



- MOUNT TO PANEL

- 1. Make the panel cutout using the measurements in figure 1.
- Remove the green terminal connectors and the mounting collar assembly.
- 3. Insert the controller into the panel cutout from the front.
- 4. Orient the collar base so the flat side faces front and the screw openings are on the sides (see figure 2), then slide the base over the back of the controller.
- 5. Slide the mounting bracket over the controller with the screws aligned to the collar base. Push the bracket gently but firmly until the hooks snap into the slots in the case.
- Tighten the four #6-19 x 1.5 in. screws (two on each side) with a Phillips screwdriver until the device is flush to the panel (3 to 4 in-lbs torque). See figure 3. (Only one screw on each side on the PM9 PLUS.)
- 7. Reinstall the terminal connectors to their original locations. (Or first connect field wiring as indicated in this guide and then reinstall the connectors).

the back of the panel.

PM8 PLUS

Shown

Internal Circuit

NOTE: Mounting requires access to

Figure 2



Refer to the wiring diagram for your configuration code and connect to the slots indicated. 2 - CONNECT THE SENSOR INPUT 3 - WIRE OUTPUT 1 4 - WIRE OUTPUT 2 PM8 PLUS Shown (PM8,9) J - : Form A Relay (PM8,9) _ C _ - _ _ _ : Switched DC or Open Collector Connect your sensor as indicated in the PM8 [5A @ 240 V(ac) or 30 V(dc)] Internal Circuit PLUS diagram for your sensor input. Figure 4 Normally Open **Open Collector** Shown Common is an example illustrating the connection - Power Supply + Load shown for a Thermocouple. Load PM8 PLUS Wiring Connections Shown. Refer to the User (24V(dc PM8 PLUS Wiring Diagrams Shown. Guide for PM9 PLUS Wiring Connections. Common Load PM8 PLUS Wiring Diagrams Internal Circuit Refer to the User Guide for PM9 PLUS Shown. Refer to the User Guide Switched DC Thermocouple Wiring Diagrams. for PM9 PLUS Wiring Diagrams. (PM8,9) C - : Switched DC (PM8,9)__E_-__ : Form C Relay Figure 4: Thermocouple Common Wiring Example [5A @240 V(ac) or 30 V (dc)] Figure 5: Switched DC Output Wiring ÷. Internal Circuit Normally Input 1 Input 2 24V(dc PM6__F_-___ : Universal Process Open Process Voltage or Current Platinum 100Ω or 1000Ω RTD 1000 Load 0 to 20 mA: 800 Ω max. load Voltage: 0 to 50 mV or 0 to 10V@ 20k0 200 max, round trip lead resistance 0 to 10V: $1k\Omega$ min. load Current: 0 to 20 mA @ 1000 Internal Circuit Internal Circuit Voltage Load or Current Load Commor Η-(PM8,9) : No-Arc Relay Normally Open (0 to 10 Normally Closed Load Load 4 to 20m/

5 - CONNECT POWER



6 - SET UP THE SENSOR INPUT

- 1. Press the *Home Key* for to return to the home screen.
- 2. From Home, tap the *Forward Arrow Key* to go to Operations.
- thermocouple 3. Scroll to Setup using the +/- keys, then press the Forward Arrow Key millivolts to select it.
 - 4. Scroll to Analog Input using +/- keys, then press the Forward Arrow Key b to select it.
- 5. Scroll to Analog Input 1 using the +/- keys, press the Forward Arrow 1000Ω RTD Key to select it.
- potentiometer Scroll to **Sensor Type** and select it using the *Forward Arrow Key*. 6.
 - 7. If you select *Thermocouple*, a TC Linearization list opens. Using the +/- keys to find the correct type: J, K, N, R, S, or T, then press Forward Arrow Kev To select it.
 - 8. If you select **100** Ω or **1000** Ω **RTD**, press **Back Arrow Key** \triangleleft to return to Sensor Type, scroll to and select RTD Leads, then select 2 or 3, as needed for your sensor.

NOTES: By default

the control loop Heat

algorithim is enabled

the Cool algorithim is

OFF. To enable, go to

CAUTION: Autotune

turns on the loop's

heat output until the

90% of the set point,

then turns the output

off and repeats this.

controls at the set

PID settings.

process value exceeds

Control Loop.

for PID control and

PM8 PLUS Shown

 Press the <i>Home Key</i> to return to the home screen. From Home, tap the <i>Forward Arrow Key</i> to go to Operations
2 From Home tap the Forward Arrow Key To go to Operations
3. Scroll to Setup using the $+/-$ keys then press Forward Arrow Key \ge to
select it.
4. Scroll to Output using +/- keys, then press the <i>Forward Arrow Key</i> to select it.
5. Scroll to Output 1 then press the <i>Forward Arrow Key</i> to select it.
6. Scroll and select Output 1 Function and press the Forward Arrow Key
to select it. 7 Scroll up or down the list then press to select the output function, then
 use the <i>Back Arrow Key</i> to return to the Output list and select the settings for that Output function: For alarm outputs, select Output Function Instance, then select Alarm Instance 1 - 4.
When the Function is Set to Heat
 If you have a Relay Output, a Switched DC Output, or a Process Output with a 0 to 10 V signal; then there is no need to change ar settings, since the default settings should apply.
 If you have a Process Output, and want a 4-20 ma, set Output Type to Milliamps, set Function to "Heat", Output Function Instance to "1", Scale Low to 4.00, Scale High to 20.00, Range Low to 0.0 and Range High to 100.0.

8 - SET UP ALARM TYPES / SIDES

Alarm Type

Alarm Types Analog Input Linearization Process: alarm set points are set directly Digital I/O **Deviation: alarm** set points are Output relative to the control loop's set point. Off: no alarm occurs

Alarm Sides High: alarm when

process is above high alarm set point.

Low: alarm when process is below low alarm set point. Both: high and low alarms are active. Alarm sides allow vou to set a high alarm, a low alarm, or both



- Scroll to and select **Type.** Then press the *Forward Arrow*

Sensor Types

volts

milliamp

100Ω **RTD**

Fn Fn

î

1. Press the *Home Key* for to return to the home screen.

Scroll to and select the type: Off, Process Alarm, or Process Deviation, then press Forward Arrow Key to select it.

Alarm Sides

Alarm 2

Alarm 3

Alarm 4

- 1. Use the *back arrow* to return to Alarm 1, 2, 3, or 4. Use the +/- keys to select the Alarm 1, 2, 3, or 4. Press the *Forward Arrow Key* to select it.
- 2. Scroll to and select Alarm Sides.
- 3. Scroll to and select the desired sides option: high, low, or both.
- 4. Use the *Back Arrow Kev* **I** to return to the Alarm list.
- 5. Scroll to the Alarm High Set Point or Alarm Low Set Point, as necessary for your sides selection. Repeat for remaining alarms.

9 - CONTROL LOOP MODE, SET POINT, AUTOTUNE

Control Mode

- 1. Press the *Home Key* for return to the home screen.
- 2. From Home, tap the Forward Arrow Kev to go to Operations.
- 3. Scroll to Setup using the +/- keys, then press the Forward Arrow Key to select it.
- 4. Scroll to and select Control Loop using the +/-
- kevs. then press the Forward Arrow Kev b to select it. 5. Scroll to and select Control Mode using the +/-
- keys, then press the Forward Arrow Key to select it. 6. Select Off, Auto, or Manual.
- Auto: loop adjusts output so process matches set point. Manual: user sets control loop output in percent power. Off: no control loop output

Control Loop Set Point

- 1. Press the **Home** button to return to the Home screen.
- 2. Use the numeric slider or the +/-keys to choose the set point.

Autotune

From Setup, scroll to and select Control Loop. 1.

2. Scroll to and select AutoTune.

3. Select Yes.

CE Series EZ-ZONE® PM CE Letter of Conformity EN 61326-1:2013 Safety Requirements of electrical equipr and laboratory use. Part 1: General requ n or befor part be used. ant with 2015/863/EU "RoHS3" Directive Per 2012/19/EU W.E.E.E Directive Recycle Pro f or 9)<u>E</u> contain a type BR1225 coin cell battery which shall be recyc Models PM6XXXX – (B, E, F, G, H, J, K)XXXXX where (X = any letter or number allowed above) 2014/53/EU Radio Equipment Directive (RED) todule FCC ID: VPYLBZY Part 15C 2 E01-P00500 Winona, Minnesota, US Doug Kuchta October 2021 Date of Issue CE DOC EZ-ZONE PM-10-







be operational for PM8 Plus autotuning to select Shown

v v...wore...v v

Analog Input Linearization

Process Value Digital I/O

Output

Alarm



point. Before starting Autotune, consider if it is safe to do so. The system must

