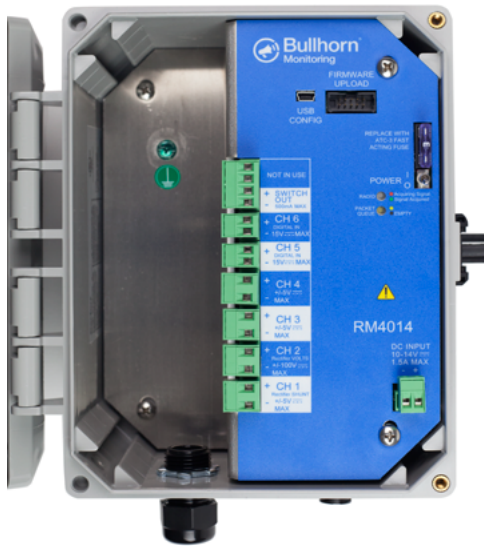


# Bullhorn RM4014 and RM4015 Remote Monitors



The RM4014 and RM4015 are satellite-based, reliable, two-way, wireless remote monitoring units (RMUs) for cathodic protection applications, and they're Built Bullhorn Tough. The only difference between these units is that the RM4014 is mounted externally, while the RM4015 is small enough to fit inside most rectifier cabinets. Otherwise, both units have the same functionality.

These units monitor pipelines, well casings, tanks and other assets by reading rectifier AC and DC volts and amps, pipe-to-soil potential, shunts, and more. Additionally, they can survive the harshest of conditions, with built in surge protection and an optional high-energy surge arrester.

## Remote Monitoring For:

- AC and DC volts and amps
- Pipe-to-soil potential
- Shunts
- Accumulator

# Bullhorn RM4014 and RM4015 Remote Monitors

## Key Benefits

### Rugged

The unit can survive the harshest of conditions, with built in surge protection and optional high energy surge arrester.

### Small

Reduce installation time and the risk of vandalism by placing the remote monitoring unit inside the rectifier.

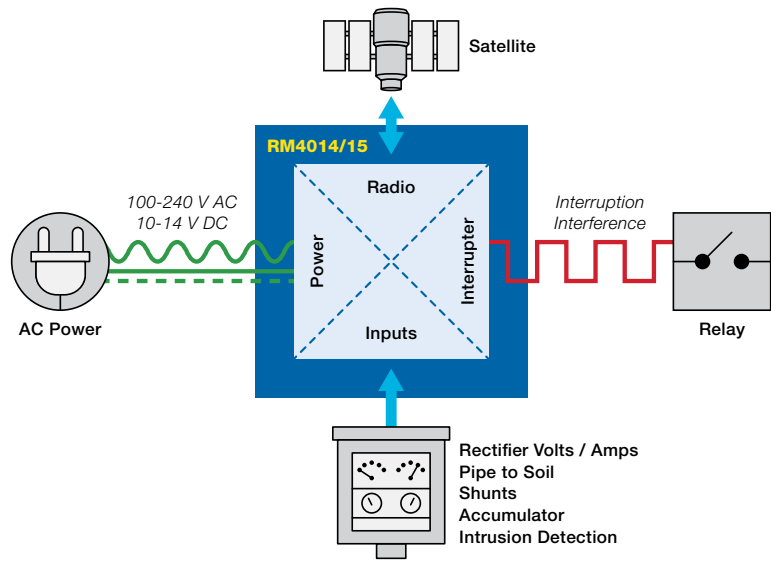
### Remotely Operated via the Web and Mobile

Never have to leave the office to operate a unit, as the mobile and web apps can be used to change configuration, take a measurement, and control interruption.

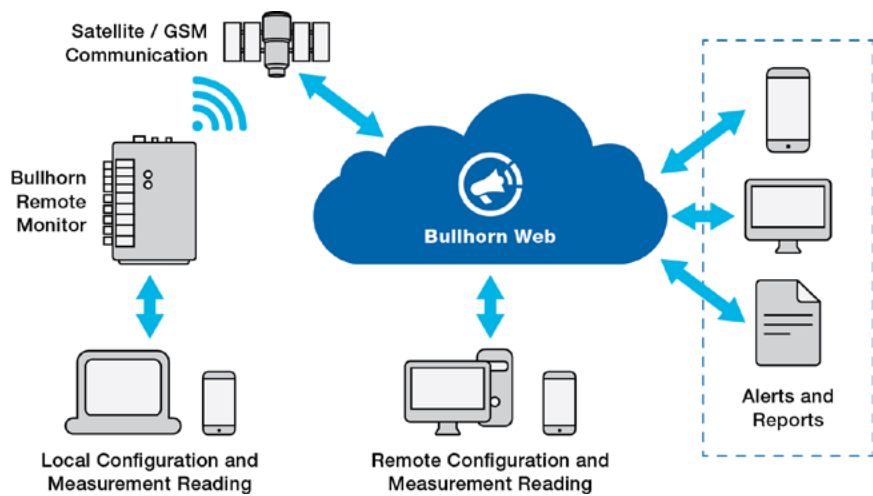
### Integrated Compliance Solution

Complete end-to-end system to prove regulatory compliance, with filtered measurements easily imported into PCS where they can be made into compliance reports.

The RM4014 and RM4015 remotely collect cathodic protection (CP) measurements used to demonstrate corrosion mitigation effectiveness. They monitor pipelines, well casings, tanks and other assets by reading rectifier AC and DC volts and amps, pipe-to-soil potential, shunts, and more. GPS synchronized interruption is available at time of purchase or as a field upgrade. The Orbcomm IsatData Pro satellite network is used for global, low-latency, two-way communications. Measurements are automatically uploaded to Bullhorn Web, a web-based asset manager that works with PCS™ to form a full end-to-end regulatory compliance solution from field measurement to reporting. The RM4014 is mounted externally, while the RM4015 is small enough to fit inside most rectifiers.



RM4014 and RM4015 System Diagram



Bullhorn Communications Architecture

# Bullhorn RM4015 and RM4016 Remote Monitor Specifications

## Inputs

### 4 Analog Channels

Channels 1, 3, 4 DC voltage range:	+/- 5 V
Channels 2 DC v oltage range:	+/- 100 V
Accuracy of 2% of reading	
Scan rate:	16 scans per second
Channel-to-channel isolation:	≥ 250 V DC

### 2 Digital Channels

Functions:	digital input, accumulator, accumulator reset, or contact closure (0 - 15 V DC)
Logic levels:	minimum Logic 1 = 2 V; maximum Logic 0 = 800 mV
Scan rate:	16 scans per second
Accumulator maximum cycle rate:	1 cycle/2 s
minimum state change period:	1 s
Minimum pulse width:	250 ms

### Interruption Option

Maximum current:	500 mA DC
Output voltage:	10-14 V DC
Minimum switching cycle:	1 s
On/off cycle increments:	100 ms
Interruption modes:	daily, interference, start/stop, and continuous
Interference mode:	set up to 99 rectifiers or groups for influence studies
Relay types:	NO or NC, solid state or mechanical

### Software Interface

Bullhorn Web

Bullhorn Tools for PC

## Communications

Orbcomm – IsatData Pro

Poll, reconfigure, and set alarm thresholds over-the-air

## Power Supply

AC:	100 - 240 V AC with included AC/DC converter
DC:	10 - 14 V DC with interruption; 5-25 V DC without interruption
Backup:	internal sealed rechargeable battery

## Dimensions

Internal mount:	polycarbonate enclosure (7.9" x 5.0" x 2.2")
External mount:	NEMA 4X compliant enclosure (4.0" x 7.3" x 12.4")

## Data Integrity

Data stored in non-volatile (EEPROM) memory

## Environment

Temperature:	-30° C to +70° C
Humidity:	0 - 100% non-condensing

## Safety and Compliance

Certification mark:	TUV
Tested safety standards (RM4010 only):	EN61010-1:2010 EN61010-2-030:2010 CAN/CSA C22.2 No. 61010-1-2012 CAN/CSA C22.2 No. 61010-2-030:2010 UL61010-1:2012 supplemented by UL61010-2-030:2012
Emissions:	FCC Part 15
Surge:	8kV Air / 4 kV Contact

# For More Information

## Services

Expect Relentless Service from our Remote Monitoring Technical Services team.

- Technical support is provided by NACE-certified professionals via phone and email.
- Approximately 98 times out of 100, a highly-qualified professional will answer your very first phone call and handle your questions. No call backs; no phone tag.
- We set you up for success with product training, offered at your place of business or ours.

## Contact

For more information, email us at [remote\\_monitoring\\_sales@aiworldwide.com](mailto:remote_monitoring_sales@aiworldwide.com), call us at [800-229-3404](tel:800-229-3404), or visit us online at [aiworldwide.com](http://aiworldwide.com).

## Visit [aiworldwide.com](http://aiworldwide.com) for These Resources

[Bullhorn comparison chart](#)

[RM4010 Installation and Configuration Quick Reference Guide](#)

[RM4011 Installation and Configuration Quick Reference Guide](#)

[Surge Arrester High Energy Installation Quick Reference Guide](#)

## About American Innovations

American Innovations (AI) protects people and the environment by helping our customers safely and efficiently manage the world's energy infrastructure. We deliver proven compliance solutions to virtually every oil and gas transmission pipeline company in North America – from the field to the office. We provide an integrated family of hardware, software and professional services backed by relentless customer service. Our products include: Bullhorn® Remote Monitoring, MicroMax® Current Interrupters, Allegro Field Data PC™, PCS™ compliance software, and Risk Intelligence Platform (RIPL™) software. AI also provides a wealth of professional services including data migration, risk analysis, high consequence area (HCA) analysis, and regulatory compliance consulting.

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