



Smart Power Plug Meter

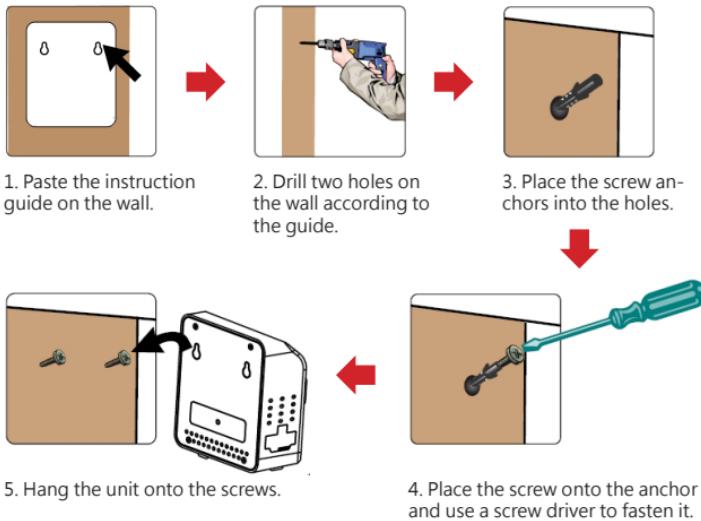
SPM111-U User Manual

Safety Instructions

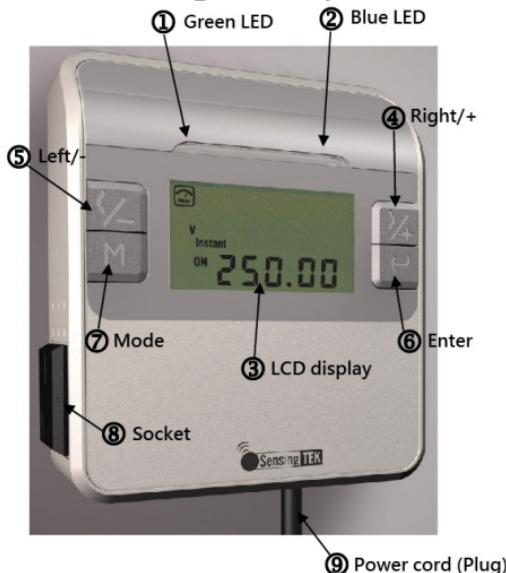
- The device should be located away from heat sources such as radiators, heat, or other products that produce heat.
- Do not expose the device to high temperature or leave it in direct sunlight. Doing so may damage the device.
- Do not place device in excessive dust or vibration places.
- Avoid all contact with water, and dry hands before using. (This product is not waterproof.)
- Keep the device out of the reach of infants.
- Do not insert any object into any of the device's openings because there may be a risk of electric shock.
- While pulling/plugging the power cord, keep your hand dry. Should hold plug tie and then pulling.
- Read and understand this safety instructions manual before using device ; Otherwise company does not take responsibility for the damages.
- Do not drop, puncture or disassemble the device; Otherwise the warranty will be voided.
- Due to operator error, power blacked out or caused by external factors result the economic loss, the Company is not responsible for above situations.
- This product is build-in line with standard plug and socket. The connected load do not exceed s50V/10A.

Installation

- Follow the diagrams below to install the unit:



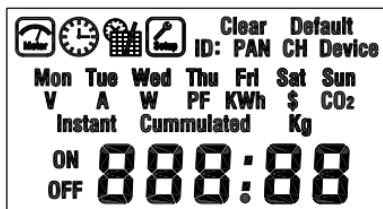
Mechanism design description



Mechanism	Description
① Green LED	Electrical communication status indication *Constantly on → Communication ok *Flicker → Data transmitting (depends on the amount of data) *Constantly flicker → Communication NG *Light extinguished → LED damage
② Blue LED	SPM111-U status indication *Constantly on → Operating ok *Constantly flicker → abnormal operating *Light extinguished → LED damage
③ LCD display	
④ Right/+	Functional interface / Parameter setting
⑤ Left/-	Functional interface / Parameter setting
⑥ Enter	Confirmation
⑦ MODE	Management mode
⑧ Socket	U.S (UL)
⑨ Plug	120cm, U.S (UL)

LCD Display Description

- SPM111-U consist of one LCD display and four buttons with four management modes.



- When you remove the SPM111-U and re-plug it again, LCD all the icons will flicker three times at same time and then into the main screen.



Symbol	Mode	Function
	Measurement mode	[Volt], [Current], [Watt], [PF], [KWh], [Acc. cost], [Acc. CO2]
	Clock setting	As a clock: set up Week, Hour and Minute
	Schedule mode	7 days a week On/Off power control programming
	Setup mode	[① PAN ID setting], [② Channel setting], [③ Device ID setting], [④ Electricity rate setting \$], [⑤ Clean history accumulated data], [⑥ Restore Default].

Mode/Function Instruction

A. Management Modes

- Main Screen → Press 【Mode】 to switch below four management modes.
- In either of management modes → Press 【Mode】 to switch to next modes.
EX : In 「Setting mode」 / 「ApplianceID setting」 → Press 【Mode】 The screen changed to 「Measurement mode」.

Measurement Mode



Clock Mode



Setup Mode



Schedule Mode



B. Features



《Measurement Mode》

- In 「Measurement mode」 → Press 【Right(+)/Left(-)】 to switch below seven measurement functions.
- While you are switching the measurement items, the item flicker and show below items :
 - Volt、Current、Power、Power Factor → Instant
 - Power、Cost → Cumulated
 - Cumulated CO2 → Cumulated, Kg

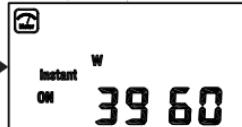
Volt (V)



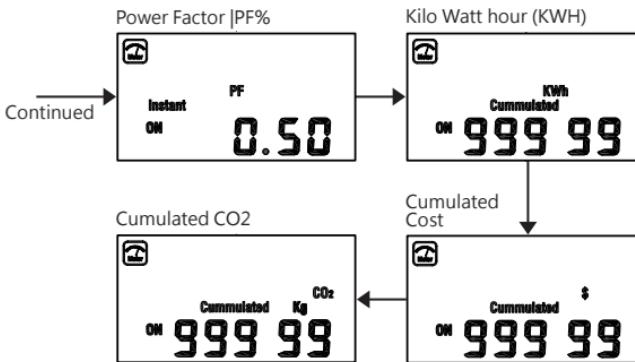
Current |Ampere (Amp)



Power |Watt (W)



Mode/Function Instruction



- In measurement mode · the initial screen displays the 「Volt」 .



- If SPM111-U detect current over 15A, the screen is changed to current 「Amp」 and the value continuously flicker for warning. Over 10 seconds, Relay will be started to cut off the power and user needs to re-plug SPM111-U to restart.



- Digit left side shows ON/OFF→ Display ON/OFF in Schedule mode.



- Cumulated power (KWH) 、CO2 and Cost are integer (decimal point round up) : Max. value : 99999; If cumulated value over the max. value, the number return to zero.
- Voltage and Current are 3-digit integers with two decimal points : Max. value : 999.99 ; Min. value : 0.00.

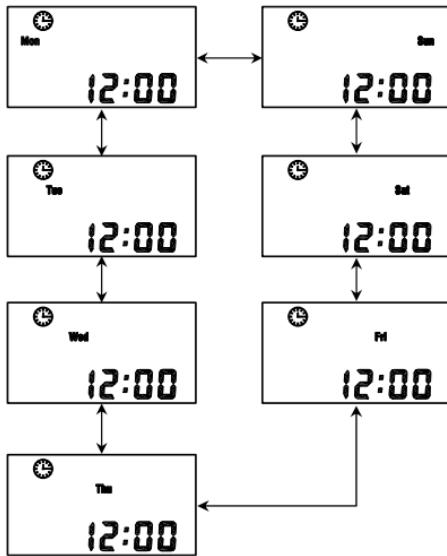
Mode/Function Instruction

- Power value display in integer. Max. value : 3960(264V*15A).
- Power Factor value range : 0.00~1.00.
- Current、Voltage、Power and Power Factor, four instant values, take average within five minutes for storage.
- SPM111-U take record every five minutes and send data to the Server. The Data include Current、Voltage、Power、Power Factor、KWH、Cumulated cost、Cumulated CO2 seven measurement values and corresponding week and time.



《Clock Mode》

- In "Clock mode" → Press 【Enter】 the week day starts flickering. Press 【Right(+)/Left(-)】 to switch 7 days.



- Press 【Enter】 to confirm the day of week → Time. Parameters will begin to flickering.
- Press 【Right(+)/Left(-)】 to add/minus number. (Hour : 0~23 ; Minute : 0~59)
- Press 【Enter】 to switch hour and minute.

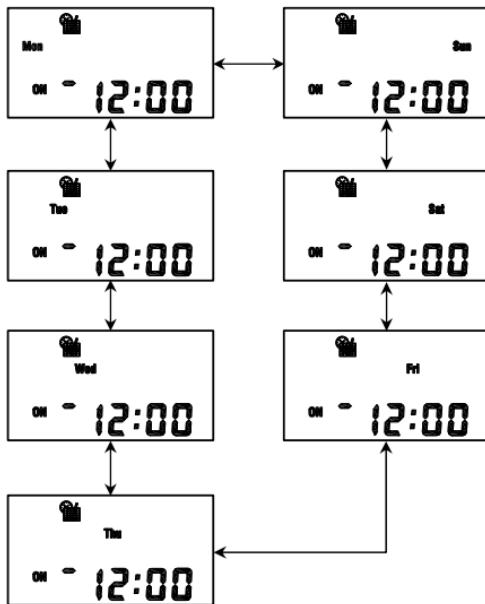
10 : 06 → 10 : 06

- Press 【Enter】 again to complete the action.

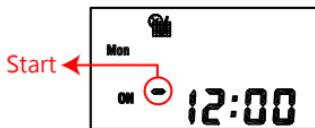
Mode/Function Instruction

⌚《Schedule Mode》

- In "Schedule mode" → Press 【Right(+)/Left(-)】 to switch 7 days.



- There are (Start) and (End) status in "Schedule mode" . User can adjust On/Off in this two status.
- After selected the day, you can setup the (Start) → press "Enter" , On/Off is flickering → press (right + /left -) to change On/Off.

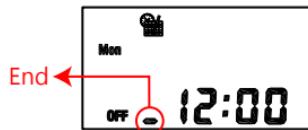


模式 / 功能操作说明

- Press 【 Enter 】 to set up Hour/Minute or All. Press 【 Right(+) / Left(-) 】 to add/minus number. (Hour : 0~23, ALL ; Minute : 0~59)

※ When selecting "ALL", the setting is all done. You can move to set up next day.

- (End) : the same settings as (Start)

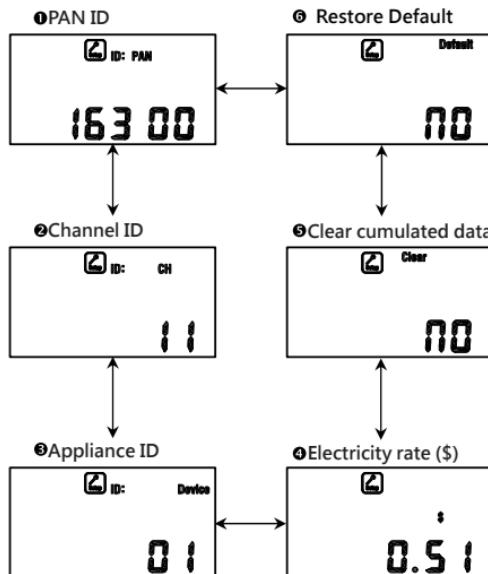


- After completed setup on/off schedule, press 【 Right(+) / Left(-) 】 to setup next day.



《Setup Mode》

- In 『Setup mode』 → Press 【 Right(+) / Left(-) 】 to switch below six setup functions :



Mode/Function Instruction

- In Setup mode · PAN ID setup is the initial screen.

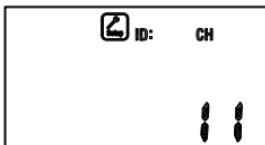


- ① Setup PAN ID(5 Digit) steps :



1. In "Setup mode", enter ① function →Press【Enter】.
2. Press【Right(+)/Left(-)】 to adjust designated PAN ID. (value : 1~ 65535)
3. Press【Enter】 to set up next number.
16300→16300→16300→16300→16300
4. Press【Enter】 again to complete the action.

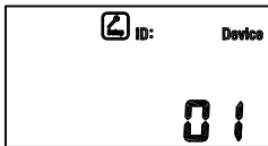
- ② Setup Channel ID(2 Digit) steps :



1. In "Setup mode", enter ② function →Press【Enter】.
2. Press【Right(+)/Left(-)】 to adjust designated Channel ID . (value : 11~26)
3. Press【Enter】 again to complete the action.

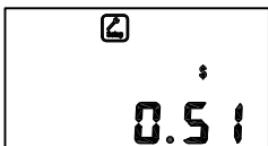
Mode/Function Instruction

■ ③ Setup device ID steps :



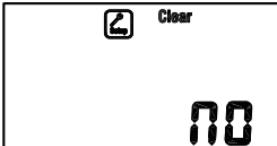
1. In "Setup mode", enter ③ function → Press [Enter].
2. Press [Right(+)/Left(-)] ,base on connected device adjusting suitable ID number .(Value : 1 ~99)
3. Press [Enter] again to complete the action.

■ ④ Setup Electricity rate (\$) steps :



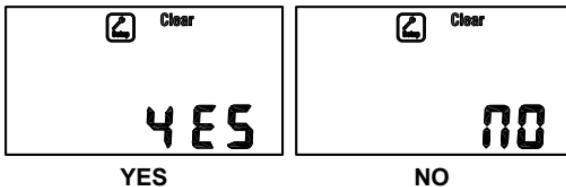
1. In "Setup mode", enter ④ function → Press [Enter].
2. Press [Right(+)/Left(-)] to adjust electricity rate value.
3. Press [Enter] to set up next number.
000.51→000.51→000.51→000.51→000.51
4. Press [Enter] again to complete the action.

■ ⑤ Clear cumulated data steps :



Mode/Function Instruction

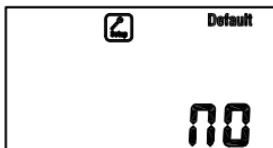
1. In "Setup mode", enter ⑤ function → Press 【Enter】.
2. Press 【Right(+)/Left(-)】 to select YES/NO.



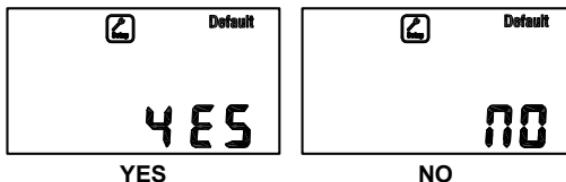
3. Press 【Enter】 again to complete the action.

※ *Clear cumulated data → clear away of current · voltage · power · power factor · KWH · cumulated electricity cost · cumulate CO2 seven measurement value and corresponding week and time.*

■ ⑥ Restore Default steps :



1. In "Setup mode", enter ⑥ function → Press 【Enter】.
2. Press 【Right(+)/Left(-)】 to select YES/NO.



3. Press 【Enter】 again to complete the action.

Default definition

Clock Mode	<ul style="list-style-type: none"> Default value is Monday. In any week day, Digit default value →12:00
Schedule Mode	<ul style="list-style-type: none"> 7 days and all day are ON.
Setup Mode	<ul style="list-style-type: none"> PAN ID(5 Digit) default value →00001 Channel ID(2 Digit) default value→11 Appliance ID default value→01 Electricity rate default value→0.51 Clear cumulated data default value →NO Restore Default value →NO

Specifications

Measurement Meter	
Current Range	10mA~15A
Volt Range	AC90~264Volt
Power Range	99,999KWh
Accumulated Energy Range	0~3,960W
CO2 Emission	Yes
Electricity Cost Setting	Yes
Measurement Accuracy	±1%
WPAN	
Frequency Range	2.4~2.4835GHz
Transmission Range	120m
Network Topology	Star/Tree
Data Rate	250Kbps
Typical conducted power	+3.3dBm
Interface/Power Supply	
Antenna	Built-in PCB antenna
Display Panel	LCD
Memory	128Kbyte
Operating Voltage	AC90V~264V/50Hz~60Hz
Operating Power	2W(power on), under 1W(power off)
Mechanism Description	
Design	LCD display with one hole socket
Socket	UL (125V,15A)
Dimension (L*W*H)	100×117×37.4mm
Weight	0.36kg
Operating Temperature Range	-10~60°C
Storage Temperature Range	-20~70°C



Warranty Card

<http://www.sensingtek.com>



Sensing TEK Warranty Card

This warranty card is the purchase evidence of SensingTEK products granting with after sale services and must be presented at time of repair.

- ◆ The warranty period will be one year from the date of original purchase and no further extension for any quality parts replaced. The warranty card valids once being stamped by authorized dealer.
- ◆ The appearance of returned products/ parts and the accessories remain no damage, filthy and graffiti; human factors or natural disasters are not covered here.

Product Name:	Agent:
Serial NO.:	
Date Purchased:	
Repair Record:	