EZ-ZONE® RM RAIL MOUNT CONTROLLER

EZ-ZONE® RM Rail Mount Controller Integrates Multiple Controller Functions Saving Time, Space and Cost

The EZ-ZONE® RM integrated multi-loop controller from Watlow® can be used as a PID temperature/process controller, an over/under limit controller or these functions can be combined into an integrated controller. Other control functions can be integrated such as high amperage power controller output which creates a complete integrated thermal loop controller all in one space-saving, DIN-rail mount integrated package.

The EZ-ZONE RM can be configured with a range of 1 to 16 modules controlling from 1 to 64 loops. Because the EZ-ZONE RM controller is single-loop scalable, you only pay for what you need – leading to exact loop count and unmatched industry flexibility.

Optional integrated controller functions that can be combined together or ordered in different quantities as desired include:

- PID control loops
- Over/under temperature limit control loops
- 10 and 15 ampere power output/heater driver options
- On-board data logging
- Current measurement input
- Sequencer start up and control function
- Programmable timer and counter functions
- Programmable math and logic options
- Multiple communication protocol options
- Mobile configuration with removable secure digital (SD) flash card

Benefits of using an integrated controller solution:

- Reduces wiring time and termination complexity compared to connecting multiple discrete products
- Improves system reliability
- Reduces termination and installation cost while also improving system reliability
- Eliminates compatibility issues often encountered with using many different discrete components and brands
- Reduces troubleshooting time and downtime costs since the system can specifically identify to the operator if there are any problems with a sensor, controller, solid state relay (SSR) power output or heater load
- Thermal solution is complete – saving engineering time and labor costs while speeding up project times

Features and Benefits

1 to 64 PID loop controller

- Saves money because only needed loops are purchased
- Allows a common controller platform across many design applications since both loop count and additional outputs can be ordered in increments of one

Advanced PID control algorithm

- Offers TRU-TUNE®+ adaptive control to provide tighter control for demanding applications
- Enables auto-tune for fast, efficient start up

Communication capabilities

- Allows universal serial bus (USB) device port for configuration file exchanges
- Provides a range of protocol choices including USB device port, Modbus® RTU, EtherNet/IP™, Modbus® TCP, DeviceNet™ and PROFIBUS

USB Port

- Provides data logging retrieval

SPLIT-RAIL™ control

- Allows mounting of low voltage and high voltage modules in different cabinets with individual modules functioning together even if physically split apart
- Minimizes the length and cost of wire runs and improves system reliability by accommodating inputs located closer to sensors and outputs closer to loads

AUTO CLONE™

- Saves time by reducing complexity and automatically configures a new module with the same parameter settings as the replaced module

SENSOR GUARD™

- Prevents customer system shutdown and product scrap or loss by allowing a sensor to be chosen to backup another sensor in case of primary sensor failure

WATLOW
Better Thermal Solutions...*Faster*

ISO 9001
Registered Company
Winona, Minnesota USA

WIN-EZRM-0110

Additional Key Functions Available

- Configuration communication port (standard bus)
- Removable modules and connectors
- Ring lug or straight angle terminal options
- Profile ramp soak with 400 total steps
- Retransmit and remote set point input virtually inside controller avoiding costs for input/output hardware
- User configuration settings can be stored and recalled
- Class 1, Div. 2 option
- Thermistor input
- Elevated operating range of 0 to 149°F (-18 to 65°C)
- UL® listed, CSA, CE, RoHS, W.E.E.E. FM, SEMI F47-0200, Class 1, Div. 2 rating on selected models

Common Specifications

Line Voltage/Power

- 20.4 to 30.8VAC/VDC, 50/60Hz ±5%
- Any external power supply used should comply with a Class 2 or SELV rating (see specific module specification listing for max. VA power consumption)
- Data retention upon power failure via nonvolatile memory
- Compliant with Semi F47-0200, Figure R1-1 voltage sag requirements

Environment

- 0 to 149°F (-18 to 65°C) operating temperature
- -40 to 185°F (-40 to 85°C) storage temperature
- 0 to 90% RH, non-condensing

Agency Approvals

- UL®/EN 61010 Listed, C-UL® C22.2 #61010ANSI/ISA 12.12.01-2007 Class 1, Div. 2-Group A, B, C, D temperature code T4 (optional)
- UL® 1604 Class 1, Div. 2 (optional)
- EN 60529 IP20
- UL® 50, NEMA 4X, EN 60529 IP66; 1/16 DIN remote user interface (RUI)
- CSA 610110 CE
- RoHS by design, W.E.E.E.
- FM Class 3545 on limit control versions
- CE

Serial Communications

- All modules ship with standard bus protocol for configuration and communication connection to all other EZ-ZONE products

User Interface

- Seven segment LED, programmed via push button switch
- Communication activity, 2 LEDs
- Error condition of each loop, 4 LEDs
- Output status indication, 16 LEDs

Maximum System Configuration

- One access module plus up to 16 additional control or expansion modules (any combination), up to 64 loops

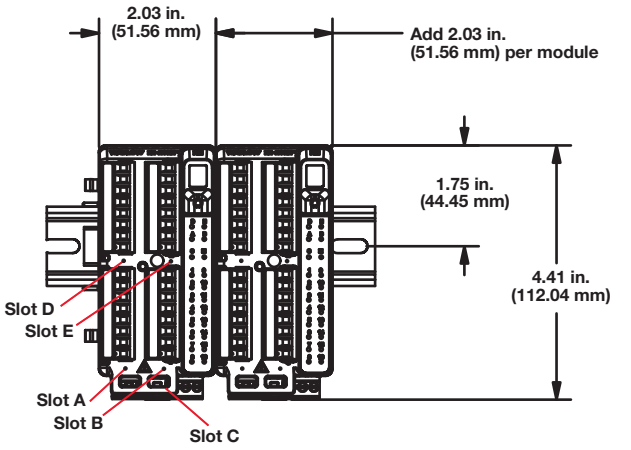
Mounting

- DIN-rail specification EN50022, 1.38 x 0.30 in. (35 x 7.5 mm)
- Can be DIN-rail mounted or chassis mounted with customer supplied screws

Wiring Termination—Touch-Safe Terminals

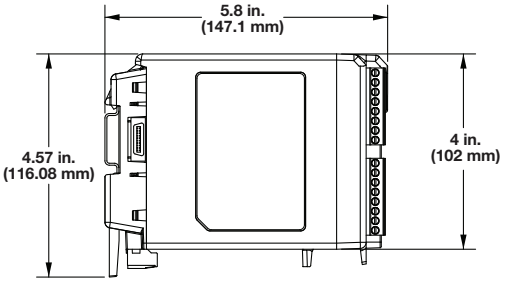
- Right angle and front screw type terminal blocks (slots A, B, D, E)
- Input, power and controller output terminals, touch safe removable 12 to 30 AWG
- Wire strip length 0.30 in. (7.6 mm)
- Torque 7.0 lb.-in. (0.8Nm), front terminal block 4.5 lb.-in. (0.5Nm)

Dimensional Drawings

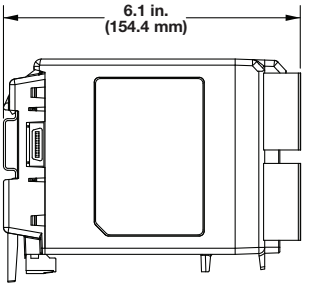


Connector Type	Module Depth in. (mm)
Standard	5.8 (148)
Straight	6.1 (155)
Ring Terminal	6.5 (166)

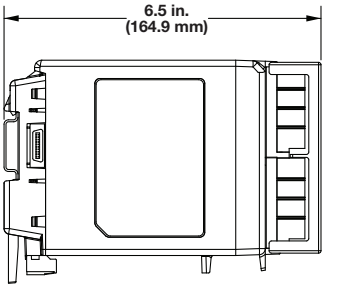
Standard Connectors



Straight Connectors



Ring Terminal Connectors

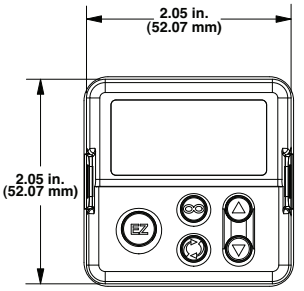


Optional Accessories

Basic remote user interface (RUI)

- 1/16 DIN, long case 10 W, short case 6 W
- Dual 4 digit, 7-segment LED displays
- Keys: advance, infinity, up, down keys, plus an EZ-KEY programmable function key
- Typical display update rate 1Hz

Basic RUI



Front View

Depth Dimensions for RUI: Long case 4 in. (101.6 mm) Short case 2.33 in. (59.10 mm)

Power Supplies

- AC/DC power supply converter 90-264VAC to 24VDC volts.
- P/N 0847-0299-0000 – 31 W
- P/N 0847-0300-0000 – 60 W
- P/N 0847-0301-0000 – 91 W

EZ-ZONE RM Product Documentation

- User's manual – electronic CD P/N 0601-0001-0000
  User's manual – printed hard copy P/N 0600-0061-0000
- Controller support tools - electronic CD
  P/N 0500-3080-0000

Control Module Specifications

Line Voltage/Power

- Power consumption: 7 W, 14VA
- Any external power supply used should comply with a Class 2 or SELV rating

Controller

- User selectable heat/cool, on-off, P, PI, PD, PID or alarm action, not valid for limit controllers

Process PID or Over-temperature Limit Mode Options

- Auto-tune with TRU-TUNE+ adaptive control
- Control sampling rates: input = 10Hz, output = 10Hz (non-divisional)

Serial Communications

- Isolated communications
- All modules ship with standard bus protocol for configuration and communication connection to all other EZ-ZONE controllers

Additional Communication Options

- EIA 485, Modbus® RTU

Profile Ramp and Soak

- Profile engine affects one to four loops
- 25 profiles, 15 sub-routines and 400 total steps
- Option for battery back up and real time clock via the access module

Conditions of Calibration Accuracy

- Calibration ambient temperature @ 77°F ±5°F (25°C ±3°C)
- Accuracy span: 1000°F (540°C) min.
- Temperature stability: ±0.1°F/°F (±0.1°C/°C) rise in ambient max.

Universal Input

- Thermocouple, grounded or ungrounded sensors
- >20MΩ input impedance
- Max. of 2kΩ source resistance
- RTD 2- or 3-wire, platinum, 100Ω and 1000Ω @ 32°F (0°C) calibration to DIN curve (0.00385Ω/Ω/°C)
- Process, 0-20mA @100Ω, or 0-10VDC @ 20kΩ input impedance; scalable, 0-50mV
- Potentiometer: 0 to 1,200Ω
- Inverse scaling
- Current: input range is 0 to 50mA, 100Ω input impedance
  Response time: 1 second max., accuracy ±1mA typical

Thermistor Input

- 0 to 40KΩ, 0 to 20KΩ, 0 to 10KΩ, 0 to 5KΩ
- 2.252KΩ and 10KΩ base at 77°F (25°C)
- Linearization curves built in

Digital Input

- Update rate 10Hz
- DC voltage
- Max. input 36V at 3mA
- Min. high state 3V at 0.25mA
- Max. low state 2V

Dry Contact

- Update rate 10Hz
- Min. open resistance 10KΩ
- Max. closed resistance 50Ω
- Max. short circuit 13mA

Single Input Current Measurement Input

- Accepts 0-50mA signal (user programmable range)
- Displayed operating range and resolution can be scaled and are user programmable

Output Hardware

- Switched dc only, 22 to 32VDC @ 10mA. Pertains to outputs ordered as numbers 2, 4, 6 or 8
- Switched dc and/or open collector pertains to outputs ordered as numbers 1, 3, 5 or 7
  - Switched dc, output voltage 20VDC max. supply current source 40mA per paired outputs 1 and 2, 3 and 4, 5 and 6, or 7 and 8
  - Open collector, switched voltage max.: 30VDC, max. switched current per output: 100mA, max.
- 6 digital inputs/outputs
  - Switched dc, output voltage 20VDC max. supply current source 40mA max. at 20VDC and 80mA at 12VDC
  - Open collector, switched voltage max.: 32VDC, max. switched current per output: 1.5A, max. switched current for all 6 outputs combined: 8A
- SSR, Form A, 1A at 50°F (10°C) to 0.5A at 149°F (65°C), 0.5A @ 24VAC min., 264VAC max., opto-isolated, without contact suppression
- Electromechanical relay, Form C, 5A, 24 to 240VAC or 30VDC max., resistive load, 100,000 cycles at rated load, requires a min. load of 20mA at 24V, 125VA pilot duty
- Electromechanical relay, Form A, 5A, 24 to 240VAC or 30VDC max., resistive load, 100,000 cycles at rated load, requires a min. load of 20mA at 24V, 125VA pilot duty

Output Hardware (con't)

- NO-ARC relay, Form A, 15A @ 122°F (50°C), 85 to 264VAC, no VDC, resistive load, 2 million cycles at rated load
- Universal process/retransmit, output range selectable:
  - 0 to 10VDC into a min. 1,000Ω load
  - 0 to 20mA into max. 800Ω load

Accuracy Range

Input Type	Max. Error @ 77°F (25°C)	Accuracy Range Low	Accuracy Range High	Units
J	±1.75	0	750	Deg. C
K	±2.45	-200	1250	Deg. C
T (0 to 350)	±1.55	0	350	Deg. C
T (-200 to 0)	±1.55	-200	0	Deg. C
N	±2.25	0	1250	Deg. C
E	±2.10	-200	900	Deg. C
R	±3.9	0	1450	Deg. C
S	±3.9	0	1450	Deg. C
B	±2.66	870	1700	Deg. C
C	±3.32	0	2315	Deg. C
D	±3.32	0	2315	Deg. C
F (PTII)	±2.34	0	1343	Deg. C
RTD, 100Ω	±2.00	-200	800	Deg. C
RTD, 1000Ω	±2.00	-200	800	Deg. C
mV	±0.05	0	50	mV
Volts	±0.01	0	10	Volts
mA VDC	±0.02	0	20	mAmps (dc)
mA VAC	±5	-50	50	mAmps (ac)
Potentiometer, 1K range	±1	0	1000	Ohms
Resistance, 5K range	±5	0	5000	Ohms
Resistance, 10K range	±10	0	10000	Ohms
Resistance, 20K range	±20	0	20000	Ohms
Resistance, 40K range	±40	0	40000	Ohms

Programmable Application Blocks

Actions (events) - 8 total

Alarms - 8 total (process or deviation)

Control Loop - 4 total

Compare - 4 total

- Off, greater than, less than, equal, not equal, greater than or equal, less than or equal

Counters - 4 total

- Counts up or down, loads predetermined value on load signal. Output is active when count value equals or exceeds predetermined target value

Logic - 4 total

- Off, and, nand, or, nor, equal, not equal, latch, flip flop

Linearization - 4 total

- Interpolated or stepped relationship

Math - 8 total

- Off, average, process scale, deviation scale, differential (subtraction), ratio (divide), add, multiply, absolute difference, min., max., square root, sample and hold, altitude and dew point

Process Value - 4 total

- Off, sensor back up, average, crossover, wet/dry bulb, switch over, differential (subtraction), ratio (divide), add, multiply, absolute difference, min., max., square root, altitude, visala and dew point

Special Output Function - 4 total

- Compressor – turns on-off compressor for one or two loops (cool and dehumidify with single compressor)
- Motorized Valve – turns on-off motor open/closed outputs to cause valve to represent desired power level
- Sequencer – turns on-off up to four outputs to distribute a single power across all outputs with linear and progressive load wearing

Timers - 4 total

- On Pulse – produces output of fixed time on active edge of timer run signal
- Delay – output is a delayed start of timer run, off at same time
- One Shot – oven timer
- Retentive – measures timer run signal, output on when accumulated time exceeds target

Variable - 8 total

- User value for digital or analog variable

Expansion Module Specifications

Line Voltage/Power

- Power consumption: 7 W, 14VA
- Any external power supply used should comply with a Class 2 or SELV rating

Serial Communications

- All modules ship with standard bus protocol for configuration and communication connection to all other EZ-ZONE products

Wiring Termination—Touch Safe Terminals

- Right angle and front screw type terminal blocks (slots A, B, D, E)
  - Input, power and controller output terminals, touch safe removable 12 to 30 AWG
  - Wire strip length 0.30 in. (7.6 mm)
  - Torque 7.0 lb.-in. (0.8Nm)
- Front screw terminal block
  - Wire strip length 0.30 in. (7.6 mm)
  - Torque 4.5 lb.-in. (0.5Nm)
- Ring lug terminal block
  - Wire strip length 0.30 in. (7.6 mm)
  - Torque 10.0 lb.-in. (1.13Nm)

Digital Input

- Update rate 10Hz
- DC voltage
- Max. input 36V at 3mA
- Min. high state 3V at 0.25mA
- Max. low state 2V

Dry Contact

- Min. open resistance 100KΩ
- Max. closed resistance 50Ω

Output Hardware (6 digital inputs/outputs)

- Update rate 10Hz
- Switched dc
  - Output voltage 20VDC max.
  - Max. supply current source 40mA at 20VDC and 80mA at 12VDC
- Open collector
  - Switched voltage max. 32VDC
  - Max. switched current per output 2.5A
  - Max. switched current for all six outputs combined 10A

Dual Solid State Relay

- Two SSR board option, Form A, 10A max. each SSRs combined @ 24VAC min., 264VAC max., opto-isolated, without contact suppression, max. resistive load 10A per output at 240VAC, max. 20A per card at 122°F (50°C), max. 12A per card at 149°F (65°C)

Four Mechanical Relay

- Four electro mechanical relays, Form A, 5A, 24 to 240VAC or 30VDC max., resistive load, 100,000 cycles at rated load. Requires a min. load of 20mA at 24V, 125VA pilot duty

Programmable Application Blocks

Actions (events) - 8 total

Alarms - 8 total (process only)

Compare - 8 total

- Off, greater than, less than, equal, not equal, greater than or equal, less than or equal

Counters - 8 total

- Counts up or down, loads predetermined value on load signal, output is active when count value equals or exceeds predetermined target value

Logic - 8 total

- Off, and, nand, or, nor, equal, not equal, latch, flip flop

Linearization - 8 total

- Interpolated or stepped relationship

Math - 8 total

- Off, average, process scale, deviation scale, differential (subtraction), ratio (divide), add, multiply, absolute difference, min., max., square root, sample and hold, altitude and dew point

Special Output Function - 4 total

- Compressor – turns on-off compressor for one or two loops (cool and dehumidify with single compressor)
- Motorized Valve – turns on-off motor open/closed outputs to cause valve to represent desired power level
- Sequencer – turns on-off up to four outputs to distribute a single power across all outputs with linear and progressive load wearing

Timers - 8 total

- On Pulse – produces output of fixed time on active edge of timer run signal
- Delay – output is a delayed start of timer run, off at same time
- One Shot – oven timer
- Retentive – measures timer run signal, output on when accumulated time exceeds target

Variable - 8 total

- User value for digital or analog variable

Access Module Specifications

Line Voltage/Power

- Power consumption: 4 W, 9VA
- Any external power supply used should comply with a Class 2 or SELV rating

Serial Communications

- Isolated communications
- All modules ship with standard bus protocol for configuration and communication connection to all other EZ-ZONE products

Additional Communication Options

- EIA 232/485, Modbus® RTU
- EtherNet/IP™, Modbus® TCP, 10 BASE-T/100 BASE-TX
- DeviceNet™
- PROFIBUS DP (future option, contact factory)
- USB controller recognized as a device

Note: If an access module is present all other modules must have Modbus® disabled in order to achieve communications to all of the modules.

USB

- USB 1.1 device only
- Mini USB connector type
- Recognized as a mass storage device/serial communications

Real Time Clock with Battery Back up

- Accuracy (typical): +/- 30ppm at 77°F (25°C)
- +30/-100ppm over temperature operating range
- Battery type and typical lifetime rating: 10 years at 77°F (25°C)
- Lithium battery used, recycle properly

Data Logging

- 200 points
- File storage on-board module
- Common separated value (CSV) file type
- Export files via removable SD micro memory card or via USB communications port

Memory Card

- Removable SD micro physical size
- 2G SD memory card provided, accepts other storage space amounts
- -4 to 185°F (-20 to 85°C) ambient rating, non-volatile memory
- Information access to configuration files, ability to store module auto-configuration settings and datalog files if options have been ordered

Auto-configuration File Back up

- Limited memory can support up to four modules
- Limited memory is fixed on board
- Unlimited memory can support up to 16 modules
- Unlimited memory utilizes removable SD micro card option

Note: All module parameters are backed up in memory except for USER SET 1 and USER SET 2 parameter settings and address.

EZ-ZONE Rail Mount Control Module Ordering Information

Control module operates off of 24 to 28VDC power supply, communication port for configuration with EZ-ZONE configurator and PC.

Code Number

① ② EZ-ZONE Rail Mount	③ Control Module	④ Input 1 Primary Function	⑤ Output 1 and 2 Hardware Options	⑥ Input 2	⑦ Output 3 and 4 Hardware Options	⑧ Input 3	⑨ Output 5 and 6 Hardware Options	⑩ Input 4	⑪ Output 7 and 8 Hardware Options	⑫ Connector Style	⑬ Enhanced Options	⑭ ⑮ Additional Options
RM	C											

Reference RME module photo.

④ Input 1 Primary Function

1	=	Control with universal input
2	=	Control with thermistor input
3	=	Ramp/Soak control with universal input **(R/S applies to all loops in module)**
4	=	Ramp/Soak control with thermistor input **(R/S applies to all loops in module)**
5	=	Limit with universal input **(only valid Output 1 and 2, options will be B, F, L)**
6	=	Limit with thermistor input **(only valid Output 1 and 2, options will be B, F, L)**
7	=	Current transformer input **(not valid Output 1 and 2, options are N, P, R, S)**
9	=	Custom

⑤ Output 1 and 2 Hardware Options

		Output 1	Output 2
A	=	None	None
B	=	None	Mechanical relay 5A, Form A
U	=	Switched dc/open collector	None
D	=	Switched dc/open collector	NO-ARC 15A power control
E	=	Switched dc/open collector	Switched dc
F	=	Switched dc/open collector	Mechanical relay 5A, Form A
G	=	Switched dc/open collector	SSR Form A, 0.5A
H	=	Mechanical relay 5A, Form C	None
J	=	Mechanical relay 5A, Form C	NO-ARC 15A power control
K	=	Mechanical relay 5A, Form C	Switched dc
L	=	Mechanical relay 5A, Form C	Mechanical relay 5A, Form A
M	=	Mechanical relay 5A, Form C	SSR Form A, 0.5A
N	=	Universal process	None
P	=	Universal process	Switched dc
R	=	Universal process	Mechanical relay 5A, Form A
S	=	Universal process	SSR Form A, 0.5A
T	=	None	SSR Form A, 0.5A
Y	=	SSR Form A, 0.5A	NO-ARC 15A power control
Z	=	SSR Form A, 0.5A	SSR Form A, 0.5A

⑥ Input 2

A	=	None
1	=	Control with universal input
2	=	Control with thermistor input
5	=	Limit with universal input **(only valid Output 3 and 4, options will be B, F ,L)**
6	=	Limit with thermistor input **(only valid Output 3 and 4, options will be B, F, L)**
7	=	Current transformer input **(not valid Output 3 and 4, options are N, P, R, S)**
R	=	Auxillary input (universal)
P	=	Auxillary input (thermistor)

⑦ Output 3 and 4 Hardware Options

		Output 3	Output 4
A	=	None	None
B	=	None	Mechanical relay 5A, Form A
U	=	Switched dc/open collector	None
D	=	Switched dc/open collector	NO-ARC 15A power control
E	=	Switched dc/open collector	Switched dc
F	=	Switched dc/open collector	Mechanical relay 5A, Form A
G	=	Switched dc/open collector	SSR Form A, 0.5A
H	=	Mechanical relay 5A, Form C	None
J	=	Mechanical relay 5A, Form C	NO-ARC 15A power control
K	=	Mechanical relay 5A, Form C	Switched dc
L	=	Mechanical relay 5A, Form C	Mechanical relay 5A, Form A
M	=	Mechanical relay 5A, Form C	SSR Form A, 0.5A
N	=	Universal process	None
P	=	Universal process	Switched dc
R	=	Universal process	Mechanical relay 5A, Form A
S	=	Universal process	SSR Form A, 0.5A
T	=	None	SSR Form A, 0.5A
Y	=	SSR Form A, 0.5A	NO-ARC 15A power control
Z	=	SSR Form A, 0.5A	SSR Form A, 0.5A

⑧ Input 3

A	=	None
1	=	Control with universal input
2	=	Control with thermistor input
5	=	Limit with universal input **(only valid Output 5 and 6, options will be B, F, L)**
6	=	Limit with thermistor input **(only valid Output 5 and 6, options will be B, F, L)**
7	=	Current transformer input **(not valid Output 5 and 6, options are N, P, R, S)**
R	=	Auxillary input (universal)
P	=	Auxillary input (thermistor)

⑨ Output 5 and 6 Hardware Options

		Output 5	Output 6
A	=	None	None
B	=	None	Mechanical relay 5A, Form A
U	=	Switched dc/open collector	None
D	=	Switched dc/open collector	NO-ARC 15A power control
E	=	Switched dc/open collector	Switched dc
F	=	Switched dc/open collector	Mechanical relay 5A, Form A
G	=	Switched dc/open collector	SSR Form A, 0.5A
H	=	Mechanical relay 5A, Form C	None
J	=	Mechanical relay 5A, Form C	NO-ARC 15A power control
K	=	Mechanical relay 5A, Form C	Switched dc
L	=	Mechanical relay 5A, Form C	Mechanical relay 5A, Form A
M	=	Mechanical relay 5A, Form C	SSR Form A, 0.5A
N	=	Universal process	None
P	=	Universal process	Switched dc
R	=	Universal process	Mechanical relay 5A, Form A
S	=	Universal process	SSR Form A, 0.5A
T	=	None	SSR Form A, 0.5A
Y	=	SSR Form A, 0.5A	NO-ARC 15A power control
Z	=	SSR Form A, 0.5A	SSR Form A, 0.5A

⑩ Input 4

A	=	None
1	=	Control with universal input
2	=	Control with thermistor input
5	=	Limit with universal input **(only valid Output 7 and 8, options will be B, F, L)**
6	=	Limit with thermistor input **(only valid Output 7 and 8, options will be B, F, L)**
7	=	Current transformer input **(not valid Output 7 and 8, options are N, P, R, S)**
R	=	Auxillary (universal)
P	=	Auxillary (thermistor)

⑪ Output 7 and 8 Hardware Options

		Output 7	Output 8
A	=	None	None
B	=	None	Mechanical relay 5A, Form A
U	=	Switched dc/open collector	None
D	=	Switched dc/open collector	NO-ARC 15A power control
E	=	Switched dc/open collector	Switched dc
F	=	Switched dc/open collector	Mechanical relay 5A, Form A
G	=	Switched dc/open collector	SSR Form A, 0.5A
H	=	Mechanical relay 5A, Form C	None
J	=	Mechanical relay 5A, Form C	NO-ARC 15A power control
K	=	Mechanical relay 5A, Form C	Switched dc
L	=	Mechanical relay 5A, Form C	Mechanical relay 5A, Form A
M	=	Mechanical relay 5A, Form C	SSR Form A, 0.5A
N	=	Universal process	None
P	=	Universal process	Switched dc
R	=	Universal process	Mechanical relay 5A, Form A
S	=	Universal process	SSR Form A, 0.5A
T	=	None	SSR Form A, 0.5A
Y	=	SSR Form A, 0.5A	NO-ARC 15A power control
Z	=	SSR Form A, 0.5A	SSR Form A, 0.5A
C	=	6 digital inputs/outputs **(valid option only if Input 4 selection = A)**	

⑫ Connector Style

A	=	Right angle screw connector (standard)
F	=	Front screw connector (slots A, B, D and E only)

⑬ Enhanced Options

A	=	Standard bus
1	=	Standard bus and Modbus® RTU 485

⑭ ⑮ Additional Options

Firmware, Overlays, Parameter Settings

AA	=	Standard
AB	=	Replacement connectors hardware only for the entered model number. Additional cost for the model can be disregarded as you are only ordering replacement connectors.
12	=	Class 1, Div. 2 (not available with integrated limit controller or mechanical relay options)
XX	=	Custom

EZ-ZONE Rail Mount Expansion Module Ordering Information

Expansion module operates off of 24 to 28VDC power supply, communication port for configuration with EZ-ZONE configurator and PC.

Code Number

① ② EZ-ZONE Rail Mount	③ Expansion Module	④ Connector Style/ Custom Product		⑤ Slot A	⑥ Slot B	⑦ Slot D	⑧ Slot E		⑨ ⑩ Future Options	⑪ ⑫ Additional Options
RM	E		-					-	AA	

④ Connector Style/Custom Product		
A	=	Right angle screw connector (standard)
F	=	Front screw connector (slots A, B, D and E only)
R	=	Ring lug connector **(if ordered, then slots B and E must be = A)**
S	=	Custom

⑤ Slot A		
A	=	None
C	=	6 digital I/O
J	=	4 mechanical relay 5A, Form A
K	=	2 SSRs, Form A, 10A max. each **(if ordered, then slots B must be = A)**

⑥ Slot B		
A	=	None
C	=	6 Digital I/O
J	=	4 Mechanical relay 5A, Form A

⑦ Slot D		
A	=	None
C	=	6 digital I/O
J	=	4 mechanical relay 5A, Form A
K	=	2 SSRs, Form A, 10A max. each **(if ordered, then slot E must be = A)**

⑧ Slot E		
A	=	None
C	=	6 digital I/O
T	=	Quad inputs for external current transformers. Can do either single-phase or three-phase system measurement for all hardware outputs ordered within the expansion module (future option, contact factory)

⑨ ⑩ Future Options		
AA	=	Standard

⑪ ⑫ Additional Options		
Firmware, Overlays, Parameter Settings		
AA	=	Standard
AB	=	Replacement connectors hardware only, for the entered model number. Additional cost for the model can be disregarded as you are only ordering replacement connectors.
12	=	Class 1, Div. 2 (not available with integrated limit controller or mechanical relay options)
XX	=	Custom

RMC/RME Module

EZ-ZONE Rail Mount Access Module Ordering Information

Access module operates off of 24 to 28VDC power supply, communication port for configuration with EZ-ZONE configurator and PC.

Code Number

① ② EZ-ZONE Rail Mount	③ Access Module	④ Connector Style		⑤ Future Options	⑥ Comms. Options	⑦ Ramp/ Soak Functions	⑧ System Config. & Data Logging Options		⑨ ⑩ Future Options	⑪ ⑫ Additional Options
RM	A		-	A				-	AA	

④ Connector Style

A	=	Right angle screw connector (standard)
F	=	Front screw connector (slots B and E only)
S	=	Custom

⑤ Future Options

A	=	Standard

⑥ Communications Options

A	=	None
2	=	Modbus® RTU 232/485
3	=	EtherNet/IP™, Modbus®/TCP
5	=	DeviceNet™
6	=	PROFIBUS DP

⑦ Ramp/Soak Functions

A	=	None
B	=	Battery back up and real time clock for profile ramp and soak

⑧ System Configuration and Data Logging Options

Order Option	USB "Device" Communication	Limited Auto-Configuration File Back up for Up to 4 Modules	Unlimited Auto-Configuration File Back up for Up to 16 Modules	On-Board Data Logging	Mobile Data (2G SD Card)
A		✓			
B			✓		✓
Y	✓		✓		✓
D	✓		✓	✓	✓

USB Device Configuration: USB access to configuration files (and data log files if data logging option is ordered) stored via on-board SD memory card. PC access to product via standard bus protocol.

Auto-Configuration Back up: Limited fixed on board memory can support backing up configuration files for a maximum of four modules. The unlimited option utilizes a SD memory card to enable configuration file back up for up to 16 modules. Feature can be used for cloning configuration files to multiple modules or for easy field replacement to limit downtime.

Data Logging: Data log files stored on 2G SD memory card. Data files can be exported via USB communication port transfer or removing SD card into external card reader. Watlow reserves the right to ship a larger memory amount at any point in time.

Mobile Data: Transfer configuration files (and data logging files if data logging option is ordered) via removable SD memory card.

⑨ ⑩ Future Options

AA	=	Standard

⑪ ⑫ Additional Options

Firmware, Overlays, Parameter Settings

AA	=	Standard
AB	=	Replacement connectors hardware only, for the entered model number. Additional cost for the model can be disregarded as you are only ordering replacement connectors
12	=	Class 1, Div. 2 (not available with integrated limit controller or mechanical relay options)
XX	=	Custom

RMA Module

Your Authorized Watlow Distributor Is:

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