



QUICK START GUIDE

PM6 LEGACY™ EXPRESS LIMIT CONTROLLER

for configurations:
PM6L ___ - ___ AAA H ___



For assistance contact Watlow: www.watlow.com
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1 - MOUNT TO PANEL

NOTE: Mounting requires access to the back of the panel.

1. Make the panel cutout using the measurements in figure 1.
2. 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.
6. Tighten the two #6-19 x 1.5 in. screws with a phillips screwdriver until the device is flush to the panel (3 to 4 in-lbs torque).
7. Reinstall the terminal connectors to their original locations. (Or first connect field wiring as indicated in this guide and then reinstall the connectors).

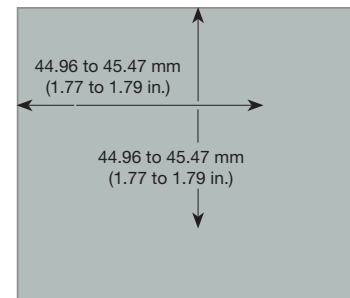


Figure 1

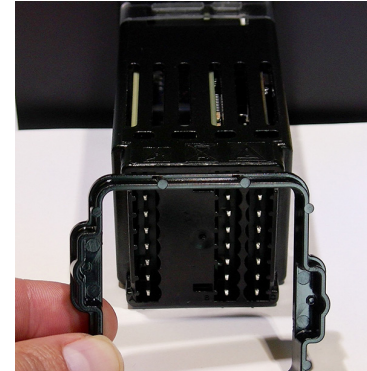


Figure 2



Figure 3

2 - CONNECT THE SENSOR INPUT

Connect your sensor as indicated in the diagram for your sensor input. Figure 4 is an example illustrating the connection shown for a Thermocouple.

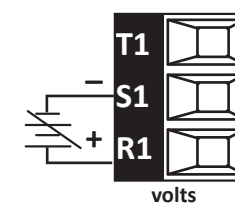
Thermocouple



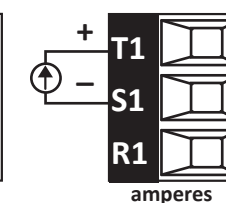
Figure 4: Thermocouple Wiring Example

Voltage: 0 to 10V@ 20kΩ
Current: 4 to 20 mA @ 100Ω

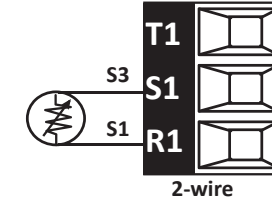
Platinum 100Ω
20Ω max. loop lead resistance



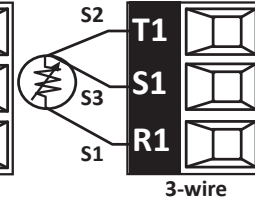
volts



amperes



2-wire



3-wire

3 - WIRE OUTPUT 1

Refer to the wiring diagram for your configuration code and connect to the slots indicated.

PM6L_E_- _AAAH ___: Form C Relay
5A @240 VAC or 30 VDC

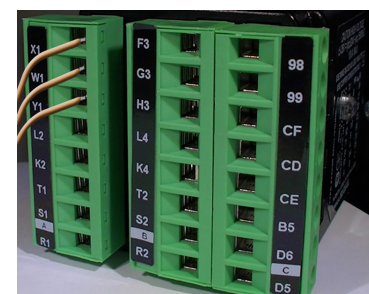
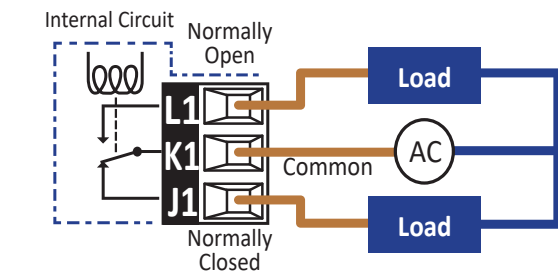
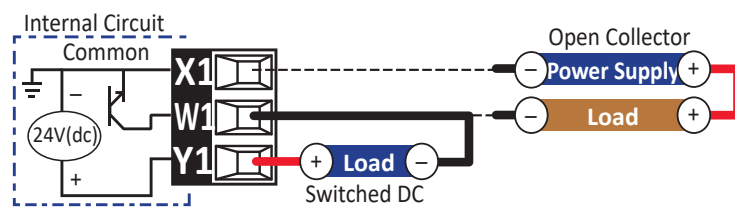


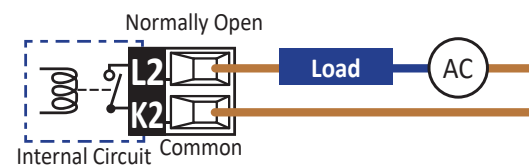
Figure 5: Switched DC Output Wiring

PM6L_C_- _AAAH ___: Switched DC or Open Collector

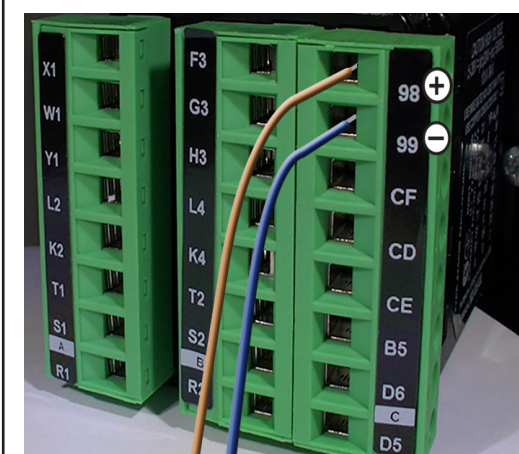


4 - WIRE OUTPUT 2

PM6L__J_- _AAAH ___: Form A Relay



5 - CONNECT POWER



Connect the power source for your configuration code:
PM6 _[1,2,3,4] _ _ _ _ _

1 or 2: 120-240 V (ac)
3 or 4: 24 V (ac or dc)

CAUTION
Do not connect high voltage to a controller that requires low voltage.

6 - CE DECLARATION OF CONFORMITY

Declaration of Conformity - Series EZ-ZONE™ PM
WATLOW Electric Manufacturing Company
1241 Bundy Blvd, Winoona, MN 55987 USA

Declares that the following product meets the essential requirements of the following European Union Directives by using the relevant standards show below to indicate compliance.
Designation: Series EZ-ZONE™ PM (Panel Mount)
Model Numbers: PM (G, B, R or J) (Any Letter or number) 1, 2, 3 or 4 (A, C, E, F or K) (A, C, H, J or K) (Any three letters or numbers)
Classification: Temperature control, Installation Category II, Pollution degree 2, IP65
Rated Voltage and Frequency: 100 to 240 V~ (ac 50/60 Hz) or 15 to 36 Vdc/ 24 V~ ac 50/60 Hz
Rated Power Consumption: 10 VA maximum PM6, PM6 Models
14 VA maximum PM6, PM6 Models

2014/30/EU Electromagnetic Compatibility Directive
Electrical equipment for measurement, control and laboratory use - EMC requirements (Industrial Immunity, Class B Emissions).
IEC 61000-4-2:2008 Electrostatic discharge immunity
IEC 61000-4-3:2007 +A1:2008, A2/2010 Radiated radio-frequency electromagnetic field immunity 10V1M 80-1000 MHz, 3 VIM
IEC 61000-4-4:2011 1,4-2,7 GHz
IEC 61000-4-5:2014 +A1:2017 Electrical fast-transient / burst immunity
IEC 61000-4-6:2013 + Corrigendum 2015 Surge immunity
IEC 61000-4-11:2004 + A1:2017 Immunity to conducted disturbances induced by radio-frequency fields
IEC 61000-3-2:2014 Voltage dips, short interruptions and voltage variations immunity
EN 61000-3-3:2013 + A1:2017 Limits for harmonic current emissions for equipment ≤ 16 Amps per phase
EN 61000-3-7:2013 + A1:2017 Voltage fluctuations and flicker ≤ 16 Amps per phase
SEMI F47-0812 Specification for semiconductor sig immunity Figure R1-1
*For mechanical relay loads, cycle time may need to be extended up to 160 seconds to meet flicker requirements depending on load switched and source impedance.

2014/35/EU Low-Voltage Directive
Safety Requirements of electrical equipment for measurement, control and laboratory use. Part 1: General requirements
EN 61010-1:2010¹ Compliance with 3rd Edition requirements with use of external surge suppressor installed on 230 V ac-power line units.
¹Revised minimum 1000 V peak to maximum 2000 V peak, 10 pulses or better per test.
Compliant with 2011/65/EU RoHS2 Directive Per 2012/19/EU W.E.E Directive

2014/53/EU Radio Equipment Directive (RED)
Safety Requirements of electrical equipment for measurement, control and laboratory use. Part 1: General requirements
EN 61010-1:2010¹ Compliance with 3rd Edition requirements with use of external surge suppressor installed on 230 V ac-power line units.
¹Revised minimum 1000 V peak to maximum 2000 V peak, 10 pulses or better per test.
Compliant with 2011/65/EU RoHS2 Directive Per 2012/19/EU W.E.E Directive

Contains Module FCC ID: VPH1BZY Part 15C 2.
Contains Module IC: 7720-LBZY RSS 210.
-Japanese Radio Law (日本電波法) Output Power: Frequency Range 2402.0 - 2480.0
Type certification (型式認定) Output Power 0.001 Watts Antenna gain: -0.6 dBi PCB antenna
P001-P00500
Doug Kurzhals
Name of Authorized Representative Winoona, Minnesota, USA
Director of Operations
May 2018
Signature of Authorized Representative

7 - KEYPAD OVERVIEW

Zone Display: Indicates the controller address when using communications.

Upper Display: In the Operations Menu, displays the process value. Entering into menus displays the value of the parameter in the lower display.

Temperature Units Indicator Lights: Indicates whether the temperature is displayed in Fahrenheit or Celsius.

Output Activity: Indicates activity of outputs.

Communications Activity: Flashes when another device is communicating with this controller.

Up and Down Keys: At Home, adjusts the set point in the lower display. Inside menus, changes the selected setting in upper display.

Function Key: Performs reset function. Press to reset Controller after a trip condition has been cleared.

Reset Key: Press to reset limit after a trip condition has been cleared.

Advance Key: Advances through menu prompts.

Lower Display: Indicates the current state of the limit. **FR**, **L** or **SAFE**.

[1] to [9] = zones 1 to 9
[A] = zone 10
[b] = zone 11
[C] = zone 12
[d] = zone 13
[E] = zone 14
[F] = zone 15
[h] = zone 16



For assistance contact Watlow: www.watlow.com
+1-(507)-494-5656
wintechsupport@watlow.com
<http://www.watlow.com/downloads/en/manuals/pmpmi.pdf>

8 - INTRODUCTION TO KEYPAD & MENU BASICS

Set Up Menu

Setting Parameter

- [Lo] Lockout Menu
- [SEn] Sensor Type
- [Lin] Linearization
- [TC] Thermistor Curve
- [RR] Resistance Range
- [DEC] Decimal
- [C.F] Display Units
- [rLo] Range Low
- [rHi] Range High
- [Fn1] Function Output 1
- [Fn2] Function Output 2
- [LS.t] Limit Sides
- [LhY] Limit Hysteresis
- [ALY] Alarm Type
- [RHY] Alarm Hysteresis
- [RL9] Alarm Logic
- [RLA] Alarm Latching
- [RbL] Alarm Blocking
- [RS.] Alarm Silencing
- [AdSP] Alarm Display
- [PAR1] Red Display Parameter
- [PAR2] Green Display Parameter
- [AdS] Zone Address
- [bEEh] Bluetooth

Operations Menu

PV Limit State (Safe or Fail)

- [LLS] Limit Low Set Point
- [LHS] Limit High Set Point
- [ALo] Alarm Low Set Point
- [AHi] Alarm High Set Point
- [CAL] Calibration Offset

Menu and Keypad Basics

NOTE: You must read and understand the role of each key on your controller keypad before proceeding. See Panel 7 - Keyboard Overview.

These instructions are not inclusive. This Quick Start Guide (QSG) is meant to be a quick reference guide. It will show you how to navigate to frequently used areas of your controller. As an example, settings process outputs are not documented in this QSG. Refer to the User Manual for more detailed instructions. NOTE: These diagrams might vary depending on the controller programming.

Introduction to the Set Up & Operating Menus

Upon power up, the display will default to the Home display in the Operations Menu. The upper red row displays the process value (PV), defined by PAR1 in the Set Up Menu. The lower green row displays the limit state (LS.t), defined by PAR2 in the Set Up Menu.

Operations Menu

To enter the Operations Menu, press to return to the Home Page. Press the green Advance Key to scroll through the various prompts found in the Operations Menu. Press the Reset Key at any point to return to the Home Page. Use Arrow Keys to adjust settings or change selection.

Set Up Menu

To enter the Setup Menu press Reset Key to return to Home. Press and hold the Up and Down Arrow Keys for 6 seconds. Press the green Advance Key to scroll through to the prompt of choice. Use the Up and Down Arrow Keys to change the range. At any point within the Setup Menu, press the Reset Key to return to the Home Page.

9 - SET UP THE INPUT

Start from Home.

Press for 6 seconds to enter Setup Menu. It must be level 5 to make changes.

to

If Thermocouple, select (TC).

Select Thermocouple type (J, K is letter H or T is letter t).

Return Home.

OR

Press for 6 seconds to enter Setup Menu. Must be level 5 to make changes.

to

If rtd 100 ohm, select rtd.

Return Home.

10 - SET UP OUTPUTS

Start from Home.

Press for 6 seconds to enter Setup Menu. It must be level 5 to make changes.

to

Alarm, limit, off, select function output 1.

to

Limit, function output 2 fixed at limit.

Return Home.

11 - SET LIMIT

Start from Home.

Press for 6 seconds to enter Setup Menu. It must be 5 to make changes.

to

Low, high, both, select limit sides.

to

Enter degrees, select limit hysteresis.

Return Home.

12 - SET LIMIT SET POINTS

Start from Home.

to

If low limit or both, enter degrees, select limit low set point.

to

If high limit or both, enter degrees, select limit high set point.

Return Home.

Limit high trip active

Alternatives

13 - SET ALARM

Start from Home

Press for 6 seconds to enter Setup Menu. It must be level 5 to make changes.

to

Process, off, select type.

to

Enter degrees, select hysteresis.

to

Close, open, select logic.

to

Non-latching, latching, select latching.

Return Home.

For other alarm settings see the user manual.

14 - SET ALARM SET POINTS

Start from Home

to

Enter degrees, select low set point.

to

Enter degrees, select high set point.

Return Home

Alarm active

Alternatives