MIJ-15 LAI/P

Feature

・The world's only sensor that adopted the relationship that the spectral ratio of PAR and IR correlates with LAI.
・Regardless of cloudy weather, fine weather, instantaneous LAI measurement on the spot has been completed.
・Capable of Exact LAI measurement: counting only live leaves.
・No PAI (Plant Area Index) counting so avoiding influences from dead leaves, branches, trunks remain.
・Portable

MIJ-15 Sensors

MIJ-15LAI/P and MIJ-15LAI Type2/K2 will be able to let researcher to determine quantity of LAI by measuring the spectral ratio of sunlight transmitted through plant canopy.

How?
We used the measurement by spectroscopy.(Patented NO.JP5410323B22014.2.5)

PAR(400-700nm) and NIR(700-1000nm) will be reflect and absorption occur at chlorophyll inside leaf so the transmitted light ratio is correlated with LAI.
MIJ-15 LAI/P and MIJ-15LAI Type II/K2 gives numerous hopes for the feature research.

You do not need to think about weather condition and LAI and PAR can be measured just set under the canopy or leaf. Also you only need to have one MIJ-15LAI Type II/P so price will be reasonable compare to other LAI instruments and it is portable so you can measure easily or traditionally set it under canopy; LAI annual change can be measured with data logger.

Conversion formula

The following formula has been entered to the logger so please do not change it.

LAI=2.80ln(NIR/PAR)+0.69

ln ：Natural logarithm
NIR ：Near infrared(Range700 -1000nm）

Need to measure both inside and outside of LAI?

Answer is **NO.**

MIJ-15LAI series do not require to set both inside and outside of canopy.
You can directly measure inside of canopy this is because MIJ-15 series can measure absolute LAI (No PAI (Plant Area Index) counting so avoiding influences from dead leaves, branches, trunks remain).
Our LAI sensors will give you **ABSOLUTE LAI** value.

Calibration

Basically, our PAR or NIR sensors drifts in the range of <± 0.5% at 5 years.
However, it does not grow endlessly, and it stabilizes to that extent. Therefore, usually user do not need to worry about calibration.

Battery

MIJ-15 do not require power. Data logger powered by alkaline batteries.
If you worry about battery life you can change battery every time you use datalogger.

Environmental Measurement Japan, CO., LTD.
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Environmental Measurment Japan

Please read this instruction manual before use. Since the data logger software only display in Japanese or English. If you prefer English you need to do some setting on your PC.

Installing the software

1. Change the PC language to English. (Please ignore If your PC already set to English.)
select start > Setting > Time & Language > Language(Choose a language from the Windows display)
You will find English so please select English then Data Logger software will display in English.

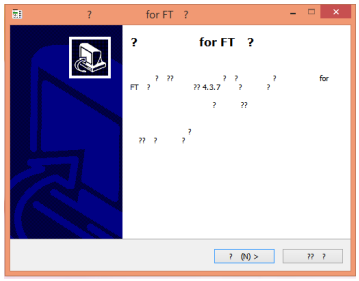
2. Download the installation file from our website. (https://environment.co.jp/en/lai-leaf-area-index-analyzer)
Click the download button DOWNLOAD INSTALLATION FILE located at bottom of the web page.

3. Open the zip file and click setup setup.exe

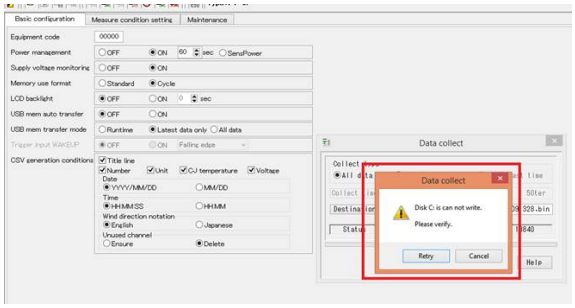
4. Connect the data logger (Please see FtJr instruction manual in the driver zip file)

Trouble shooting

1. When you installing, some customer has trouble like below picture (garbled text). This is because you have not set the language to English on your PC.



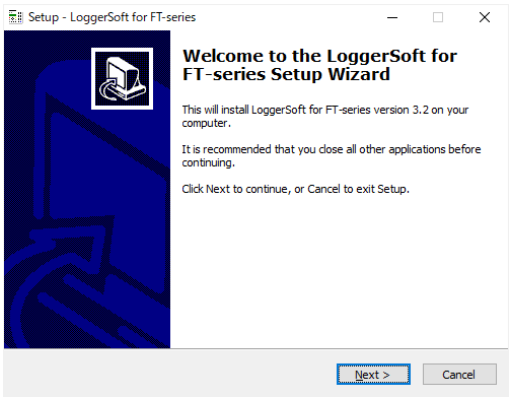
2. Data collecting denied or not working?
You may see below picture that denying collecting data from device to PC. If it happens, please follow below steps.



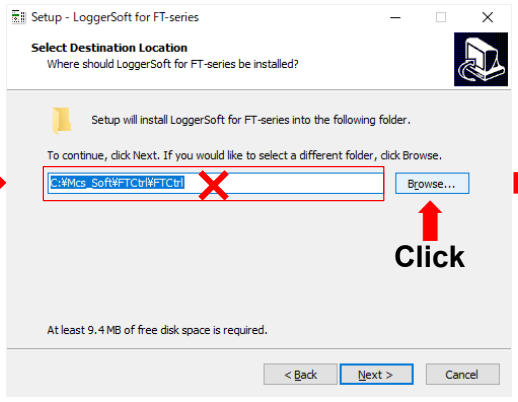
Please uninstall software and reinstall as follow.

Step1. Uninstall Software.

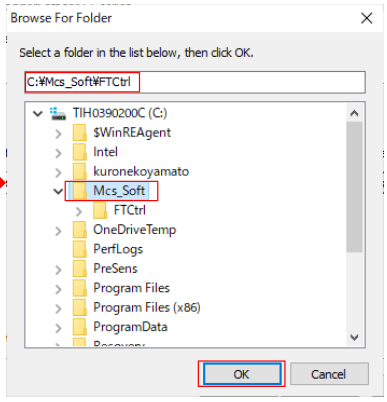
Step2. Reinstall Software. **NOTE** If your folder name is appears as **C:\Prgogram Files (x86)\\Mcs_Soft\FTCtrl** do not chose this. **Browse and find the C:\Mcs_Soft\FTCtrl.**



Reinstall Software.



Before click Next, please click Browse..



Choose Mcs_Soft then click OK.

Now you installed file at right place and you should be able to collect data.

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Take Measurement

1. Take Sensor and logger from the box.
Plug the cable to sensors: Red marked cable goes to NIR (Red sensor) and Black goes to PAR (Black sensor).
Take off black cap from the sensor.

2. Grip must adjust at convenient degree by user.

3. Slide the switch to Set position.
When nothing is measuring then the red light on the logger will be turned off after 60 sec, but once any button pressed it will reboot automatically.

Meas
Set
Off

4. To start measurement, please press and hold Enter button then “MEASURE” will appear on the display which indicate the measurement done and the data will be stored into Logger.

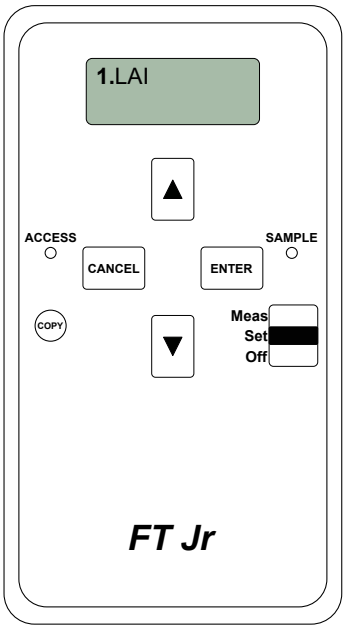
ENTER MEASURE

5. To see the result please press Enter button. The result will be shown on display.

1.LAI | **2.**NIR | **3.**PAR | **P.** Battery

6. To end the measurement, slide the switch to off. Unplug cable from each sensor.
Do not forget cover the sensor with black cap.

Meas
Set
Off



Data Collecting: 2ways (USB memory or Cable)

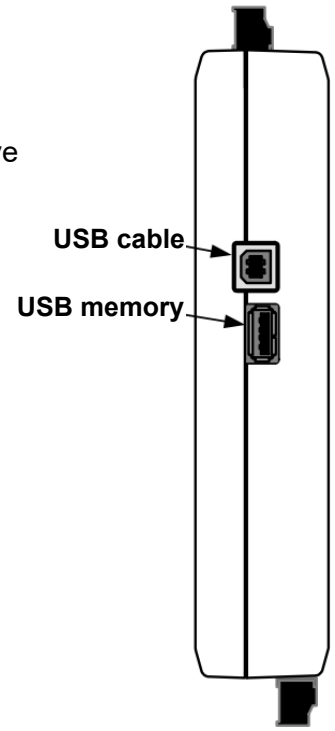
USB memory:

1. Slide the switch to Set or MEAS and insert the USB into port on left side of logger.

Meas Set Off **OR** Meas Set Off

2. Press Copy (COPY) button. Data will be store in USB memory.

*Please check the data files in USB memory before storing data.If the USB memory have already stored many files, it may cause logger to time out.
We suggest to use **empty** USB memory.



USB cable:

1. Use the USB cable in package and connect to PC and launch the soft.

2. Chose the data correct from Connect menu.

Data Deletion

1. Slide switch to SET and press ENTER.

Meas
Set
Off

ENTER

2. Press up or down arrow key and you can find the name “Data Clr” then pressENTER.

▲ **OR** ▼ Data Clr

3. Select action or cancel with up and down arrow key ▲Action ▼cancel.

For other detailed setting please see FtJr instruction manual in the zip file.

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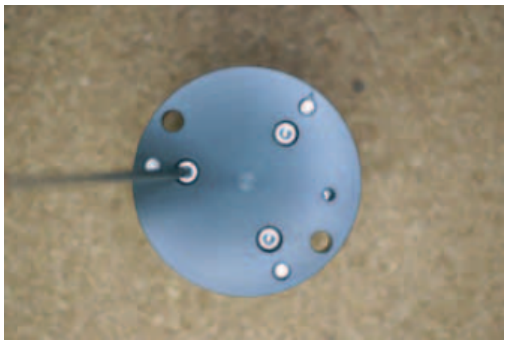
Sensor Maintenance & Disassemble

1.
Use a 2.5 mm hex wrench to remove three screwson the bottom plate



2.
Remove the base plate. Normally, the O-ringremains on the main body side for some reason, so be careful not to lose it.

3.
Remove the plastic cap in the center of the base plate.If you pull it out as it is, Molecular sieve and silica gel will spill out, so please pull slowlly.

4.
Plastic cap contains molecular sieves and silica gel inside. Molecular sheave does not discolor even if it absorbs water, so it can not be judged visually. If the color of silica gel is discolored, replace molecular sieves and silica gel. Yellow(silica gel) indicate a dry color. After replacement, assemble in the reverse order of the above and finish.

5.
Do not forget to apply grease to O-ringAlso please avoid dust sticking to O-ring.

Preparation

Molecular sieves

Silica gel (1 to 3mm)

Grease

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