



GenTM5 Riva Meter

The Gen5 Riva Meter combines robust singlephase electric smart metering functionality with innovative distributed intelligence (DI) edge computing capability on Itron's Gen5 industrial IoT (IIoT) network. This unique feature enables a new approach to AMI, consumer engagement, grid operations, smart city applications and more – from every single meter.

In addition to providing full smart meter functionality, each Gen5 Riva Meter is embedded with robust DI capability that processes and analyzes data in real time at the edge to provide insights to more accurately control and manage the grid. Harness a unified, intelligently connected network platform with DI to unlock new applications in smart energy, water and communities.

Itron's DI platform utilizes an app store model, similar to a smart phone. This ensures rapid, continuous innovation, choice, and new value across a broad ecosystem of apps from multiple vendors. This model offers significant ROI improvements along with the ability to easily add additional smart utility and city use cases as business needs evolve.

FEATURES AND BENEFITS

Flexible Two-Way Communications

- » Execute all supported meter reading, configuration update and firmware download functionality
- » Customize targeted meter firmware updates
- » Support on-demand readings from the meter
- » Bi-directional Distributed Intelligence applications

Upgradable Firmware

- » Customize firmware upgrades with the ability to automatically roll-back if activation fails
- » Create multiple firmware images including primary and pending

Bi-Directional Metering

- » Store received and delivered data metrics in the meter
- » Support customers who own renewable energy facilities or participate in vehicle to grid systems with real-time data being sent back to the utility

FEATURES AND BENEFITS CONTINUED

Energy Quantities

- » Watt hours (Wh): delivered, received, unidirectional, net
- » Volt-ampere hours (VAh): delivered, received, net
- » Volt-ampere reactive (VARh): delivered, received, net, Q1, Q2, Q3, Q4

Automated Meter Reading

- » Receive and transmit meter billing data including interval data, register reads
- » Transmit recorded events and exceptions with each interval to the head-end software, which interprets them and logs appropriate messages (such as time adjustments)

Demand Measurement

- » Max Watts Delivered, Received, Net, and Uni-directional
- » Max VA Delivered, Received
- » Max VAR Delivered, Received, Net, Q1, Q2, Q3, Q4
- » Min Power Factor Delivered, Received

Real-Time Meter Event and Alarm Retrieval

- » Automated alarms received by the head-end system via e-mail to a specific user or group of users
- » Automated data and alarms deliverable from DI applications

Remote Disconnect/Reconnect

- » Support integrated disconnect switch
- » Perform remote disconnects/reconnects through the system

Integration & Installation

- » Fully integrated solution under-the-cover allows for plug and play installation in the field
- » Shipped from the factory as one complete unit, ready for field deployment

Technical Data

Meets applicable standards:

- » ANSI C12.1 – 2008 (American National Standard for Electricity Meters – Code for Electricity Metering)
- » ANSI C12.20 – 2010 (American National Standard for Electricity Meters – 0.2 and 0.5 Accuracy Classes)
- » ANSI/IEEE C62.45 – 2002 (Guide to Surge Testing on Low-Voltage AC Power Circuits)
- » ANSI MH 10.8 – 2005 Specification for Bar Code
- » ANSI ASQZ 1.4 – 2008 Sampling Procedures and Tables for Inspection by Attributes
- » IEC 61000-4-2 2008
- » IEC 61000-4-4 2012
- » IEEE C37.90.1 – 2004 SWC Surge Testing
- » IEEE C62.45 Recommended Practice on Surge Testing for Equipment Connected to Low Voltage (1000V or less) AC Power Circuits C62.45 2002
- » NEMA SG-AMI 1 – 2009 Requirements for AMI Meter Upgradeability
- » UL 2735

Radio Specifications

- » Radio Output Power: 1W

Profiles

- » Supports three independent profiles:
 - Load Profile – 16 channels and programmable to support 5, 10, 15, 30 or 60-minute intervals
 - Instrumentation Profile – 16 channels and programmable to support 5, 10, 15, 30 or 60-minute intervals
 - Voltage Profile – 16 channels and programmable to support 5, 10, 15, 30 or 60-minute intervals

Distributed Intelligence Data

- » Voltage and current waveforms
- » Sub-second RMS voltages and currents
- » Per second directional per phase Wh,

VARh

- » Per second directional per phase W, VAR
- » Per second per phase VAh, VA
- » Per second temperature

Time of Use

- » 8 rates plus Total
 - 25-year DST calendar
 - 50 Holidays/Special days

Arc Detection

- » Meters support the ability to detect micro-arcing at the meter socket

Power Outage Notification (PON)

- » Standard – 25 second hold up (10 second momentary filter + 15 second transmit window). Meter transmits only its own PONs during 15s window.
- » Extended Last Gasp – 75 second hold up (60 second momentary filter + 15 second receive/transmit window). Meter transmits its own PON and receives/transmits neighboring PONs during 15s window.

Product Availability

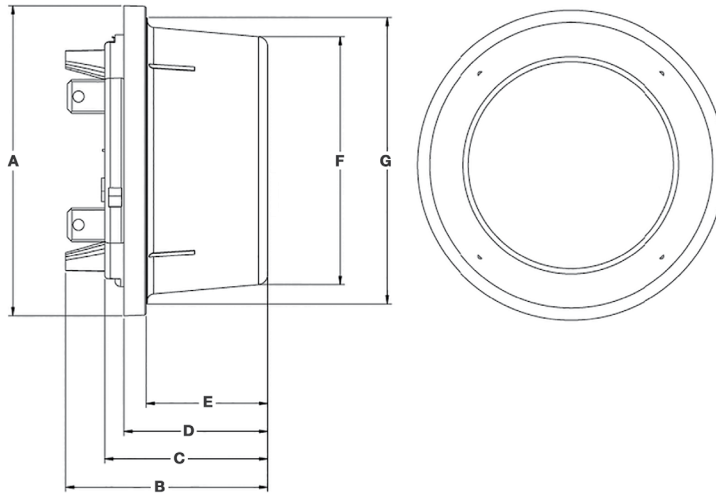
Meter Form	Volt Service	Meter Class	Test Amps	Register Description
1S	120v	200	30	Gen5 RF with or without Disconnect
2S	240v	200	30	Gen5 RF with or without Disconnect
12S	120v	200	30	Gen5 RF with or without Disconnect
25S	120v	200	30	Gen5 RF with or without Disconnect
2S	240v	320	50	Gen5 RF without Disconnect
12S	120v	320	50	Gen5 RF without Disconnect
25S	120v	320	50	Gen5 RF without Disconnect

Specifications

Power Requirements	Voltage Rating: 120V, 240V Operating Voltage: $\pm 20\%$ (60Hz) Frequency: 60Hz ($\pm 3\text{Hz}$) Battery Voltage: 3.6 V nominal
Operating Environment	Temperature: -40° to +85°C Humidity: 0% to 95% relative humidity
Transient/Surge Suppression	IEC 61000-4-4-2004-07 ANSI C62.45-2002
Accuracy	ANSI C12.20 0.5 accuracy class
General	Energy calculation: Bi-directional (Wh, VAh, VARh and VARh Q1-Q4)
Time Reference When Off Network	Network sync: Network time Line sync: Power line frequency Crystal sync
Display	Eight-digit liquid crystal display Six-digit data height: 10.16 mm Annunciator height: 2.24 mm Display duration: 1-15 seconds Two-digit code number height: 6.01 mm Four-segment electronic load emulator
Operating System	Linux
IP Rating	54

Dimensions

A	B	C	D	E	F	G
6.95"	5.27"	4.34"	3.97"	3.47"	5.68"	6.30"
17.66 cm	13.39 cm	11.02 cm	10.08 cm	8.82 cm	14.43 cm	16 cm



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