# PM2000 series EASY CHOICE METER



PM2000 LCD Display



PM2000 LCD Display



Analogue IO module



Digital IO module

**Essential measuremenfs:** collect the parameters you need with a single meter — voltage, current, power, demand, energy (active, reactive, apparent), THD and harmonics, % unbalance, active load timer, meter operation timer, run hours.

THD & Individual harmonics up to 15th or 31st: accurate harmonics monitoring under varied operating conditions helps determine harmonic contents and causes.

**Min/max values with date/time stamp:** time stamps on commonly-viewed instantaneous parameters (V L-L, V L-N, Amps, W, VA, VAR, PF, Hz) help analyse the electrical network and pinpoint abnormalities.

**Rate counters:** two configurable rate counters for custom use (e.g.measure kgCO2/kWh or tariff rate based on the energy consumption).

**Data logging:** choose up to two parameters from a selection of six energy, three power, and three demand parameters at user-defined intervals, up to 60 days at 15 minute intervals.

**Exfended voltage range:** Direct connection up to 600 V L-L without voltage transformers.

## **Software integration**

The meter easily integrates with utility SCADA, building management systems, plus a wide range of power and energy information software.

Choose **StruxureWare Power Monitoring Expert** software to maximize all the meter's advanced features. Real-time data and data logs stored on board can be automatically retrieved on a scheduled basis for analysis at the system level.

### EASY CHOICE METER: PM2000, DM6000H, GENERATOR METER

**Applications** 

- Energy management
- Harmonic monitoring
- Monitor and control ACB, MCCB

Ứng dụng

- Quản lý điện năng
- Giám sát sóng hài
- Giám sát và điều khiển ACB, MCCB

### Unit priee (inel.VAT) in VND

Child phase (mon. v. r.) in vivis		
Description	Reference	Unit Price
Multi Meter LED Display, Class 1	METSEPM2110	7.458.000
Multi Meter LED Display, Class 1, Modbus, Analyze harmonic up to level 15 <sup>th</sup>	METSEPM2120	8.382.000
Multi Meter LED Display, Class 0.5S, Modbus, Analyze harmonic up to level 31 <sup>st</sup>	METSEPM2130	10.543.500
Multi Meter LCD Display, Class 1	METSEPM2210	9.179.500
Multi Meter LCD Display, Class 1, Modbus, Analyze harmonic up to level 15 <sup>th</sup>	METSEPM2220	11.022.000
Multi Meter LCD Display, Class 0.5S, Modbus, Analyze harmonic up to level 31 <sup>st</sup>	METSEPM2230	12.738.000
2DI and 2DO module for PM2130, PM2230	METSEPM2KDGTLIO22	3.124.000
2Al and 2AO module for PM2130, PM2230	METSEPM2KANLGIO22	3.679.500
Multi Meter LED Display, VAF PF %Unbalance Timmer, Class 1	METSEDM6000HCL10NC	3.476.000
Multi Meter LED Display, VAF PF %Unbalance Timmer, Class1, Modbus	METSEDM6200HCL10RS	3.998.500
Generator Meter, Dual source, 6 C T inputs, Class 0.5, Modbus	METSEPM1130HCL05RS	5.439.500

	•	.0							
	•		0.5S						
	1.0								
	·/- 0,5%								
ent ent									
•									
ue PF cement PF+3	True PF	e PF ment PF							
	•								
urrent ltage <sup>+3</sup>	Current		urrent bltage						
d, Received , Last cleared <sup>+3</sup>	Delivered, Received, Total, Net		livered, Received Net , Last cleared*3						
Through com			•						
	•								
Up to 31st+3		Up to 15th	Up to 31st						
S-485	Pulse Output								
•	'		•						
•									
•			■.						
	•								
			1						
	S-485	S-485 Pulse Output	S-485 Pulse Output						

<sup>&</sup>lt;sup>+3</sup>Through communication only

<sup>\*</sup>SAny one IO module can be used at a time with PM2130 or PM2230 meter. The confrol power range with IO module shall be 90 to 300V AC L-N or DC

# PM5000 series MULTIPLE TARIFFS METER



Main Sereen



Harmonics sereen



Phasor sereen

Multiple tariffs: offer the most flexibility with billing structures, PM5300 meters have 4 tariffs, PM5560 meter have 8 tariffs. These meters can also used as a dual source meter.

Built-in digital input, output and relay for easy circuit breaker moniforing and control: The PM5300 provides two relay outputs with capability to command most of the circuit breaker coils directly. For Digital Inputs, monitored dry contact can be wired directly to the meter without external power supply.

**Harmoniecs:** measure individual harmonics up to 31st order for PM5300, and 63rd for PM5500.

### Data logging and internal memory

**PM5560:** 14 selectable parameters with configurable interval and duration (e.g. 6 parameters for 90 days @15 minute interval).

**PM5300:** 2 parameters (kWh and kVAh) with configurable interval and duration (e.g. 2 parameters for 60 days @ 15 minute interval).

Gommunication: Modbus TCP/IP and RS488.

**Exfended volfage range:** Direct connection up to 690 V L-L without voltage transformers.

# **Software integration**

The meter easily integrates with utility SCADA, building management systems, plus a wide range of power and energy information software.

Choose **StruxureWare Power Monitoring Expert** software to maximize all the meters advanced features. Real-time data and data logs sftored on board can be automatically retrieved on a scheduled basis for analysis at the system level.

### **Applications**

- Energy management with multiple tariffs
- Harmonic monitoring
- Monitor and control ACB, MCCB

### Ứng dụng

- Quản lý điện năng theo nhiều đơn giá
- Giám sát sóng hài
- Giám sát và điều khiển ACB, MCCB

### Unit price (incl.VAT) in VND

Description	Reference	Unit Price
Meter Class 0.5S, 4 tariff, 2DI/2DO, Modbus RS485,	METSEPM5310	17.880.500
Analyze Harmonic up to level 31 <sup>st</sup>		
Meter Class 0.5S, 4 tariff, 2DI/2DO, Modbus TCP/IP,	METSEPM5320	21.477.500
Analyze Harmonic up to level 31 <sup>st</sup>	METGET MIGGEG	21.177.500
Meter Class 0.5S, 4 tariff, 2DI/2DO/2Relay, Modbus	METSEPM5330	20.427.000
RS485, Analyze Harmonic up to level 31st	WEISEI WISSSO	20.427.000
Meter Class 0.5S, 4 tariff, 2DI/2DO/2Relay, Modbus	METSEPM5340	22.896.500
TCP/IP, Analyze Harmonic up to level 31st	WEISEI WISSAU	22.070.300
Meter Class 0.2S, 8 tariff, 4DI/2DO, Modbus TCP/IP	METSEPM5560	35.524.500
& RS485, Analyze Harmonic up to level 63 <sup>rd</sup>	WE I SEF WISSOU	33.324.300
Meter Class 0.2S, 8 tariff, 4DI/2DO, Modbus TCP/IP &	METSEPM5563RD	37.466.000
RS485, Analyze Harmonic up to level 63 <sup>rd</sup> , remote display	METSEPNISSOSKD	37.400.000
Meter Class 0.5S, 4DI/2DO, Modbus RS485	METSEPM5350	14.613.500
INICICI CIASS 0.33, 4DI/ZDO, MOUDUS N.3403	WILLOLI WISSSO	14.013.300

	PM:	5100		PM5530				
Features and Options	PM5100	PM5110	PM5310	PM5320	PM5330	PM5340	PM5560	PM5563
Installation								
Fast installation, panel mount with integrated display	-	-	-	•	-	•	•	-
Fast installation, DIN rail mountable	_	-	-	_	_	_	-	
Accuracy Display								
Display	CI 0.5	CI 0.5	CI 0.5	CI 0.5	CI 0.5	CI 0.5	CI 0.2	CI 0.2
Blacklit LCD,multingual, bar graphs, 6 lines, 4 concurrent values	•	•	•	•	•	•	•	•
Power and energy meterning								
3-phase voltage, current, power, demand, energy, frequency, power factor	•	-	-	•	•	•	•	-
Multi-tariff	-	-	4	4	4	4	8	8
Power quality analysis								
THD, thd, TDD	-	-	-	-	-	-	•	•
Harmonics, individual (odd) up to	15th	15th	31st	31st	31st	31st	63rd	63rd
I/Os and relays								
I/Os	1DO	1DO	2DI/2DO	2DI/2DO	2DI/2DO	2DI/2DO	4DI/2DO	4DI/2DO
Relays	0	0	0	0	2	2	0	0
Alarms and control								
Alarms	35	35	35	35	35	35	52	52
Set point response time, seconds	1	1	1	1	1	1	1	1
Single and multi-condition alarms	_	-	-	-	-	-	•	
Boolean alarm logic	-	-	-	-	-	-	•	•
Communications								
Serial ports with modbus protocol	-	1	1	_	1	_	1	1
Ethernet port with Modbus TCP protocol	-	-	-	1	-		2**	2**

<sup>\*\* 2</sup> Ethernet ports for daisy chain, one IP address.

# PM8000 series POWER QUALITY METER



Sumary page



Harmonic page



Alarm Notification by Email

Compliance reporting and power qualify analysis: Monitors and logs parameters in support of international power quality standards: IEC61000-4-30 Class S, IEC62586, EN50160.

### Onboard power quality reports via onboard web pages:

Basic event summary and pass/fail reports, such as EN50160 for power frequency, supply voltage magnitude, supply voltage dips, short and long interruptions, temporary over voltages, voltage unbalance and harmonic voltage.

Harmonic analysis: up to the 63rd harmonic.

Sag/swell detection and capture: current and voltage, alarm on disturbance event, waveform capture with per-event information.

Onboard data and event llogging:512MB of standard non-volatile memory. 10 MB of standard non-volatile memory dedicated to capture billing data, events, and waveforms.

Alarming: Alarm notification via email text message.

Flexible remote communications: Modbus, ION, DNP3, IEC61850, TCP/IP.

# **Software integration**

The meter easily integrates with ufility SCADA, building management systems, plus a wide range of power and energy information software. Choose StruxureWare Power Monitoring Expert software to maximize all the meter's advanced features. Real-time data and data logs s†ored on board can be automatically retrieved on a scheduled basis for analysis at the system level.

## **Applications**

- Harmonic, sag, swell monitoring
- Waveform capature
- Send alarm notification by email

# Ứng dụng

- Giám sát sóng hài, biến động điện áp
- Chụp ảnh dạng sóng
- Gửi cảnh báo bằng email

### Unit price (inel.VAT) in VND

Description	Reference	Unit Price
PM8000 Meter Class 0.2S, Analyze harmonic up to 63 <sup>rd</sup> level Memory 512MB, IEC61850, Sag/Swell/Waveform capture	METSEPM8240	118.387.500
PM8000 remote display, Analyze harmonic up to 63 <sup>rd</sup> level Memory 512MB, IEC61850, Sag/Swell/Waveform capture	METSEPM8244	121.704.000
PM8000 Digital I/O module (6DI & 2 relay)	METSEPM89M2600	23.699.500
PM8000 Analogue I/O module (4AI & 2AO)	METSEPM89M0024	32.708.500

General		
Use on LV and MV systems		
Current accuracy (5A Nomiinal)		0.1% reading
Voltage accuracy (57V LN/100V L	L to 400V LN/690V LL)	0.1% reading
Active energy accuracy		0.2%
Number of samples/cycle or samp	le frequency	256
Power quality measuremen	nts	
Harmonie distortion	Curreni and voltage	•
Individual harmonics	Via front panel and Web page	63
	Via StruxureWare software	127
Wafeform capture		•
Detection of voltage swells and sa	gs	•
Fast acquisition	1/2 cycle data	•
EN 50160 compliance checking		•
Customisable data outputs (using	logic and math function)	
Communication		
RS 485 port		1
Ethermet ports		2
Serial port (modbus, ION, DNP3)		•
Ethermet port (modbus/TCP, ION	TCP,DNP3 TCP, IEC 61850)	•



Meet the future of advanced power quality metering. Modular desipn, multiple mounting and communication options, and flexible Dropramminp pive the ION9000 the incredible adaptability needed for the IoT-enabled future. At 0 1S it exceeds even the most stringent accuracy standards, unlocking significant new enerpy savings for an innovative competitive edpe. Onboard web Dapes Drovide meaningful, actionable EN50160 and IEEE51 9 power quality compliance data. Smart power event analysis (with Ecostruxure Power Monitoring Expert) correlates facility-wide, system-level events for decisive power quality information and root cause analysis. More than a meter, the ION9000 is the exclusive Dowerhouse of critical power systems.

# Unprecedented accuracy

- 0.1S accuracy: third-party certified, for a new benchmark in high performance metering
- Ensures peak asset performance
- · Ready for any future accuracy requirements
- Unlocks significant new enerpy savings for a new competitive edpe
- Ideal for even the most demanding environments

# Modular, flexible, and adaptable

- Multiple mounting options: DIN and panel with adapter plate
- Additional communication options with large display: optical and USB
- Calibration pulses (large display): on meter body and front display
- Native plug-and-play support: for Ecostruxure<sup>™</sup> Power Monitoring Expert, Ecostruxure<sup>™</sup> Power SCADA Operation, ION Setup

# PowerLogic ION900series power quality meters



PowerLogic ION9000 series meters are ideal for low to high voltage applications in industrial or healthcare facilities, data centers, and utility networks

### UL and CE markings as per UL/IEC 61010-1 Ed-3

ISO/EHS/OHSAS certified manufacturing facility reinforces product quality and reliability. Independent lab reports available for CE/UL.

## Cyber secure

- Designed to align with your comprehensive grid cyber security policies
- When integrated within your security-driven architecture, the meter helbs minimize vulnerabilities to your critical power assets and systems, reinforcing your security strategies

# Onboard power quality analysis

- · Complies with recognized power quality monitoring standards: IECB1000-4-30 class A, IEC62586-1 / IEC628586-2, and verified by thirdparty lab certifications
- Connect via web browser for full PQ analysis, easy-to-read analysis according to EN50160 and IEEE519 standards
- Patented disturbance direction detection. extended waveform capture (1s pre-event data / 3s event data @1024 s/c) and high speed RMS data capture for in-depth analysis of any PQ disturbance in your electrical system

# Smart power event analysis

- · Powerful, system-level analysis engine provides meaningful, system-level power quality information, not just data
- Intelligently correlates facility-wide events
- Discovers root causes of any PQ event.
- Event correlation (based on time and type), waveform capture, disturbance direction detection

# ION programmability

- Legendary, patented ION technology allows tremendous flexibility
- Adapts easily to your power network as it becomes more dynamic, as new energy efficient devices are installed, or as new regulations are passed
- · Protects your infrastructure investment now and in the future



#### Green Premium eco-mark:

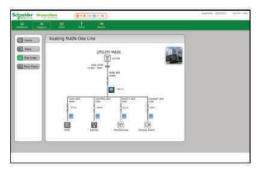
Confidently confirm and incorporate compliance slatus of our products into your environmental policies. Schneider Electric commits to disclose reliable. comprehensive information on the environmerial impacts of our produects.



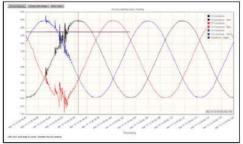
Click to learn more about the ION9000 series meters.

Let us help you simultaneously maximize power reliability, availability, and quality, as well as improve operational and cost efficiency for your entire enterprise with a fully integrated EcoStruxure ™ Power solution.

# **EcoStruxure Power Monitoring Expert**



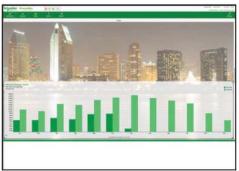
#### Real-time mornitoring.



View and analyze waveforms captured by devices.



Create trend plots and analyze historical data.



Dashboard



Different report templates

EcoStruxurePower Monitoring Expert is an operations-level supervisory software that provides a complete power management solution for industry, large commercial and institutional buildings, data centres, healthcare facilities, and utilities. Engineering and management personnel can cut energy-related coss, avoid downtime, and optimise equipment operations by using the information provided by **EcoStruxure Power Monitoring Expert.** 

EcoStruxure Power Monitoring Expert also enables tracking of real-time power conditions, analysis of power quality and reliability, and quick response to alarms to avoid critical situations. The software forms a layer of energy intelligence across your facility, campus or service area, acting as a unified interface to all electrical and piped utilities.

### Typical applications:

- Monitor the facility electrical network and verify reliable operation
- Improve response to power-related evenfs and resfore operations quickly
- Analyze and isolate the source of power quality problems
- Analyze energy use to identify waste and reduce cost
- Estimate utility bills to verify accuracy and identify errors
- Allocate energy cosfs to departments to drive accountability and awareness
- Reduce peak demand surcharges and power factor penalties
- Idenfity excess capacity in existing infrastructure and avoid over-building
- Support proactive maintenance to prolong asset life.

### Application for electric utilities:

- Improve Transmission & Disfribution nefwork reliability.
- Enhance substation automation
- Maximise the use of existing infrastructure
- Verify compliance with new power quality standards
- Analyse and isolate the source of power quality problems
- Help customers manage reliability using operational and power quality data.

### **EcoStruxure Power Monitoring Expert functions:**

- Data acquisition and integration
- Real-time monitoring
- Trend analysis
- Power quality analysis
- Alarms and events
- Reporting
- Dashboards
- Manual and automated control
- Patented ION® technology.

## Basic energy meters - Acti 9 iEM3000 Series Energy Meters

### The Acti 9 iEM3000 Energy Meter Series offers a cost-attractive, competitive range of

DIN rail-mounted energy meters ideal for sub-billing and cost allocation applications.

Combined with communication systems, like Smart Link, the Acfi 9 iEM3000 Series makes it easy to integrate electrical distribution measurements into customer's faoility management systems. Ifs the right energy meter at the right price for the right job.

Two versions are available: 63A direct measure (iEM3100 models) and curreni transformers associated meter (IEM3200 models).

For each range, eight versions are available to satisfy basic to advanoced applications:

- iEM3100/iEM3200: kWh meter with partial counter
- iEM3110/iEM3210: kWh meter with partial counter and pulse output. MID certified.
- iEM3115/iEM3215: multi-tariff meter controlled by digital input or intermal clock, MID certified.
- iEM3135/iEM3235: energy meter, four quadrant, multi-tariffs with partial counter and current, voltage, power measurement. M-Bus communication, digital I/O and MID certified.
- iEM3150/iEM3250: kWh meter with partial counter and current, voltage, power measurement. Modbus commnunication.
- iEM3155/iEM3256: energy meter, four quadrant, mulfi-tariffs with partial counter and current, voltage, power measurement. Modbus communication, digital /O, MID certified.
- iEM3165/iEM3265: energy meter, four quadrant, mulfi-tarifs with partial counfer and current, voltage, power measurement. BACnet communication, digital/O and MID certified.
- iEM3175/iEM3275: energy meter, four quadrant, mulfi-tariffs with partial counter and current, voltage, power measurement. LON communication, digital input and MID certified.

Function Guide		iEM3100	iEM3110	iEM3115	iEM3135	iEM3150	iEM3155	iEM3165	iEM3175	iEM3200	iEM3210	iEM3215	iEM3235	iEM3250	iEM3255	iEM3265	iEM3275
Direct measurement (up to 63A)		÷	÷	01	51	-	51	51	51	-	0	ОП	ОП	-	01	ы	ОП
Measurement inputs through CTs (1A, 5A)		1	_		_	_				-		-		-		-	
Measurement inputs through VTs													-				
Active energy measurements class (total & parlial kWh)													ā	Ē			ā
Four Quadrant Energy measurements																	
Electrical measuremert (I, V, P, etc)																	
Muti-tariff (internal clock)				4	4		4	4	4			4	4		4	4	4
Multi-tariff (external control)				4	2		2	2	2			4	2		2	2	2
Measurement display (number of lines)																	
Digital inputs	Programmable (tariff control or WAGES input)				1		1	1	1				1		1	1	1
	Tariff confrol only			2								2					
Digital ouputs.	Programmable kWh pulse or kW alarn)				1		1	1					1		1	1	
	kWh pulse only		1								1						
kW overload alarm																	
M-Bus																	
Modbus mm mm																	
BACnet																	
LON																	
MID ( legal metroloay cerfification)																	
Width (18 mm module in DIN Rail mounting)		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5





72 x72 Analog ammeter for standard feeder	•		
Meter model and description	Current measurement	Reference	Unit Price
iEM3100 basic energy meter	Direct connected 63 A	A9MEM3100	8.343.500
iEM3110 energy meter with pulse ouput	Direct connected 63 A	A9MEM3110	8.354.500
iEM3135 advanced multi-tarif energy meter	Direct connected 63A	A9MEM3135	10.395.000
& electrical parameter plus M-Bus comm port			
iEM3150 energy meter &electrical parameter	Direct connected 63A	A9MEM3150	9.234.500
plus Modbus RS485 comm port			
iEM3155 advanced multi-tariff energy meter &	Direct connected 63A	A9MEM3155	9.069.500
electrical parameter plus Modbus,/TP comm port			
iEM3165 advanced multi-tariff energy meter	Direct connected 63A	A9MEM3165	10.895.500
& electrical parameter plus Modbus,			
BACnet MS/TP comm port			
iEM3200 basic energy meter	Transformer connected 5A	A9MEM3200	6.897.000
iEM3210 energy meter with pulse output	Transformer connected 5A	A9MEM3210	7.386.500
iEM3235 advanced multi-tarif energy meter &	Transformer connected 5A	A9MEM3235	9.839.500
electrical parameter plus M-Bus comm port			
iEM3250 energy meter &electrical parameter	'Transformmer connected 5A	A9MEM3250	8.415.000
plus Modbus RS485 comm port			
iEM3255 advanced multi-tariff energy meter &	Transformer connected 5A	A9MEM3255	8.387.500
electrical parameter plus Modbus, / TP comm port			
iEM3265 advanced multi-tariff energy meter	Transformer connected 5A	A9MEM3265	10.054.000
& electrical parameter plus Modbus,			
BACnet MS/TP comm port			

