



ADTEK

Smart MiT, Easy Link



Power Meter Family Product Overview



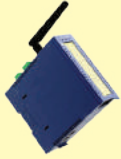
AD Product Overview



Communication Interface

NB-IoT   WiFi

Ethernet



AD-GW NEW
ADPower Series Gateway
(Modbus to Ethernet or WiFi)



(Built-in WiFi) **AD300-Plus** NEW
IoT-Gateway



AD520 NEW
IoT-Gateway



Energy management software



AD-SeeS NEW
IoT Platform
with EMS software, gateway and meters.



Signal Processing & Display

Power Meter - Panel

Advanced



CPM-80
Multifunction Power Analyzer



CPM-70
Multifunction Power Analyzer

Universal



CPM-20
Multifunction Power Meter



CPM-12
Multifunction Power Meter

Economic



CPM-10
Economic Multifunction Power Meter



CM1/ CM2/ CM3-VA
4 Digitals Voltage/Current Meter



CS1/ CS2/ CS3-VA
Digital Voltage/Current Meter

Power Meter - Panel - DC Type

5 Single-Phase
Loops / 1 (Main)
Circuit



AEM-DD
Multi-Loop DC power meter



VAW
Multifunction DC Power Meter

Process Meter - Panel



CM1 / CM2-PR
Process Meter



CS1/ CS2/ CS3
Industrial Process Meter
(Spin rate, Temperature, Weight.....)



Signal Measuring & Sensing

Power Meter - Din Rail

8 Three-Phase
Loops + 2 Main
Circuits



AEM-DRA
Multi-circuit Power Meter

5 Single-Phase
Loops / 1 (Main)
Circuit

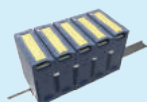


AEM-DR
Multi-Loop Power Meter

1 Loop for Single-
Phase or Three
Phases



CPM-12D **NEW**
Multifunction Power Meter



ADP-PM-A **NEW**
Multi-circuit Power Meter



US-CTV
Split Type Current Transformer (Folder snap)



US-CTS
Split Core Current Transformer



UA-SHT
DC Current Shunt



WTM-100
Wireless Temperature Transmitter & Meter



TH
Temperature Sensor



AQW
Wireless Air Quality Sensors



HTO
CO / CO2 / Temperature &
Humidity Transmitter



PS
Pressure Transmitter



Signal Transduce & Convert



CPT
Multifunction Power Transducer



CA / CV
AC Current/ Voltage Transducer



CW / CQ
AC Watt / Var Transducer



AT
Converter/Isolator



MT
Industrial Signal Converter
(Frequency, AC/DC Signal...etc..)



ST
Multifunction Converter



UC1 **NEW**
Universal Transmitter



ADPower **NEW**
Remote I/O Module



Four major application fields:

1. Continuous production Industry

Example : Machinery Production Line

Production Environment- Air Conditioning / Air Quality Monitoring



HTO Humidity & Temperature Transmitter
AQW Wireless Air Quality Sensors

Production Management- PID Controller



PID Control 4-Digits PID controller



TH Temperature sensor

Production Management- Weight Monitoring



A6-SG Weight controller

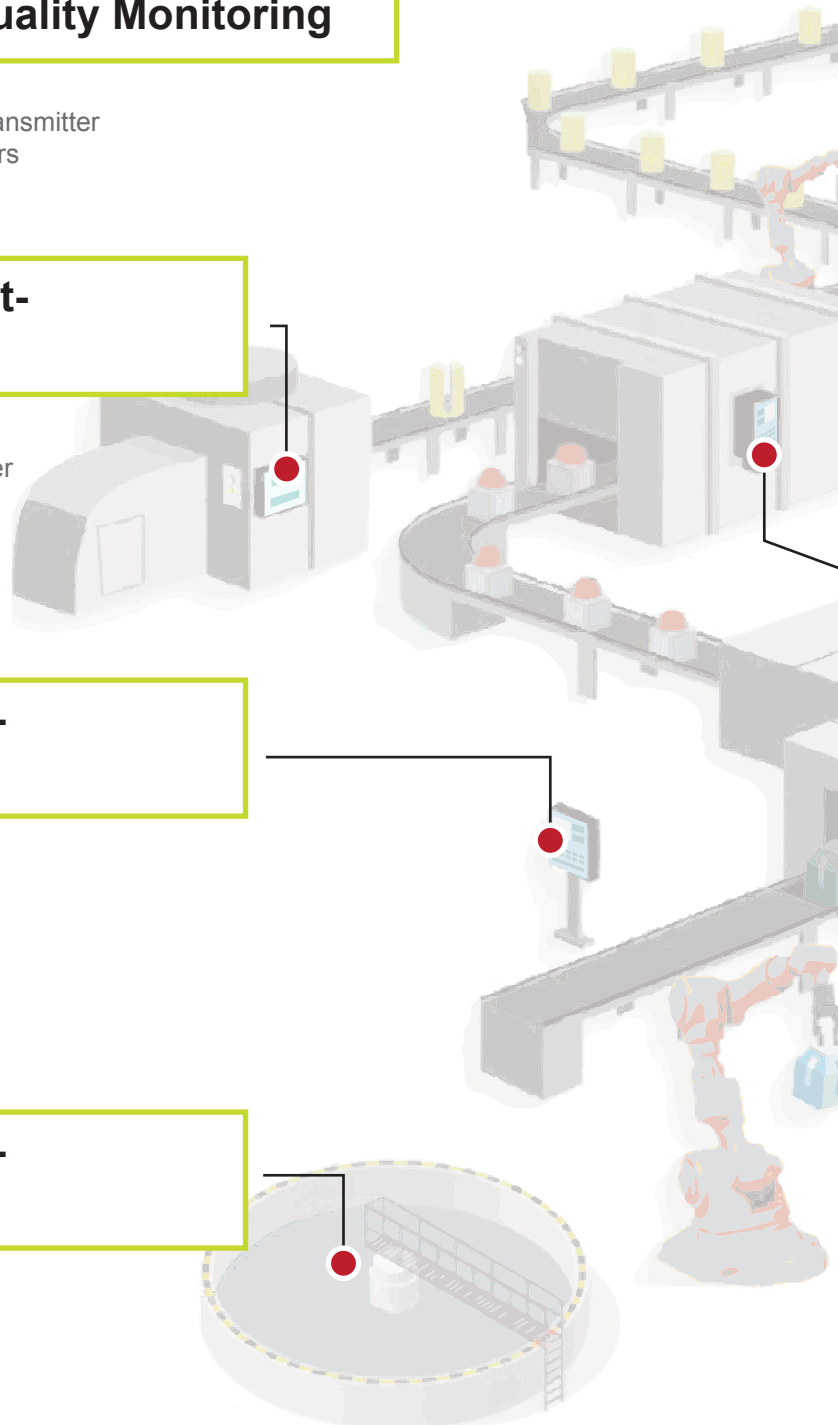


LCA/CB Weight sensor

Production Management- Water Treatment



CS2-TM Multifunction Totalizer



EMS (Energy Management Software)



AD-SeeS
IoT Platform
with EMS software, gateway and meters.

Factory Power Quality Monitoring & Power Management

Factory Power Quality monitoring



CPM-80 Multifunction Power Analyzer
CPM-70 Multifunction Power Analyzer

Production line-Power monitoring & energy saving



AEM-DRA Multi-Circuit Power Meter



CPT Multifunction Power Transducer

Production Management- Process Control & Monitoring



CM1 Series Process Meter
Frequency meter, counter ..etc.

Device Status- Motor Monitoring



CPM-10 Economic Multifunction Power Meter
MWH Digital Energy Meter
CS1 Digital Voltage / Current Meter
VAW Multifunction DC Power Meter



Four major application fields:

2. Power facilities

Wind Power Generation

Power Monitoring



CPM-10 Economic Multifunction Power Meter
CPM-12D Multifunction Power Meter

Frequency Management



CM1 Series Frequency Meter



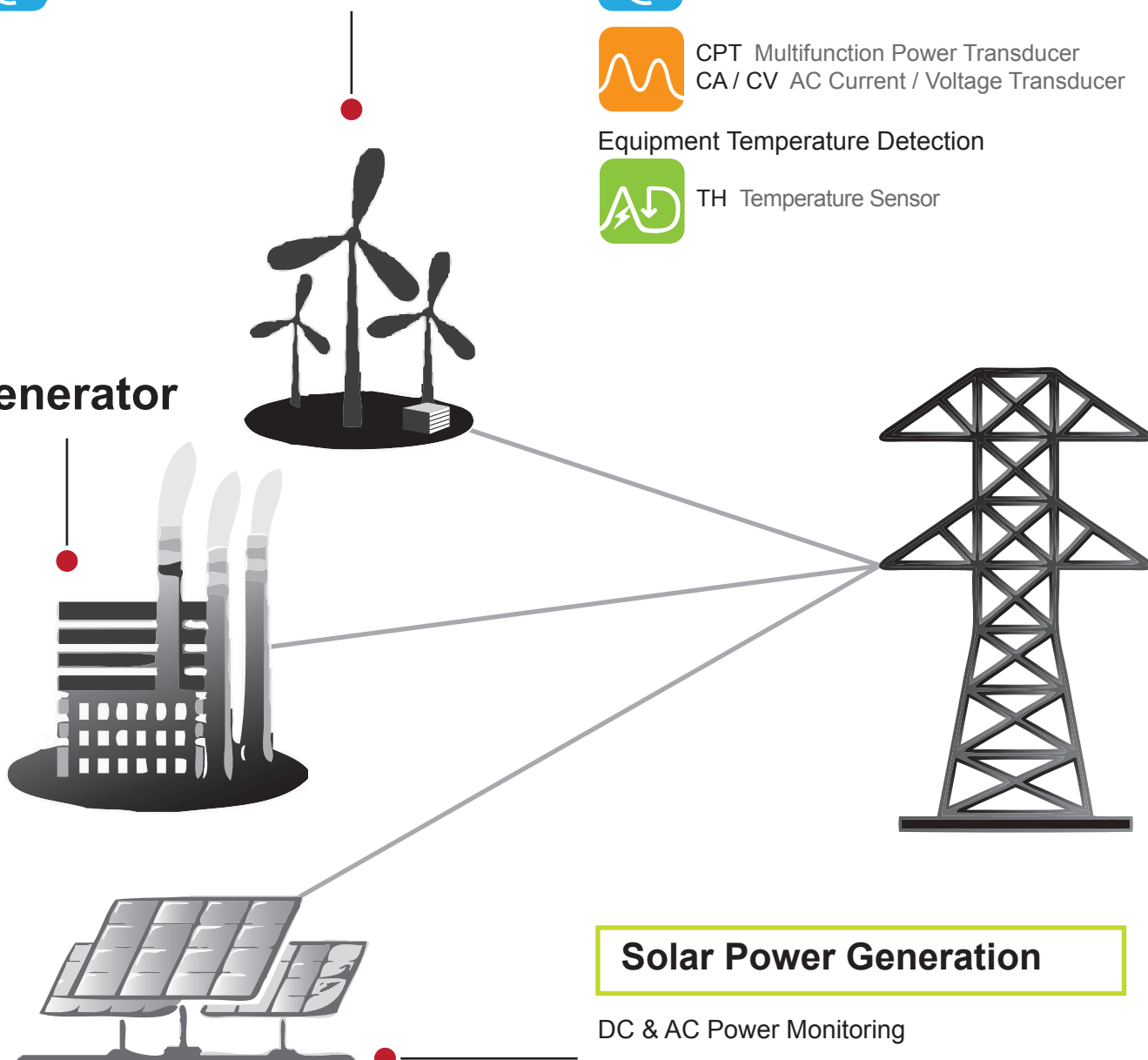
CPT Multifunction Power Transducer
CA / CV AC Current / Voltage Transducer

Equipment Temperature Detection



TH Temperature Sensor

Generator



Solar Power Generation

DC & AC Power Monitoring



CPM-10 Multifunction Power Meter
CPM-12D Multifunction Power Meter
VAW Multifunction DC Power Meter
AEM-DD Multi-Loop Power Meter (DC)



CPT Multifunction Power Transducer
CA / CV AC Current / Voltage Transducer

Substation

Power Quality monitoring



CPM-80 Multifunction Power Analyzer
CPM-70 Multifunction Power Analyzer

Panel Temperature Detection



WTM-100 Wireless Temperature Transmitter & Meter



CPT Multifunction Power Transducer
CA / CV AC Current / Voltage Transducer

High Voltage Switchboard

Factory Power Quality monitoring



CPM-80 Multifunction Power Analyzer
CPM-70 Multifunction Power Analyzer

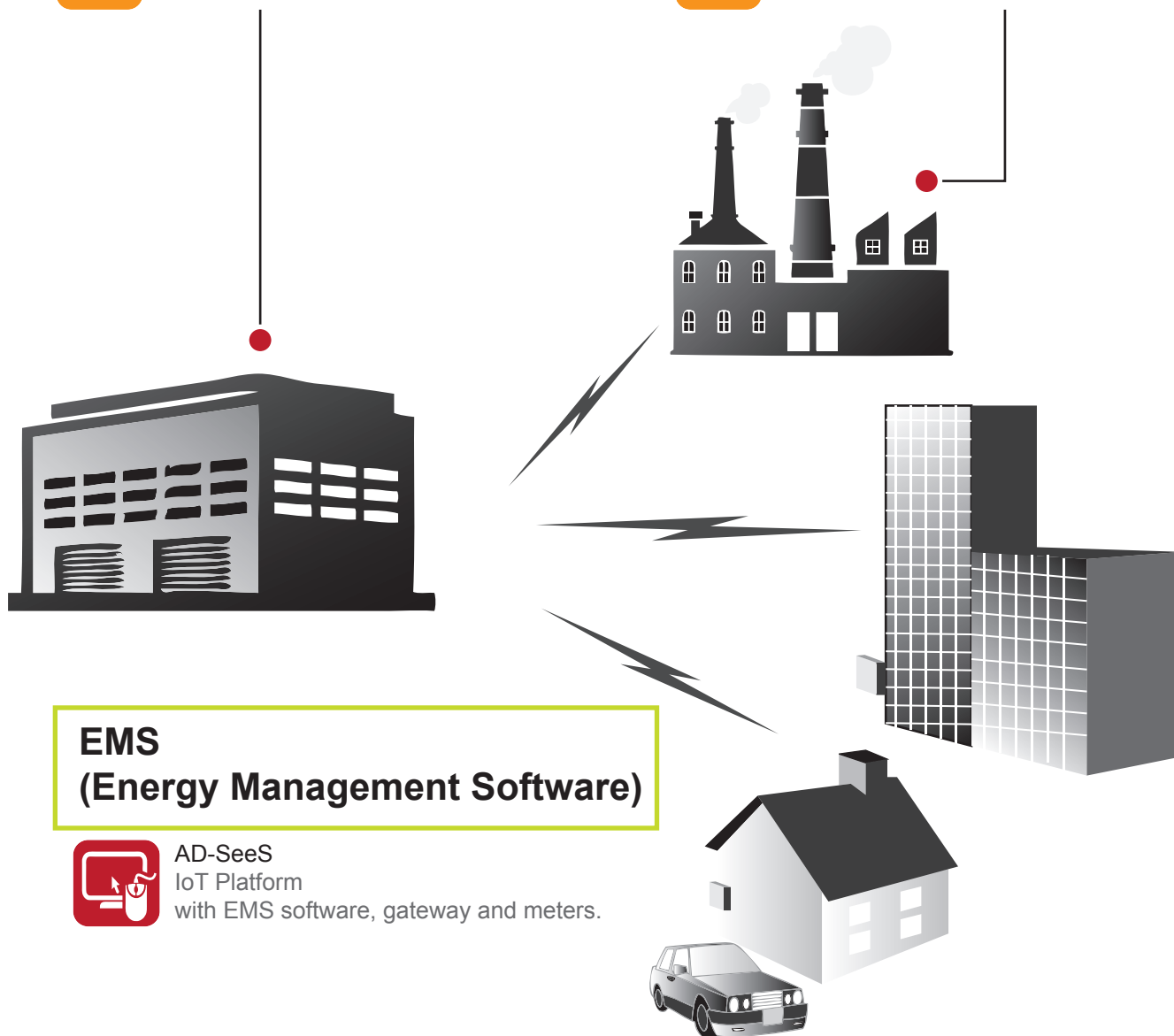
Panel Temperature Detection



WTM-100 Wireless Temperature Transmitter & Meter



CPT Multifunction Power Transducer
CA / CV AC Current / Voltage Transducer



EMS (Energy Management Software)

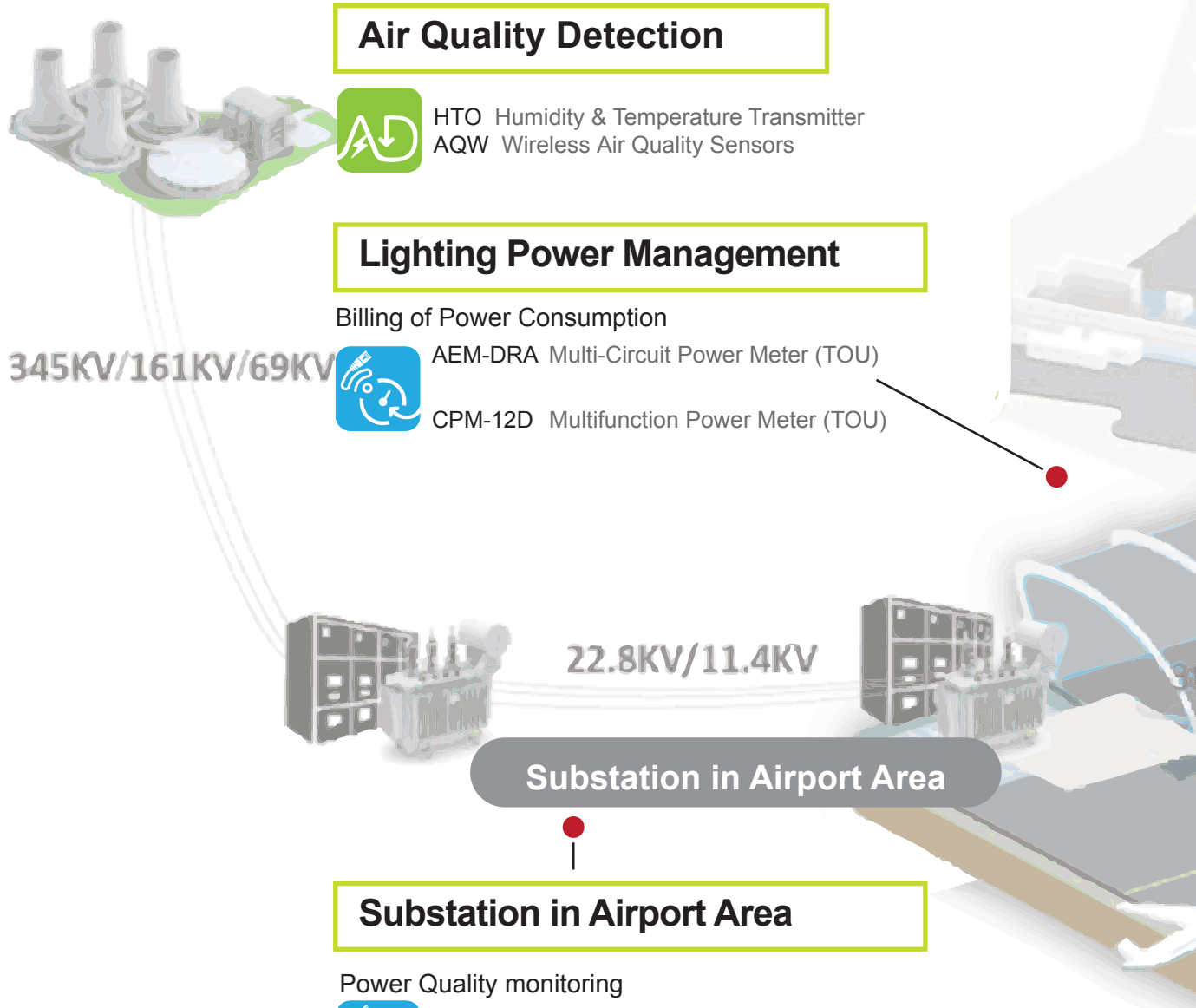


AD-SeeS
IoT Platform
with EMS software, gateway and meters.

AD Four major application fields:

3. Infrastructure

Example : Airport



Air Quality Detection

- HTO Humidity & Temperature Transmitter
- AQW Wireless Air Quality Sensors

Lighting Power Management

Billing of Power Consumption

345KV/161KV/69KV

- AEM-DRA Multi-Circuit Power Meter (TOU)
- CPM-12D Multifunction Power Meter (TOU)

Substation in Airport Area

Substation in Airport Area

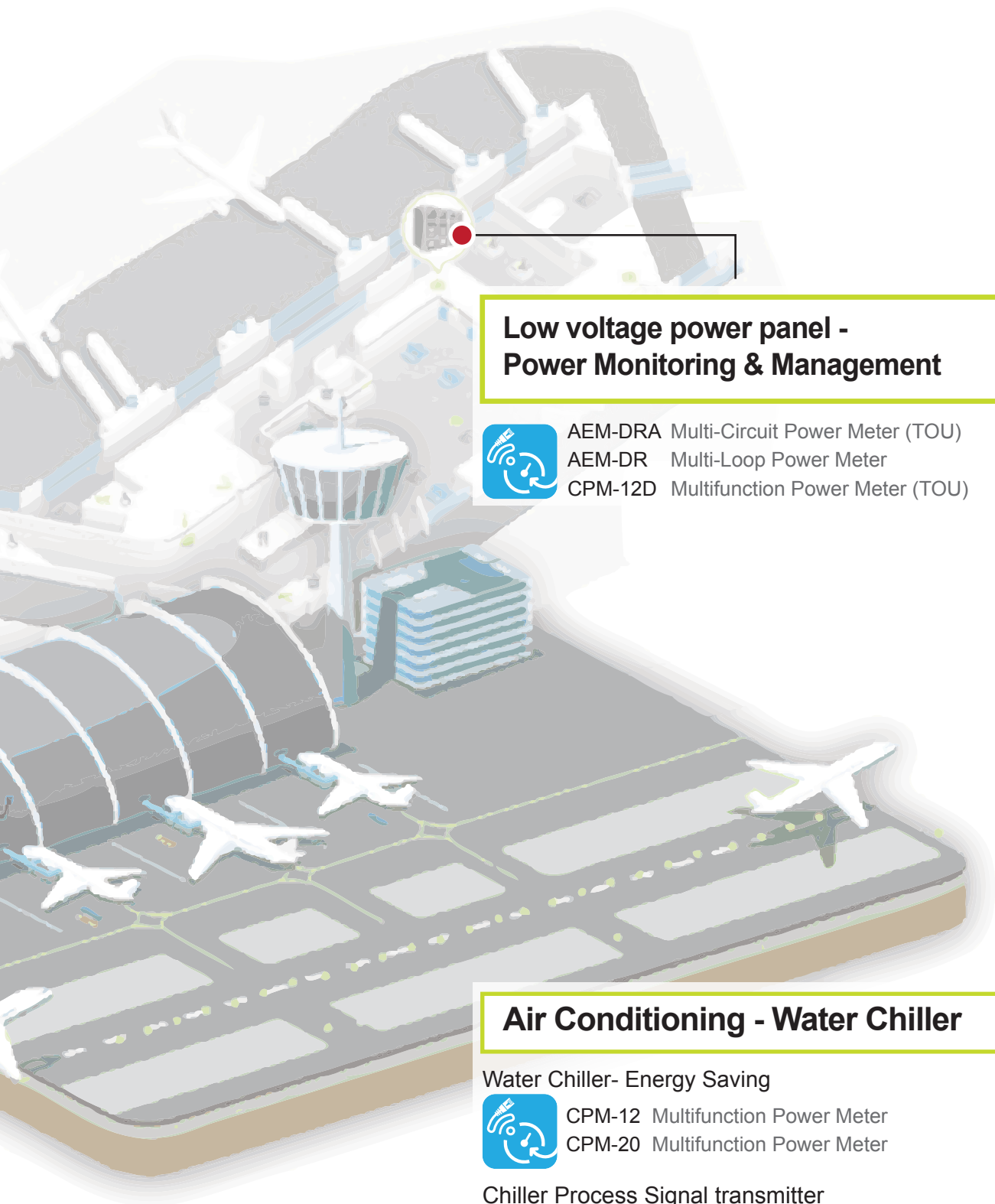
Power Quality monitoring

- CPM-80 Multifunction Power Analyzer
- CPM-70 Multifunction Power Analyzer

Panel Temperature Detection

- WTM-100 Wireless Temperature Transmitter & Meter

- CPT Multifunction Power Transducer
- CA / CV AC Current / Voltage Transducer



Low voltage power panel - Power Monitoring & Management



- AEM-DRA Multi-Circuit Power Meter (TOU)
- AEM-DR Multi-Loop Power Meter
- CPM-12D Multifunction Power Meter (TOU)

Air Conditioning - Water Chiller

Water Chiller- Energy Saving



- CPM-12 Multifunction Power Meter
- CPM-20 Multifunction Power Meter

Chiller Process Signal transmitter



- TH Temperature Sensor
- PS Pressure Transmitter

AD Four major application fields:

4. Commercial building

EMS (Energy Management Software)



AD-SeeS
IoT Platform
with EMS software, gateway and meters.

Data Center- UPS/ Battery room

Data center power monitoring



CPM-80 Multifunction Power Analyzer
CPM-70 Multifunction Power Analyzer

UPS/ Battery room power monitoring



VAW Multifunction DC Power Meter

Multiple Rack power monitoring



AEM-DRA Multi-Circuit Power Meter

Data Center Environment Detection



HTO Humidity & Temperature Transmitter
AQW Wireless Air Quality Sensors

Shopping mall- Air Conditioning – Water Chiller

Water Chiller- Energy Saving

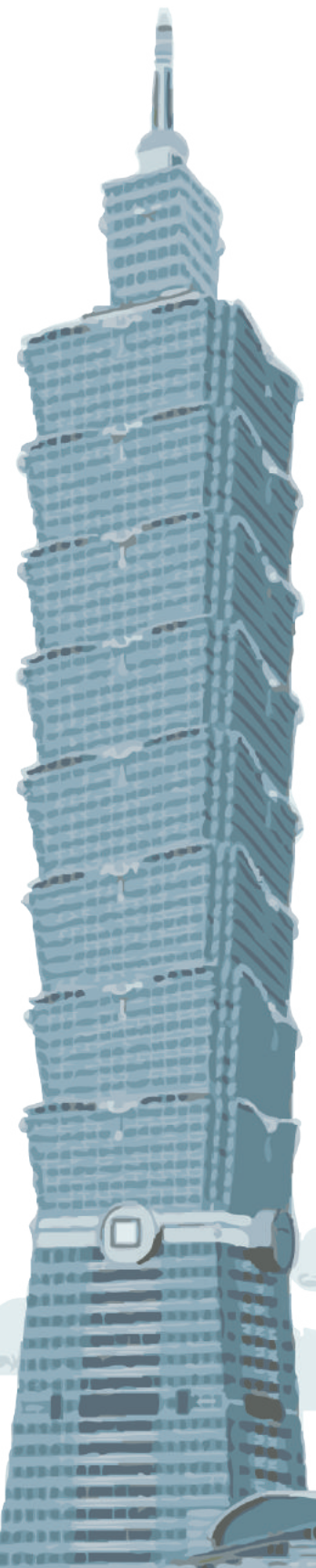


CPM-12 Multifunction Power Meter
CPM-20 Multifunction Power Meter

Chiller Process Signal transmitter



TH Temperature Sensor
PS Pressure Transmitter



Solar Power Station

DC & AC Power Monitoring



CPM-10 Multifunction Power Meter
 CPM-12D Multifunction Power Meter
 VAW Multifunction DC Power Meter
 AEM-DD Multi-Loop Power Meter (DC)



CPT Multifunction Power Transducer
 CA / CV AC Current / Voltage Transducer

Air Quality Detection



HTQ Humidity & Temperature Transmitter
 AQW Wireless Air Quality Sensors

Lighting Power Management

Billing by Time-Of-Use function



AEM-DRA Multi-Circuit Power Meter (TOU)
 CPM-12D Multifunction Power Meter (TOU)

Shopping mall: Time of use (TOU) / Billing



AEM-DRA Multi-Circuit Power Meter (TOU)
 CPM-12D Multifunction Power Meter (TOU)



Office Area



Shopping Mall

Panel Mounting

Advanced

CPM-80 Series

Multifunction Power Analyzer



- High sampling rate: 256 points / cycle
- Energy accuracy: 0.2S (IEC62053-22:2003)
- True RMS Measurement
- Power Quality Event Record (Instantaneous Voltage Sag / Swell Event Time stamp)
- 3.5" TFT LCD color screen and four quadrant display
- 1 Modbus Port as default
- Second communication port available (optional) : Ethernet or Modbus (Slave or Master)
- High individual harmonic measurement available (~63th)
- With phase angle, power demand, Time of Use (TOU), CO² emissions, electricity cost calculation
- Up to 48 kinds of alarm parameter measurement with data logging for analysis
- 4MB internal flash memory
- Up to 8 digital input, 4 relay output, 2 analog output, 2 pulse output.
- Easy to install with auto-wiring correction function
- FCC, CE, EMC, LVD certification, CMET (as UL) on-going

Application:

- ⊙ For complex power system environment
- ⊙ Factory automation applications
- ⊙ Main panel, distribution panel measurement
- ⊙ Long-hour data logging for power quality analysis

CPM-70 Series

Multifunction Power Analyzer



- Sampling rate: 128 points / cycle
- Energy Accuracy: 0.5S (IEC62053-22:2003)
- With individual harmonic measurement (2~31th)
- With power demand, TOU, CO² emissions
- Provide 34 kinds of alarm parameter measurement. Maximum / minimum value recording function
- Up to 4 digital input, 2 relay output, 1 digital output
- 1 Modbus Port as default
- 2MB internal flash memory
- Dielectric strength more than 2KV
- Easy to install with auto-wiring correction function
- FCC, CE, EMC, & LVD certification
- Mean time between failure (MTBF) reliability more than 60,000 hours

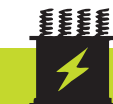
Application:

- ⊙ Motor control panel / Power measurement
- ⊙ Main panel, sub-panel, power parameter management
- ⊙ Time of Use (TOU) function
- ⊙ Power quality analysis

Target markets:



Infrastructure



Power facilities



Commercial Buildings



Continuous production industry



Universal

CPM-20 Series

Multifunction Power Meter



- Sampling rate: 128 points / cycle
- Energy Accuracy: 0.5%
- With power demand, CO² emissions calculation
- Provide 33 kinds of alarm parameter measurement. Maximum / minimum value recording
- Up to 2 digital input, 2 digital output.
- 1 Modbus Port as default
- Dielectric strength more than 2KV
- FCC, CE, EMC, & LVD certification
- Mean time between failure (MTBF) reliability more than 60,000 hours

Application:

- ⊙ Power system, sub-panel, power parameter measurement
- ⊙ Electromechanical equipment electricity consumption monitoring
- ⊙ Time of Use (TOU) calculation
- ⊙ High CPI value

CPM-12 Series

Multifunction Power Meter



- Sampling rate: 128 points / cycle
- Energy Accuracy: 1%
- With total harmonic, import / export power measurement, CO² emissions calculation
- Provide 32 kinds of alarm parameter measurement. Maximum / minimum value recording
- Easy to install with auto-wiring correction
- Optional: 1 pulse output / 1 Modbus Port
- Dielectric strength more than 2KV
- FCC, CE, EMC, & LVD certification
- Mean time between failure (MTBF) reliability more than 60,000 hours

Application:

- ⊙ Motor control panel / Power monitoring
- ⊙ Power consumption monitoring and control
- ⊙ Distribution panel system
- ⊙ Smart Building Automation / Energy Management System

CPM-10 Series

Economic Multifunction Power Meter



- Support balanced / unbalanced power system (3P3W, 3P4W, 1P2W, 1P3W)
- With unique dual-window display (10 digits + 4 digits)
- Energy Accuracy: 0.5%
- Provide 1 relays / 1 analog output
- Optional : 1 pulse output, 1 Modbus (RS485)
- Provide 25 alarm parameter measurement
- Compact size, comply to standard DIN size (96 * 48mm)
- CE, EMC, & LVD certification
- Mean time between failure (MTBF) reliability more than 60,000 hours

Application:

- ⊙ Motor control panel / Power monitoring
- ⊙ Power consumption monitoring and control
- ⊙ Distribution panel system
- ⊙ Smart Building Automation / Energy Management System
- ⊙ Power test equipment

Economic

Target markets:



Infrastructure



Power Facilities



Commercial Buildings



Din Rail

AEM-DRA series

Multi - Circuit Power Meter

8 Three-Phase Loops +
2 Main Circuits



- Large display window, easy to install, suitable for standard din-rail mounting
- With power demand, CO² emissions calculation
- Provide individual harmonic measurement function (2nd ~ 31th)
- Provide 48 kinds of alarm parameter measurement. Maximum / minimum value recording
- Energy accuracy: 0.5%
- Support 2 individual main circuits, programmable mixture of wiring system (3P3W, 3P4W, 1P2W, 1P3W)
- Provide 8 three-phase or 24 single-phase loops measurement or mixture.
- Optional: 4 relay output, 2 digital input, 1 pulse output.
- 2MB internal flash memory
- 1 Modbus Port as default
- Second communication port available (Optional):
1 Ethernet (Modbus TCP) or 1 Modbus.
- Dielectric strength more than 2KV,
- FCC, CE, EMC, & LVD certification
- Mean Time Between Failure (MTBF) reliability more than 60,000 hours

Application:

- For suites, shopping malls, dorm electricity bills
- Hybrid power system power measurement
- Long-hour data logging for power quality analysis
- Main panel, distribution panel, power demand measurement
- Electromechanical equipment electricity consumption monitoring

AEM-DR series

Multi - Loop Power Meter

5 Single-Phase Loops
/ 1 (Main) Circuit



- Support 5 single-phase Loops power measurement (3P3W, 3P4W, 1P2W, 1P3W)
- Simple din-rail installation, compact size :
54 * 81mm (without Relay module)
- Provide 34 kinds of alarm parameter measurement. Maximum / minimum value recording
- Energy accuracy : 0.5%
- 1 Modbus Port as default
- Optional: 1 extensional module- 5 relay output
- By Request : 1 extensional module - WiFi or NB-IoT
- Dielectric strength more than 2KV,
- Mean Time Between Failure (MTBF) reliability more than 60,000 hours
- FCC, CE, EMC, & LVD Certification

Application:

- Suites, shopping malls, dorm electricity bills
- Main panel, distribution panel, power demand measurement
- Long-hour data logging for power quality analysis
- Electromechanical equipment electricity consumption monitoring
- Limited space

CPM-12D series

Multifunction Power Meter



- Sampling rate: 128 point/cycle
- Energy accuracy: 1.0%
- True RMS Measurement
- 2MB internal flash memory
- Provide 36 kinds of alarm parameter measurement
- Power demand, data logging, and Time-of-use (TOU) function, CO² emissions calculation.
- 1 Modbus Port as default
- Built-in 1 Pulse Output
- Dielectric strength more than 2 KV

Application:

- Energy management system
- Factory automation
- Intelligent power panel
- Industrial automation
- Power Grid automation
- Community power monitoring
- Intelligent green building

Target markets:



DC Type

AEM-DD series

Multi-Loop Power Meter -DC



- Support 5 single-phase Loops DC power measurement
- Simple din-rail installation, compact size : 54 * 81mm (without relay module)
- Provide 11 kinds of parameter measurement, maximum / minimum value recording
- Energy accuracy: 0.5%
- 2 line 6-digits value display simultaneously
- 1MB internal flash memory
- 1 Modbus Port as default
- Optional: 1 extensional 5 relay output module
- Dielectric strength more than 2KV
- FCC, CE, EMC, & LVD certification
- Mean Time Between Failure (MTBF) reliability more than 60,000 hours

Application:

- ⊙ Suitable for DC power system
- ⊙ Multi-Loop DC power parameter measurement
- ⊙ Electromechanical equipment electricity consumption monitoring
- ⊙ DC power measurement system
- ⊙ Upgrade or maintenance of old system
- ⊙ Solar power, wind power system and energy storage / Measurement of DC parameters of the system

VAW Series

Multifunction DC Power Meter



- Provide DC voltage, current, power parameter measurement and operation time calculation
- With a unique dual-window display (10 digits +5 digits)
- Energy Accuracy: 0.1%
- Provide bidirectional energy measurement
- Sampling rate : 15 points / second
- The reaction time is less than 100 milliseconds
- Optional : 4 relays output / 2 external control input / 1 analog output / 1 Modbus (RS485 communication)
- Relay can set to multiple power parameters for alarm
- Dielectric strength more than 2KV
- EMC & LVD certification

Application:

- ⊙ Solar & wind power system
- ⊙ DC power measurement system
- ⊙ Battery Energy Storage monitoring
- ⊙ Measurement and testing equipment
- ⊙ Portable 3c device

Target markets:



ADP-PM Series

Multi-Circuit Power Meter



- Sampling rate: 128 point/cycle
- Energy accuracy: 1.0%
- True RMS Measurement
- Modular design with Remote IO module in one rack.
- Up to 12 single phase or 4 three-phase circuit power input.
- Software programmable input. EEPROM auto-configuration.
- 2MB internal flash memory
- Provide 50 kinds of parameter measurement
- Power demand, data logging, and Time-of-use (TOU)
- 1 Modbus Port as default
- Built-in 1 Pulse Output
- Dielectric strength more than 2 KV

Application:

- ⊙ Rental Building / House Apartment
- ⊙ School Dormitory / Exhibition Booth
- ⊙ Market Stalls
- ⊙ Food Court / Movable House
- ⊙ Distributed Electricity Measurement

Target markets:



Model No.	VAW series	CPM10	CPM series				CPM70 series			CPM80 series				
	VAW	-10	12A	-20	-21	-71	-72	-73	-81	-82	-83	-85	-87	
Installation	Panel	Panel							Panel					
Present values														
Phase / Neutral current	--	■	■	■	■	■	■	■	■	■	■	■	■	
Average voltage / Phase voltage /Line voltage	--	■	■	■	■	■	■	■	■	■	■	■	■	
Frequency	--	■	■	■	■	■	■	■	■	■	■	■	■	
Active / Reactive / Apparent power / Total power	■	■	■	■	■	■	■	■	■	■	■	■	■	
Power Factor / Average Power Factor	--	■	■	■	■	■	■	■	■	■	■	■	■	
Demand values														
Current demand	--	--	--	--	■	--	■	■	--	■	■	■	■	
Present average	--	--	--	--	■	--	■	■	--	■	■	■	■	
Active / Reactive / Apparent power demand	--	--	--	--	■	--	■	■	--	■	■	■	■	
Max. Current / Power demand	--	--	--	--	■	--	■	■	--	■	■	■	■	
Demand calculation methods(sliding / fixed)	--	--	--	--	■	--	■	■	--	■	■	■	■	
Demand interval setting	--	--	--	--	■	--	■	■	--	■	■	■	■	
Power quality measurements														
THD measurement	--	--	■	■	■	■	■	■	■	■	■	■	■	
Total harmonic distortion (THD) voltage / current	--	--	■	■	■	■	■	■	■	■	■	■	■	
Individual harmonic distortion (2nd ~ 31th)	--	--	--	--	--	--	■	■	--	■	■	■	■	
Individual harmonic distortion (2nd ~ 63th)	--	--	--	--	--	--	--	--	--	■	■	■	■	
Other measurements:														
Digital Input / Output	--	--	--	--	■	■	■	■	■	■	■	■	■	
Run hours	■	--	■	--	--	■	■	■	■	■	■	■	■	
Carbon emissions calculation (CO2)	--	--	■	■	■	■	■	■	■	■	■	■	■	
Electricity rate (single rate)	--	--	--	■	■	■	■	■	■	■	■	■	■	
Time of use (TOU) - 4 seasons, 8 tariff per day. Per year / up to 5 years	--	--	--	--	■	--	--	■	--	--	■	■	■	
Measurement type(three-phase / single-phase)	--	■	■	■	■	■	■	■	■	■	■	■	■	
Load type display (R / L / C)	--	--	--	■	■	■	■	■	■	■	■	■	■	
Max. / Min. display and recording	■	--	--	--	■	■	■	■	■	■	■	■	■	
Record														
Maximum / Minimum value (present value + definition of each phase)	■	--	--	--	■	■	■	■	■	■	■	■	■	
Alarm records	■	--	--	■	■	■	■	■	■	■	■	■	■	
Data storage	■	--	--	■	■	■	■	■	■	■	■	■	■	
Firmware upgrade	--	--	--	--	--	■	■	■	■	■	■	■	■	
alarm and event records	--	--	--	■	■	■	■	■	■	■	■	■	■	
Modbus	--	--	■	■	■	■	■	■	■	■	■	■	■	
Loading percentage indication	--	--	--	■	■	■	■	■	■	■	■	■	■	
Simultaneous display of four kinds of data	■	--	■	■	■	■	■	■	■	■	■	■	■	
Panel integration screen	■	■	■	■	■	■	■	■	■	■	■	■	■	
Auto-Wiring Correction	--	--	■	--	--	■	■	■	■	■	■	■	■	

	AEM series			CPM series	ADP series
Model No.	- DR	- DRA	- DD	- 12D	ADP-PM-A
Installation	Din - Rail				
Present values					
Phase / Neutral current	■	■	--	■	■
Average voltage / Phase voltage / Line voltage	■	■	--	■	■
Frequency	■	■	--	■	■
Active / Reactive / Apparent power / Total power	■	■	■	■	■
Power Factor / Average Power Factor	■	■	--	■	■
Demand values					
Current demand	--	■	--	■	■
Present average	--	■	--	■	■
Active / Reactive / Apparent power demand	--	■	--	■	■
Max. Current / Power demand	--	■	--	■	■
Demand calculation methods(sliding / fixed)	--	■	--	■	■
Demand interval setting	--	■	--	■	■
Power quality measurements					
THD measurement	--	■	--	■	■
Total harmonic distortion (THD) voltage / current	--	■	--	■	■
Individual harmonic distortion (2nd ~ 31th)	--	■	--	--	--
Individual harmonic distortion (2nd ~ 63th)	--	--	--	--	--
Other measurements:					
Digital Input / Output	--	■	--	--	■ ※
Run hours	--	■	--	■	■
Carbon emissions calculation (CO2)	--	--	--	■	--
Electricity rate (single rate)	--	■	--	■	■
Time of use (TOU) - 4 seasons, 8 tariff per day. Per year / up to 5 years	--	■	--	■	■
Measurement type(three-phase / single-phase)	■	■	--	■	■
Load type display (R / L / C)	--	--	--	--	--
Max. / Min. display and recording	--	■	--	■	■
Record					
Maximum / Minimum value (present value + definition of each phase)	--	■	--	■	■
Alarm records	■	■	■	■	■
Data storage	■	■	■	■	■
Firmware upgrade	■	■	--	■	■
alarm and event records	--	■	--	■	■
Modbus	■	■	■	■	■
Loading percentage indication	■	■	--	■	--
Simultaneous display of four kinds of data	--	■	--	■	--
Panel integration screen	■	■	■	■	--
Auto-Wiring Correction	--	--	--	■	--

*With ADPower I/O Module

	VAW series	CPM10	CPM series			CPM70series		
Model Name	VAW	-10	-12A	-20	-21	-71	-72	-73
Measure Type	DC	AC						
Specifications / measurement parameters								
Input voltage (with external PT up to 500,000Vac)								
Input measurement range (Vac: L-N / Vdc)	0~600 Vdc	50~500 Vac	40~400 Vac			40~400 Vac		
Frequency (Hz)	--		45 ~ 65					
Current (A)	from 0~200.00 μ A up to 0~10A	0~5A, 0~1A	0~5A (0~1A optional)		0~5A (0~1A optional)			
Resistance to current capacity	300% Rated	300% Rated	200% Rated			200% Rated		
Power consumption (VA)	<5	<12	<10			<10		
Aux. power supply								
Operation range (Product code**)	ADH, ADL, A	ADH, ADL	ADH			ADH, ADL		
Frequency	--		45 ~ 65					
Measurement accuracy								
Measurement Loop (single phase)	1	1	1	1	1	1		
Measuring Loop (three phase)	--	1	1	1	1	1		
Active / Reactive/ Apparent power	0.1%	0.5%	1%	0.5%	0.5%	0.5%		
Current / phase	0.04%	0.2%	0.5%	0.25%	0.2%	0.2%		
Voltage (L-N)	0.04%	0.2%	0.5%	0.25%	0.2%	0.2%		
Frequency	--	0.2%	0.2%	0.1%	0.1%	0.1%		
Active energy accuracy	0.1% Energy (Import)	0.5%	1%	0.5%	0.5%	Class 0.5S		
Reactive energy accuracy	0.1% Energy (Export)	0.5%	1%	0.5%	0.5%	Class 2.0		
Pulse Output								
Open collector output	--	1*	1	--	up to 2	1		
Maximum external voltage	--	30Vdc	40Vdc	--	40Vdc	30Vdc		
Maximum load current	--	30mA	50mA	--	50mA	30mA		
Isolation ability		2KVac						
Communication & Display								
RS-485 Modbus RTU, Jbus	2-wire, Baud Rate: 9600/19200/38400, Data Bits: 8, Parity: Even/ Odd /None, Stop Bits: 1 or 2							
The second Modbus port (Optional)	--	--	--	--	--	--	--	--
Ethernet (Optional)	--	--	--	--	--	--	--	--
BACnet (By request)	--	--	--	--	--	*	*	*
WiFi (By request)	--	--	--	--	--	--	--	--
NB-IoT (By request)	--	--	--	--	--	--	--	--
Isolation ability		2KVac						
Back Light	Red & Green	Red & Green	White light black					
Visual range (mm)	7.1	7.1	65x61			65x61		
Language		English						
Continue								

**ADH :
AC 85~264V /
DC 100~300V

**ADL :
AC / DC 20~50V

**A :
AC 115/230V

* : Optional

CPM80 series					AEM series			CPM series	ADP series
-81	-82	-83	-85	-87	-DR	-DRA	-DD	- 12D	ADP-PM-A
AC							DC	AC	
Specifications / measurement parameters									
Input voltage (with external PT up to 500,000Vac)									
40~400 Vac					40~400 Vac		10~100 Vdc	40~400 Vac	≤ 400V
45 ~ 65					45 ~ 65		--	45~65	45~65
0~5A, 0~1A, 0~1A/5A					Please refer to datasheet			0~5A, 0~1A, 333mv	depends on external CT. ***
200% Rated					120% Rated			200% Rated	120% Rated
<15					<10	<15	<10	<5	<5
Aux. power supply									
ADH,ADL					ADH		ADH,ADL	ADH,ADL	DC 10~60V
45 ~ 65					45 ~ 65		--	45 ~ 65	45 ~ 65
Measurement accuracy									
1					5	up to 24	5	1	Up to 12
1					2	up to 8	--	1	Up to 4
0.2% / 1.0% / 0.5%					0.5%		0.3% of FS+ 0.3% of Rdg	1%	1.0%
0.1%					0.2%		0.2%	0.5%	0.5%
0.1%					0.2%		0.2%	0.5%	0.5%
0.2%					0.1%		--	0.1%	0.2%
Class 0.2S					0.5%		0.5%	1%	1.0%
Class 1.0					0.5%		--	1%	1.0%
Pulse Output									
up to 2					--	1	--	1	1
30Vdc					--	40Vdc	--	40Vdc	30Vdc
30mA					--	50mA	--	50mA	30mA
2KVac					2KVac			2KVac	1.5KV
Communication & Display									
2- wire, Baud Rate: 9600/19200/38400, Data Bits: 8, Parity: Even/ Odd/ None, Stop Bits: 1 or 2								UP to 115200bps	
■	■	■	■	■	--	■	--	--	--
■	■	■	■	■	--	■	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	*	--	--	--	--
--	--	--	--	--	*	--	--	--	--
					2KVac			1.5KV	
3.5" TFT Color					White light black				--
320x240					39x21	128x64	39x21	320x240	--
					English				
					Continue				

*** (CT Primary up to 9999A. Secondary: 333mv)

**ADH :
AC 85~264V /
DC 100~300V

**ADL :
AC / DC 20~56V

**A :
AC 115/230V

	VAW series	CPM10	CPM series			CPM70 series		
Model Name	VAW	-10	-12A	-20	-21	-71	-72	-73
Alarm and control								
Alarm parameter type	5	25	--	33		33		
Response time (ms)	<100ms	<100ms	<100ms	<300ms		<300ms		
Internal Memory (MB)	--	--	--	2MB	2MB	2MB	2MB	2MB
Number of digital input	up to 2	--	--	--	up to 2	up to 4		
Number of digital output (pulse output)	--	1*	1	--	up to 2	1		
Number of analog output	1		--	--	--	--	--	--
Number of relay contact output	up to 4	up to 2	--	--	--	up to 2		
for the detail of I/O, please refer to datasheet.								
Electromagnetic compatibility								
IEC 61000-3-2	--	■	■	--	--	■	■	■
IEC 61000-3-3	--	■	■	--	--	■	■	■
IEC61000-4-2~6	--	--	■	--	--	■	■	■
IEC 61000-4-8	--	--	■	--	--	■	■	■
IEC 61000-4-11	--	--	■	--	--	■	■	■
EN 55022 Class B	--	--	--	--	--	■	■	■
IEC 61010-1 Ed 3	■	■	■	■	■	■	■	■
IEC 62052-11	--	--	--	--	--	■	■	■
IEC 61557-12	--	--	--	--	--	■	■	■
EN 61326-1	■	■	■	■	■	■	■	■
FCC part 15	--	--	■	■	■	■	■	■
Physical parameters								
Cover protection level (IP)	52	52	50	50		50		
Size(mm)	96x48	96x48	96x96			96x96		
Depth(mm)	120	120	70			77		
Thickness(mm)	8	8	1~18			1~18		
Operating temperature (°C)	0~60	0~60	0~60			0~60		
Header temperature (°C)	0~60	0~60	0~60			0~60		
Panel temperature (-25 °C will reduce the efficiency)	-10~70	-10~70	-10~70			-25~50		
Storage temperature	-10~70	-10~70	-10~70			-10~70		
Humidity range (non-condensing)	20~95%	20~95%	5~95%			5~95%		
Weights(g)	350	350	<400	<400		<450		

* : Optional

CPM80 series					AEM series			CPM series	ADP series
-81	-82	-83	-85	-87	-DR	-DRA	-DD	- 12D	ADP-PM-A
Alarm and control									
48					34		11	36	
<500ms					<500ms			<500ms	<500ms
4MB	4MB	4MB	4MB	4MB	1MB	2MB	1MB	2MB	2MB
up to 8					--	up to 2	--	--	up to 32 **
up to 4					--	1	--	1	up to 32 **
up to 2					--	--	--	--	up to 8 **
up to 4					up to 5*	up to 4	up to 5*	--	up to 16 **
for the detail of I/O, please refer to datasheet.									
Electromagnetic compatibility									
■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	--	--	■	■	■
■	■	■	■	■	--	--	--	■	■
■	■	■	■	■	--	--	■	■	■
■	■	■	■	■	--	--	--	--	--
■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	--	--	--	--	--
■	■	■	■	■	--	--	--	--	--
■	■	■	■	■	■	■	■	--	■
■	■	■	■	■	■	■	■	■	■
Physical parameters									
50					50			20	20
96x96					54x81	199x118	54x81	72x91.5	48x130
101					65	77	65	58.7	120
1~18					<1			<1	<1
0~60					0~60			0~60	-25~70
0~60					0~60			0~60	-25~70
-25~50					-10~70			-10~70	--
-10~70					-10~70			-10~70	-30~75
5~95%					5~95%			3~95%	
<600					185	750	185	<400	

 ** with
 ADPower
 I/O
 Module

 * with
 external
 I/O
 Module