MOBILTEX

CorTalk® RMU3

REMOTE MONITORING WITH GPS SYNCHRONIZED INTERRUPTION AND TWO-WAY COMMUNICATION

CorTalk
a MOBILTEX brand



TRUSTED REMOTE MONITORING PLATFORM WITH THE TOUGHNESS, FEATURES AND CONFIGURATION OPTIONS THAT THE FIELD DEMANDS

The legendary RMU3 delivers two-way communication for accurate, remotely controlled configuration and GPS-synchronized interruption of rectifiers with cellular or satellite communication configurations. The RMU3 is a high-reliability device engineered for the most extreme environments to control and monitor rectifiers, bonds and test points.

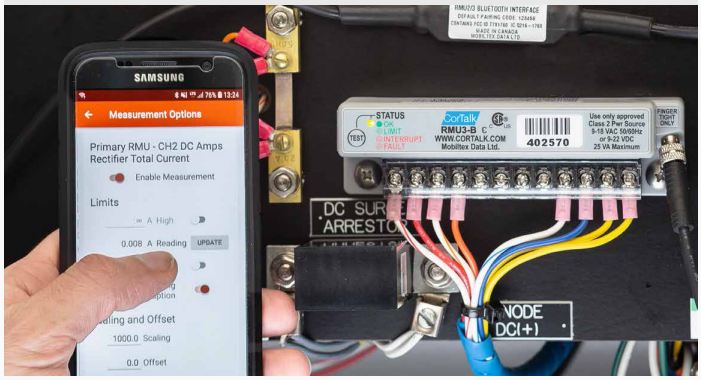
The field hardware consists of two primary components: the measurement terminal block (4-channel and 44-channel [RMU3XL] options available) that is mounted inside the rectifier or a NEMA4 enclosure, and the antenna transceiver that is typically externally mounted. The RMU3 operates from a low voltage source such as a Class 2 transformer and has an internal battery backup system for short-term operation during power outages. Engineered for the lowest power consumption possible, the RMU3 is also suitable for TEG and solar applications. The RMU3 has integral high-energy surge suppression and provides unprecedented lightning immunity because there are no connections to electrical ground.

THE COMPACT SIZE OF THE RMU3 ALLOWS EASY INSTALLATION IN TYPICALLY UNDER AN HOUR

The RMU3 monitors and transmits nine channels of information – four high accuracy, galvanically isolated, AC/DC capable analog inputs are typically used to monitor volts, amps and/or 4-20mA signals from external equipment. An integral non-contact AC Line presence sensor can be used to determine if AC line voltage is present. An integral magnetic sensor can be used as a rectifier door sensor or tamper detection alarm. The RMU3 measures temperature and internal battery voltage and a user accessible switch can be configured to record site visit information. An optional “Measurement Recorder” captures analog readings every 6 hours and can store approximately 8 years of readings depending on your configuration.

ADVANTAGES OF CORTALK RMU3

- Compact, weatherproof devices are designed to be quickly and easily installed in existing rectifier cabinets or test stations.
- Available with satellite or cellular communications for maximum service coverage.
- Superior lightning and surge protection.
- Highly accurate and reliable data collection and GPS-synchronized interruption.
- Fast, simple configuration via PC, iOS or Android app.



When combined with CorView web analytics platform, pipeline operators can use a network of RMU3 devices to instantly evaluate overall CP performance, identify areas of concern and remotely manage interruption activities.

The CorTalk RMU3 empowers pipeline operations to improve safety, lower costs, and more effectively protect their critical infrastructure assets.

RMU3-B (4 ANALOG INPUT CHANNELS BASE UNIT)

ENVIRONMENTAL:

Operating Temperature	-40° to +70° C (-40° to +158° F)
Storage Temperature	-45° to +80° C (-49° to +176° F)
Humidity	0 to 100% RH non-condensing
Pollution Degree	1
Maximum Altitude	5000 meters above sea level

RELAYS:

Relay drive current	0.75 Amps maximum
Relay contact close dwell	0-100 ms
Relay contact open dwell	0-100 ms
Relay contact type	NO or NC
Relay type	Solid state or mechanical

POWER:

PWR IN Operating voltage range	5 VA maximum
Power (less relay drive)	5 VA maximum (Including RMU3-G/S)
Power (with relay drive)	25 VA maximum (Including RMU3-G/S)
Power Source	LPS or Class 2 CSA/UL approved (CSA 60950-1 or UL 60650-1)

PHYSICAL:

Size	135mm x 38mm x 38mm (5.3” x 1.5” x 1.5”)
Weight	200 grams (7 oz)
Enclosure	UV stable, wide temperature polycarbonate
Mounting	Mounted inside a rectifier

PERFORMANCE:

Analog Measurement Type	Category 2 (as per CSA C22.2 – 61010)
Analog Ranges (DC & AC)	+/- 150mVDC only +/- 22VDC, 16V true RMS, +/-22Vpeak +/-150VDC(+/- 119VDC for TEG sources), 105V true RMS, +/-150Vpeak 4-20mA (with external precision shunt resistor)
AC Rejection on DC Readings	>65dB @ 50/60Hz
External Analog Channels	4 galvanically isolated, high impedance
Lightning Immunity (over operational temperature)	Survives multiple 30KV surges
DC Measurement Accuracy (over operational temperature)	+/- 0.5% of full-scale
AC Measurement Accuracy	+/- 1.0% of full-scale
ADC Resolution	16 bits
Temp. Measurement Accuracy	+/-4° C (+/-7° F)
Door / Tamper Switch	Activated by external magnet (included with device kit)



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RMU3X-B (44 ANALOG INPUT CHANNELS BASE UNIT)

ENVIRONMENTAL:

Operating Temperature	-40° to +70° C (-40° to +158° F)
Storage temperature range	-45° to +80° C (-49° to +176° F)
Humidity	0 to 100% RH non-condensing
Pollution Degree	1
Maximum Altitude	5000 meters above sea level

RELAYS:

Relay drive voltage	12 volts DC (Pwr In – 1VDC)
Relay drive current	0.75 Amps maximum
Relay contact close dwell	0-100 ms
Relay contact open dwell	0-100 ms
Relay contact type	NO or NC
Relay type	Solid state or mechanical

POWER:

Power (less relay drive)	5 VA maximum (Including RMU3-G/S)
Power (with relay drive)	25 VA maximum (Including RMU3-G/S)
Power Source	LPS or Class 2 CSA/UL approved (CSA 60950-1 or UL 60650-1)

PHYSICAL:

Size	135mm x 38mm x 38mm (5.3" x 1.5" x 1.5")
Weight	200 grams (7 oz)
Enclosure	UV stable, wide temperature polycarbonate
Mounting	Mounted inside a rectifier
PWR IN Operating voltage range	5 VA maximum

PERFORMANCE:

Analog Measurement Type	Category 2 (as per CSA C22.2 – 61010)
Analog Ranges (DC & AC)	+/- 150mVDC only +/- 22VDC, 16V true RMS, +/-22Vpeak +/-150VDC(+/- 119VDC for TEG sources), 105V true RMS, +/-150Vpeak 4-20mA (with external precision shunt resistor)
AC Rejection on DC Readings	>65dB @ 50/60Hz
External Analog Channels	4 galvanically isolated, high impedance
Lightning Immunity	Survives multiple 30KV surges
DC Measurement Accuracy	+/- 0.5% of full-scale
AC Measurement Accuracy	+/- 1.0% of full-scale
ADC Resolution	16 bits
Temp. Measurement Accuracy	+/-4° C (+/-7° F)
Door / Tamper Switch	Activated by external magnet (included with device kit)



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MUX3 (4 BASE MULTIPLEXER UNIT)

ENVIRONMENTAL:

Operating Temperature	-40° to +70° C (-40° to +158° F)
Storage temperature range	-45° to +80° C (-49° to +176° F)
Humidity	0 to 100% RH non-condensing
Pollution Degree	1
Maximum Altitude	5000 meters above sea level

POWER:

Operating voltage range	8.5VDC nominal, supplied from RMU3-B
Power	0.225W maximum (internal consumption only, antenna port feed extra)
Antenna Feed	Pass-through from summed RMU3-B ports

PHYSICAL:

Size	94mm x 59mm x 48mm (3.7" x 2.32" x 1.89")
Weight	130 grams (4.6 ozs)
Enclosure	Watertight, UV stable, wide temperature polycarbonate
Mounting	Type 3 Enclosure - Suitable for outdoor use



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RMU3-S GPS & SATELLITE (ANTENNA UNIT)

ENVIRONMENTAL:

Operating Temperature	-40° to +70° C (-40° to +158° F)
Storage temperature range	-45° to +80° C (-49° to +176° F)
Humidity	0 to 100% RH non-condensing
Pollution Degree	2
Mounting	Type 3 Enclosure - Suitable for outdoor use

PROCESSING CORE:

CPU	72MHz ARM Cortex-M3 Core
Memory	1MB Flash, 64KB RAM, 8KB EEPROM

PHYSICAL:

Size	53mm x 77mm x 134mm (2.1" x 3.0" x 5.3")
Weight	550 grams (1.2lb)
Enclosure	Watertight, UV stable, wide temperature polycarbonate
Backup Battery	Internal 4V/2.8AHr extended temperature sealed lead acid

COMMUNICATION:

Radio	Iridium SBD satellite
GPS Receiver	Internal 20 channel
GPS Antenna	Internal patch
Timing accuracy	+/-0.5 ms (AC line sync disabled)
+8.8/-0.5 ms (AC line sync enabled)	>65dB @ 50/60Hz
Off Time	100 – 60,000ms in 1ms steps
Cycle Time	200 – 60,000ms in 1ms steps

POWER:

Operating voltage range	8.5VDC nominal, supplied from RMU3-B
Power	4W maximum





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RMU3-G GPS & GSM CELLULAR (ANTENNA UNIT)

ENVIRONMENTAL:

Operating Temperature	-40° to +70° C (-40° to +158° F)
Storage temperature range	-45° to +80° C (-49° to +176° F)
Humidity	0 to 100% RH non-condensing
Pollution Degree	2
Mounting	Type 3 Enclosure - Suitable for outdoor use

GPS:

GPS Receiver	Internal 20 channel (2G Model) Internal 56 channel (4G Model) Internal 72 channel (LTE Model)
GPS Antenna	Internal patch
Timing accuracy	+/-0.5 ms (AC line sync disabled)
+8.8/-0.5 ms (AC line sync enabled)	+/-4° C (+/-7° F) over -40° to +60° C (-40° to +140° F)
Off Time	100 – 60,000ms in 1ms steps
Cycle Time	200 – 60,000ms in 1ms steps

PROCESSING CORE:

CPU	72MHz ARM Cortex-M3 Core
Memory	1MB Flash, 64KB RAM, 8KB EEPROM

Authorized Reseller

PHYSICAL:

Weight	550 grams (1.2lb)
Enclosure	Watertight, UV stable, wide temperature polycarbonate
Backup Battery	Internal 4V/2.8AHr extended temperature sealed lead acid

COMMUNICATIONS:

Radio	Dual-band UMTS+ (850/1900MHz) and Penta-band LTE (850/1900/B4/B12/B13) (LTE Model)

POWER:

Operating voltage range	8.5VDC nominal, supplied from RMU3-B
Power	4W maximum
Size	53mm x 77mm x 134mm (2.1" x 3.0" x 5.3")





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CLOUD PLATFORM



MOBILTEX CORVIEW:

POWERFUL VISUALIZATION AND CONTROL — IN ONE PLATFORM

CorView delivers powerful, secure two-way communication capabilities, data storage and reporting for the entire range of MOBILTEX CorTalk remote monitoring devices.

- **INTUITIVE INTERFACE DESIGNED FOR EASE-OF-USE**
  The CorView platform is designed for simplicity. Its thoughtfully engineered UI enables key personnel to quickly and easily access the data repository, reporting functions and remote RMU controls with virtually no training.
- **ACCESS ANYWHERE, WITH ANY WEB-ENABLED DEVICE**
  All data that is transmitted from the RMU devices is stored in the secure MOBILTEX multi-tenant global database and can be accessed from any location, providing users instant, comprehensive access to all performance data and activities.
- **CREATE DETAILED REPORTS, GRAPHS AND MAPS**
  Technicians and managers can easily view and download measurement data, create trending graphs and generate reports. CorView also displays easy-to-read maps that provide near real-time display of system status so technicians can see where CorTalk devices are operating normally, performing interruption activities or experiencing alarm conditions.
- **REMOTELY CONTROL AND UPDATE IN-FIELD DEVICES**
  CorView's robust cellular or satellite communication capabilities enable two-way communication with most RMU devices to remotely modify device configurations and to apply software updates and eliminate the need for time-consuming manual system updates.
- **NO I.T. OVERHEAD**
  The CorView web-based platform is entirely supported by MOBILTEX with automatic updates and enhancements - no updates ever required! AWS [Amazon Web Services] delivers enterprise grade security, scalablity, and performance.

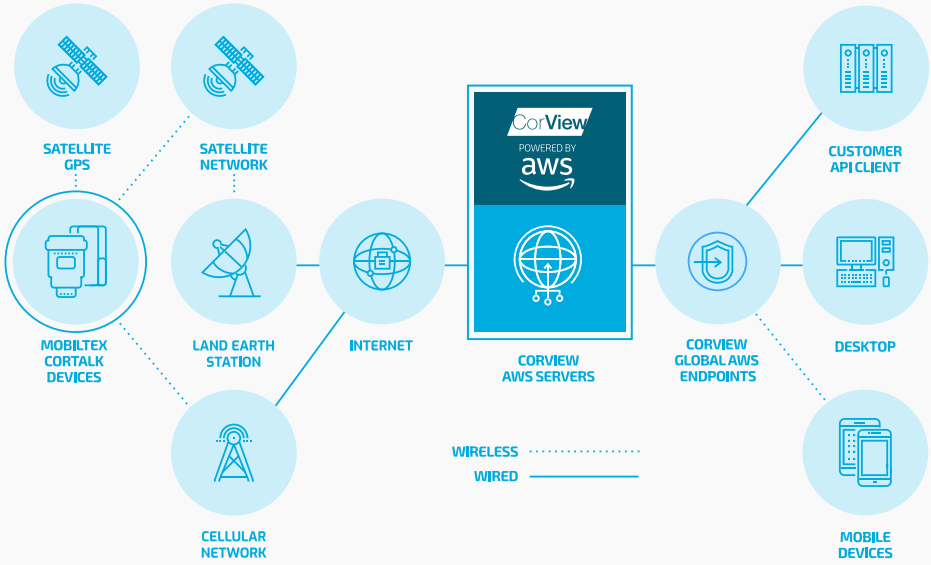
AICPA SOC
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SOC for Service Organizations | Service Organizations

CLOUD ACCESS

01 **DATA ACQUISITION, SECURITY & CONTROL**

02 **VISUALIZATION & ANALYSIS**

03 **REPORTING, ALARMS & COLLABORATION**



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ABOUT MOBILTEX®

At MOBILTEX, technology is just the beginning. We've been leading the industry in cathodic protection monitoring for corrosion prevention on over three hundred thousand of miles of pipelines throughout North America and around the world. That's why pipeline and corrosion engineers across all industries have come to rely on us.

With our innovative engineering, design and manufacturing, we've created dependable IIoT technology that's built smart, built tough, and built to last. Our success comes from thinking like our customers and we always engineer to effectively solve your unique challenges. We're proud to say we've proven our technology in the harshest, most challenging of environments — time and time again.

But it doesn't stop there, every one of our solutions is backed by our industry leading customer service and support team that's ready to take you from product selection, to the initial set-up, through to our ongoing support.

THIS IS MOBILTEX.
WE'RE THERE.

35+ YEARS
OF MONITORING INNOVATION

300K MILES
OF PIPELINE MONITORED

~200
MAJOR ORGANIZATIONS ASSETS PROTECTED

ONEOK · KINDER MORGAN · BHE TRANSMISSION · national gas · Williams · ExxonMobil · bp · ENBRIDGE · MARATHON · Shell · TC Energy



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