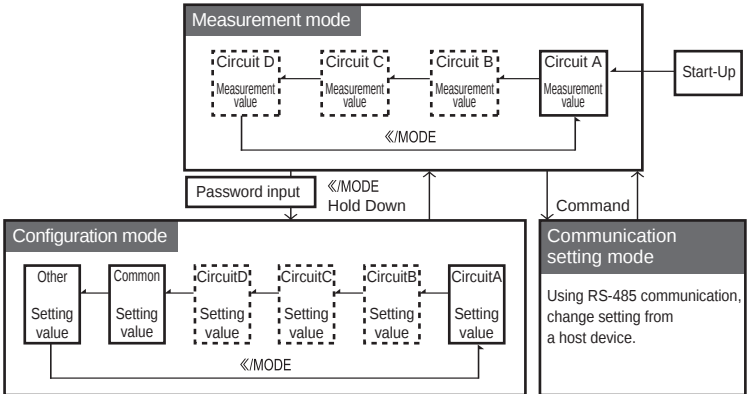


Mode configuration

This model has three modes: measuring mode, setting mode, and communication setting mode.

- Measuring mode
- Setting mode
- Communication setting mode
- The measured values for each circuit are displayed.
- :By operating keys on the body of the unit you can change settings for each of the circuits, and make common settings for communications, output, the display, etc.
- :Make settings on the units using RS-485 communication.



- In the measuring mode and setting mode, the circuit B to D items are displayed by switch the enable/disable settings for each of the circuits to "ON" (enabled). (The circuits indicated inside the dotted lines are "OFF" (disabled) in the default state.)

Switching between the measuring mode and the setting mode

- Switch between the measuring mode and setting mode by pressing and holding the [<<MODE] key.
- "Press and hold" means pressing the key for 1 or more seconds.

How to enter the password

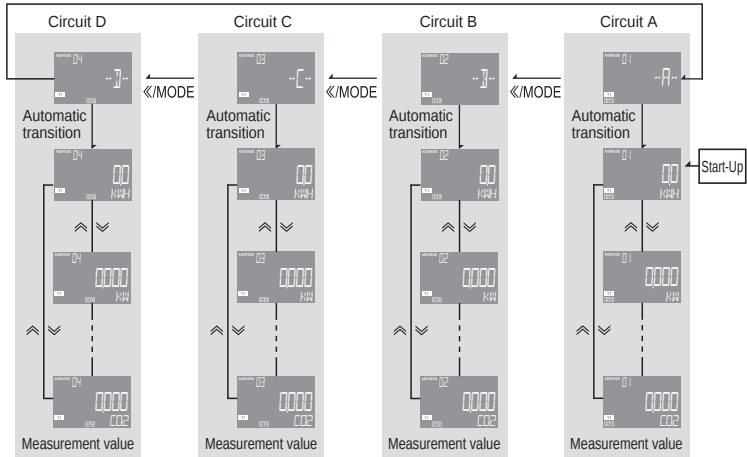
- When moving from the measuring mode to the setting mode, you need to enter the password that has been set.
- The default password is "0001".
- You can set a password of 4 numerals between 0000 and 9999. Change the password as necessary.
- You will be unable to reset the password if you forget it. Take care to note the password carefully when changing it.
- There is no functionality to disable the password setting.
- If you forget the password, contact the place of purchase or the manufacturer.

Measuring mode

Measurement display

- When the [<<MODE] key is pressed, the measuring items are displayed after the screen for showing the destination circuit.
- The measuring items for circuits B to D are displayed when the circuit settings are enabled (ON).
 - Press the [F1/F2/F3/F4] keys to switch the items measured.

(1P2W display example)



- Circuits B to D are displayed when measuring is enabled (ON).
- With 3P4W, only circuit A is displayed. With 1P3W and 3P3W, only circuits A and C are displayed.

Measurement display list

	Item	Main display/numerals	Sub display/units
1	Active energy (import)	0.000 to 999999.999	kWh
		1000.000 to 999999.999	MWh
2	Active power	-99999.999 to 999999.999	kW
3	Current 1	0.000 to 999999.999	A : 1-phase 2-wire A_R : 3-phase 4-wire, 1-phase 3-wire, 3-phase 3-wire
4	Current 2	0.000 to 999999.999	None : 1-phase 2-wire A_N : 1-phase 3-wire A_S : 3-phase 4-wire, 3-phase 3-wire
5	Current 3	0.000 to 999999.999	None : 1-phase 2-wire A_T : 3-phase 4-wire, 1-phase 3-wire, 3-phase 3-wire V : 1-phase 2-wire
6	Phase voltage 1	0.0 to 99999999.9	V_R : 3-phase 4-wire, 1-phase 3-wire None : 3-phase 3-wire
7	Phase voltage 2	0.0 to 99999999.9	None : 1-phase 2-wire, 1-phase 3-wire, 3-phase 3-wire V_S : 3-phase 4-wire
8	Phase voltage 3	0.0 to 99999999.9	None : 1-phase 2-wire, 3-phase 3-wire V_T : 3-phase 4-wire, 1-phase 3-wire

	Item	Main display/numerals	Sub display/units
9	Inter-wire voltage1	0.0 to 99999999.9	None : 1-phase 2-wire, 1-phase 3-wire V_R-S : 3-phase 4-wire, 3-phase 3-wire
10	Inter-wire voltage2	0.0 to 99999999.9	None : 1-phase 2-wire, 1-phase 3-wire V_R-T : 3-phase 4-wire, 3-phase 3-wire
11	Inter-wire voltage3	0.0 to 99999999.9	None : 1-phase 2-wire V_R-T : 3-phase 4-wire, 1-phase 3-wire, 3-phase 3-wire
12	Frequency	45.0 to 65.0	Hz
13	Power factor	-1.00 to 1.00	PF
14	Reactive power	-99999.999 to 999999.999	kVAR
15	Active energy (export)	0.000 to 999999.999	-kWh
		1000.000 to 999999.999	-MWh
16	Cumulative total reactive power	0.000 to 999999.999	kVARh
		1000.000 to 999999.999	MVARh
17	Reactive energy (import)	0.000 to 999999.999	-kVRh
		1000.000 to 999999.999	-MVRh
18	Reactive energy (export)	0.000 to 999999.999	+kVRh
		1000.000 to 999999.999	+MVRh
19	T1 active energy (import)	0.000 to 999999.999	kWh
		1000.000 to 999999.999	MWh
20	T2 active energy (import)	0.000 to 999999.999	kWh
		1000.000 to 999999.999	MWh
21	T3 active energy (import)	0.000 to 999999.999	kWh
		1000.000 to 999999.999	MWh
22	T4 active energy (import)	0.000 to 999999.999	kWh
		1000.000 to 999999.999	MWh
23	Active energy (import) (resettable)	0.000 to 999999.999	kWh (flashes)
		1000.000 to 999999.999	MWh (flashes)
24	Active energy (export) (resettable)	0.000 to 999999.999	-kWh (flashes)
		1000.000 to 999999.999	-MWh (flashes)
25	Cumulative total reactive power (resettable)	0.000 to 999999.999	kVARh (flashes)
		1000.000 to 999999.999	MVARh (flashes)
26	Reactive energy (import) (resettable)	0.000 to 999999.999	-kVRh (flashes)
		1000.000 to 999999.999	-MVRh (flashes)
27	Reactive energy (export) (resettable)	0.000 to 999999.999	+kVRh (flashes)
		1000.000 to 999999.999	+MVRh (flashes)
28	T1 active energy (import) (resettable)	0.000 to 999999.999	kWh (flashes)
		1000.000 to 999999.999	MWh (flashes)
29	T2 active energy (import) (resettable)	0.000 to 999999.999	kWh (flashes)
		1000.000 to 999999.999	MWh (flashes)
30	T3 active energy (import) (resettable)	0.000 to 999999.999	kWh (flashes)
		1000.000 to 999999.999	MWh (flashes)
31	T4 active energy (import) (resettable)	0.000 to 999999.999	kWh (flashes)
		1000.000 to 999999.999	MWh (flashes)
32	Conversion value	0.000 to 999999.999	xxx *Setting can be changed kxxx *Setting can be changed

- The units change automatically when the display reaches the maximum value, with the display value on KM-N2 returning to 0, but recording continues. Accurate values can be obtained by using the communication function.

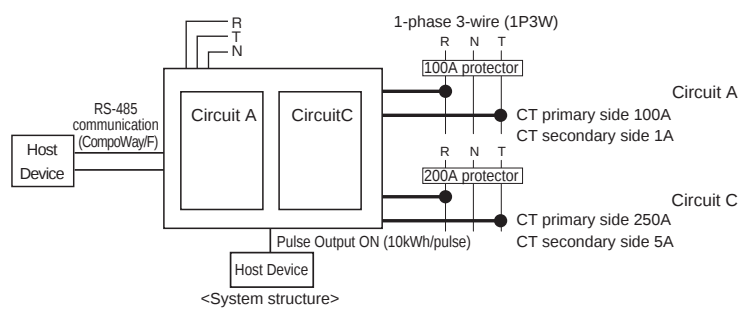
Setting mode

Setting item list

	MENU No.	Setting Item	Main display Display of options and input values	Default Value
Circuit A	A1	Phase and wire type	3P4W / 1P2W / 1P3W / 3P3W / 1P2W2 / 1P3W2	3P4W
	A2	Communication address*1	Modbus : --, 01 to 99 CompoWayIF : -- 00 to 99	-- (invalid value)
	A3	Current on the CT secondary side	1A / 5A	5A
	A4	Current on the CT primary side	1 to 99999	5
	A5	Voltage assignment	V_R / V_T / V_R-T	V_R
	A6	Pulse output ON/OFF	ON / OFF	OFF
	A7	Active energy reset	----	----
Circuit B*2	B0	Circuit B ON/OFF	ON / OFF	OFF
	B1	Phase and wire type	3P4W / 1P2W / 1P3W / 3P3W / 1P2W2 / 1P3W2	--
	B2	Communication address*1	Modbus : --, 01 to 99 CompoWayIF : -- 00 to 99	-- (invalid value)
	B3	Current on the CT secondary side	1A / 5A	5A
	B4	Current on the CT primary side	1 to 99999	5
	B5	Voltage assignment	V_R / V_T / V_R-T	V_R
	B6	Pulse output ON/OFF	ON / OFF	OFF
Common CMMN	B7	Active energy reset	----	----
	00	Protocol	MODBS / COMPF	MODBS
	01	Communication speed	1.2K / 2.4K / 4.8K 9.6K / 19.2K / 38.4K(bps)	9.6K
	02	Data length	7 / 8	8
	03	Stop bit	1 / 2	1
	04	Parity	NONE / ODD / EVEN	EVEN
	05	Transmission wait time	00 to 99	20
	06	VT ratio	1.00 to 999.99	1.00
	07	Conversion rate	0.000 to 99.999	10.000
	08	Conversion display units	3 places: XXX Each place: 0 to 9, A to Z, /, -, _	CO2
	09	Pulse output units	1 / 10 / 100 / 1K / 5K 10K / 50K / 100K (Wh)	100
	0A	Automatic LCD off	OFF / 1.0 / 5.0 / 10.0 (minutes)	5.0
	0B	Warning ON/OFF	ON / OFF	ON
	0C	Tariff ON/OFF	ON / OFF	ON
	0D	Change password	0000 to 9999	0001
Others ETC	90	Software version display	V.1.0.0	----
	91	All active energy reset	----	----
	92	Initialize	----	----

- *1 The communication address can only be set using the rotary switch. You cannot set it with the [F1] and [F2] keys.
- *2 Same for circuit C and D

Setting example



To measure, you first need to make settings in the settings mode for the circuits and communications. Example settings are shown for the following conditions.

Circuit A	Circuit C
• Phase and wire type : 1P3W	• Phase and wire type : 1P3W
• Current on the CT secondary side : 1A	• Current on the CT secondary side : 5A
• Current on the CT primary side : 100A	• Current on the CT primary side : 250A
• Communication address : 15	• Communication address : 16 (numbered starting from circuit A)

- Pulse output ON/OFF : ON (automatically allocated to OUT1)
- Pulse output ON/OFF : ON (automatically allocated to OUT3)

Items that have a minimum setting are as follows:

Circuit A settings	Circuit C settings
• Phase and wire type : MENU A1	• Current on the CT primary : MENU C4 side
• Current on the CT secondary side : MENU A3	• Pulse output ON/OFF : MENU C6
• Current on the CT primary side : MENU A4	* The secondary current for CTs (MENU C3) does not need to be changed.
• Pulse output ON/OFF : MENU A6	

RS-485 communication settings	Pulse output settings
• Protocol : MENU 00	• Pulse output units : MENU 09
• Communication speed : MENU 01	
• Data length : MENU 02	
• Stop bit : MENU 03	
• Parity : MENU 04	
• Transmission wait time : MENU 05	
• Address number : Rotary switch	

① Communication address setting mode

Set communication address of circuit A to 15

- Set the tens on the rotary switch to 1 and set the ones to 5.
- Refer to "RS-485 wiring" in "Setting the communication address" for details.
- Note:
 - The communication address can only be set using the rotary switch. You cannot set it with the [F1] and [F2] keys.
 - The communication address can only be set for circuit A. By setting the address of circuit A to 15, the address of circuit C will be automatically set to 16 under these conditions. (Refer to "RS-485 wiring" for details.)
 - The address can be changed in the setting mode, the measuring mode, or even when the unit is off. Setting changes are reflected after the power is turned on or the unit is restarted.

② Moving to the setting mode

- Press and hold the [<<MODE] key to move to the password entry screen.



- Enter the password. Change the values using the [F1] and [F2] keys. Press the [<<MODE] to change the place. (Password default: 0001).
- Press the [ENTER] key to confirm the value. OK is displayed if the password is correct and the screen moves to the setting mode.
- * If you press the [ESC] key before press the [ENTER] key, current input is canceled.(Same for other settings.)

③ Communications protocol settings (common settings)

Set to CompoWay/IF

- Press the [<<MODE] key to move to the common settings "CMMN" screen.



- Press the [F2] key to move to the common settings items. "Protocol (MENU 00)" is displayed.
- Press the [ENTER] key to enter the setting mode. The setting value in the main display flashes.
- Press the [F1/F2/F3/F4] keys to select "COMPF".
- Press the [ENTER] key to confirm your selection.



- Make other communications settings to suit the host device.

④ Pulse output units settings (common settings)

Set to 10kWh/pulse

- Press the [<<MODE] key to move to the common settings "CMMN" category display screen.
- From the common setting items, press the [F1/F2/F3/F4] keys to move to "Pulse output units (MENU 09)".
- Press the [ENTER] key to enter the setting mode. The setting value in the main display flashes.
- Press the [F1/F2/F3/F4] keys to select "10k".
- Press the [ENTER] key to confirm your selection.



⑤ Circuit A settings

Set the phase and wire type to 1P3W

- Press the [<<MODE] key to move to the circuit A setting items.
- "Phase and wire type (MENU A1)" is displayed.
- Press the [ENTER] key to enter the setting mode. The setting value in the main display flashes.
- Press the [F1/F2/F3/F4] keys to select "1P3W" (1-phase 3-wire).
- Press the [ENTER] key to confirm the selected items.



Set the CT secondary side current to 1A

- From the circuit A setting item, press the [F1/F2/F3/F4] keys to move to "CT secondary side current (MENU A3)".
- Press the [ENTER] key to enter the setting mode. The setting value in the main display flashes.
- Press the [F1/F2/F3/F4] keys to select "1A".
- Press the [ENTER] key to confirm the selected items.

Set the CT primary side current to 100A

- From the circuit A setting item, press the [F1/F2/F3/F4] keys to move to "CT primary side current (MENU A4)".
- Press the [ENTER] key to enter the setting mode. The digit in the ones place on the main display flashes.
- Press the [F1/F2/F3/F4] keys to change the value to "100".
- Press the [<<MODE] key to move one place to the left.
- If you press the [<<MODE] key on the end at the left, the cursor moves to the right end.
- Press the [ENTER] key to confirm your change.

Set pulse output to ON

- From the circuit A setting item, press the [F1/F2/F3/F4] keys to move to "Pulse output ON/OFF (MENU A6)".
- Press the [ENTER] key to enter the setting mode.
- Press the [F1/F2/F3/F4] keys to select "ON".
- Press the [ENTER] key to confirm the selected items.

⑥ Circuit C settings

Enables circuit C

- Press the [<<MODE] key to move to the settings screen for circuit C.
- Press the [F1] key to move to the circuit C setting item.
- "Circuit C ON/OFF (MENU C0)" is displayed.
- Press the [ENTER] key to enter the setting mode. The setting value in the main display flashes.
- Press the [F1/F2/F3/F4] keys to select "ON".
- Press the [ENTER] key to confirm the selected items.



Set CT primary side

- From the circuit C setting item, press the [F1/F2/F3/F4] keys to move to "CT primary side current (MENU C4)".
- Set the same as for circuit A after this.

Setting pulse output ON or OFF

- From the circuit C setting item, press the [F1/F2/F3/F4] keys to move to "Pulse output ON/OFF (MENU C6)".
- Set the same as for circuit A after this.

⑦ Reflecting the settings

- Press and hold the [<<MODE] key to finish the settings and restart.
- * When the settings have been changed, the changes are saved when moving to the measurement mode and the unit restarts. Settings are not saved if the unit is turned off while still in the setting mode. (Only the communication address, set with the rotary switch, is reflected.)

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