Gen™5 Riva IEC Singlephase Electricity Meter

The next generation AMI Meter combines robust electric smart metering functionality with a more powerful version of the innovative distributed intelligence (DI) edge computing capability that can run on Itron's Gen5 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 AMI Meter is embedded with robust DI capability that processes and analyzes high-speed real-time data-at the edge to provide insights to control and manage the grid more accurately. 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 creates 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 with UIQ (UtilityIQ)

» Customize targeted meter firmware updates

» Support on-demand readings from the meter

» Bi-directional Distributed Intelligence applications

» Support SensorIQ software suites for high frequency data streams.

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

» Transmit data securely with in-built WiFi capability for in home and local device communications

SPECIFICATIONS

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:

» 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

» NMI M6

» ACMA

Radio Specifications

» Configured at time of manufacture (software controlled within ranges): 915 – 928MHz

Frequency Ranges

» Radio Output Power: EIRP@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

Power Outage Notification (PON)

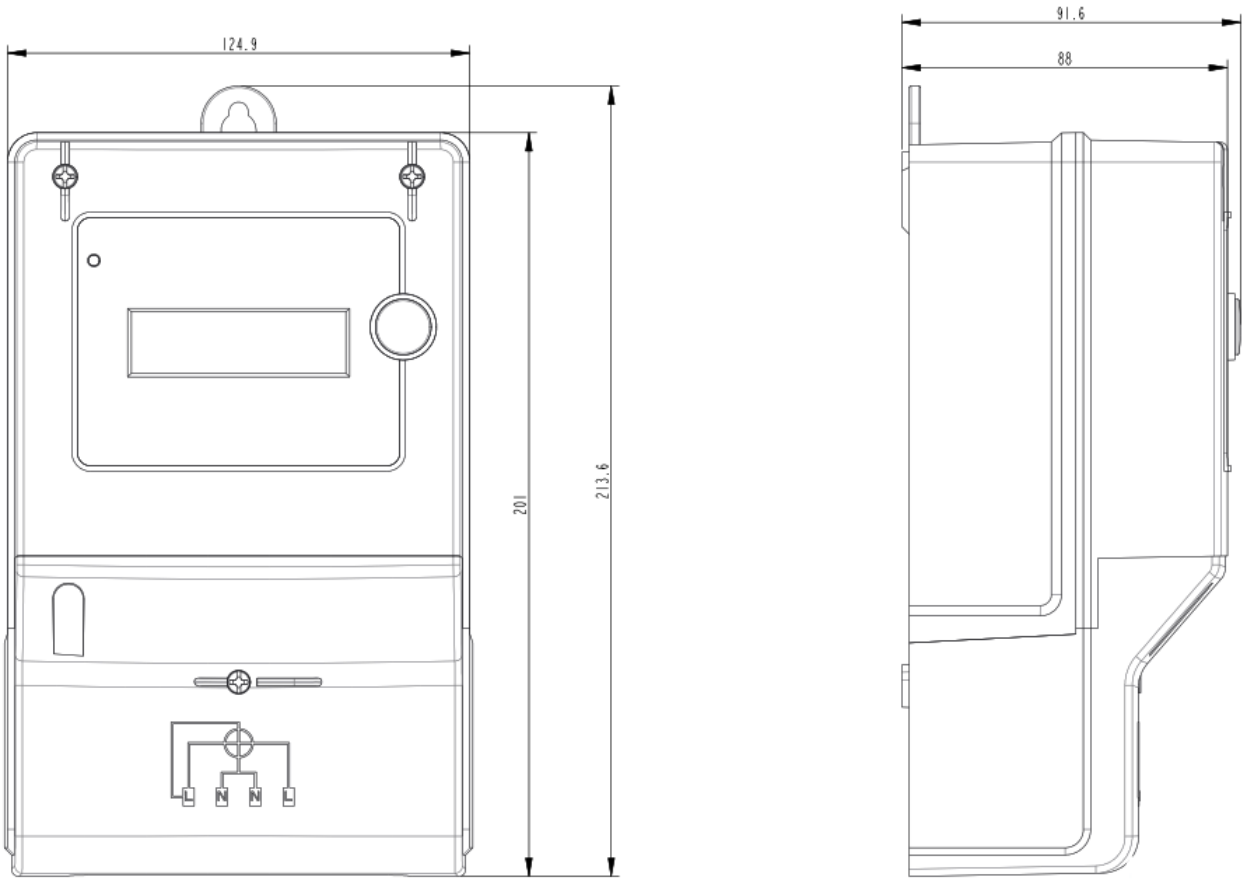
» Standard – 25 second hold up (10 second momentary filter + 15 second transmit window). Meter transmits only its own PONs during 15s window.

» 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

Specifications

Metrology	
Network Connection	1-Phase 2-Wire, BS 5685 (symmetric connection)
Accuracy	Active Class 1(IEC), Class B (MID), Reactive Class 2 IEC 62053-23
Voltage Operation	-20% to +15% Un (220 230 240 V)
Current Range	5(100)A , Ibase: 5A , Imax: 100A (Integrated Contactor) Contactor (switch) with 7000 Amps short time over current
Frequency	50Hz +/- 5%
Environment	
Temperature Range	Operating range: -40°C to +70°C Storage and transport: -40°C to +85°C
Immunity to impulse voltage	0.5J +/- 0.05J @ 6kV (EN50470-1) & 9J @ 12kV (SP1618)
IP Protection Class	IP 54 (EN 60529)
Immunity to magnetic fields	Standards: AC field 0.5mT according to IEC62053 - 21 (400AT coil), AAC field according to VDN (1000AT) DC magnetic field: 1.2T magnet applied to all face of the meter except the rear of the meter.
Mechanical	
Terminals (Direct Connect)	8.2mm (up to 25mm2 cross-section cable)
Dimensions	Singe Phase Meter - Width: 124.9mm, Depth: 91.6mm, Height (with terminal cover): 213.6mm
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
Operation	
Operating System	Linux
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

Dimensions (in mm)



ITRON AUSTRALIA PTY LTD
Level 2, Suite 2.02
10 Barrack Street
Sydney NSW 2000 - Australia
Phone: +61 2 8235 5700
Fax: +61 2 8235 5799