AD-SeeS-Mate Energy Management System
ADTEK

■ Description

AD-SeeS-Mate target small and medium solution needs (around 10~30 meters), designed by industrial meter specialist ADTEK, real time EMS monitoring platform, using intelligent EMS gateway AD-520. Through Modbus communication linking meters (OT) and 3rd party equipments or devices, convert to ethernet for user client (IT). By connecting to local server or internal cloud, you can access needed electrical parameters, monitoring energy usage efficiently.

■ Applications

- High power consumption factory monitoring, example metal heat-treatment factory, ceramic factory etc..
- Factory transformer monitoring.
- Manufacturing production process.
- Rental office, hostel, stall bill sharing calculation.
- Chain store energy monitoring.

■ Gateway Specification

Storage
Flash:	256 MB
RAM:	256 MB

Processor
Processor:	32 bits RISC Cortex-A8 600MHz

I/O Port
Ethernet:	10/100/1000 Base-T x 2
Serial port:	RS485 Modbus RTU mode

Power Supply
Input power:	24±20%VDC
Power isolation:	Built-in
Power consumption:	230 mA@24V
Dielectric strength:	500VAC (1 min)
Insulation resistance:	≥50MΩ @ 500Vdc
Vibration endurance:	10~25Hz（X, Y, Z direction 2G, 30 minutes）

Mechanical Characteristics
Dimensions:	130mm(W) x 115mm(H) x 27mm(L)
Material:	Plastic
Mounting:	35mm DIN rail mounting
Weight:	About 180g

Environmental Characteristics
Operating Temp.:	-20~55 ℃ (-4~131 ℉)
Humidity rating:	10~90 %RH, Non-condensing
Storage Temp.:	-20~70℃ (-4~158 ℉)
IP Enclosure:	IP20

Minimum System Requirements
OS:	Windows 7 or 10 / 64 bit
CPU:	>1GHz
RAM:	>4GB
HDD:	>500G

■ System Combination

1.AD-520:	EMS Gateway
2.Power Meter:	5-1: CPM-12 A/B
	5-2: CPM-12D
	5-3: CPM-20
	5-4: CPM-70
	5-5: CPM-80
	5-6: AEM-DR
	5-7: AEM-DD
	5-8: AEM-DRA
	5-9: ADP-PM-A
3.Free Tag:	Read 3rd party device data with Modbus RTU protocol, total 100 tags (up to 10 devices) can be configured.

■ System Capacity

1. The basic capacity of each EMS software are 10 gateways, and 100 Free Tag (up to 10 devices).
2. The number of gateways and Free Tag can be expanded by purchasing authorization methods. Each authorization base is 10 gateways and 100 Free Tags.
3. Up to 250 gateways can be connected to each EMS software.
4. 30 meters can be connected to each gateway.

■ System Version

Version	Free	Stand-alone	Cloud
Overview	●	●	●
Layout Plan		●	●
Real Time Data	●	●	●
Analysis		●	●
Cost Analysis		●	●
Cost Report		●	●
Alarm	●	●	●
Equipment Management	1	250	Unlimited
Profile	3 people	Unlimited	Unlimited

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■ Software Function and Features

Overview
- Charts and trend graphs show important power consumption data such as total energy consumption, energy bills, carbon emissions, energy consumption ratio and power demand of the power system.
- Attractive power information screen can display on large wall-mounted displays.

Layout Plan
- Create and edit custom layouts and meter installation locations for your facility. The position of the meter is randomly placed by dragging, which conforms to the actual state of the site.
- Circuit layouts, field maps, equipment plans, and circuit diagrams can all be created using image object import methods.

Real Time Data
- Each meter is self-contained into a data frame for easy observation of data and quick and instant comparison of multiple meters.
- The data frame can select the data parameters by itself, and it is displayed on the page of the data frame. It is not necessary to enter all parameter pages to find the desired data. The data frame can also directly enter the trend analysis chart of the meter.
- The data frame of the important meter can be fixed on the front page by means of nail selection, and the action of turning the page for searching can be omitted.

Analysis
- It can display trends in parameters such as voltage, current, energy, power, frequency and Free Tag.
- The statistical range of the trend chart can be selected from year, month, day or optional range.
- Select trend graph for comparison over the same period.

Cost Analysis
- The billing setting has two methods: progressive pricing and TOU.
- Up to 19 currencys of billing are optional.
- The statistical range of the billing tariff trend chart can be selected from year, month, day or optional interval.

Cost Report
- The report printed that energy and bills of the overall or individual meters can be selected, and the monthly or annual report can be selected.
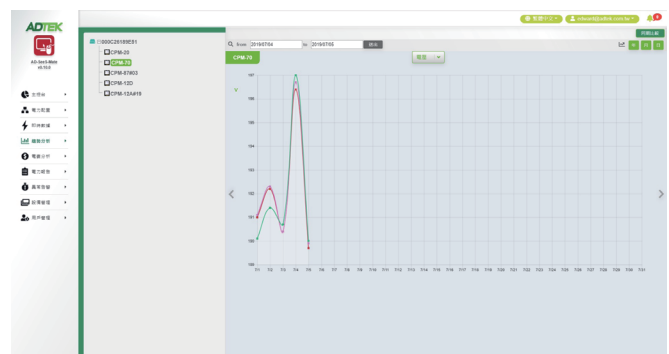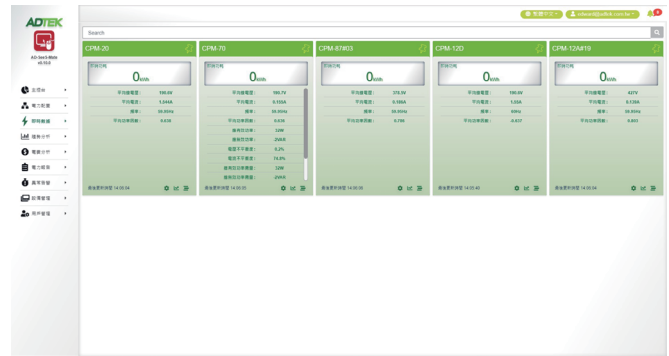- Company name of report that can set by customer.

Alarm
- Each meter or Free Tag parameter can be set as an alarm condition.
- The main screen has alarm icon and number of alarms, which can be used to query historical alarm events.
- After the alarm occurs, an E-Mail notification will be sent in addition to the screen prompt.

Equipment Management
- The gateway can be searched automatically or manually.
- Can search for connected meters automatically or manually.
- The name of each meter and its group can be edited for easy identification and management.
- Manually add Free Tag parameters.

Profile
- The primary account can create, edit, and delete sub-accounts.
- Each sub-account can independently set read and write permissions.
- If the sub-account needs to temporarily cancel the login system, the primary account can temporarily close the sub-account without deleting, and can be re-enabled at any time.
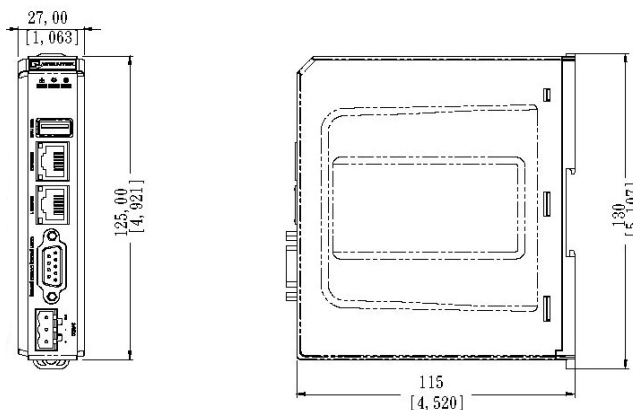
■ Parameter List

Parameter	Alarm	Trend
Power Meter		
Each Phase Voltage*	●	●
Average Phase Voltage*	●	●
Each Line Voltage	●	●
Average Line Voltage	●	●
Each Current	●	●
Average Current	●	●
Neutral Current	●	●
Frequency	●	●
Average Power Factor	●	
Total Active Power	●	●
Total Reactive Power	●	
Voltage Unbalance	●	
Current Unbalance	●	
Total Active Power Demand	●	
Total Reactive Power Demand	●	
Each Current Demand	●	
Average Current Demand	●	
Total Harmonic of Each Voltage	●	
Total Harmonic of Average Voltage	●	
Total Harmonic of Each Current	●	
Total Harmonic of Average Current	●	
Total Active Energy	●	●
Total Reactive Energy	●	
Free Tag (100)		
Data Reading	●	●

*:3P3W/3P4W Do not display phase voltage

■ Dimensions

27,00 [1,063]
125,00 [4,921]
130 [5,107]
115 [4,520]

■ Application Diagram

Stand-alone version (Client)
PC-Client
Ethernet
Modbus
For 3rd party Modbus device
Free Tag

Cloud
Phone
PAD
PC
ADTEK provides cloud platform
Ethernet
Modbus

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