WATLOW®

EZ-ZONE® RMZ/RMF Fiber Optic Systems

Watlow's Fiber Optic System Provides Improved Measurement and Control Accuracy

By combining advances in fluorescent temperature sensing with the power of the proven EZ-ZONE® RM control system, Watlow® developed a best-in-class fiber optic temperature measurement and control system that will provide industry-leading performance for your specific application. By integrating fiber optic sensing capabilities into the EZ-ZONE RM control system, users will save space, improve performance with faster response times while simplifying their control system.

Watlow's EZ-ZONE RMZ and EZ-ZONE RMF make the system adaptable to all system requirements. Both are compatible with all other modules within the EZ-ZONE RM family and self-discover all existing modules within the system making a seamless integration into your temperature control/logic system.

EZ-ZONE RMZ Offers Fiber Optic Sensing Capabilities and EtherCAT® Communications

The EZ-ZONE RMZ integrates fiber optics, PID temperature control and EtherCAT® communications into a single package. It features multi-channel control, hosting up to four channels of fiber optic inputs as well as supporting up to 44 additional control loops from other EZ-ZONE RM modules. These modules support a wide array of capabilities including I/O, logic, current measurement, power switching and more.

EZ-ZONE RMF Offers Additional Fiber Optic Inputs for Expansion Opportunities

The EZ-ZONE RMF module is a dedicated fiber optic input module integrating the advanced control technology of the EZ-ZONE system with one to eight channels of fiber optic temperature sensing.

The EZ-ZONE RMF can also serve as additional inputs to the EZ-ZONE RMZ enabling extensive expansion opportunities for future system needs. The EZ-ZONE RMF is ideal either as an expansion module or configured with built-in temperature control loops (outputs via EZ-ZONE RME module). The EZ-ZONE RMF can be used independently when only sensing is required.

Benefits of Watlow's high-performance fluorescence-based temperature measurement system include:

- Compact integrated fiber optic sensing with temperature control
- Easily expands to increase number of zones as your system needs increase
- Integrates seamlessly with the temperature control system avoiding additional analog signal processing
- Faster temperature sampling rates with high resolution
- Minimizes installed footprint due to the small form factor and DIN-rail mounting
- Highly accurate fluorescent signal processing electronics
- Offers highly reliable LED light source designed to run at low currents for maximum life
- Up to 48 loops of input and control with all EZ-ZONE RM temperature control features
  - Temperature / limit loops
  - Current measurement
  - Power switching
  - Logic

Specifications

	EZ-ZONE RMZ	EZ-ZONE RMF
Optical Inputs	1 to 4	1 to 8
Communications	EtherCAT®, Standard Bus, EtherNet/IP™, DeviceNet™, PROFIBUS DP, Modbus® TCP, Modbus® RTU	
Short Term Stability	3σ ±0.03°C	
Operating Ambient Temperature	-18°C to 65°C	
Unit to Unit Accuracy (electronics)	±0.05°C	
Module Dimensions (mm)	51.6 (H) x 44.5 (W) x 148 (D)	
Measurement Ranges**	-70°C to 300°C (calibrated at -40°C)	
Probe Materials (typical)	Polyimide/PEEK/Polyamide-imide	
System Accuracy (calibrated)	±0.05°C	
System Accuracy (uncalibrated)	±0.5°C	
Maximum Drift	0.5°C/yr	
Analog Output*	0-10V, 0-20mA	

* Outputs via EZ-ZONE RME module.
** Consult engineering center for measurement ranges outside of these values.

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ISO 9001 Registered Company Winona, Minnesota USA

EZ-ZONE RMZ Ordering Information

Module for EtherCAT® Communications Protocol, Universal Control Inputs, Wireless Development Communications and Legacy Communications

Part Number

①②③④ EZ-ZONE Rail Mount	⑤⑥ Number of Control Loops	⑦⑧ Number of Optical Inputs	⑨ Wireless Comms.	⑩ Legacy Comms.	⑪⑫ Connector Style/Additional Options
RMZ4 –			–		

⑤⑥	Number of Control Loops
AA =	No control loops
04 =	4 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
08 =	8 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
12 =	12 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
16 =	16 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
20 =	20 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
24 =	24 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
28 =	28 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
32 =	32 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
36 =	36 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
40 =	40 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
44 =	44 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)
48 =	48 universal inputs (T/C, 2-wire RTD, 0-10VDC, 0-20mA)

⑦⑧	Number of Optical Inputs
AA =	No optical inputs
04 =	4 fiber optic inputs, temp. range 0-200°C (option for legacy communications is A only)
05 =	4 fiber optic inputs, temp. range 0-300°C (option for legacy communications is A only)

⑨	Wireless Communications
A =	No wireless communications
B =	Bluetooth® (wireless) development communications

⑩	Legacy Communications
A =	No wireless communications
1 =	Standard bus
2 =	Modbus®
3 =	Standard bus and Modbus®
4 =	Standard bus and DeviceNet™

⑪⑫	Connector Style/Additional Options
AA =	Standard
12 =	Class 1, Div. 2
XX =	Custom

EZ-ZONE RMF Ordering Information

Module for Fiber Optic Inputs with PID Temperature Control

Part Number

①②③④ EZ-ZONE Rail Mount	⑤⑥ Number of Fiber Optic/Temperature Control Loops	⑦ Future Option	⑧ Future Option	⑨ Future Option	⑩ Comms. Protocol	⑪⑫ Add'l Options
RMFA –		A	A	– A		

⑤⑥	Number of Fiber Optic/Temperature Control Loops
AA =	No fiber optic/temperature control loops
1A =	1 fiber optic input without temperature control loop
1T =	1 fiber optic input with temperature control loop
2A =	2 fiber optic inputs without temperature control loop
2T =	2 fiber optic inputs with temperature control loop
3A =	3 fiber optic inputs without temperature control loop
3T =	3 fiber optic inputs with temperature control loop
4A =	4 fiber optic inputs without temperature control loop
4T =	4 fiber optic inputs with temperature control loop
5A =	5 fiber optic inputs without temperature control loop
5T =	5 fiber optic inputs with temperature control loop
6A =	6 fiber optic inputs without temperature control loop
6T =	6 fiber optic inputs with temperature control loop
7A =	7 fiber optic inputs without temperature control loop
7T =	7 fiber optic inputs with temperature control loop
8A =	8 fiber optic inputs without temperature control loop
8T =	8 fiber optic inputs with temperature control loop

⑩	Communication Protocol Options
A =	Standard bus
1 =	Standard bus and Modbus® RTU 485
Note: To obtain communication protocol other than standard bus or Modbus® 485 order the applicable EZ-ZONE RMZ4.	

⑪⑫	Additional Options
AA =	Standard
12 =	Class 1, Div. 2
XX =	Custom

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