MIJ-12
The Water Proof Logger Manual

EMJ
Environmental Measurement Japan
Established in 1999 only for the researchers stand on edge.

MIJ-12 The Water Proof Logger Manual

Unpacking

MIJ-12 is shipped fully assembled. Make sure that all of the following items are included.

・IP68 Case
・LR5041 or 5042 Datalogger
・LR9802 cable
・Silica Gel Bag
・PR-01(Preheat Power Supply Board;if your sensor need preheat function)
・Communication Adapter LR5091 or 5092(Only if you do not have one)

## MIJ-12 Preheat Version: How to wire sensor and logger

Connect sensor to PR-01

Sensors

Sig-
Sig+
GND
GND
+2.5V
+12V

AA Battery AA Battery AA Battery AA Battery

Sig-
Sig+
GND
PRH
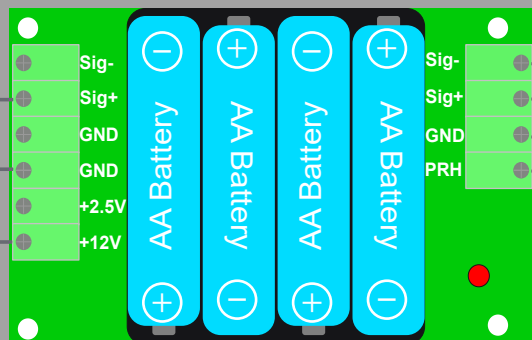
LR5042

Connect Logger (LR5042) to PR-01
・Connect voltage input－（black）to Sig-
・Connect voltage input+（red）to Sig+
・Connect GND (for preheat; white) to GND
・Connect Preheat (yellow) to PRH

Typical sensor that require preheat

Soil Moisture Snesors

SM150T・ML3

SM150T

ML3

Sig-
Sig+
GND
GND
+2.5V
+12V
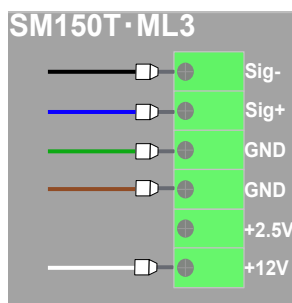
（Simultaneous temperature measurement requires 2 channels, so temperature measurement is not possible with MIJ-12）

EC5・10HS

EC5

10HS

Sig-
Sig+
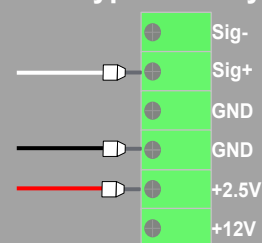GND
GND
EC5   +2.5V
10HS   +12V
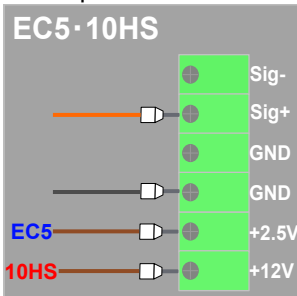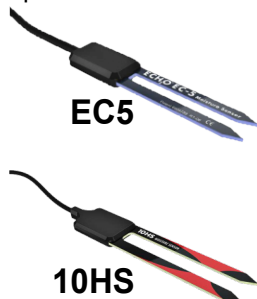
（For the EC5, please be careful not to connect the preheat to 12V ）

Dendorometers

MIJ-02 Type3 Rotary

Sig-
Sig+
GND
GND
+2.5V
+12V

MIJ-02 Type2 LMS
MIJ-02 Type2 LMM
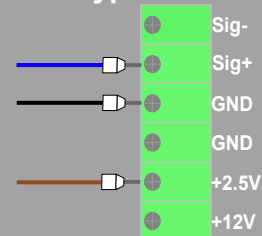
Sig-
Sig+
GND
GND
+2.5V
+12V

PR-01Sensor Preheat Power Supply Board

The PR-01 is a board that supplies the necessary power to the sensor from 4 AA batteries.The PR-01 has two types of voltage output, [2.5V and 12V] or [5V and 12V], so you can choose according to the sensor. The instantaneous capacity of each voltage output is 80mA. For general use, the preheat time is 1 second and the interval is 10-30 minutes. When using AA alkaline batteries, the capacity is 2000mAh, so generally four AA alkaline batteries can drive the sensor for over a year.
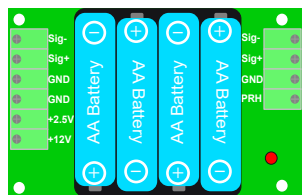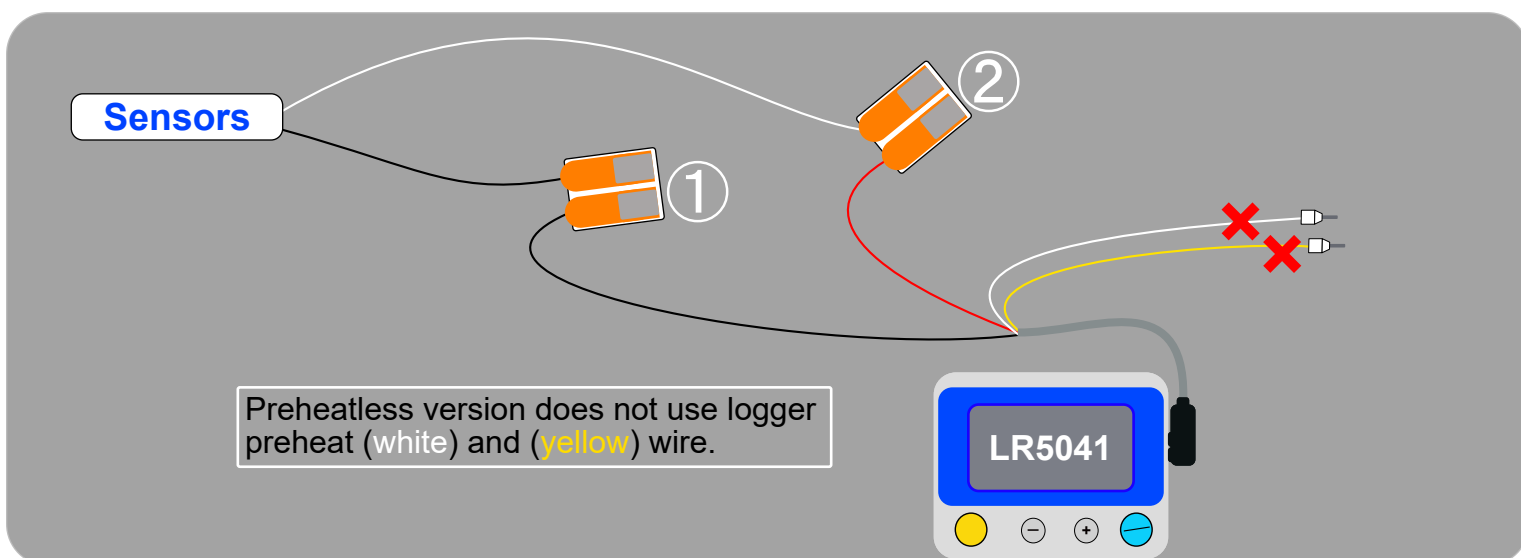

[2.5V&12V]

SM150T、ML3、EC5,10HS etc.

[5V&12V]

EMJ Dendrometer

There is a red sticker on the board of [5Vと12V]

MIJ-12 Preheat Less Version: How to wire Sensor and Logger

I will explain how to wire the MIJ-12 preheatless. No PR-01 base is required as it does not require preheating.
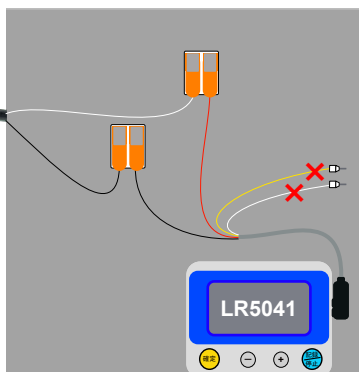

Sensors

①

②

Preheatless version does not use logger preheat (white) and (yellow) wire.

LR5041

Typical sensor that do not require preheat

PAR Sensor

MIJ-14/K2

LR5041

Soil Oxygen sensor

MIJ-03
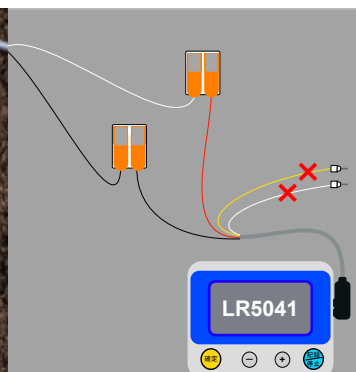
LR5041

Caution

Please note the following when using the MIJ-12 in the field.
・Open the zipper of the included silica gel and reinsert it into the MIJ-12.
・Tighten the cover of MIJ-12 tightly.
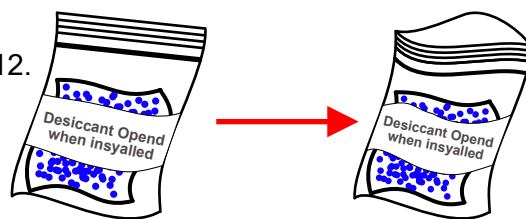
Trouble Shooting

No data available

1:PR-01 not working?

・Are the battery polarities correct? (Battery polarity +,- may be inserted in the opposite direction by mistake.)
・Press the record button on the logger and try to move the sensor (for a soil moisture meter, grab the pin, etc.), and will the PR-01 LED light up at that time?
・Try shorting PR-01's GND and PRH with tweezers. Does the LED light up at this time?
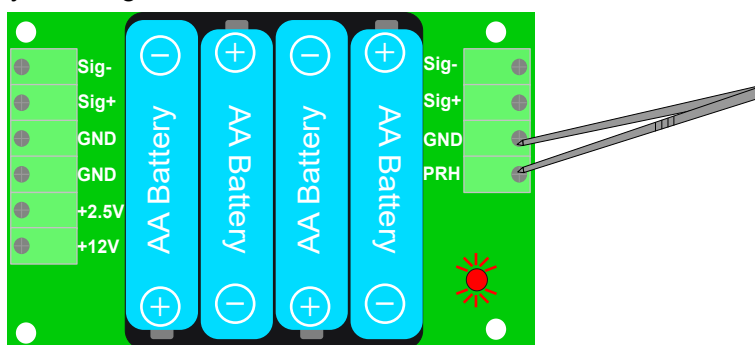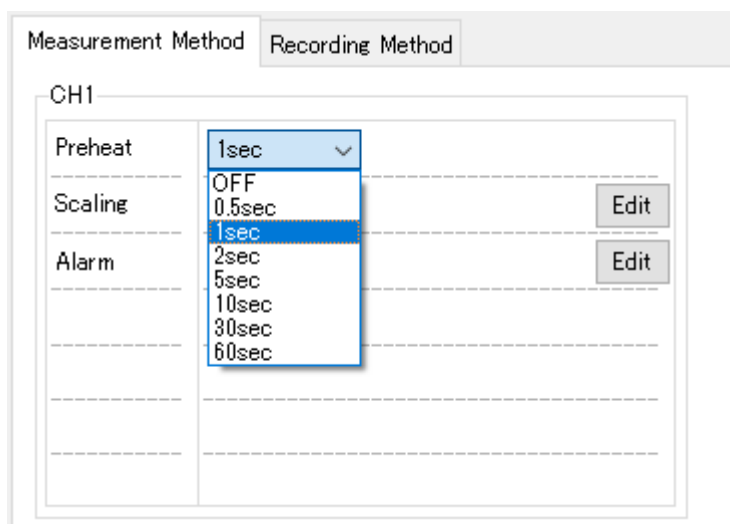

　・If there are no problems with all of the above, it can be said that the PR-01 is almost not broken.

We recommend replacement for obvious failures that can be found without the above tests (the base is clearly rotten, etc.).

2.Are the LR5042 settings correct?

・Is the LR5042's preheat set to OFF?

If you are using a sensor that requires preheating, be sure to set the preheating to 1 second (recommended).

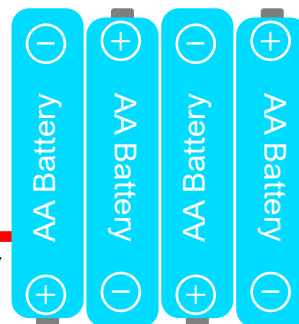## 3. Is there any remaining battery for PR-01 or Logger?

replace with new battery

If you still have problems after solving 1 to 3, please contact us.

Setting:Logger LR5042 or LR5041

Basically, the following contents are set at the time of shipment.
・Rec Interval：10min
・Start method：Button operation
・Stop method：Button operation (One-time)
・Rec mode: instantaneous
・Preheat：1sec (Only if your sensor need preheat)

How to set

1.Plug the communication adapter LR5091 or LR5092 into your PC USB port.

2.The LR5000 Utility screen will appear on your PC. Please change various settings arbitrarily in the recording method tab.(The factory setting is recommended.)


Measurement Method	Recording Method	
Rec interval	10min	
Start method	Button Operation	
	2000- 1- 1 00:00	
Stop method	Button Operation(One-Time)	
	2000- 1- 1 00:00	
Rec mode	Instantaneous	
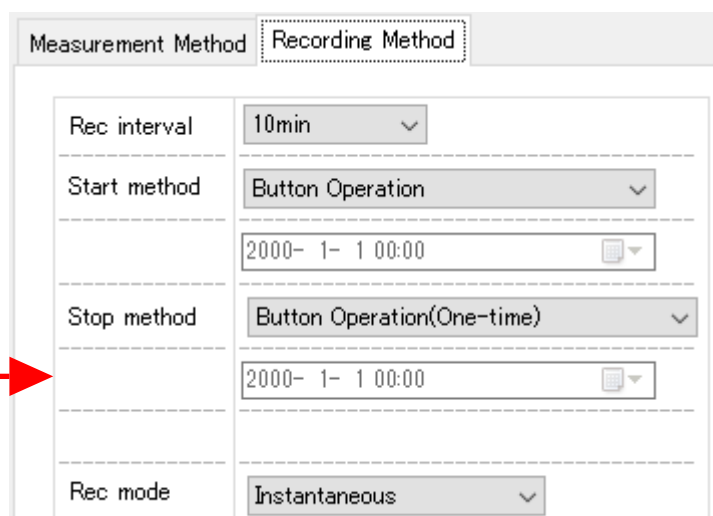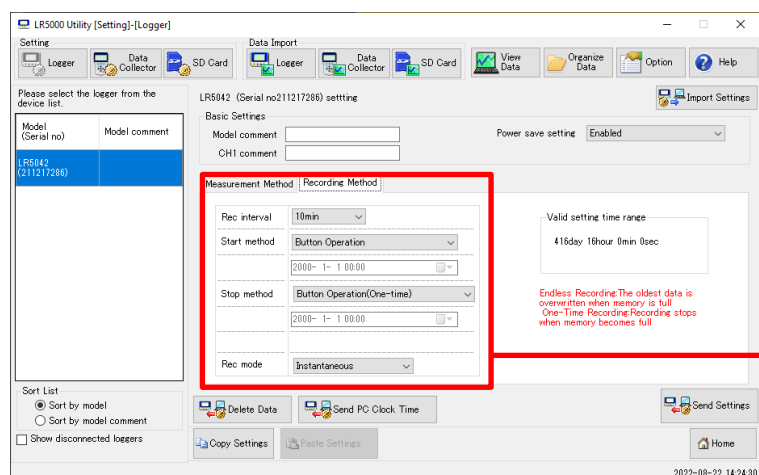
Environmental Measurement Japan, CO., LTD.
2-52-42 Takamidai, Fukuoka-city Higashiku, Fukuoka 811-0215, Japan
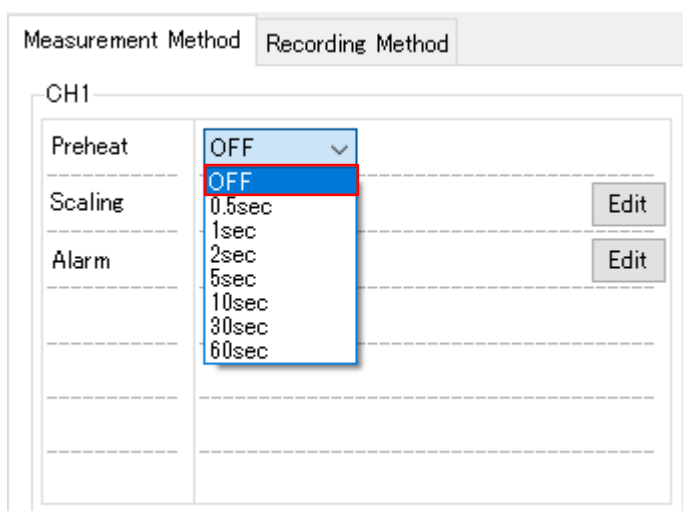**TEL +81-92-608-6412**
FAX +81-92-985-7844

3.Click the measurement method tab to set preheat ON/OFF.
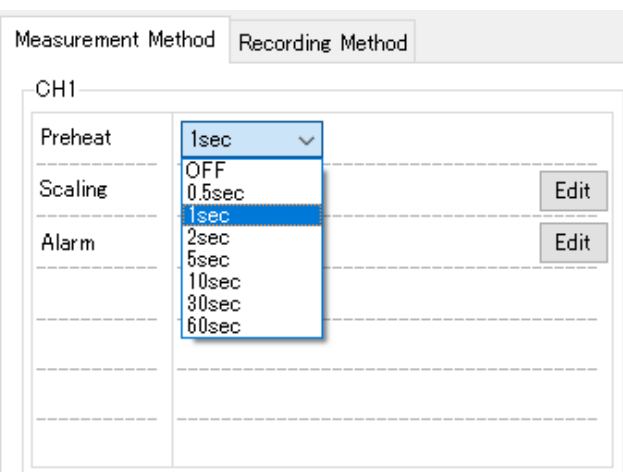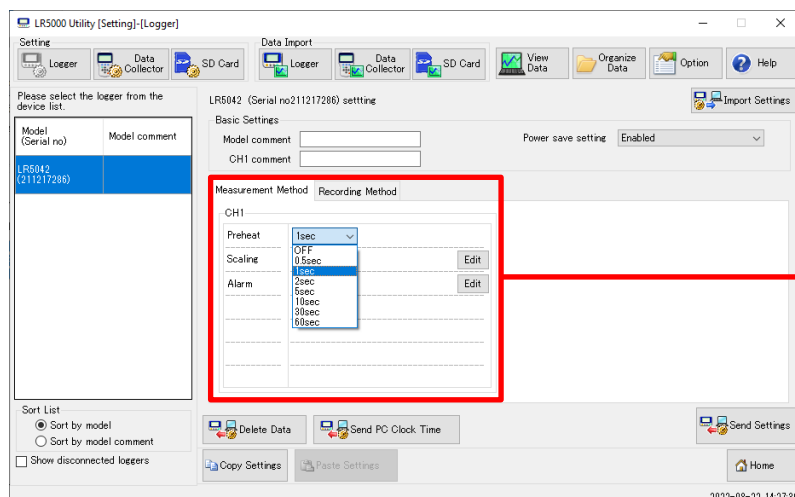
If you use the MIJ-12 preheat version, set the preheat option. (We recommend 1 second.)

Note: Please set preheat to OFF when using the MIJ-12 preheatless version.

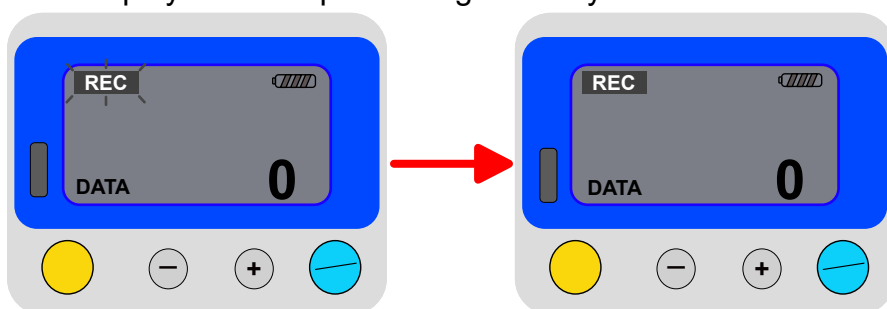4.Finally, click the Submit Settings button to complete.

Please refer to the HIOKI website for details of functions.
https://www.hioki.com/global/products/compact-data-loggers/compact/id_5920

Measurement start/stop/data collection

Start Measurment

1. Install the sensor. Press the Record/Stop key for more than 2 seconds. Press until "REC" appears on the display and it stops flashing and stays lit.
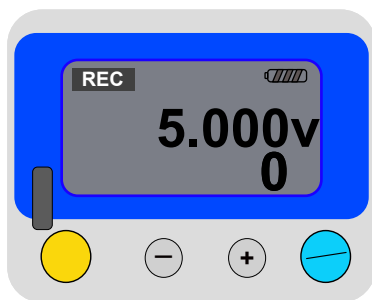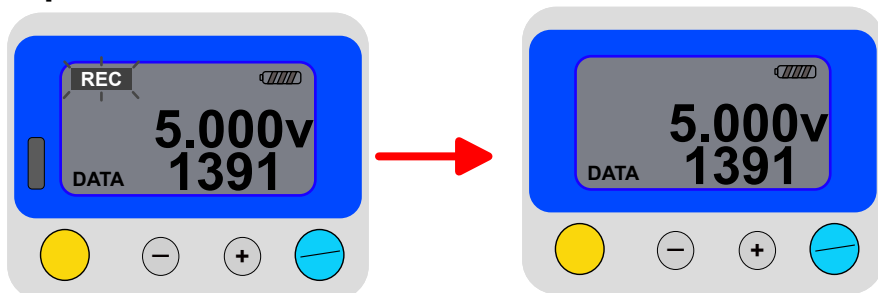
2.The measurement screen is displayed 1 second after REC lights up. Measurement is started at this time.
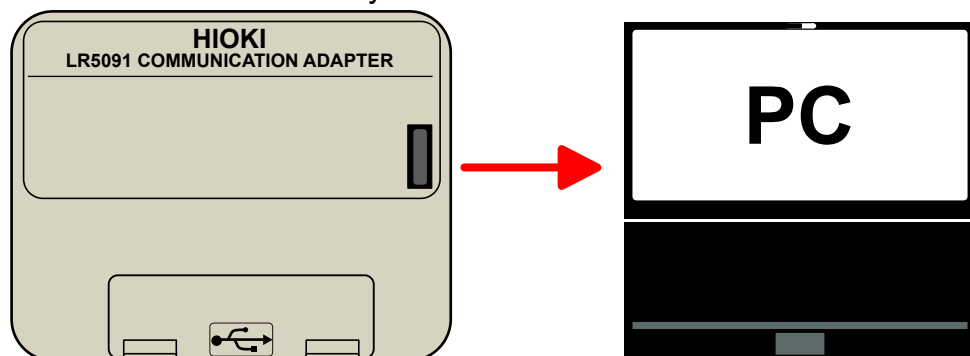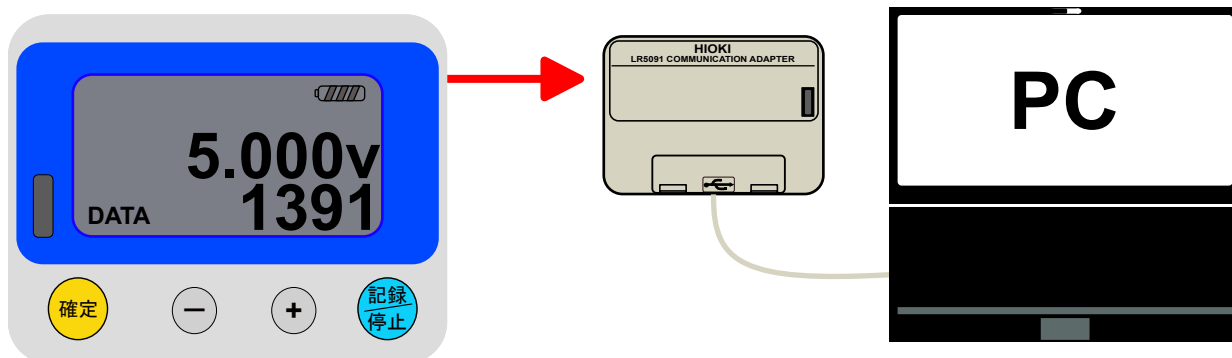
Stop Measurment

Press the record/stop button for 2 seconds or more, and stop is completed when "REC" disappears after blinking.

Data Collecting steps

1.Connect the LR5091 to your PC.

2.Place the LR5092 on top of the LR5091 communication adapter. (Place the LR5042 with the DISPLAY side facing down.)

Please refer to the HIOKI official page or the attached manual for details