

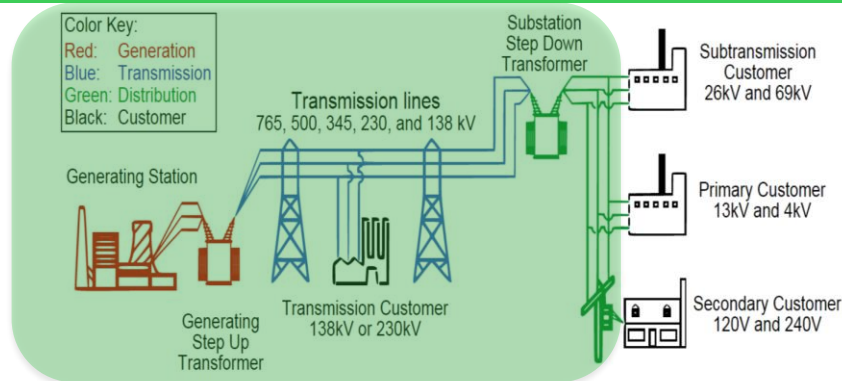
# Utility Metering Update PLUG 2018



## Revenue, Power Quality . . . More than a Meter



Sandra Pedro  
Global Offer Manager



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Electric

# Schneider Electric Canada Meter Range

Cost Performance  
Network Performance  
Asset Performance

Functionality



Retrofit	Multi-Circuit	Basic	Intermediate	Advanced / Utility
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- Simple energy and power measurement
- Sub metering for cost allocation and analysis

- Compact power measurement with revenue-grade accuracy\*
- Sub metering for multi-user environments

- High-end cost management, simple network management
- Sub metering and feeders

- Network management and power quality
- Critical loads

- Advanced Power Quality event detection
- Feeders, mains and critical loads

# Global Market Trends in the Utility Metering

## INFLUENCING FACTORS (Market Trends and Dynamics)



### MARKET DRIVERS:

- Increasing demand for quality power
- Utilities looking towards enhancing their distribution efficiency
- High economic growth & industrialization
- Refurbishment of old & aging distribution infrastructure

### MARKET RESTRAINTS:

- Lack of consumer awareness
- Higher installation cost

### MARKET OPPORTUNITIES:

- Increasing government initiatives in the emerging economies

### CHALLENGES:

- Lack of skilled labor
- Increasing competition with low-quality and cheap products from the gray market

### INDUSTRY TRENDS:

- Threat of new entry is low due to
- High entry barriers
  - High product cost

### CONTRACTS & AGREEMENTS:

28% deals in the past 3 years by top players

- **NEW PRODUCT DEVELOPMENTS:** Around 5 new product developments in the past 3 years

### REGION-WISE ANALYSIS

# Grid Metering

Power Quality and Revenue Metering (fully customizable)



## Compliance and Dependable Power

Ensure that the quality of power delivered to **sensitive loads** (data centers, continuous process industries, semi-conductor fabs) is adequate and not contributing to **nuisance tripping**. Regulator requires compliance reporting.

## Revenue Billing

**Highly accurate** meters with support for multiple time of use rates, and loss compensation on board minimizes disputes and **maximizing revenue**.

## Generation

**Smart functions in the meter** such as transformer Loss compensation and **power quality monitoring** ensure accurate measurement of generated power put on the grid

## Demand management & response

Accurate understanding of the loading on the grid allows more **dynamic supply and demand balancing**. 24/7 power quality analysis and **smart functions such as DDD** assists in identifying direction of disturbances minimizing **unplanned downtime**.

## Large Industry

Large industry: MMM, Oil & Gas requiring **management of multiple energy sources** (generators, renewables, utility); validation of energy costs and redistribution in facilities as well a **power quality**.

# Current Firmware

V421 IESO & MC approved

- 004.021.000 AE-1922 Rev. 3
- Edit missed in Approval AE-1922 Rev. 2 corrected (MAL E465)
  - Legally relevant software version V004.021.000 was included.
  - The identification for version 8650v420 (Rev.2) was corrected.



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# Firmware Updates

V430 globally release June 2018

- 004.030.000
- Support Cell Modem hardware option S1
  - Verizon 4G LTE
  - Support Cell Modem activation while roaming, programable APN & support time synch over cell
- IEC61000-4-30 Ed 3 class A & S
  - Power Quality Measurement methods
  - Rapid Voltage Changes (RVC)
  - Current Measurements.
- IEC62586-2 Ed 2 (2017)
  - Functional Test & uncertainty



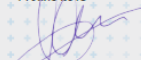
## Certificate of Conformity

Number CoC-1901767-01  
Project number 1901767  
Page 1 of 3

Issued by	: NMI Certin B.V. Hugo de Grootplein 1 314 EG Dordrecht The Netherlands
Applicant	: Schneider Electric dba Power Measurement Ltd. 2195 Keating Cross Road Saanichton, BC V8M 2A5 Canada
Submitted	: <b>A meter embedding IEC 61000-4-30 class A Power Quality functions</b> Manufacturer : Schneider Electric Type : PowerLogic ION8650
Characteristics	: See page 2 and further
In accordance with	: <b>IEC 61000-4-30 Ed. 3 (2015)</b> "Electromagnetic Compatibility (EMC) – Part 4-30: Testing and measurement techniques – Power quality measurement methods" <b>IEC 62586-2 Ed. 2 (2017)</b> "Power quality measurement in power supply systems - Part 2: Functional tests and uncertainty requirements"
Measurement class	: IEC 61000-4-30 class A and S

The undersigned declares that the described product is tested according to the above mentioned standard and meet their requirements, based on a non-recurrent examination. The appertaining test data is presented in type evaluation report number NMI-1901767-01, NMI-1901767-02 and NMI-1901767-03, granted by NMI Certin B.V.

NMI Certin B.V.  
14 June 2018

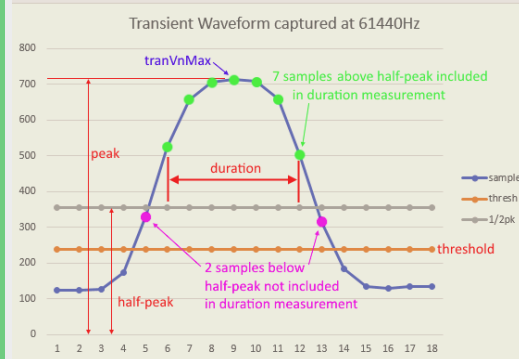
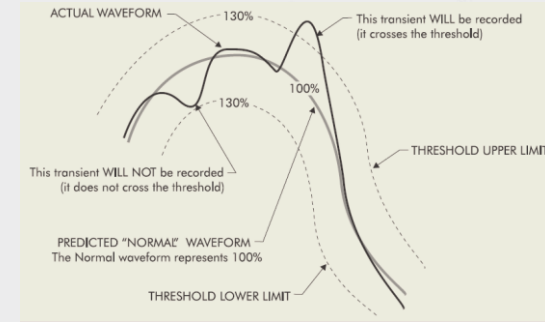
  
C. Oosterman  
Head Certification Board

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# Firmware Updates

V431 end of October 2018

- 004.031.000 (to be submitted to MC)
- Support Outage Notification Hardware option D
  - (JSON over ethernet for up to 2 mins after an outage)
- Support HTTPS & DNS
- Configure Alert Module to JSON push notification over Ethernet
- Robust communications
  - DNP 3.0 (timeout now configurable from 8 mins)
  - ICMP redirect will no longer allow IPs outside of the programmed range in modem applications
  - Comms memory allocation corrected
- New Transient detection Mode
  - User configurable Absolute thresholds now available (setup register “detection mode”)



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# ION7400 Utility Feeder Meter – offer structure

Compact, 3-phase, multifunction energy and power quality compliance meters ideally suited for utility feeder applications

## ION74003 (METSEION74003)



Measurement  
Canada

Mesures  
Canada

- Class 0.2S meter, dual Ethernet, ION technology, extendable IO, Power quality features, panel mount with Integrated display (optical port, energy pulse LEDs, USB) **Shipped Not Sealed**

## ION74004 (METSEION74004)

- Class 0.2S meter, dual Ethernet, ION technology, extendable IO, Power quality features, panel mount with Integrated display (optical port, energy pulse LEDs, USB) **Shipped Sealed**

## PM89RD96 (METSEPM89RD96)

- **Colour** remote display – **Not MC approved**

## ION7403 (METSEION7403)

- Class 0.2S meter, dual Ethernet, load profile, ION technology, extendable IO, Power quality features, DIN rail mount **with no display** – **Not MC approved**

## PM89M0024 (METSEPM89M0024)

- Field installable I/O module with 4 analogue inputs and 2 analogue outputs

## PM89M2600 (METSEPM89M2600)

- Field installable I/O module with 6 self-wetted digital inputs and 2 Form-C relay outputs



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# New Firmware V1.4.3

## Firmware 001.004.003

- IPv6
- DHCP for IPv4 & IPv6
- DNS support
- Cyber Security enhancements
  - Syslog, Event log enhancements, comm port enable/disable, TCP/IP user configurable port numbering
  - Comms user permissions, 50 users
- Waveform viewing in web page
- Remove 10MB logging limit
- DLMS protocol
- Real-time clock temperature compensation
- Time quality flag for GPS input

## Hardware (Q1 2018)

- Extend standard DC control power (110Vdc)



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# Measurement Canada

## 10 year MC seal

- Jim Passmore looking for ~ 250 samples for testing

## Fundamental Metering

- Staying close to MC movement via CEA – Metering Task Group
- MC expect to be ready to test Meters by Mid-2019.
- Expect this to launch a completely new NoA for the ION8650



Measurement  
Canada

An Agency of  
Industry Canada

Mesures  
Canada

Un organisme  
d'Industrie Canada



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# Thank You



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