EQUO Series
Portable Power Monitor
ZN-CTX21-□

OMRON

Start-Up Guide

5337005-0F ● ● ● ● ●

⚠ Read PRECAUTIONS FOR SAFE USE and PRECAUTIONS FOR CORRECT USE described in the Instruction Sheet before using the product.

Thank you for selecting OMRON product.
This guide describes the quick procedures and operational method to start up this product.
For further information, refer to the Instruction Sheet in the package and a user's manual.

STEP 1 Checking the contents

☐ Main Unit 1	1
☐ AC Adapter or DC Cable	1
☐ Alarm Output Connector	1
☐ Instruction Sheet	1
☐ Start-Up Guide (This document)	1
☐ Magnet (mounted)	2

STEP 2 Preparing necessary items

☐ Split-core CT (connection cable provided)
  ZN-CTS11-□A/ZN-CTM11-□A
Clamp-on CT (connection cable provided)
  ZN-CTS51-□A/ZN-CTM51-□A
Branch cable: ZN-CTM11-C

Connecting to a network
☐ LAN cable, Hub for LAN
  10BASE-T or 100BASE-TX
☐ SD memory card (SDHC compatible)
  Recommended SD card:
  HMC-SD291(2GB)/HMC-SD491(4GB)

When recording measured data in the main unit
☐ SD memory card (SDHC compatible)
  Recommended SD card:
  HMC-SD291(2GB)/HMC-SD491(4GB)

When operating the device with batteries
☐ Two AAA batteries
  Alkaline batteries or rechargeable
 nickel hydrogen (Ni-MH) batteries.
  • Use two batteries of the same type.

Exterior features

- MODE key
- △key
- ▽key
- Display unit
- LAN port
- Sensor head connector
- Power supply input terminal
- SD card slot
- Alarm output terminal
- SET/REC/STOP key
- Screw hook hole
- Screw mount hole
- Battery cover
- Reset switch
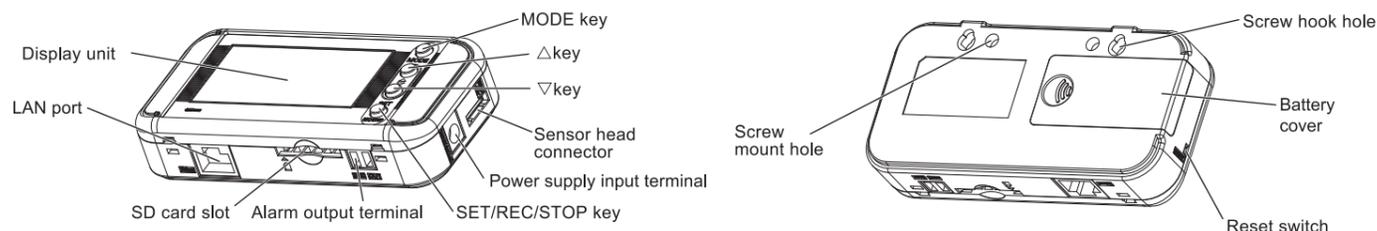
■Control unit

| Name	Main functions
MODE key	Switch operating modes. Release an alarm or an error (press and hold). Cancel settings before fixing.
Item selection key △ key	Move up the setting items. Change display screens. Change setting values (increasing).
Item selection key ▽ key	Move down the setting items. Change display screens. Change setting values (decreasing).
SET/REC/STOP key	Fix setting values etc. Start/stop record (press and hold). Send the recorded data into the SD card.

■Display unit

| Display	Meaning and operation when turned ON
▮ll	An integrated power consumption reset interval is set. The setting is OFF when this is not displayed.
⇄	Communication via LAN cable is in process.
LAN	A LAN cable is connected and network communication is ready.
REC	Data is being recorded in the internal memory. Blinking: The timer is set for the unit to wait for recording start.
SD	An SD memory card is inserted. Blinking: The SD card is being accessed.
ALM	An integrated power consumption has exceeded the specified upper threshold value.
🔌	Power is supplied.
🔋	The battery level is shown in 4 levels. Replace the batteries when this is blinking. This indication is not available when the measurement mode (MODE) is in NORM or HISPD.
Hi	Indicates the upper limit threshold value.
MAX	Indicates the maximum momentary power value.
MIN	Indicates the minimum momentary power value.
AVE	Indicates the average momentary power value.
RUN	The unit is currently operating in RUN mode.
FUN	The unit is currently operating in FUN mode.
THR	The unit is currently operating in THR mode.

■Character display list

A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z
0 1 2 3 4 5 6 7 8 9

■Major messages displayed

Display	Character strings	Display	Character strings	Display	Character strings
cLEAr	CLEAR	rEStr	RESTR	SctSA	SCT5A
cYcLE	CYCLE	bcKUP	BCKUP	LocUt	LOCUT
tinEr	TIMER	cLocK	CLOCK	rAnGE	RANGE
StriG	STRIG	YEAr	YEAR	AUto	AUTO
StinE	STIME	nonth	MONTH	rAtE	RATE
EtriG	ETRIG	dAY	DAY	conu	CONV
EtinE	ETIME	tinE	TIME	rErEc	REREC
ELPSd	ELPSD	oFF	OFF	int h	INT H
nodE	MODE	on	ON	rESEt	RESET
rEc	REC	diSP	DISP	donE	DONE
intEG	INTEG	norn	NORM	dAtA	DATA
USEch	USECH	SLEEP	SLEEP	no Sd	NO SD
tYPE	TYPE	hiSPd	HISPD	SdLcK	SDLCK
ct	CT	nEt	NET	hArd	HARD
uoLt	VOLT	iP	IP	Sd Er	SD ER
PF	PF	Sub	SUB	bAtLo	BATLO
FrE9	FREQ	cont	CONT		
init	INIT	rinG	RING		
Etc	ETC	dtAiL	DTAIL		

STEP 3 Connecting the dedicated CT and turning the power ON

1 Connect the CT cable.

Insert it until it clicks.

- CT Cable
- AC Adapter or DC Cable
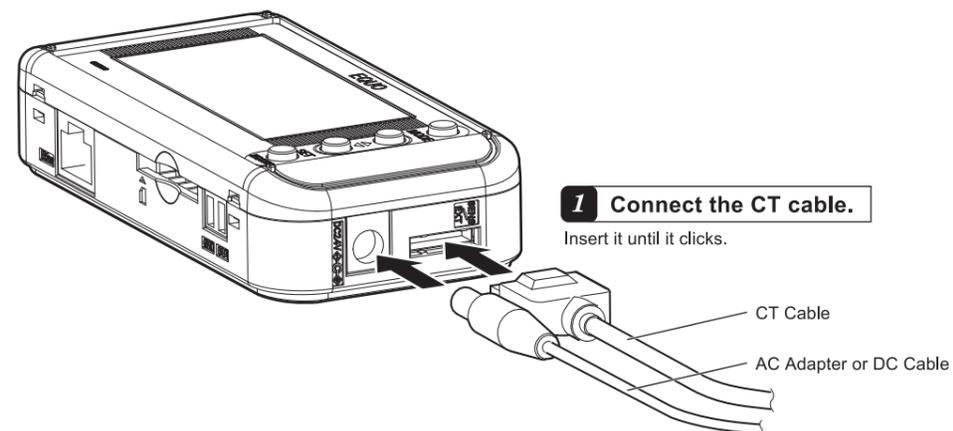
2 Connect the AC adapter or DC cable plug to the power supply input terminal.

Note: Only the provided AC adapter must be used when using AC power supply.
Only the provided DC cable must be used when using DC power supply.

When operating the product with batteries

Slide the battery cover to open.

Mount two batteries.
Note: Pay attention to follow the polarities indicated.

Slide the battery cover to close.
Note: Operate the Portable Power Monitor in SLEEP measurement mode when using battery power supply.
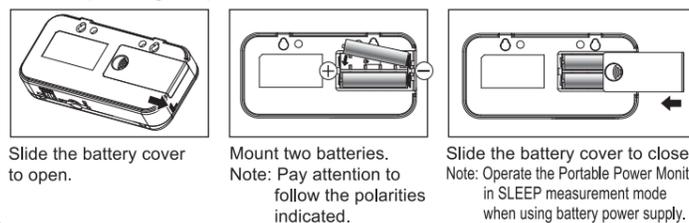
For connection and installation procedures of the alarm output cable, refer to the User's Manual.

3 Connect the AC plug of the AC adapter to an outlet when using AC power supply.
To use DC power supply, connect the white-lined wire of the DC cable to the power input (24 VDC) and the non-lined wire to 0V.

* A single wiring around the provided ferrite core can reduce noise.

- DC Power Supply
- **AC Adapter**
- **DC Cable**
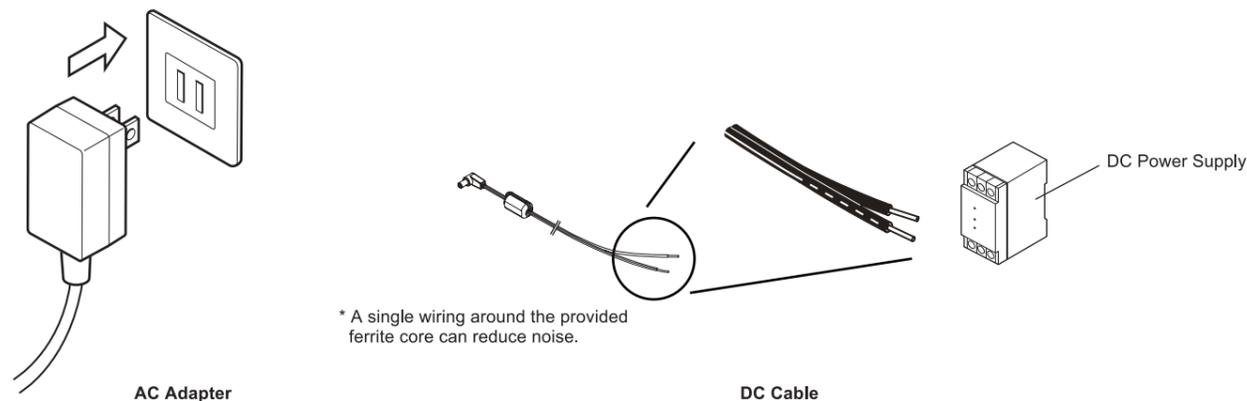
4 Mount the CT to the measurement conductor.

- For split-core CT, close the fixing hook until it clicks.
- Check the direction of the power supply side (K) and load side (L), and then clamp the CT. Correct measurement cannot be made if the setting direction is wrong.
- To connect multiple CTs, use a branch cable (ZN-CTM11-C).

- Load side (L)
- Power supply side (K)
- Partition/fixing hook
- **Split-core CT**
- Power supply side (K)
- A symbol "K" to indicate the direction of the power supply
- Load side (L)
- **Clamp-on CT**
- The connector part of the branch cable
  No.(1) / No.(2) / No.(3)
- Split-core CT or clamp-on CT (Clamp-on CT is used as an example here)
- Sensor head connector
- Note: Do not connect a split-core CT and a clamp-on CT to one Portable Power Monitor. Doing so may result in measurement error.
- Branch cable (ZN-CTM11-C)
- **Connection of a branch cable (ZN-CTM11-C)**

### 5 Turn the power ON. The CT enters free run (recording available) state and displays measurement value.

Set measurement conditions to the main unit. There are six conditions as follows: the number of used channels (USECH), applicable circuit (TYPE), dedicated CT type (CT), voltage (VOLT), power factor (PF), and frequency (FREQ). To set measurement conditions, use FUN mode.

**1 Press the MODE key to blink "FUN".**

If FUN is already blinking, this operation is not necessary.

EQUO
cLEAr
— MODE key
— FUN blinks
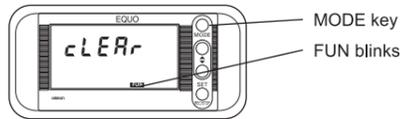
2 Set the number of channels to use (USECH). Example: Setting to "2CH"

(1) Press the △ or ▽ key until "USECH" is shown in the upper line of the display.
If the lower line shows "2CH", operations (2) to (4) are not required because "2CH" has been already set.
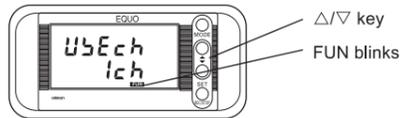
EQUO
USECh
1ch
— △/▽ key
— FUN blinks

(2) Press the SET/REC/STOP key to make the display in the lower line blink.

EQUO
USECh
1ch
— Blinks
— SET/REC/STOP key
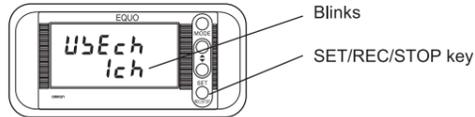
(3) Press the △ or ▽ key until "2CH" is shown in the lower line.

EQUO
USECh
2ch
— △/▽ key
— Blinks
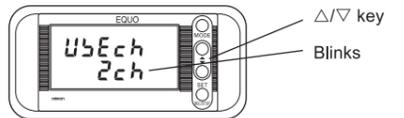
(4) Press the SET/REC/STOP key to apply "2CH" to the number of channels to use.

EQUO
USECh
2ch
— SET/REC/STOP key
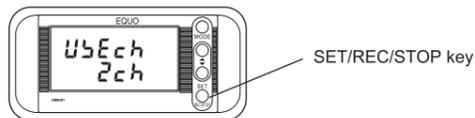
3 Set applicable circuit (TYPE).

(1) Press the △ or ▽ key until "TYPE" is shown in the upper line of the display.

EQUO
tYPE
3P3
— △/▽ key
— FUN blinks
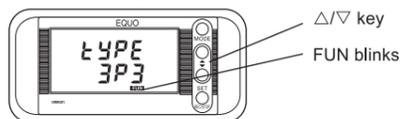
To set the applicable circuit (TYPE), follow the same procedure as the number of used channels (USECH) setting.

4 Set the dedicated CT type (CT).

(1) Press the △ or ▽ key until "CT" is shown in the upper line of the display.

EQUO
ct
100A
— △/▽ key
— FUN blinks
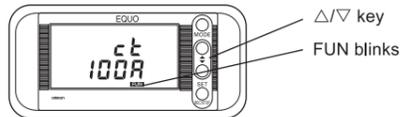
To set the dedicated CT type (CT), follow the same procedure as the number of used channels (USECH) setting.

5 Set the voltage (VOLT). Example: Set to 100.0 V

(1) Press the △ or ▽ key until "VOLT" is shown in the upper line.
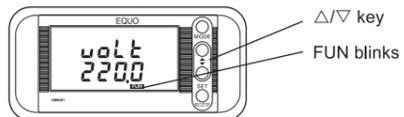
EQUO
voLt
220.0
— △/▽ key
— FUN blinks

(2) Press the SET/REC/STOP key to make the display in the lower line blink.

EQUO
voLt
220.0
— Blinks
— SET/REC/STOP key
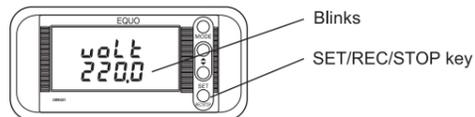
(3) Press the △ or ▽ key until "100.0" is shown in the lower line.

EQUO
voLt
100.0
— △/▽ key
— Blinks
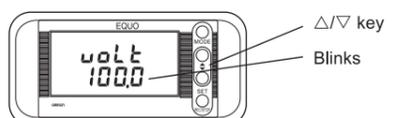
(4) Press the SET/REC/STOP key to confirm the voltage as "100.0".

EQUO
voLt
100.0
— SET/REC/STOP key
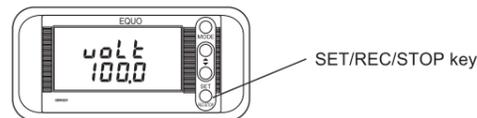
6 Set power factor (PF) and frequency (FREQ).

(1) To set power factor, display "PF" in the upper line, or to set frequency, display "FREQ".

EQUO
PF
0.8
— △/▽ key
— FUN blinks

EQUO
FrE9
50hz
— △/▽ key
— FUN blinks
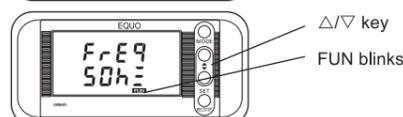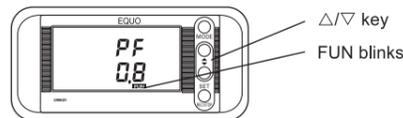
To perform the operations below, follow the same procedure as the measurement target voltage (VOLT) setting.

• A reset interval of the integrated power consumption can be set by displaying "INTEG" in the upper line of the display. For example, if you set the interval to 30 min, the integrated power consumption will be reset at 30-minute intervals such as 0:00 to 0:30, 0:30 to 1:00, 1:00 to 1:30. The initial value is set to OFF (no reset).
• Operation mode can be changed by displaying "MODE" in the upper line of the display. If you need more measurement accuracy, change the mode from SLEEP (default) to NORM. When operating in NORM mode, be sure to use an external power supply.

The measurement target type (TYPE) supports single-phase 2-wire (1P2), single-phase 3-wire (1P3), three-phase 3-wire (3P3) and three-phase 4-wire (3P4). Connect the CT for each type as shown below.
Note: Unbalanced loads cause a greater measurement error when measuring a three-phase 3-wire circuit by using only one channel.

<When the number of channels to use is 1CH>
Clamp to phase L for single-phase 2-wire and phase R for three-phase 3-wire.

Single-phase 2-wire
Power supply side (K)
L   N
Load side (L)

Three-phase 3-wire
Power supply side (K)
R   S   T
Load side (L)
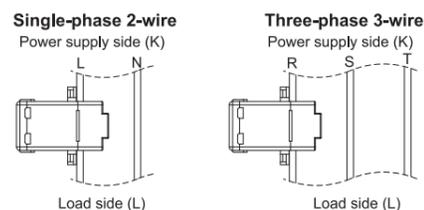
<When the number of channels to use is 2CH>
Clamp CH1 to phase R and CH3 to phase S for single-phase 3-wire.
Clamp CH1 to phase R and CH3 to phase T for three-phase 3-wire.

Single-phase 3-wire
Power supply side (K)
R   N   S
Load side (L)

Three-phase 3-wire
Power supply side (K)
R   S   T
Load side (L)
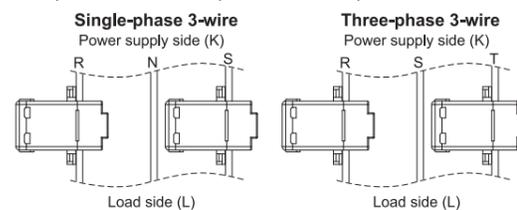
<When the number of channels to use is 3CH>
Clamp CH1 to phase R, CH2 to phase S and CH3 to phase T.

Three-phase 4-wire
Power supply side (K)
R   N   S   T
Load side (L)
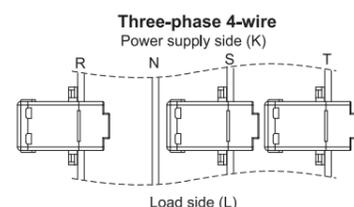
First, you need to install the software Multi Data Viewer Light to your computer.
Multi Data Viewer Light comprises the following: summary/display tool, setting/logging tool and instant value display tool.

■System Requirements
OS: Windows 7 SP1/Windows 10
* .NET Framework 3.5 SP1 or later is required.
CPU: Intel(x86)-compatible processor, 1.5GHz or higher
Memory: 2GB (32-bit OS)/3GB (64-bit OS), 3GB or higher recommended

HDD: 1GB or more free disc space required
Display: Resolution of 1024x768 or higher, 65536 colors (16-bit color) or more
LAN port: 10BASE-T/100BASE-TX supported (for network connection)
SD card reader/SD card slot: For loading data from the unit

■Installation
Visit the following link and download the installation file.

http://www.fa.omron.co.jp/multi-d-v-e

Extract the installation file to any folder, and run Setup.exe in the folder. The screen on the right appears.
For installation, you must log in with Administrator permissions.
.NET Framework 3.5 SP1 in your computer to install the software must be enabled.
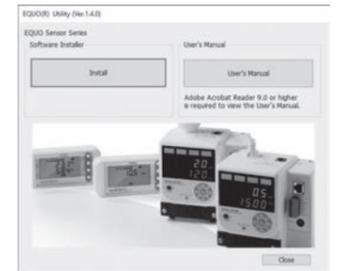
For how to install and use Multi Data Viewer Light, refer to Multi Data Viewer Light software manual in the installation file.

Network settings are required to connect a Portable Power Monitor to a PC via network.
Connect the LAN cable after completing the network settings for the Portable Power Monitor unit.

Connection Example

PC
IP address: 192.168.0.100
Subnet mask: 255.255.255.0

W4S1-05C (Operation checked)
Switching Hub

Portable Power Monitor

IP address: 192.168.0.20
Subnet mask: 255.255.255.0

IP address: 192.168.0.21
Subnet mask: 255.255.255.0
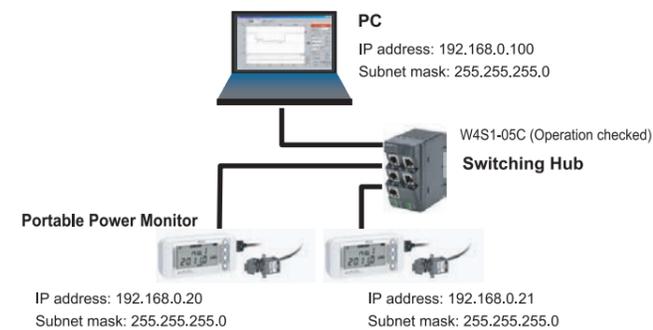
Setting Example

PC IP address	192.168.0.100
Portable Power Monitor IP address	(Unit 1) 192.168.0.20 (Factory default) (Unit 2) 192.168.0.21 (Change from the factory default)
Subnet mask	255.255.255.0 (Factory default)

Note
• A full understanding of LAN is required for network connection.
• Establish a dedicated LAN for connecting a Portable Power Monitor to a network.
• Connection to an in-house network or an existing LAN requires caution, since specific restrictions or rules may have been applied to the IP address management. Consult your network administrator. In case that such a network is used, however, OMRON cannot guarantee the performance of the Portable Power Monitor and the provided PC software.
• The IP addresses of the Portable Power Monitor and the PC must be individually unique and must not overlap each other in the network. If the subnet mask is changed from 255.255.255.0, the fourth segment of the IP addresses of all the connected units in the network still must be distinguished from one another.

Making unit settings

Make settings on the Portable Power Monitor in FUN mode.

1 Press the MODE key to blink "FUN".

If FUN is already blinking, this operation is not necessary.

EQUO
cLEAr
— MODE key
— FUN blinks
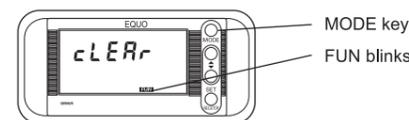
2 Display "MODE" in the upper line and set the lower line to "NORM".

(1) Press the △ or ▽ key until "MODE" is shown in the upper line.

EQUO
nodE
SLEEP
— △/▽ key
— FUN blinks

(2) Press the SET/REC/STOP key to make the display in the lower line blink.

EQUO
nodE
SLEEP
— Blinks
— SET/REC/STOP key
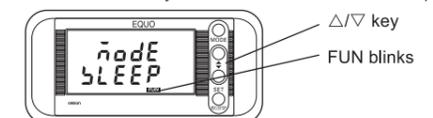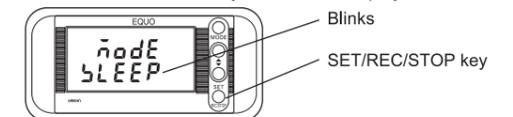
(3) Press △/▽ key until "NORM" is displayed at the lower row.

EQUO
nodE
norn
— △/▽ key
— Blinks

(4) Press the SET/REC/STOP key to confirm "NORM".

EQUO
nodE
norn
— SET/REC/STOP key
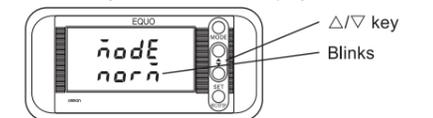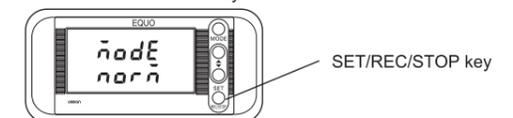
3 | Display "ETC" in the upper line and set the lower line to "DISP".

(1) Press the △ or ▽ key until "ETC" is shown in the upper line.

△/▽ key
FUN blinks

(2) Press the SET/REC/STOP key to make the display in the lower line blink.
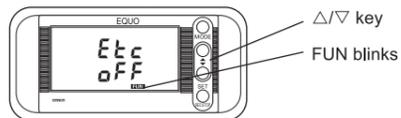
Blinks
SET/REC/STOP key
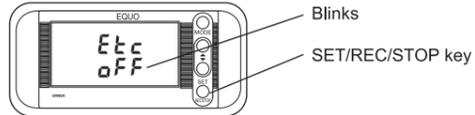
(3) Press △/▽ key until "DISP" is displayed at the lower row.

△/▽ key
Blinks
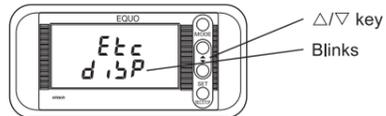
(4) Press the SET/REC/STOP key to confirm "DISP".
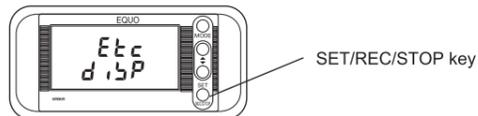
SET/REC/STOP key

4 | Display "NET" in the upper line and set the lower line to "ON".

(1) Press the △ or ▽ key until "NET" is shown in the upper line.

△/▽ key
FUN blinks

(2) Press the SET/REC/STOP key to make the display in the lower line blink.
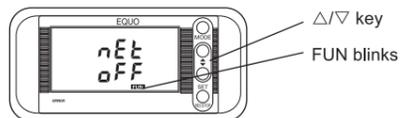
Blinks
SET/REC/STOP key
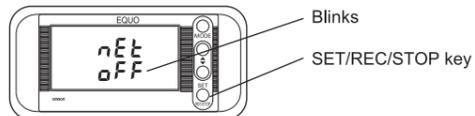
(3) Press △/▽ key until "ON" is displayed at the lower row.

△/▽ key
Blinks
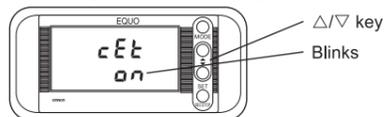
(4) Press the SET/REC/STOP key to confirm "ON".


SET/REC/STOP key
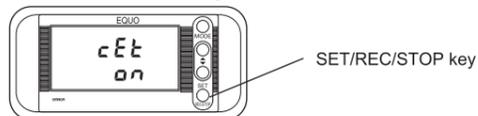
5 | Display "IP" in the upper line in the same way as step 4, and set the lower line to "DISP".

6 | Set the IP address.

The factory default is set to "192.168.0.20".
Change it to "192.168.0.21".

(1) Apply "IP" to "DISP". Then, press the ▽ key to display "IP1".
If "192" is not displayed, change the value referring to the changing "IP 4" example shown later.

▽key

(2) Press the ▽ key to display "IP2".
If "168" is not displayed, change the value referring to the changing "IP 4" example shown later.

▽key

(3) Press the ▽ key to display "IP3".
If "0" is not displayed, change the value referring to the changing "IP 4" example shown later.


▽key
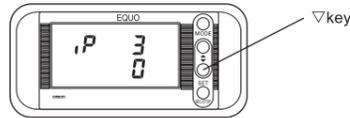
(4) Press the ▽ key to display "IP4".
Change "20" to "21".

▽key

(5) Press the SET/REC/STOP key. "20" in the lower line blinks.

Blinks
SET/REC/STOP key
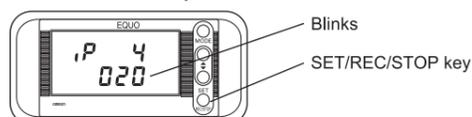
(6) Press the ▽ or △ key to change the value to "21".

△/▽ key
Blinks
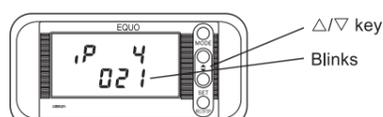
(7) Press the SET/REC/STOP key. The value is applied.

SET/REC/STOP key
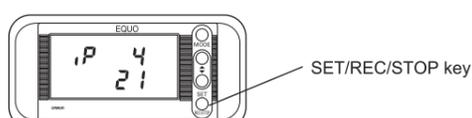
7 | Set SUB 1 to 4 (subnet mask) in the same way as step 6.

Use "255.255.255.0" (Factory default) for subnet mask.
To change the subnet mask, contact your network administrator.

8 | Press the MODE key. The unit is reset.

The unit is connected through the new IP address after restart.

Making PC settings

Refer to the Portable Power Monitor User's Manual for the PC IP address setting.
User's Manual is downloaded in a PC from following URL.

http://www.fa.omron.co.jp/products/family/3078/download/manual.html

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STEP 7 | Data Record

Measured values will be recorded in a Portable Power Monitor unit.

1 | Press the MODE key to turn "RUN" ON.
If RUN is already on, this operation is not necessary.


MODE key
"RUN" turns on
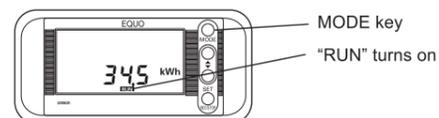
2 | Press and hold the SET/REC/STOP key (for 3 seconds or longer) to start recording.
During recording, "REC" is turned ON.
Data is recorded in the internal memory.

"REC" turns on
Press and hold
the SET/REC/STOP key.
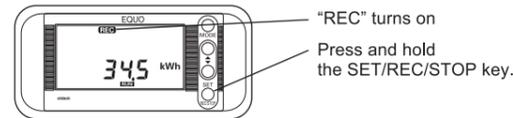
3 | You can change the display contents with the △ and ▽ keys.
* Instantaneous power and integrated power consumption are conversion values.

Upper line: No display
Lower line: Instantaneous power (kW)

Upper line: The number of channels to use
Lower line: Current of individual channels
*1 The channel number display changes incrementally or decrement ally ("CH1"→unit A, "CH2"→unit A, "CH3"→unit A, ...) depending on the number of used channels (USECH).

Only when 1 hour or longer has passed
Auto
*2 Remaining time is displayed when ETRIG is active.
Upper line: Elapsed time (min, sec)*2
Lower line: Integrated power consumption (kWh)
Upper line: Elapsed time (day, hour)*2
Lower line: Integrated power consumption (kWh)

Upper line: No display
Lower line: Average of instantaneous power
Upper line: No display
Lower line: Max value of instantaneous power
Upper line: No display
Lower line: Minimum value of instantaneous power

Upper line: Cost conversion value
Lower line: Unit

Upper line: Rank
Lower line: No.1-ranked integrated power consumption (kWh)

Upper line: Ranking
Lower line: Measurement start date
Upper line: Ranking
Lower line: Time (hour:minute)
The same procedure up to RANK 9.

Upper line: Ranking
Lower line: Average value of No.1-ranked instantaneous power consumption
Upper line: Ranking
Lower line: Max. value of No.1-ranked instantaneous power consumption
Upper line: Ranking
Lower line: Min. value of No.1-ranked instantaneous power consumption

Upper line: Integrated power consumption (kWh)
Lower line: Threshold value (kWh)

Upper line: Integrated power consumption
Lower line: Threshold rate (%kWh)

Upper line: Data count in the internal memory
Lower line: Current time (hour:minute)

### 4 | Insert an SD memory card to obtain the data recorded in the internal memory.
Insert the SD memory card with metal terminals facing upward until it clicks.
When it inserted correctly, "SD" turns on.

"SD" turning ON
When ejecting the SD memory card, push the card until it clicks and then pull it out.
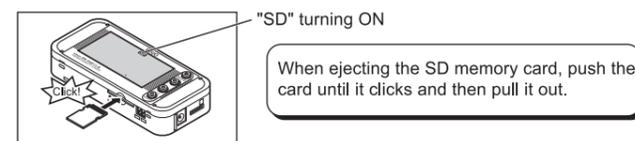
5 | Press the SET/REC/STOP key to output the data to the SD memory card as a CSV file.

"SD" blinks during file output
SET/REC/STOP key
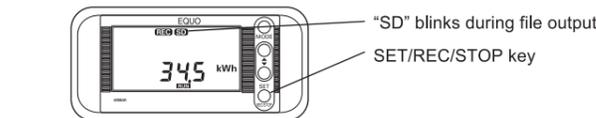
Caution
Do not eject the SD memory card while "SD" is blinking.
When "SD" changes from the blinking to turned-on status, writing is complete and you can eject the SD memory card.

- If you press and hold the SET/REC/STOP key less than 3 seconds, file output is carried out while recording in the internal memory continues.
- If you press and hold the SET/REC/STOP key more than 3 seconds, file output is carried out though recording into the internal memory is stopped. "REC" turns OFF.
- After "SD" stops blinking, you can eject the SD memory card.

- If the internal memory is used up, recording stops. However, when SD card has been inserted, data will be automatically output to the card as a file to continue recording (in the case when factory default is set to the CONTINUE Mode).
- If the screen display turns OFF during measurement, the device is set to the sleep mode. Pressing any key will resume display. Recording will be continued while display turns OFF.

Main error messages displayed

Display (Upper line/ Lower line)	Meaning	Description
DATA E1100	Measured data writing failure	Failure in writing the measured data on the SD memory card due to no free memory or pulling out the card while writing. Insert a writable SD card. Press and hold the MODE key (for 3 seconds or longer) to release an error display. If an error occurs, insert a proper SD card and stop recording. After the data is properly written to the SD card, restart recording.
NO SD E3000	No SD memory card inserted.	No SD memory card is inserted. Insert an SD memory card. Press and hold the MODE key (for 3 seconds or longer) to release an error display.
SDLCK E3002	SD memory card writing is prohibited.	SD memory card writing is prohibited. Insert a writable SD memory card. Press and hold the MODE key (for 3 seconds or longer) to release an error display.

List of Portable Power Monitor Setting Items

For details, refer to the User's Manual.

Operating Modes

Portable Power Monitor has three operation modes.
Measurement and recording are carried out in RUN mode.

Mode	Name	Display	Description
RUN	Measurement execution mode	"RUN"turns ON	Performs measurement
FUN	Function setting mode	"FUN" blinks	Sets various parameters.
THR	Threshold setting mode	"THR" blinks	Sets conditions for alarm output.

Change of operating modes is executed by the MODE key.
Press the MODE key twice to change the mode from RUN to FUN.
For other cases, press the MODE key once. Press the △ key/▽ key to display the detailed screen.
During recording into the device, transition from RUN mode to other modes is disable.

MODE key

RUN Mode → FUN mode → THR Mode

MODE key twice
△/▽ key

MODE key
△/▽ key

△/▽ key

RUN mode operation

FUN mode operation

THR mode operation
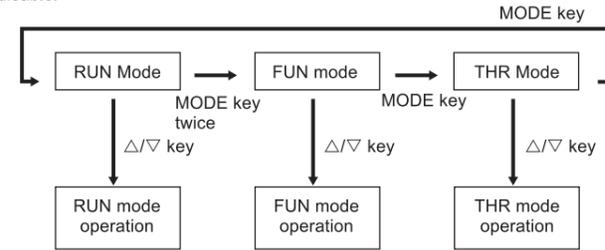
FUN mode

Settings regarding measurement and recording functions can be made in FUN mode.

Display items			Setting items	Contents	Factory default
CLEAR			Ranking clear	A press of the SET/REC/STOP key displays "CLEAR". Another press of the REC key clears the ranking.	-
CYCLE			Record interval	Set the update intervals of measured values. 1s (second)/2s/5s/10s/20s/30s/1 min (minute)	1s
TIMER (At ON)	STRIG		Start trigger	Set the start trigger using the timer setting function. OFF/TIME (Starts recording at the specified time)	OFF
	STIME		Start time	Set the record start time using the timer setting function. 00:00 to 23:59	00:00
	ETRIG		End trigger	Set the end trigger using the timer setting function. OFF/TIME (Starts recording at the specified time)/ELPSD (The elapsed time from the record start to end)	OFF
	ETIME		End time	Set the record end time using the timer setting function. 00:00 to 23:59	00:00
	ELPSD		Elapsed time	Set the elapsed time from the record start to end using the timer setting function. 0.05 (0 minute 5 seconds) to 999.59 (999 minutes 59 seconds)	0.05
MODE			Measurement operating mode	Set the operation at measurement. After confirming NORM/SLEEP setting, changing the operation mode with the MODE key resets the setting and the Portable Power Monitor restarts.	SLEEP
REC			Recording mode	Sets operation for the case where the internal memory is used up. CONT/RING	CONT
INTEG			Reset interval of integrated power consumption	Specify the time interval to measure integrated power consumption. OFF/30 min/1 h/24 h	OFF
USECH			The number of channels to use.	Set the number of channels to use. 1CH/2CH/3CH	1CH
TYPE			Applicable circuit	Set the power supply type of the measurement target. 1P2 (Single-phase 2-wire)/1P3 (Single-phase 3-wire) /3P3 (Three-phase 3-wire)/3P4 (Three-phase 4-wire)	3P3
CT			Dedicated CT type	Specify the CT type of the measurement target. 5A/50A/100A/200A/400A	100A
VOLT			Measurement target voltage	Specify the voltage of the measurement target. 1.0 to 9999.9	220
PF			Power factor	Specify the power factor of the measurement target. 0.01 to 1.00	0.8
FREQ			Frequency	Specify the frequency of the measurement target. 50Hz/60Hz	50Hz
INIT			Return to the factory default.	Press and hold the SET/REC/STOP key to start initializing. If the operating mode is changed with the MODE key after displaying DONE, the device is reset and starts again.	-
ETC (At DISP)	RESTR		Reading the setting data from the SD memory card	Press and hold the SET/REC/STOP key to read the setting data from the SD memory card and set them on the main unit. If the operating mode is changed with the MODE key after displaying DONE, the device will be reset and reboot.	-
	BCKUP		Writing the setting data on the SD memory card	Press and hold the SET/REC/STOP key to save the setting data on the SD memory card.	-
	CLOCK (At DISP)	YEAR	Year	Sets the year.	Cannot be initialized with INIT.
		MONTH	Month	Sets the month.	
		DAY	Day	Sets the day.	
		TIME	Hour: Minute	Sets Hour and Minute.	
	NET		Network function	Specify if the network functions are required. OFF/ON	OFF
	IP (At DISP)	IP	IP	IP address 0 to 255	192.168.0.20
		SUB	SUB	Subnet mask 0 to 255	255.255.255.0
	DTAIL (At DISP)	SCT5A	Rated primary side current value	Set the rated primary current value. It is valid only when CT is configured as 5A. 5 to 9999	5A
		LOCUT	Low-cut current	Specify the low-cut current. 0.1 to 19.9%	0.6%
		RANGE	Measurement range	Specifies the measurement range. NORM (Fixed measurement range)/ AUTO (Automatic switching according to the measured current value)	AUTO
	RATE		Rate/CO2 conversion rate setting	Specify the rate/CO2 conversion value. 00.000 to 99.999	0
	CONV		Conversion unit setting	Specify the unit of the rate/CO2 conversion value setting (RATE). JPY (yen)/USD (U.S. dollar)/EUR (Euro)/CNY (Chinese yuan)/ KRW (Korean won)/CO2 (CO2 emissions per kWh)	JPY
	REREC		Power failure REC restoration	Specify if the unit writes data and resumes recording after restart in the event of a power failure during recording. OFF (Does not start recording)/ON (Starts recording after writing data)	OFF

Use the △ key/▽ key to move among the setting items, and fix it with the SET/REC/STOP key.

CLEAR
CYCLE
TIMER — Displayed only when TIMER is set to ON. — STRIG — Displayed only when STRIG is set to TIME. — STIME
ETRIG — Displayed only when ETRIG is set to TIME. — ETIME
ETRIG — Displayed only when ETRIG is set to ELPSD. — ELPSD
MODE
REC
INTEG
USECH
TYPE
CT
VOLT
PF
FREQ
INIT
ETC — Displayed only when ETC is set to DISP. — RESTR, BCKUP, CLOCK — Displayed only when CLOCK is set to DISP. — YEAR, MONTH, DAY, TIME
NET
IP — Displayed only when IP is set to DISP. — IP 1, IP 2, IP 3, IP 4
DTAIL — Displayed only when DTAIL is set to DISP. — SCT5A, LOCUT, RANGE
RATE
CONV — SUB 1, SUB 2, SUB 3, SUB 4
REREC

If "ETC", "CLOCK, "IP" or "DTAIL" is set to "DISP", the setting will return to "OFF" upon restart.

THR Mode

In THR mode, a threshold value for alarm output is set. When measurement is performed in RUN mode, if a measured value exceeds the threshold value, "ALM" is turned ON and alarm output becomes ON condition.
(Alarm output will be unavailable if both items are set to 0.)

Display items	Setting items	Description	Factory default
INT H	Upper limit of integrated power consumption threshold value more than kWh	"ALM" and alarm output will turn ON when the measured integrated power consumption is higher than the set value. 0 kWh to 99999 kWh	0kWh
INT H	Upper limit of integrated power consumption threshold value less than kWh	"ALM" and alarm output will turn ON when the measured integrated power consumption is lower than the set value. 0 kWh to 99999 kWh	0Wh

Use the △ key/▽ key to move among the items, and fix them with the SET/REC/STOP key.

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