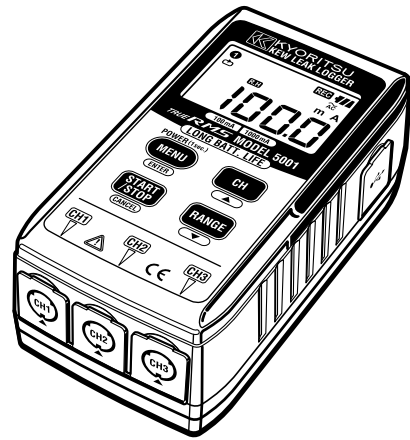


Quick manual



Leak Logger for Measuring & Recording leakage current

MODEL 5000/5001

Preface

This Quick manual is a simplified version of the full instruction manual and providing the simple explanation for the operation method and the indications. This manual is intended only as a handy reference guide and should only be used after having read the full instruction manual which contains full details on each function of this instrument and safety precautions.

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1. Operating procedures (flow chart)

Following explains the flow of operation: preparation through recording stop.

1: Preparation

Select the appropriate sensor and connect it to the instrument.

2: Confirmation and change of the recording mode

Confirm or change the recording mode.

3: Confirmation and change of the recording condition

Confirm or change the recording condition.

4: Preparation before recording

Install the instrument and do setups for each channel.

5: Start of recording

Start recording.

6: Stop of recording

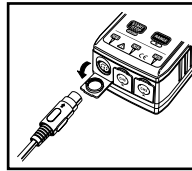
Stop recording.

* The recorded data can be viewed either by the following two methods.

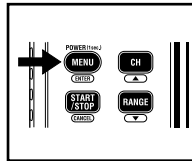
- ◆ On a PC: Refer to the instruction manual. (Data transfer to PC)
- ◆ On the instrument: Refer to (2)Confirmation of recorded data (status1) and (3)Confirmation of recorded data (status2) described on the backside of this manual.

* At the Event/ Max. value/ Capture recording modes, the LED flashes when the preset current value is exceeded. The LED is flashing during the data recording. Make the instrument into Menu mode to turn off the LED.

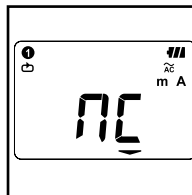
1: Preparation



1. Connect the clamp sensor to the instrument firmly with careful attention to the orientation of the connector.

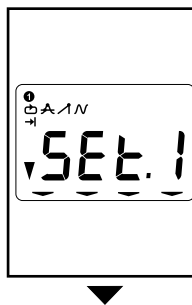


2. Press the **MENU** button at least 1 sec. to turn on the instrument. Release the button when all indications are displayed on the LCD.



3. Can make measurement right after turning on the instrument. When **NC** is displayed on the LCD, a sensor is not connected to the appropriate channel; or the connection is incorrect.

2: Confirmation and change of the recording mode



1. The instrument goes into menu mode when **MENU** button is pressed. Each button acts as follows at menu mode.

MENU → **ENTER**, **CH** → **▲**
START/STOP → **CANCEL**, **RANGE** → **▼**

2. Confirm that "Set. 1" (which means Setting 1) is displayed on the LCD, and press the **ENTER** button.

3. Then the selected recording mode is displayed.

Recording mode	Details
Continuous recording 	Intermittent measured value is recorded continuously at the pre-set interval. (15-kind: 1 sec. to 60 min.)
Event recording 	When the preset current value is exceeded, (hereinafter, this event is referred as current detection) three previous RMS value, the RMS value when detecting it, and four subsequent RMS values, 8 data in total (0.8 sec.) are recorded.
Max. value Recording 	The max. RMS value is recorded at every 10 sec. prior to and subsequent to the current detection. It ends when a value drops to 50% or less of the preset current value; or when 10 min. has been elapsed.
Capture recording 	Ten to twelve waveforms (for 200mS) are recorded prior to and subsequent to the current detection.

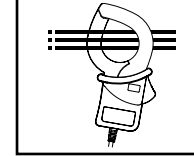
* Recording mode cannot be set individually at each channel.

- ◆ No change: Press the **▼** button, and proceed to Step 3.
- ◆ To change: Change the set value as follows and press the **▼** button. Then proceed to Step 3.

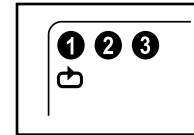
Change of set value

- (1) Press the **ENTER** button while the set value is being displayed on the LCD.
- (2) Then the set value flashes
- (3) Press the **▲** or **▼** button and set it to the desired value.
- (4) Press the **ENTER** button to confirm the value. Then the value stops flashing, and the set value is confirmed. To cancel the change, press the **CANCEL** button.

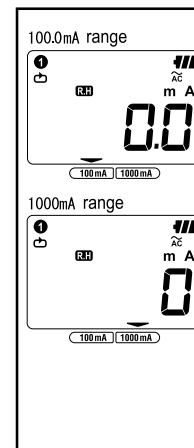
4: Preparation before recording



1. Clamp on the measured object and fix the Clamp sensor.
2. Instrument shall be firmly fixed so as not to come off easily.



3. The indicated value at each channel (CH1~3) switches by pressing the **CH** button.

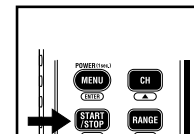


4. Measurement range switches by pressing the **RANGE** button.

Note

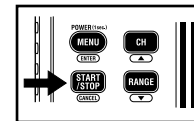
- ◆ At continuous recording mode: It switches in the sequence below. Auto-ranging → 1000mA → 100.0mA → Auto-ranging
- ◆ At event/ max. value/ capture recording mode: It switches between 1000mA and 100.0mA. Range cannot be switched during a measurement. Select the appropriate range before recording.

5: Start of recording



1. Press down the **START/STOP** button for a while.
 - ◆ At continuous recording mode or after changing the recording mode, "CLr" flashes while the button is being pressed down. A few seconds later, the measured value and the "REC" mark are displayed on the LCD. Then a recording starts.
 - ◆ At event/ Max value/ Capture recording mode or the recording mode is not changed, the "REC" mark flashes when pressing the **START/STOP** button for a while. Then, the measured value and the "REC" mark are displayed on the LCD. Then a recording starts.

6: Stop of recording



1. Press the **START/STOP** button at least 1 sec. to stop the recording.
2. Recording stops, and the "REC" mark disappears. Then the instrument goes back into measurement state.

Now recording is complete.

- * The recorded data can be viewed either by the following two methods.
 - ◆ On a PC: Refer to the instruction manual. (Data transfer to PC)
 - ◆ On the instrument: Refer to (2)Confirmation of recorded data (status1) and (3)Confirmation of recorded data (status2)
- * Press the **MENU** button at least 1 sec. to turn off the instrument.

3: Confirmation and change of the recording condition

Continuous recording mode

1. Recording interval is displayed. (interval: 1sec.~60min. 15-kind in total)
 - ◆ To change the interval → Refer to **Change of set value**
 - ◆ No change → Press the **▼** button, and proceed to the next step.
2. State of One-time system is displayed.
 - ◆ To change the setting → Refer to **Change of set value**
 - ◆ No change → Press the **▼** button, and proceed to the next step.
3. Setting is complete. Press the **ENTER** button to return to Setting 1 "Set.1".
4. Press the **CANCEL** button to get the instrument ready for a measurement.

One-time system

- ◆ ON: Recording stops when memory becomes full.
- ◆ OFF: Overwrite the old data, and store the latest data.

Event recording mode

1. Pre-set current value on channel 1 is displayed. (can be set at every 1mA from 0~1000mA)
 - ◆ To change the value → Refer to **Change of set value**
 - ◆ No change → Press **▼** button, and proceed to the next step.
2. Confirm the pre-set current value on channel 2 and 3 as well.
3. State of One-time system is displayed.
 - ◆ To change the setting → Refer to **Change of set value**
 - ◆ No change → Press **▼** button, and proceed to the next step.
4. Setting is complete. Press the **ENTER** button to return to Setting 1 "Set.1".
5. Press the **CANCEL** button to get the instrument ready for a measurement.

Max. value recording mode

1. Pre-set current value on channel 1 is displayed. (can be set at every 1mA from 0~1000mA)
 - ◆ To change the value → Refer to **Change of set value**
 - ◆ No change → Press **▼** button, and proceed to the next step.
2. Confirm the pre-set current value on channel 2 and 3 as well.
3. State of One-time system is displayed.
 - ◆ To change the setting → Refer to **Change of set value**
 - ◆ No change → Press **▼** button, and proceed to the next step.
4. Setting is complete. Press the **ENTER** button to return to Setting 1 "Set.1".
5. Press the **CANCEL** button to get the instrument ready for a measurement.

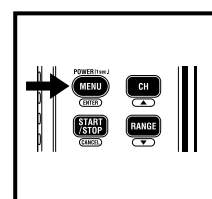
Capture recording mode

1. Pre-set current value on channel 1 is displayed. (can be set at every 1mA from 0~1000mA)
 - ◆ To change the value → Refer to **Change of set value**
 - ◆ No change → Press the **▼** button, and proceed to the next step.
2. State of One-time system is displayed.
 - ◆ To change the setting → Refer to **Change of set value**
 - ◆ No change → Press the **▼** button, and proceed to the next step.
3. Setting is complete. Press the **ENTER** button to return to Setting 1 "Set.1".
4. Press the **CANCEL** button to get the instrument ready for a measurement.

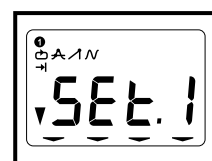
(2) Confirmation of recorded data (status1)

~ To view the recorded quantity & the max. value ~

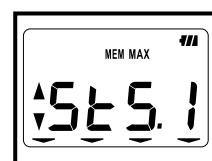
The recorded data can be viewed during a recording or after the recording. At Status 1 "StS.1", the recorded quantity (%) against the memory capacity, the max. value at each channel and the time & date it is recorded can be viewed.



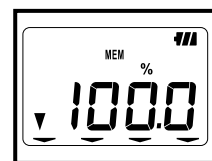
1. Press the **MENU** button at measurement state. Instrument goes into Menu mode. Each button acts as follows at menu mode.



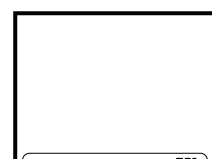
2. Press the **Down arrow** button twice, while Setting1 "SEt.1" is being displayed on the LCD. "StS. 1" is displayed just by pressing the MENU button during a recording. Proceed to Step 3.



3. Press the **ENTER** button when "StS.1" is displayed on the LCD.

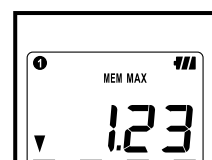


4. The recorded quantity (%) can be viewed. The ratio: recorded data against memory capacity is displayed in percent figures.

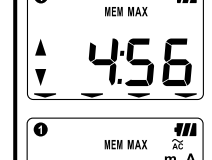


5. Press the **Down arrow** button to view the max. value on each channel and the time & date it is recorded.

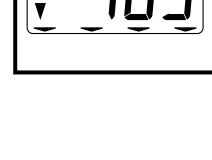
Press the **ENTER** button while "CH1" is being displayed on the LCD to view the stored data on channel 1. Data on channel 2 and 3 can be viewed other than Capture recording mode. Press the **Down arrow** button to switch the screen for CH2 or CH3. Then press the **ENTER** button.



6. The indication of the stored data switches in the following sequence by pressing the **Down arrow** button. "Month. Day" → "Hour:Minute" → "Max. value" → "CH1 data" → "CH2 data" → "CH3 data"



The CH2 and CH3 data can be viewed at any recording mode other than Capture recording mode.

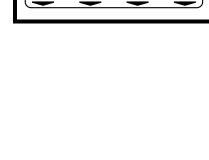
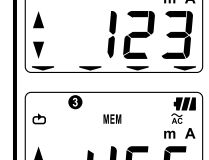
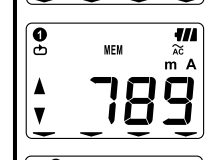
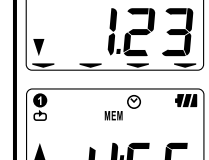
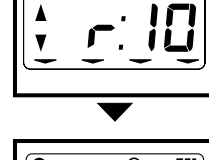
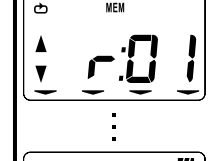
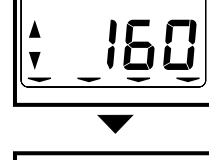
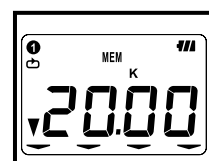
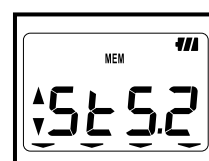
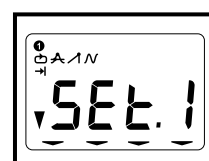
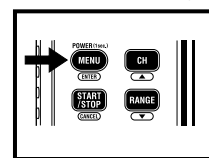


7. Press the **CANCEL** button three times to get the instrument ready for a measurement.

(3) Confirmation of recorded data (status2)

~ To view the number of recorded data & RECALL ~

At Status 2 "StS.2", the number of recorded data and the latest 10 data (with the information of time & date and recorded value) can be viewed.



1. Press the **MENU** button at measurement state. Instrument goes into Menu mode.

2. Then press the **Down arrow** button three times, while Setting1 "SEt.1" is being displayed on the LCD. "StS. 1" is displayed just by pressing the MENU button during a recording. Press the **Down arrow** button once.

3. Press the **ENTER** button when "StS.2" is displayed on the LCD.

4. When the data is recorded at Continuous recording mode, the number of recorded data is displayed.

When the data is recorded at Event/ Max. value/ Capture recording mode, the number of detected current is displayed by pressing the **Down arrow** button.

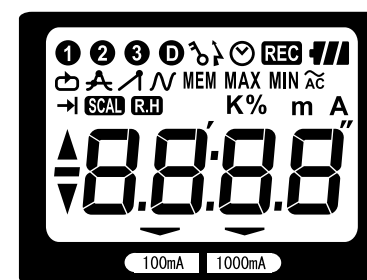
5. Press the **Down arrow** button while the number of detected current is being displayed to switch the indication to RECALL "r:01". Then the latest 10 data (with the information of date and recorded value) can be viewed. The latest data is "r:01" and the oldest one is "r:10". Press the **Down arrow** or **Up arrow** button to switch between them, and press the **ENTER** button to view the details.

6. The RECALL data switches in the following sequence by pressing the **Down arrow** button. "Month. Day" → "Hour:Minute" → "Max. value" → "CH1 data" → "CH2 data" → "CH3 data"
- The CH2 and CH3 data can be viewed at any recording mode other than Capture recording mode.

Indication becomes "End" when the **Down arrow** button is pressed after "CH3 data" is displayed. Then press the **Down arrow** button to view the next RECALL data "r:02". Press the **CANCEL** button; or press the **ENTER** button while "End" is displayed on the LCD to exit.

7. Press the **CANCEL** button twice while "r:10" is displayed to get the instrument ready for a measurement.

(4) LCD indication

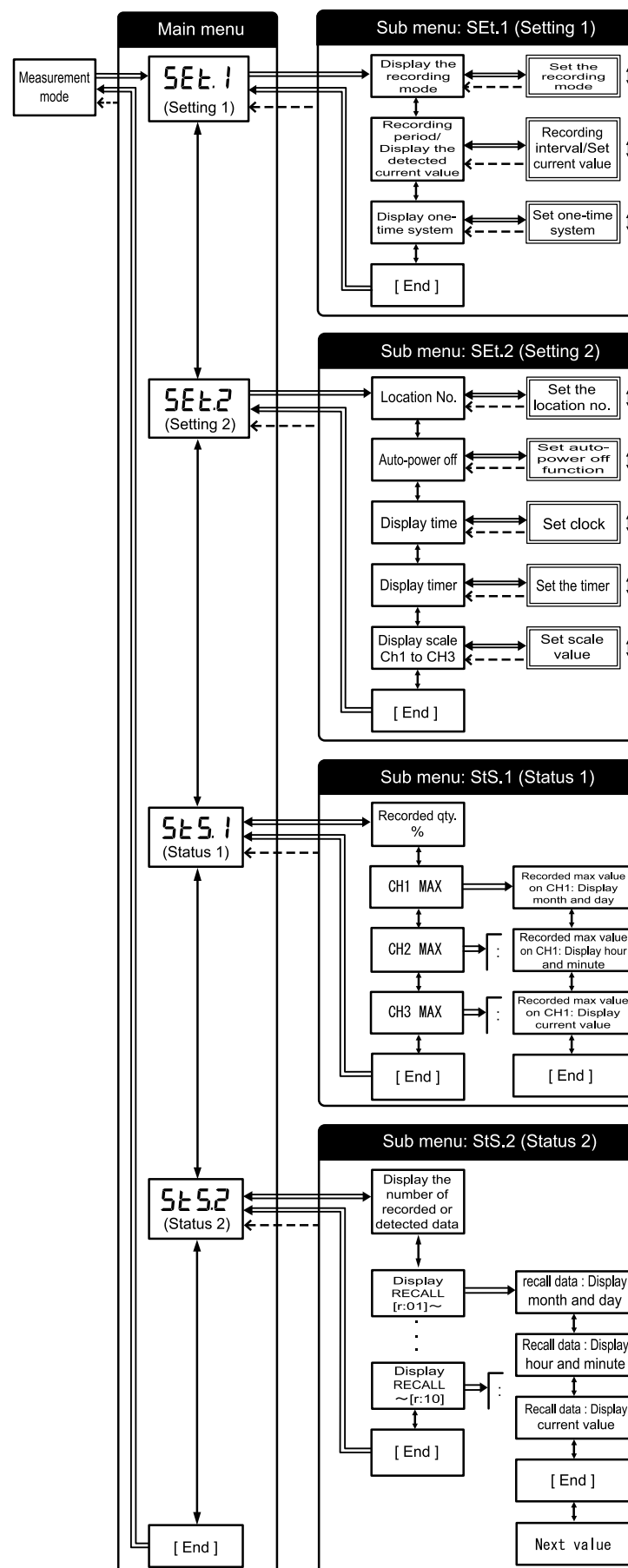
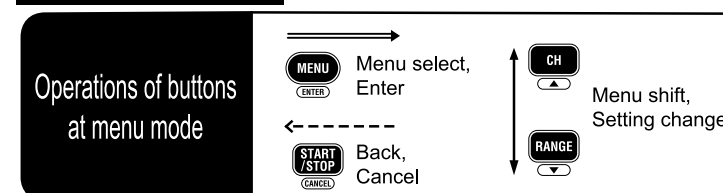


Mark	Details
1 2 3	Selected channel number (The measured value at this channel is displayed.)
Key icon	Auto-power-off is released (disabled). (Instrument won't be off automatically.)
Timer icon	Timer function is activated. (Stand-by till the pre-set time.)
REC	Recording
Battery icon	Battery mark
CH A I N	Recording mode
MEM	Displayed when viewing the recorded data.
MAX MIN	Displayed when viewing the recorded max. and min. data.
One-time icon	One-time system is activated. (Recording stops when memory becomes full.)
SCAL	Scale function is activated. (Measured result" x "Scale value" is displayed.)
R.H	Range hold (Not displayed at auto-ranging.)
Up/Down arrows	Menu guide Up/Down button can be operated.
Measurement range icon	Measurement range (100.0mA/1000mA)

(5) Message displayed on the LCD

Message	Meaning
NC	Sensor is not connected.
OL	Over-range
SEt.1	Menu: Setting1(SET.1) View or change the recording mode/ condition.
SEt.2	Menu: Setting2(SET.2) View or change the Location information and auto-power-off function.
StS.1	Menu: Status 1(STS.1) View the recorded quantity and the max. value at each channel.
StS.2	Menu: Status 2(STS.2) View the number of recorded data and RECALL.
End	Menu: End
LOG	Continuous recording mode (LOGging)
dtc	Event recording mode (detect)
-	Max. value recording mode (Max)
CAP	Capture recording mode (CAPture)
-PC-	PC data in transit
CLr	Warning of memory clear

(6) Menu configuration



SEt.1 (Setting1) Setting items

1. Recording mode: Selected recording mode is displayed.
 - ◆ Continuous recording mode → Recording interval
 - ◆ Event/ Max. value/ Capture recording mode → Pre-set current value
2. Recording interval/ Pre-set current value.
3. One-time system: Pre-set value to stop recording.
4. End: Setting end. Press the **ENTER** button to back to the "SEt 1".

SEt.2 (Setting2) Setting items

1. Location no.: Can be set between "P.000" to "P.999".
2. Auto-power-off: Select "On" to activate it.
3. Clock: Can set hour and minute.
4. Timer: Recording starts at the pre-set time.
5. Scale value: Measure result x scale value is displayed, and can be set at each channel.
6. End: Setting end. Press the **ENTER** button to back to the "SEt 1".

StS.1 (Status1) Reference items

1. Recorded quantity: The ratio against the memory capacity. (%)
2. CH1 MAX: Max. value at Channel 1 and the date it is recorded.
3. CH2 MAX: Max. value at Channel 2 and the date it is recorded.
4. CH3 MAX: Max. value at Channel 3 and the date it is recorded.
5. End: Setting end. Press the **ENTER** button to back to the "SEt 1".

StS.2 (Status2) Reference items

1. Number of recorded data/ detected current
 - ◆ Continuous recording mode → number of recorded data
 - ◆ Event/ Max. value/ Capture recording mode → number of detected current at each channel.
2. RECALL "r:01" to "r:10": Time information of the latest 10 recorded data and the recorded value at each channel.
3. End: Setting end. Press the **ENTER** button to back to the "SEt 1".