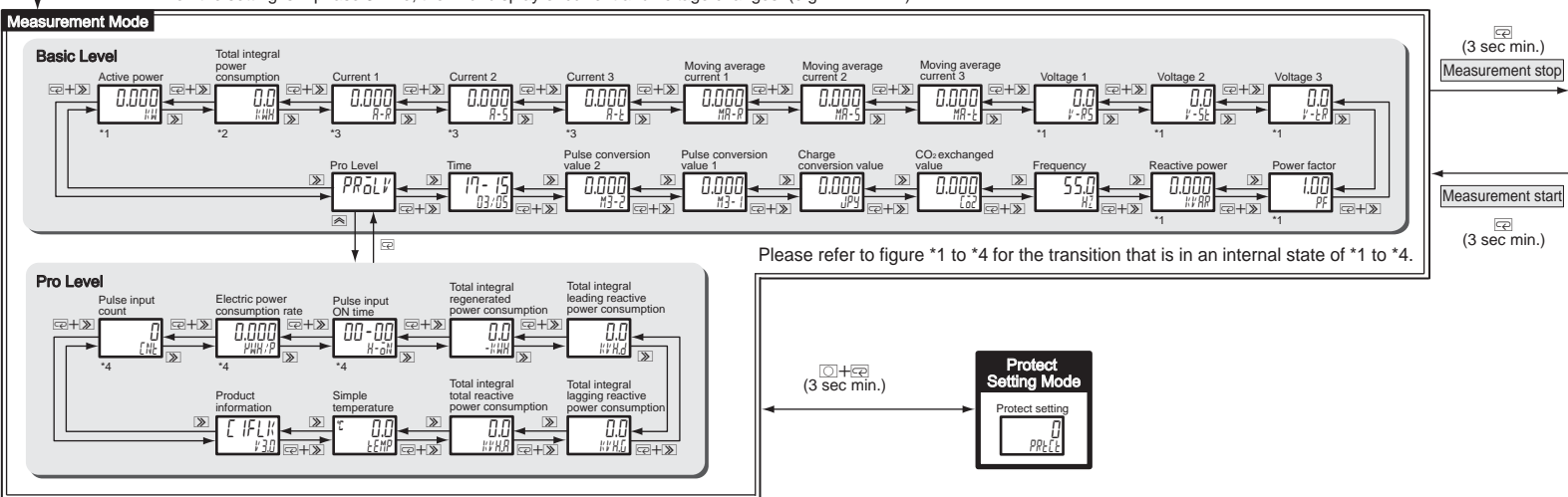


State Transition

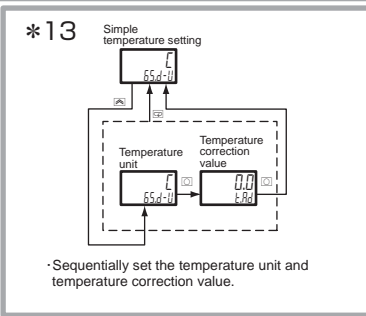
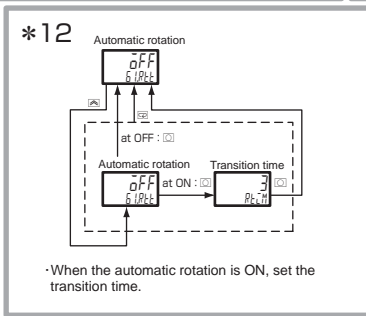
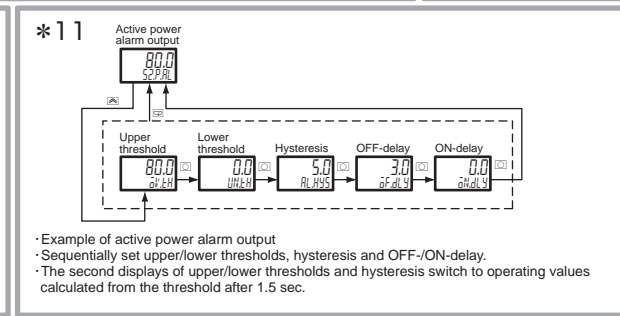
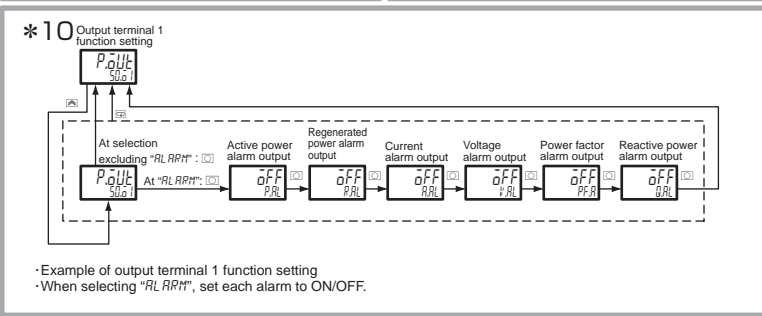
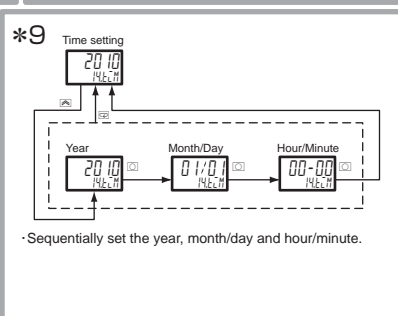
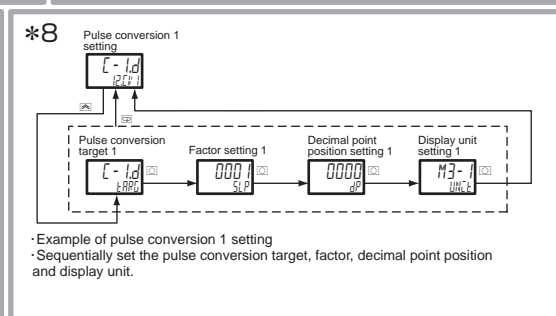
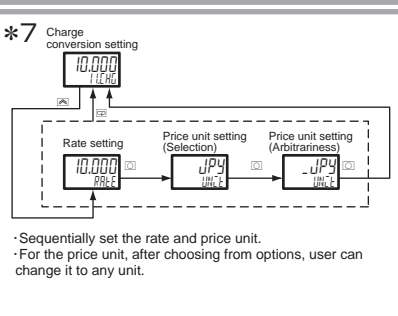
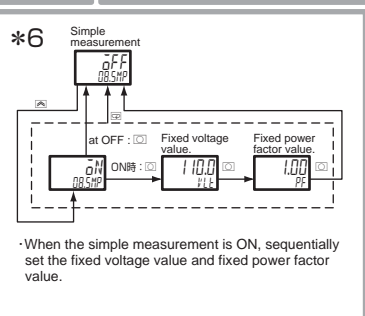
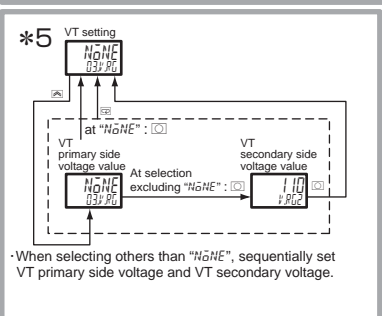
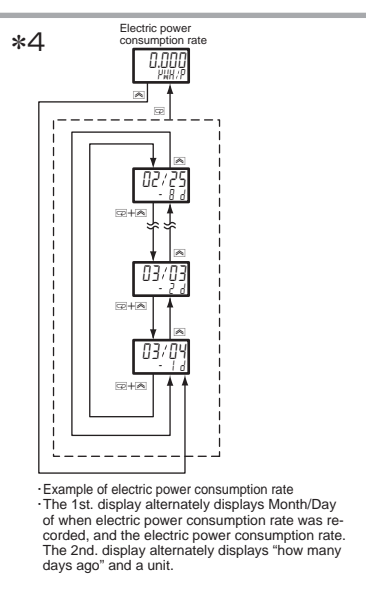
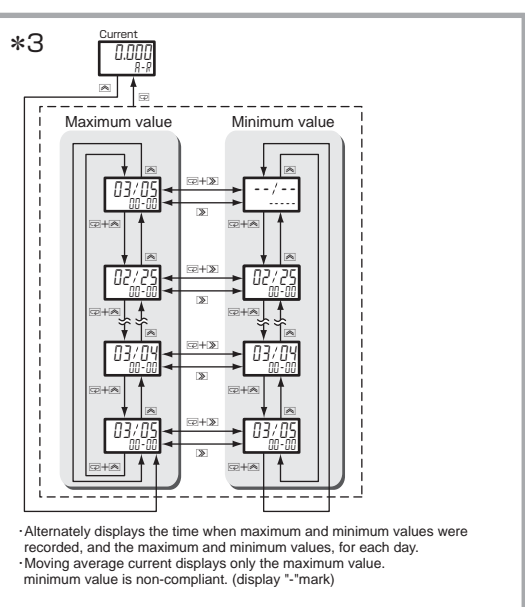
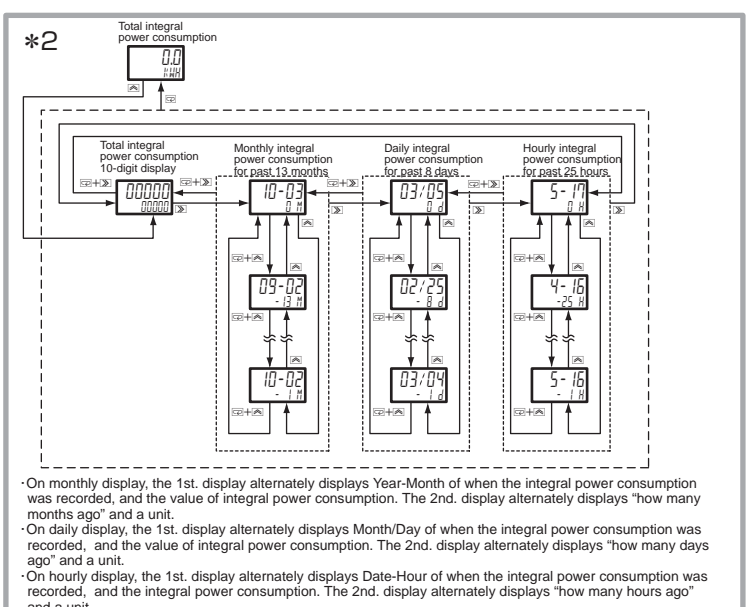
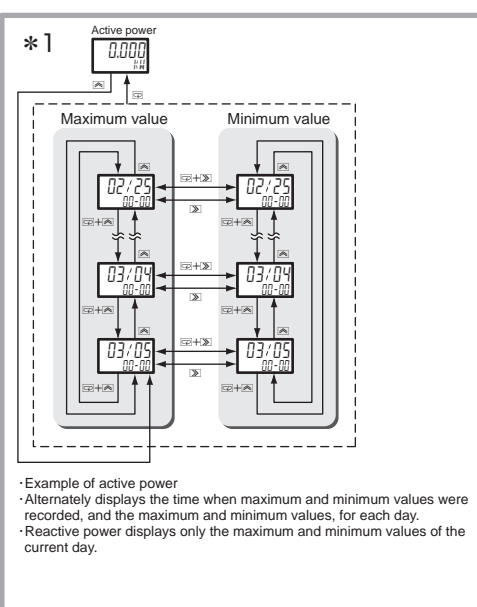
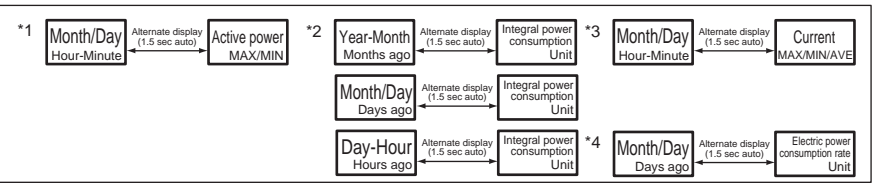
Power ON

*Example of 3-phase 3-wire
When the setting is 1-phase 2-wire, the current 2, 3 and the voltage 2, 3 are not displayed.
When the setting is 1-phase 3-wire, the 2nd. display of current and voltage changes. (e.g. R-5→R-N)



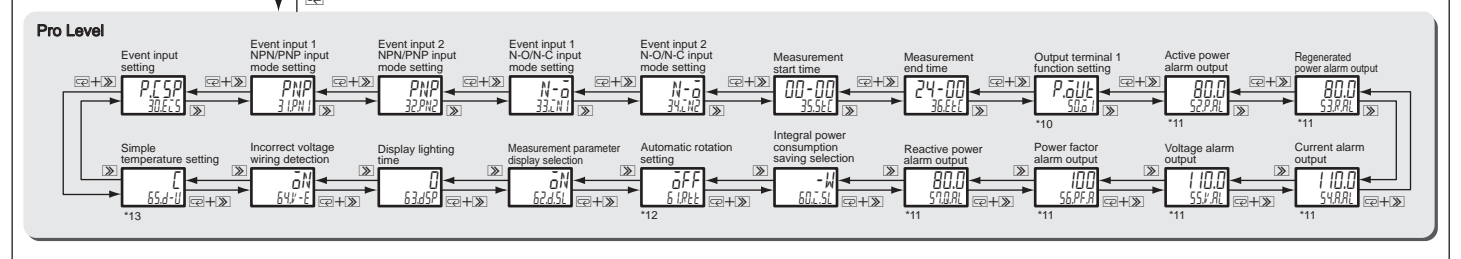
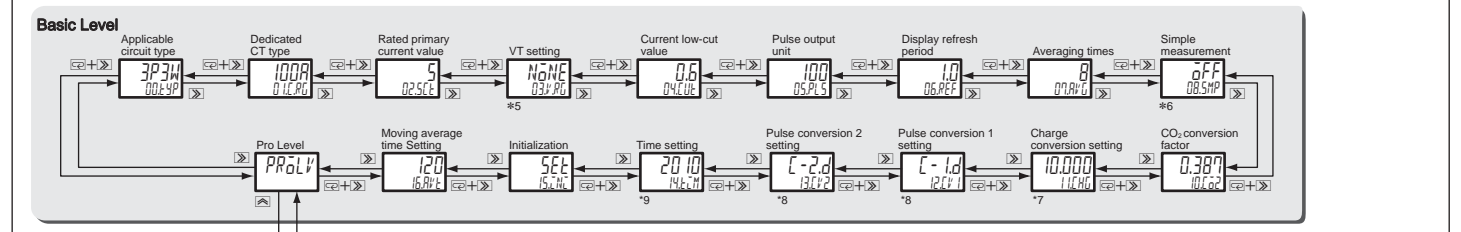
Please refer to figure *1 to *4 for the transition that is in an internal state of *1 to *4.

The measurement mode can display a past measured value. (*1 to *4)
While it is in condition to display a past measured value, display the date and time and a measured value in turn. Please refer to a right figure.



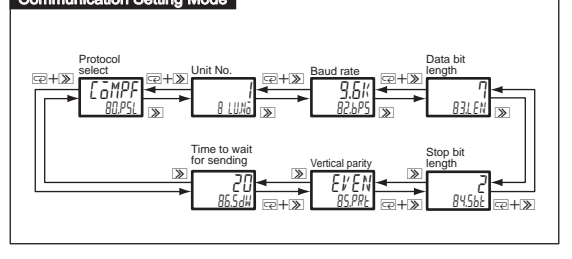
Setting Mode

Operation Setting Mode



Please refer to figure *5 to *13 for the transition that is in an internal state of *5 to *13.

Communication Setting Mode



Unit to save each measured value

The KM50 model has a function to save various measured values in EEPROM every five minutes, every day or every month. The list of measured values and saving units is shown below:

Measured value	Saving period	Remarks
Integral power consumption	5 min.	Save two days' measured values every 5 min.
	1 hour	Save 25 hours' hourly values which are converted from measured values saved every 5 min.
	1 day	Save 8 days' values measured between 00:00 and 24:00.
	1 month	Save 13 months' values measured for a month.
Active power, current, voltage and power factor (Maximum and minimum values)	1 day	Save 8 days' values measured between 00:00 and 24:00.
Moving average current (Only the maximum values)	—	Save the current maximum values of the moving average time. (The moving average current with a product Ver.3.0.)
Pulse input count	5 min.	Save two days' measured values every 5 min.
Electric power consumption rate	1 day	Save 8 days' values measured between 00:00 and 24:00.
Pulse input ON time	1 day	Save 8 days' values measured between 00:00 and 24:00.
Integral regenerated power consumption	5 min.	Save two days' measured values every 5 min.
Integral reactive power consumption	5 min.	Save only items selected in the setting.
Total pulse count inputs	5 min.	Overwrite save the measured value every 5 min.

Note 1. At the time of power failure, the clock time data is retained for 3 days.
Note 2. User can check the data every 5 min. only through communication.

Error indication

Description of error	Display	Operation	Restoration method
KM50 internal clock time has not been set.	E-1	Indicates error at startup and "STOP" is turned ON. Measurement stops and operation disabled during error indication.	Time setting
Built-in memory error (RAM error) (*1)	E-M1	Measurement stop, operation disabled	Hardware repair (*2)
EEPROM error (*1)	E-M2	Measurement stop, operation disabled	Hardware repair (*2)
EEPROM data failed (*1)	E-M3	Measurement stop, operation disabled	Hardware repair (*2)
Calibration value error (*1)	E-M4	Measurement stop, operation disabled	Hardware repair (*2)
Excessive voltage input (*3)	E-51	Displays error and measurement value alternately and continues measurement.	Restore the input signal within to the rated range.
Excessive current input (*3)	E-52	Displays error and measurement value alternately and continues measurement.	Restore the input signal within to the rated range.
Frequency input error (*3)	E-53	Displays error and measurement value alternately and continues measurement.	Restore the input signal (voltage) within to the rated range.
Incorrect wiring detection (*4)	E-54	Displays error and measurement value alternately and continues measurement.	Correct the input signal (voltage) wiring in phase sequence.

*1 When any of E-M1 to E-M4 errors occurs, all outputs stop and any key operation is not accepted.
*2 Consult your OMRON representative.
*3 An error will occur when the input of voltage exceeds 110% of the rated value, current exceeds 120% of the rated value, frequency is below 45 Hz or more than 65 Hz.
When the voltage input is 20 V or less, frequency error isn't displayed.
When VT is set, the set value of secondary voltage becomes the rated voltage.
*4 For E-54 error, only when the incorrect voltage wiring detection is set to ON, the error is displayed.

Troubleshooting

Phenomenon	Description	Point to be checked
Voltage and current are measured but electric power is not correctly measured.	Has CT (Current Transformer) been correctly wired (not in reverse)?	If negative electric power is measured, it might be all the CTs have been mounted oppositely. On the other hand, if the measured value is nearly 0, it might be one of the CTs has been mounted oppositely.
Is the voltage phase sequence correct?	Is the voltage phase sequence correct?	If the voltage phase sequence is not correct, electric power cannot be measured correctly. Perform correct wiring.