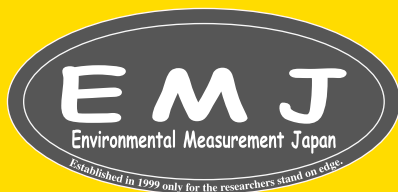


MIJ-12+MIJ-03 Quick Manual



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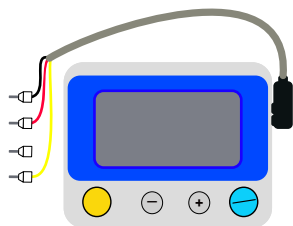


Quick Manual

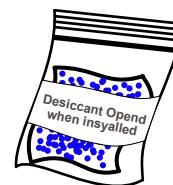
Unpacking



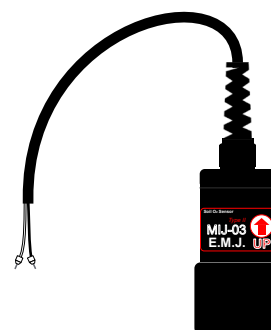
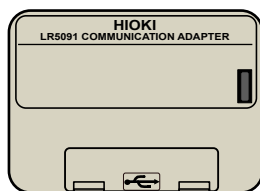
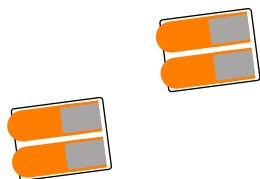
IP68 Case for MIJ-12



LR5041



Silica Gel



One-touch connector×2 LR5091(only if ordered)

MIJ-03

Preparation

- Install the HIOKI PC application (supplied CD) on your PC.
- When using the MIJ-12 outdoors, be sure to unzip the zipper bag containing the silica gel inside the MIJ-12.

Logger Setting

The setting contents of LR5041 in the MIJ-12 waterproof logger are set as follows at the time of shipment. This is the recommended setting, but if you need to change it, please change it arbitrarily.

Initial settings:

- Preheat OFF (MIJ-03 does not require preheat)
- Measurement interval: 10min
- Rec mode: button operation (one-time)

HIOKILR5041 Manual: If you are using it for the first time, please refer to the following URL or the attached manual.

(<https://www.hioki.co.jp/file/cmw/hdInstructionManual/94203/pdf/?action=browser&log=1>)



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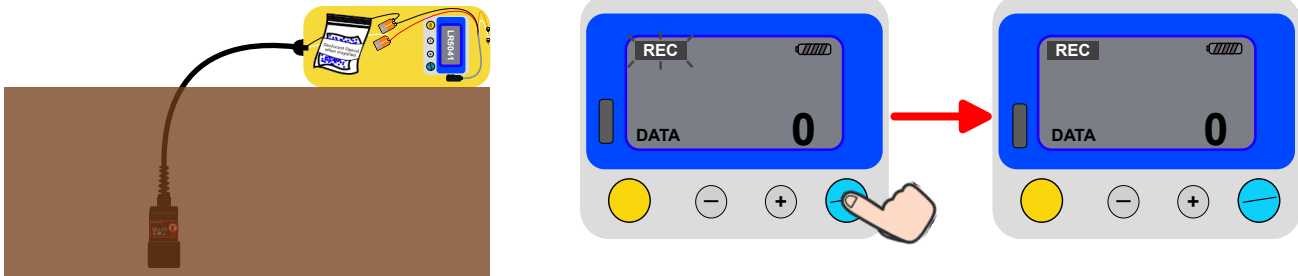


Quick Manual

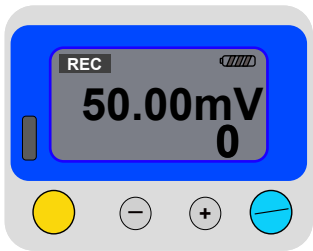
Logging, Data Collection

Start Measurement

1. Install the sensor (please see MIJ-03 manual for sensor setting). Press the Record/Stop key for more than 2 seconds. Press until "REC" appears on the display and it stops blinking and stays lit.

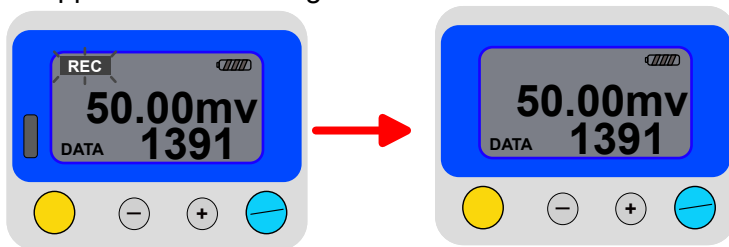


2. The measurement screen is displayed 1 second after REC lights up. Measurement is started at this time.



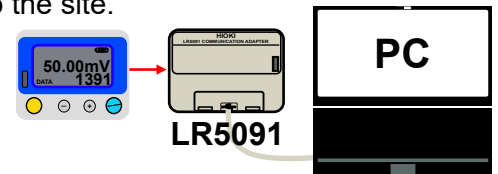
Stop Measurement

Press the record/stop key on the HIOKI LR5041 for 2 seconds or longer, and stop is complete when "REC" disappears after blinking.



Data Collect

- If you plan to collect from small number of LR5041 then we suggest to use communication adapter called LR5091. It is easier to bring the LR5041 back from the site rather than bringing a PC to the site. Output a CSV file from the file menu of the LR5000 viewer. After collect data then bring back LR5041 to the site. Or you can bring PC to site and collect data.



- Collecting data from number of LR5041 the we suggest to use data collector called LR5092. LR5092 can wirelessly transfer logging data from a LR5041. So you just need to bring LR5091 to the site and collect data (maximum of 60,000 data x 16 channels can be collected).



(This is a simple manual, so please see the HIOKI official page or the attached manual for details.)



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Quick Manual

Span Value

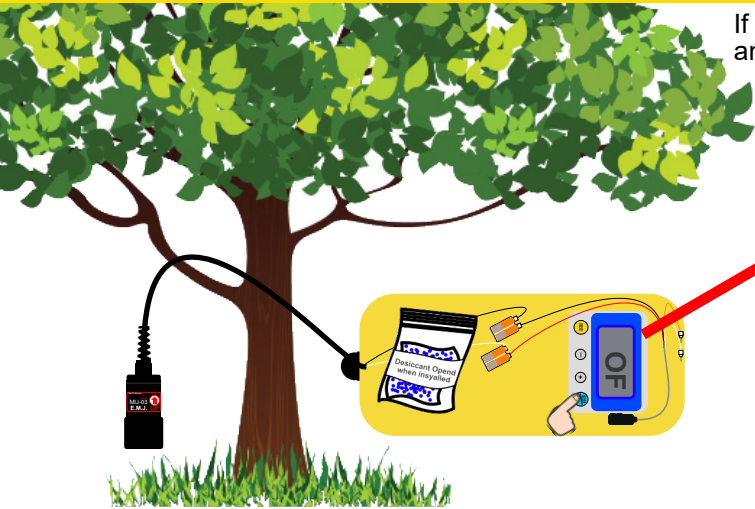
The output of MIJ-03 is usually about 40~60mV, and the output is different for all MIJ-03. First, connect the MIJ-03 to a tester or logger and leave it in the atmosphere for about 10 minutes to check the individual outputs.

Be sure to make a note of the output span value after when left unattended. Measurement data is calculated based on this span value. The output of this sensor is linear and the output value is zero when there is no oxygen in the surroundings. In other words, a conversion formula can be created by performing only span calibration.

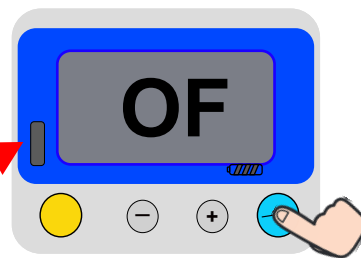
For example, if an output of 52.3mV is obtained when left in the atmosphere, the atmospheric concentration is constant at 20.9% O₂, so the conversion formula is as follows.

(Calibration should be performed when the atmospheric pressure does not deviate greatly from 1013 hpa.)

When the display is OF using LR5041 in air



If the output exceeds 50mv, the display will indicate OF(Over Flow) and measurement will not be possible.



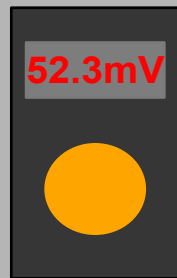
If it exceeds 50mv, it is necessary to measure the span value using a tester (with a resolution of at least 0.1mV) when the display shows OF (Over Flow).



Tester



Clips for teter



Attach the clip to the tester and connect the red of the tester to the white wire of MIJ-03

Attach a clip to the tester and connect the black wire of the tester to the black wire of MIJ-03

For example, if an output of **52.3mV** is obtained when left in the atmosphere, the atmospheric concentration is constant at 20.9% O₂, so the conversion formula is as follows. (Calibration should be performed when the atmospheric pressure does not deviate greatly from 1013 hpa.)

$$O_2(\%) = 20.9(\%) \times \frac{V(\text{mV})}{52.3(\text{mV})} \quad V: \text{Sensor output}$$

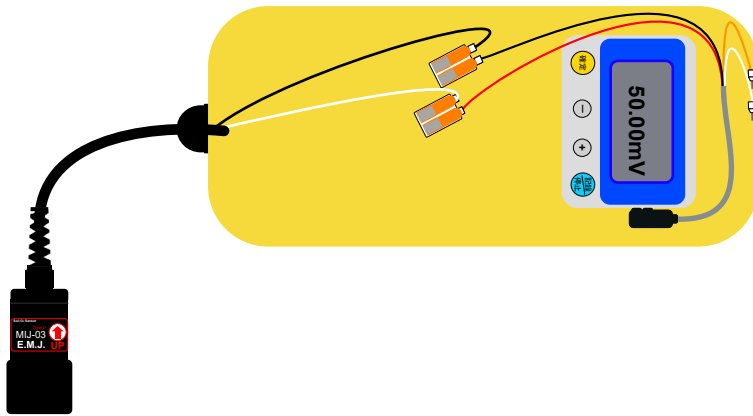


Quick Manual

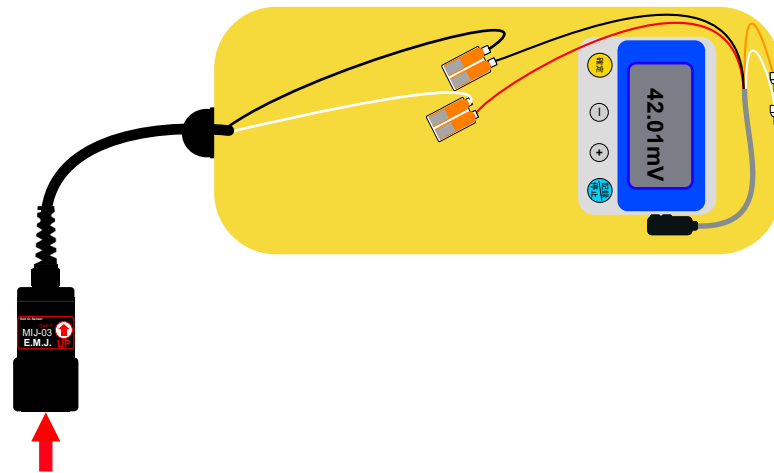
Operation Check

A simple sensor operation check method is just blowing into MIJ-03 as follows.

1. Assume that the value before blowing on MIJ-03 is 50.00mV.

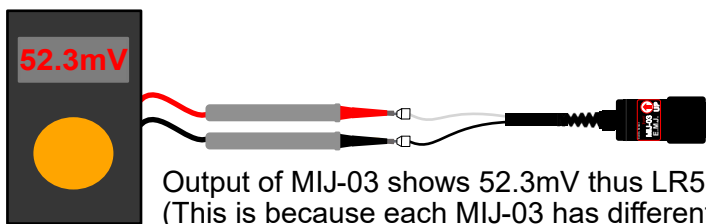


2. If you blow on the cup of MIJ-03, the value will gradually decrease. If the value decreases, the sensor is normal.

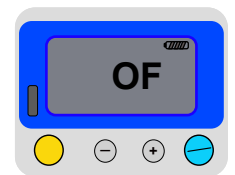


blow into a cup

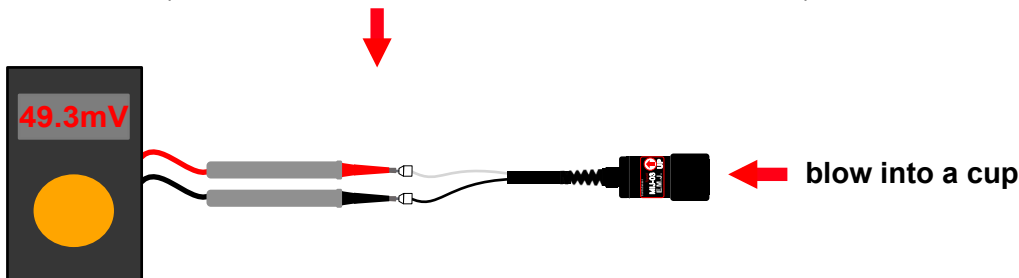
3. If MIJ-03 shows OF with LR5041 then please use tester. Do the same step as above.



Output of MIJ-03 shows 52.3mV thus LR5041 display as OF (Over Flow).
(This is because each MIJ-03 has different output)



LR5041 display OF



blow into a cup

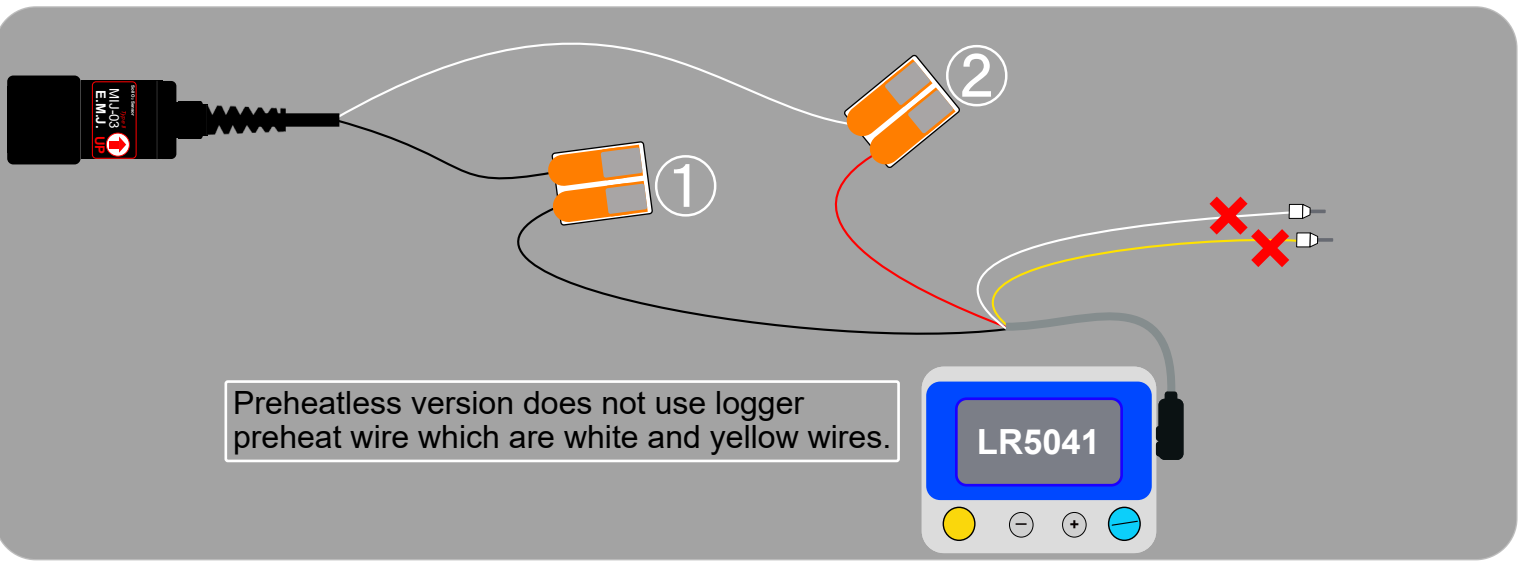


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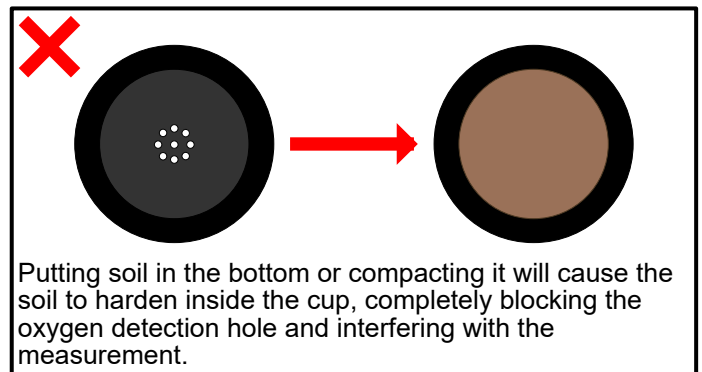
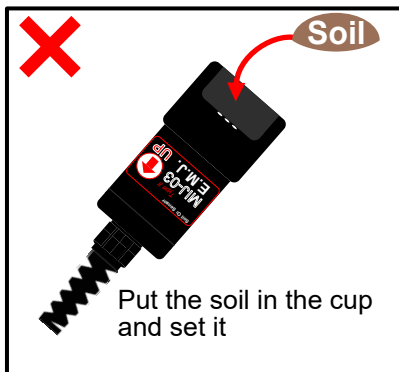
Wiring



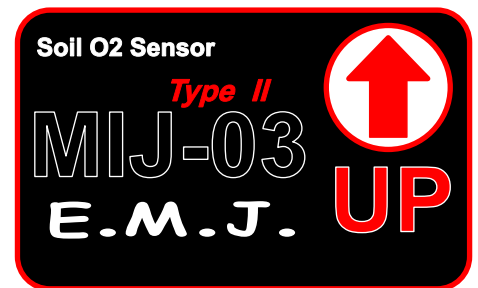
How to set MIJ-03

For details on how to install the MIJ-03, see the MIJ-03 manual.

<https://environment.co.jp/en/mij-03-soil-oxygen-sensor>



MIJ-03 Label



Be sure to insert the cable side up as indicated by the arrow.



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