dual slot on the A-12 enclosure
b. environmentally-sealed contacts rated 2 A at 30 VDC or 115 VAC resistive (D option)
c. analog output module with the following available outputs (O option):

Voltage Outputs	Current Outputs
2-10 VDC	10-50 mA
1-5 VDC	4-20 mA
0.2-1 VDC	2-10 mA
20-100 mV	1-5 mA
2-10 mV	0.2-1 mA

Note: Any analog output may also be zero based.

Trip Point Stability and Drift:
For 25° to 125°F (-4° to 52°C):

$$\pm\left(\frac{\text{RTD min.}(\Omega)}{\text{span}\Omega}\times 0.002\%\right)+0.008\%/°\text{F max.}$$

$$\left[\pm\left(\frac{\text{RTD min.}(\Omega)}{\text{span}\Omega}\times 0.0036\%\right)+0.015\%/°\text{F max.}\right]$$

Example:
For 25Ω span with 100Ω RTD minimum:
±0.016%/°F maximum (±0.0288%/°C maximum)

Deadband:
ET-1275: Fixed deadband: unless otherwise specified, fixed to 0.5% (typical) of span; field alterable from 0.2 to 10%
ET-1278: Adjustable deadband: from less than 1 to 100% of span continuously adjustable

Controls:
ET-1275: Two multiturn trip-set potentiometers
ET-1278: Multiturn trip-set and deadband potentiometers. Manual override deadband cancel pushbutton

Trip Set Adjustment: 0-100% of span continuously adjustable

LED Visual Indication of Alarm Condition:
ET-1275: Two
ET-1278: One

Relay Action: Specify normally energized (failsafe) or de-energized (non-failsafe)
ET-1275: Hi/Lo Trip
Lo/Hi Trip
Hi/Hi Trip
Lo/Lo Trip
ET-1278: Hi Trip or
Lo Trip

Repeatability: ±0.1% of span, maximum

Response Time: Less than 200 milliseconds

Ambient Temperature Range:
0° to 140°F (-18° to 60°C)

Operating Power Supplies:
a. 115 VAC ±20%, 50/60 Hz 5 watts (standard)
b. 24 VDC +20%-15%, 3.5 watts, H suffix (non-isolated)
c. 230 VAC ±20%, 50/60 Hz, 5 watts (H2 suffix)
d. 115 VAC ±10%, 60 Hz, 5 watts (H3 suffix; P-11 or A-12 option)
e. 115 VAC ±10%, 50/60 Hz, 5 watts (H4 suffix; P-11 or A-12 option)
f. 230 VAC ±10%, 50/60 Hz, 5 watts (H5 suffix; P-11 or A-12 option)
g. 24 VDC ±20%, 4.5 watts (I suffix; isolated)
h. 48 VDC ±20%, 5 watts (I1 suffix; isolated)
i. Refer to Option section for a complete list of options for each model.

Power Supply Effect: ±0.15% for specified power variation

Power Supply Isolation: 600 VAC or 1000 VDC input/output/power for the AC or isolated DC power version

Net Weight: 3.4 lbs (1.54 kg) approximate

Enclosures:
a. single unit surface mount (standard)
b. P-11, high-density, 19" rack mount with rear access terminal blocks
c. A-12, high-density, 19" rack or surface mount with front access terminal blocks
d. NEMA 4 and 12, from one to 24 units
e. explosion-proof single unit; FM approved for Class 1, Division 1, Groups C and D
f. Refer to Options section for a complete list of options for each model

Agency Approvals:
FM approved for ordinary locations and hazardous locations Divisions 1 and 2, Class I, Groups C & D; Class II, Groups E, F & G. Ametek explosion-proof housing required for hazardous locations.

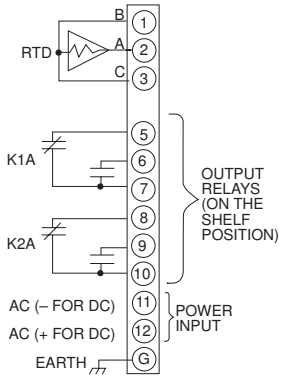
CSA approved for ordinary locations, all unit types with either 117 VAC, 24 VDC isolated or 24 VDC non-isolated power versions. ET-1200 Series contact rating at 117 VAC/24 VDC is 5 amps.

Ordering Information:
See pages 7.38, 7.39

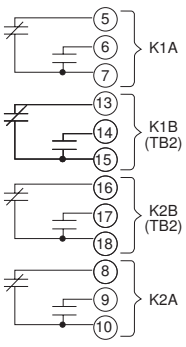
Dimensions:
See page 7.40

ET-1275 & ET-1278 Connections

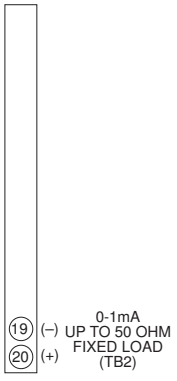
ET-1275



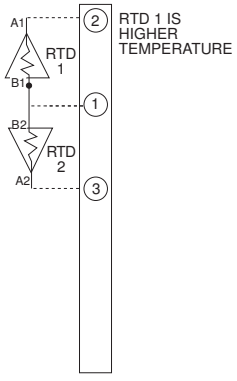
ET-1275 Only T2 Option



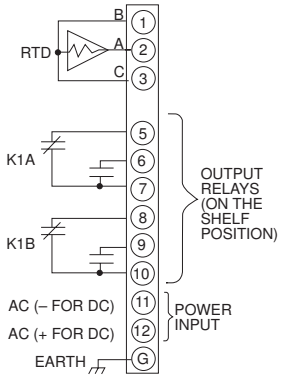
M Option



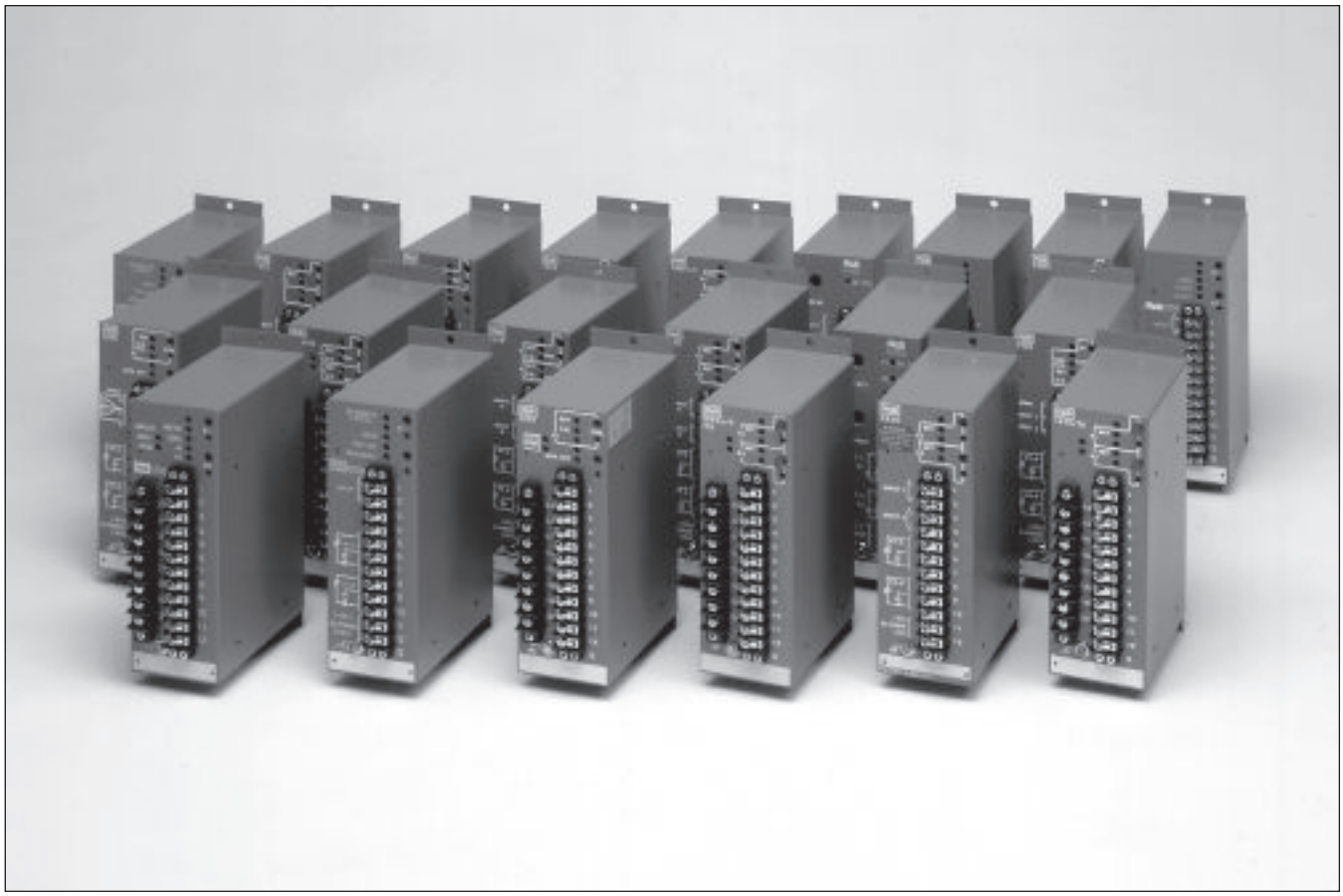
Differential Input Connections All Models



ET-1278



ET-1200 Alarms Ordering Guide



ET-1200 L/U Single AC Current/Voltage Alarm
ET-1202 L/U Dual AC Current/Voltage Alarm
ET-1205 Dual TC/mV Alarm with Fixed Deadband
ET-1208 Single TC/mV Alarm with Adjustable Deadband

ET-1214 Single Current/Voltage Alarm w/Fixed Deadband
ET-1215 Dual Current/Voltage Alarm w/Fixed Deadband
ET-1218 Single Current/Voltage Alarm w/Adjustable Deadband
ET-1219 Dual Current/Voltage Alarm w/Adjustable Deadband
ET-1228 Single Deviation Alarm w/Adjustable Deadband

ET-1275 Dual RTD Alarm with Fixed Deadband
ET-1278 Single RTD Alarm with Adjustable Deadband

Options

ET-1200 Alarms Quick Reference Option Chart

Model No. and Description	Option Ordering Suffix	1. Input Options								2. Power Supply			
		RFI*	SS1	SS2	SS3	SS4	X	LZ	IR	H*	H2*	H3	H4
ET-1200 L/U Single AC Current/Voltage Alarm										A	A	O	O
ET-1202 L/U Dual AC Current/Voltage Alarm										A	A	O	O
ET-1205 Dual TC/mV Alarm with Fixed Deadband		SP	O	O						A	A	O	O
ET-1208 Single TC/mV Alarm with Adjustable Deadband		SP	O	O						A	A	O	O
ET-1214 Single Current/Voltage Alarm w/Fixed Deadband		SP					O	A		A	A	O	O
ET-1215 Dual Current/Voltage Alarm w/Fixed Deadband		SP					O	A		A	A	O	O
ET-1218 Single Current/Voltage Alarm w/Adjustable Deadband		SP					O	A		A	A	O	O
ET-1219 Dual Current/Voltage Alarm w/Adjustable Deadband		SP					O	A		A	A	O	O
ET-1228 Single Deviation Alarm w/Adjustable Deadband		SP					O	A		A	A	O	O
ET-1275 Dual RTD Alarm with Fixed Deadband		SP			O	O				A	A	O	O
ET-1278 Single RTD Alarm with Adjustable Deadband		SP			O	O				A	A	O	O

ET-1200 Alarms Options

Item 1. Input Options

Code	Description
SS1	3 to 4.99 millivolt spans (for mV and T/C units only)
SS2	5 to 9.99 millivolt spans (for mV and T/C units only)
SS3	2.50 to 4.99 ohm spans (RTD units only); $\text{minimum span} \geq \frac{\text{minimum input } (\Omega)}{20}$
SS4	5 to 9.99Ω input spans
X	voltage inputs: 20,000 ohms per volt input impedance, maximum voltage input 200 VDC
LZ	Low impedance current inputs
IR	Input reference (deviation units only)
RFI	Radio frequency filter protection, not available on AC inputs

Item 2. Power Supply Options

Code	Description
H	24 VDC (+20%,-15%) non-isolated prime power
H2	230 VAC, ±20%, 50/60 Hz prime power, standard enclosure
H3	115 VAC, ±10%, 60 Hz only, for use with A-12 or P-11 enclosure mounted units
H4	115 VAC, ±10%, 50/60 Hz, for use with A-12 or P-11 enclosure mounted units
H5	230 VAC, ±10%, 50/60 Hz, for use with A-12 or P-11 enclosure mounted units
I	24 VDC ±20%, isolated prime power
I1	48 VDC, ±20%, isolated prime power
E	Power for external two-wire transmitter, 24 VDC at 20 mA, maximum, special order
FS	Individual slow blow power-line fuse

If no power supply ordering suffix is indicated on the order, 115 VAC, ±20%, 50/60 Hz (standard) will be supplied.

Item 3. Output Options

Code	Description
O	Transmitting output for alarm, refer to unit specifications
M	0-1 mA DC meter output option, 0-50Ω allowable analog meter loop
T2	DPDT relay output, for dual alarms only (except D1 option)
T10	10 amp contact rating for stand enclosure only
J	SPDT relay output environmentally sealed, 2 amp contact rating
D	DPDT relay output environmentally sealed, 2 amp contact rating (requires T2 for dual units)
LR	Latching relay, integral or remote reset, special order

Item 4. Relay Action

Item 5. Enclosure Options

Code	Description
P11*	11 unit, plug-in enclosure with rear wiring access
A12*	12 unit card enclosure with front and rear wiring access
NEMA 4	enclosures for one to 24 units, standard
NEMA 12	enclosures for one to 24 units, standard
XP	explosion-proof, single unit, FM approved for Class I, Class II, Division 1, Groups C and D
B	Conduit mounting plate to accommodate two, 1/2 inch conduit entries.
C	Conduit mounting plate and terminal cover, option B above, plus screwed-on metal front cover

*ET-1200L/U and ET-1202L/U require dual slot on the A-12 enclosure and not available on the P-11 enclosure.

Item 6. Tagging Options

Code	Description
SST	Stainless steel strip tag
EST	Stainless steel engraved tag
ELT	Plastic lamacoid engraved tag (Specify lettering of tag)

Options†					3. Output Options							5. Enclosure Options							6. Tagging Options		
H5	I	I1	E	FS	O	M	T2	T10	J	D	LR	P11	A12	N4	N12	XP	B	C	SST	EST	ELT
O	O	O	SP	O				O		O	SP		O	O	O	O	O	O	O	O	O
O	O	O	SP	O			O	O	O	O	SP		O	O	O	O	O	O	O	O	O
O	O	O	SP	O	O	O	O	O	O	O	SP	O	O	O	O	O	O	O	O	O	O
O	O	O	SP	O	O	O		O		O	SP	O	O	O	O	O	O	O	O	O	O
O	O	O	SP	O				O		O	SP	O	O	O	O	O	O	O	O	O	O
O	O	O	SP	O			O	O	O	O	SP	O	O	O	O	O	O	O	O	O	O
O	O	O	SP	O				O		O	SP	O	O	O	O	O	O	O	O	O	O
O	O	O	SP	O			O	O	O	O	SP	O	O	O	O	O	O	O	O	O	O
O	O	O	SP	O			O	O	O	O	SP	O	O	O	O	O	O	O	O	O	O
O	O	O	SP	O	O	O	O	O	O	O	SP	O	O	O	O	O	O	O	O	O	O
O	O	O	SP	O	O	O		O		O	SP	O	O	O	O	O	O	O	O	O	O

Matrix Legend

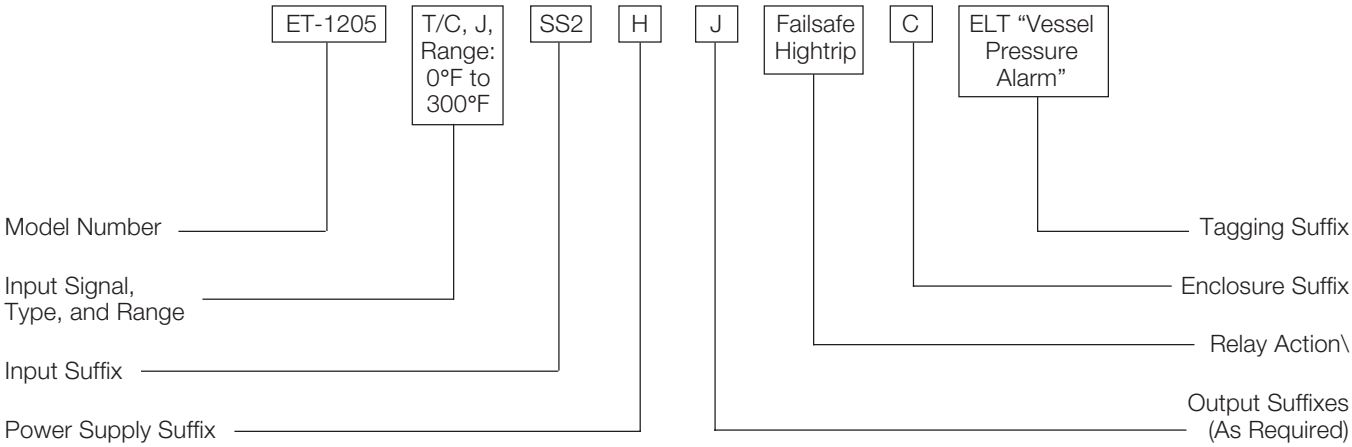
A	= available option at no additional cost
O	= option available at extra cost
	= not available
SP	= available on special order only

The option designations are similar for many alarms. For a complete description of how a particular option applies to a particular model, please consult the specific model description in this catalog.

Caution:

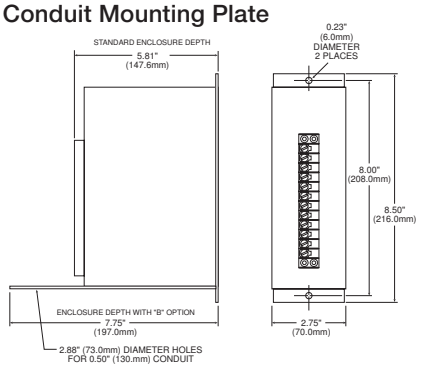
Certain options are not compatible with others. Contact your local Ametek representative or the Ametek factory if you have any questions.

ET-1200 Alarm Ordering

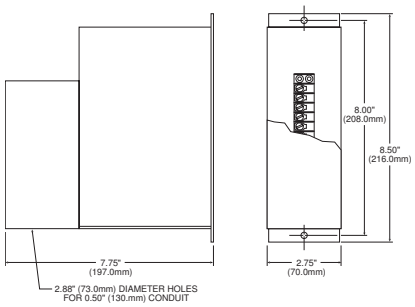


This order is for a Model ET-1205 thermocouple alarm which accepts a Type IJ thermocouple with a range of 0°F to 300°F. The input span is between 5 and 9.99 mV (SS2). The alarm features 24Vdc prime power (H), two SPDT hermetically sealed relays (J), with failsafe / hightrip action. It is housed in a standard enclosure that includes a conduit mounting plate and terminal cover (C) and has a plastic lamacoid tag (ELT) engraved with "Vessel Pressure Alarm."

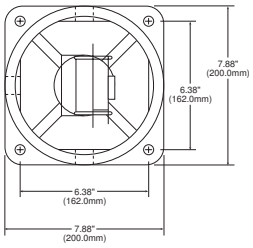
Standard Enclosure with Suffix B Conduit Mounting Plate

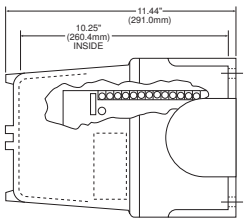


Standard Enclosure with Suffix C Conduit Mounting Plate and Cover

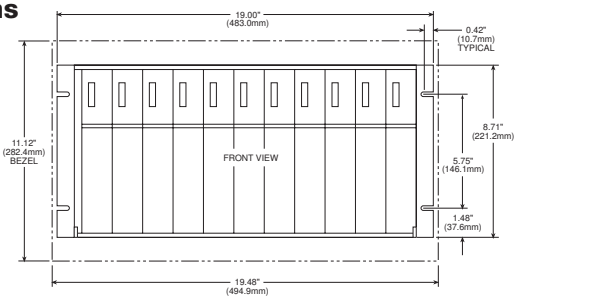


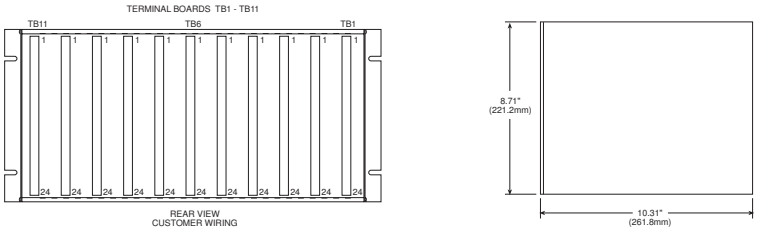
Explosion-Proof Housing



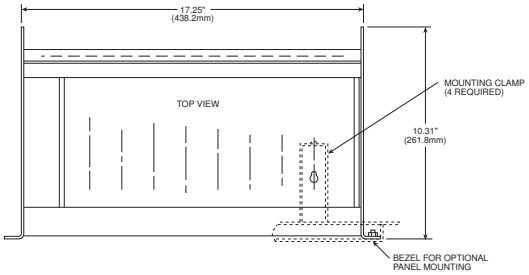


P-11 Dimensions





PANEL CUTOUT–
17.62" ±0.12" (447.5mm) wide x 9.00" ±0.12" (228.6mm) high



A-12 Dimensions