OBSERVATOR
instruments

ANDROID 4.4 & above COMPATIBLE

MET-LINK



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MET-LINK Wind Sensor Manual

Version 1.02 – Oct 2017
Author: Observator Instruments

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Document History

Paper copies are valid only on the day they are printed. Contact Observator Instruments if any doubt about the accuracy of this document.

Revision History

This document has been revised by:

Revision Number	Revision Date	Summary of Changes	Author
V1.01	31-07-17	Updated general content	Ludovic Grosjean
V1.02	24-10-17	Warranty conditions	Ludovic Grosjean

Reference Documents

Please see the following documents for more information:

Document Name	Download from	Author
Online Training documents	http://download.observator.com/files/?dir=User manuals/MET-Link	Ludovic Grosjean
Maximet Manual	http://download.observator.com/files/?dir=User manuals/MET-Link	Gill

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1. MET-LINK INTRODUCTION

Thanks for purchasing the new MET-LINK wireless for the Gill Maximet line of weather sensors.

What is MET-LINK?

The MET-LINK handheld solution is comprised of a Gill Maximet sensor, a MET-LINK **wireless interface** and a MET-LINK **Android Application** for your Bluetooth-enabled Android device.

This new development allows the user to pair the Gill Maximet's weather sensor parameters to a useful and full featured tablet and phone application. The MET-LINK system can be ordered with a GMX-500 with GPS option, GMX-300 or GMX-200. The MET-LINK compact wind sensors have all the features of the Maximet Gill sensors but are purpose built to **minimize power** demand and **cost**.

Simple to operate, upgradeable, and can be customized with a wide range of accessories, MET-LINK is a compact field instrument. The sensor is connected to the wireless module for quick field or process reading. Logged records can be exported directly from the Android Application to email, Drobox or any number of data destinations.

The MET-LINK interface module provides rechargeable power to the sensor and manages wireless communication to a Bluetooth enabled Android device. Sensor can be powered for up to 5 hours. The module is lightweight, compact, and can be attached to a tripod.

The MET-LINK Android smartphone application has a large range of features that support data visualization, data logging, and data management. Data can be viewed locally (on device) or exported in excel format via Bluetooth, email or GPRS to external data servers. Logged data is time/date stamped and location tagged for mapping.

MET-LINK can be **customized and is upgradeable.** The MET-LINK handheld solution offers un-paralleled ease of use, accuracy, and a very competitive price.

Download the APP today and run in DEMO mode to become instantly familiar with intuitive operations.

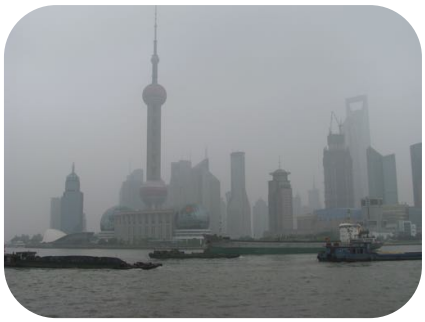
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2. APPLICATIONS

MET-LINK device typical use include applications such as:

1. **Quick & Remote deployments.**
2. **Portable accurate weather readings.**
3. **Fire Fighting.**
4. **Tactical/Defence.**
5. **Civil works and Safety.**
6. **Wind related sports (paragliding).**
7. **Military (UAV launching).**
8. **Boat applications.**
9. **Police deployment.**
10. **Pollution & Chemical hazard.**

The MET-LINK system is a great reference tool for wind checking on the spot. The freedom to port data directly to a phone, tablet or laptop offers the end user, field work efficiencies and an ordered means of managing data.






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3. SAFETY



For correct functioning of Observator MET-LINK, the sensor must be installed according installation instructions.



Always read and follow Maximet instructions.



Always make sure to securely attach MET-LINK interface module.

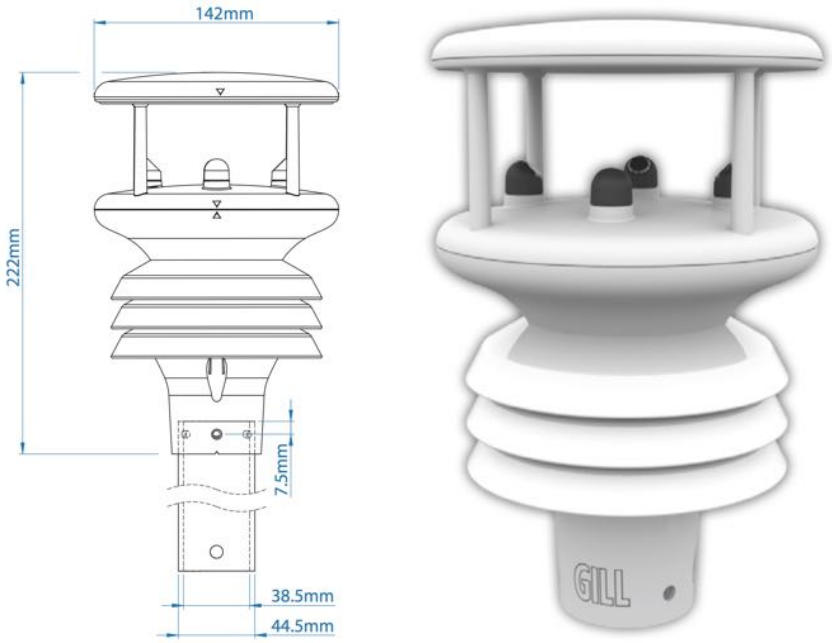


After end of life dispose this product according local regulations or return to manufacturer.

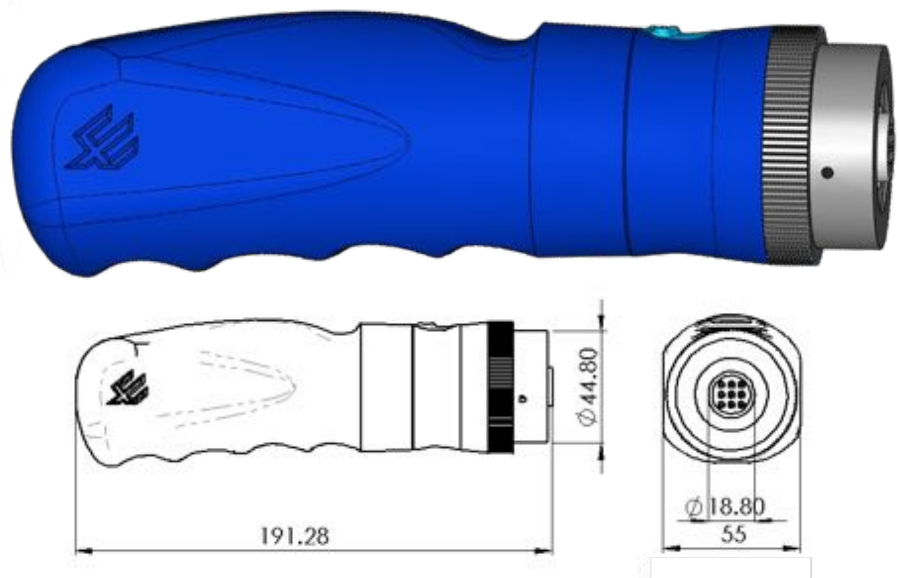
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4. SPECIFICATION

Maximet sensor Dimensions	
Length	222mm
Diameter	142mm



MET-LINK wireless module Dimensions	
Length	191mm
Diameter	55mm



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Connectivity	
MET-LINK interface (Bluetooth Module)	SPP profile

Power Supply		
Extended rechargeable Lithium Ion battery	13Wh	(Battery life ~5 hours of operation)
Power supply, charge through 12V power pack, powers on when Sensor is plugged in		

Maximet GMX-500 (Gill Sensor)	
Temperature, Humidity & Pressure	▪ Air Pressure / Temperature ▪ Humidity ▪ Naturally aspirated UV stable radiation shield ▪ Protection against wind-blown precipitation/dust
Wind	▪ Wind speed & direction ▪ Apparent and true wind (with GPS) ▪ WMO wind averages and gust ▪ Compass ▪ GPS (optional) gives height above sea level, latitude and longitude
GPS (OPTION)	▪ Height above sea level *(m)* ▪ MSL pressure
Parameters	▪ Temperature *(°C, °F, °K)* ▪ Relative humidity *(% Rh, g/m3, g/kg)* ▪ Barometric pressure *(hPa, bar, mm Hg)* ▪ Absolute humidity *(g/m3)* ▪ Wind speed *(m/s, km/hr, mph, kts, ft/min)* ▪ Wind direction *(°)* ▪ True/apparent wind

Android App
Log files have embedded location, time & date, comments and photos
Logging of comma delimited data sentence
Statistic and smart Graph viewer tool
Fast data export
Battery Status and Charge indicator
Sensor status

Compatibility	
Android Application for Smartphone & Tablet	Version 4.4 & above

Capabilities	
Wind speed	(From sensor)
Temperature	(From sensor)
Location	(From sensor/phone)

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Wind Speed	
Range	0.1m/s to 60m/s
Accuracy	±3% to 40m/s ±5% to 60m/s
Resolution	0.01m/s
Starting Speed	0.1m/s
Sampling Rate	1Hz
Units	*(m/s, km/hr, mph, kts. Ft/min)*

Wind Direction	
Range	0-359°
Accuracy	±3° to 40m/s ±5° to 60m/s
Resolution	1°
Sampling Rate	1Hz
Units	*(Degrees)*

Temperature & Dew Point	
Range	*-40°C to +70°C*
Accuracy	±0.3*°C @ 20°C*
Resolution	0.1*°C*
Sampling Rate	1Hz
Units	*(°C, °F, °K)*

Humidity	
Range	0-100%
Accuracy	*±2% @ 20°C (10%-90% RH)*
Resolution	1%
Sampling Rate	1Hz
Units	*(% Rh, g/m3, g/kg)*

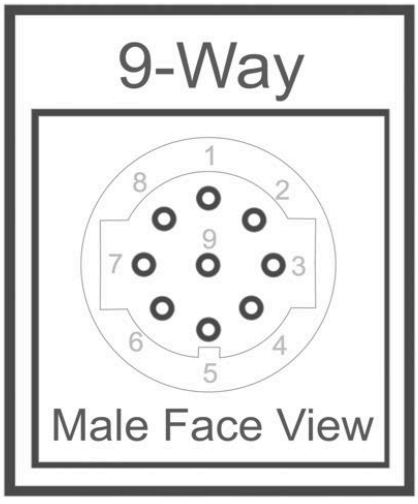
Pressure	
Range	300 *to 1100*
Accuracy	±0.5hPa @ 25*°C*
Resolution	0.1hPa
Sampling Rate	1Hz
Units	*(hPa, bar, mm Hg, inHg)*

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5. PINOUT & WIRING DIAGRAM



The Pinout configuration of the MET-LINK is the following:



Pin Number	Meaning
#1	Signal GND
#2	Supply +Ve
#3	Supply -Ve
#4	RS422/485 TXD+
#5	RS232 TXD, RS422/RS485 TXD-
#6	RS422/RS485 RXD+
#7	RS232 RXD, RS422/RS485 RXD-
#8	Comms Select-Only
#9	SDI-12 Data

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6. DESCRIPTION

When the product is delivered, this is what you will find in the box:



Items found in the box		
Figure 1.1.	**Maximet sensor**	
Figure 1.2.	**MET-LINK interface Module**	
Figure 1.3.	**Charging cable**	
Figure 1.4.	**Standard Li-ion battery**	

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7. ACCESSORIES



Observator Instruments offers a wide range of accessories for MET-LINK range of product directly available from the website:

Accessories		
Figure 2.1.	**Spare Maximet sensor**	
Figure 2.2.	**Spare charging adapter**	
Figure 2.3.	**Spare Li-ion extended batteries**	
Figure 2.4.	**Case**	
Figure 2.5.	**Spare Bluetooth MET-LINK interface module**	

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8. INSTALLATION

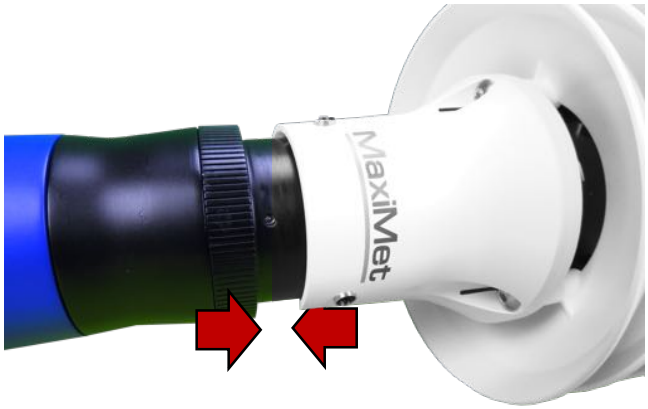
Install the sensor for the first time

Connect the Li-ion battery to the MET-LINK interface module (normally installed when provided), if not please follow the instruction described in the chapter “Maintenance & Calibration” section “Battery replacement”.

To **Install the Android application on your smartphone**, use the following link, download and install the “.Apk file” (for smartphone):

https://play.google.com/store/apps/details?id=obs.metlink&hl=en

1. **Connect** MET-LINK sensor to the Maximet module by matching the pin and turning the module screw.

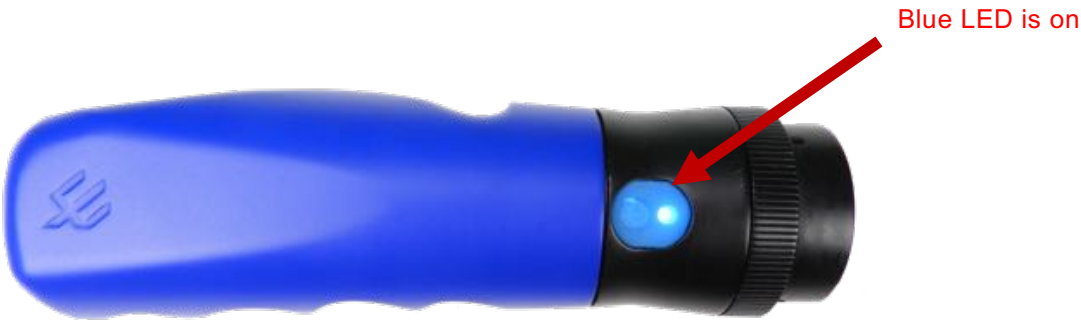




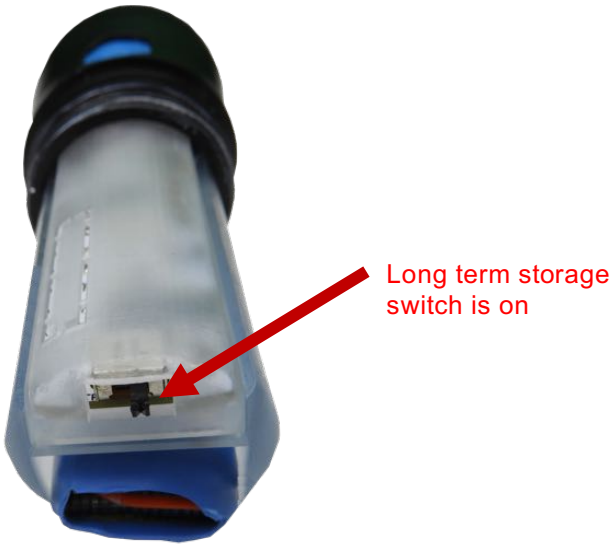
Download & Install MET-LINK application:

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2. Press on the MET-LINK interface module button and notice the blue LED indicator turning on. If you cannot see the blue indicator light, it means the MET-LINK interface module is not powered.



Note: In the event where the indicator is not lighting up, ensure that the MET-LINK interface module has enough battery (refer to the "Charging Battery" section of this manual) and ensure that the long term storage switch inside the Bluetooth module is on.



Note: If storing the Wireless interface more than 6 months, please power off the device.

LED STATUS	COLOR	MEANING
Flashing Blue		Bluetooth available for pairing
Flashing Green		Device is paired
Flashing Red & Green		Battery is charging or charged
No LED		MET-LINK interface module off

3. Run the app: go to the chapter "Android Application interface" of this document.

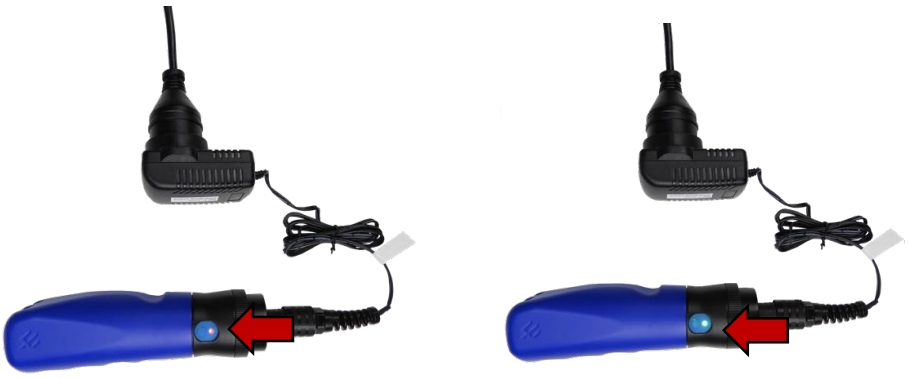
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Charging the battery

1. Connect the provided charging adapter to the MET-LINK interface module and apply power.



2. At any time, you can monitor the charging status of the module by pressing on the MET-LINK interface button. The LED indicator is flashing green and red to indicate that the battery is charging.



3. We highly recommend to use the application to monitor the battery level, please refer to section “Read the Bluetooth battery level” in the chapter “Android Application Interface”.

Note: The best way to verify if the battery is fully charged is to use the Android Application to monitor the battery level. The user should expect that the charge will take 90 minutes and up to 3 hours of charge if the battery is fully flat.

4. When battery is fully charged, disconnect the charging cable.



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9. ANDROID APPLICATION INTERFACE

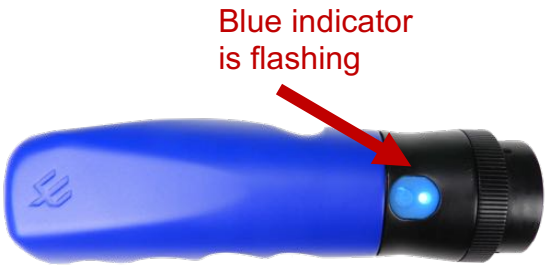
Activate the GPS location & Bluetooth



1. Go to your phone options
2. Activate the GPS location of your phone
3. Activate Bluetooth

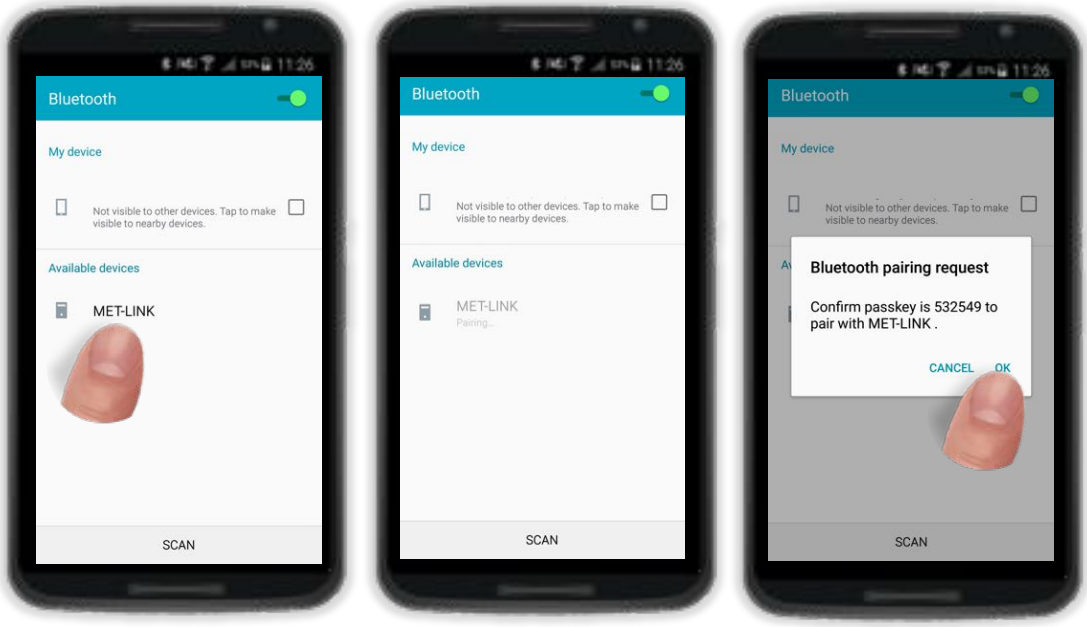
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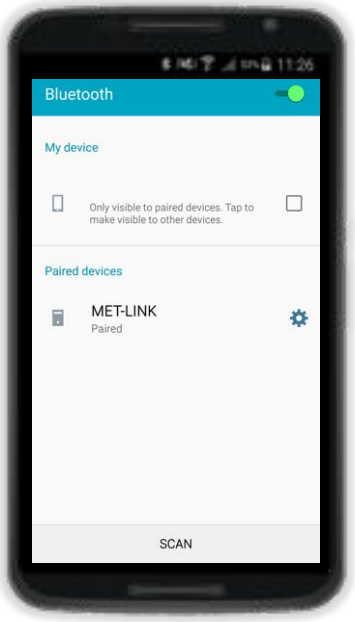
Pair the sensor via Bluetooth



After having activated the Bluetooth of your phone:

1. Turn on the MET-LINK interface by pressing on the blue button, make sure that the blue LED indicator turns on.



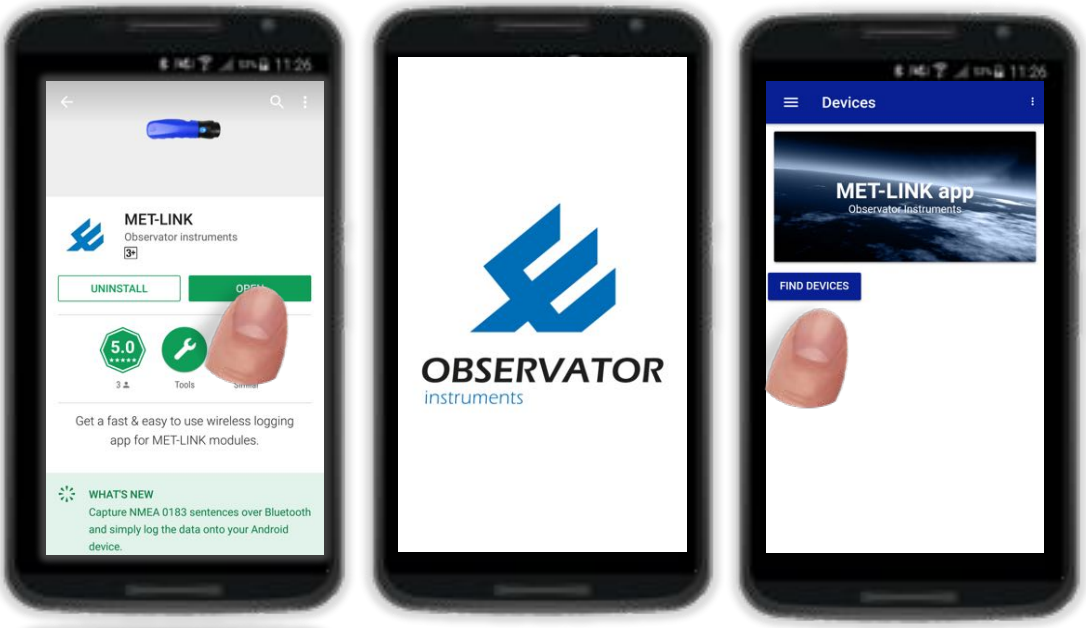


Note: Step 2 to 5 are to be completed only the first time you connect a new sensor.

2. Go to the Bluetooth settings, scan to find the new device. Select the new sensor to pair and press pair.
3. Wait while pairing the sensor.
4. Allow pairing by pressing “Ok”.
5. Sensor is now shown as paired, you can now run MET-LINK Application.

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Launch the app & connect to sensor





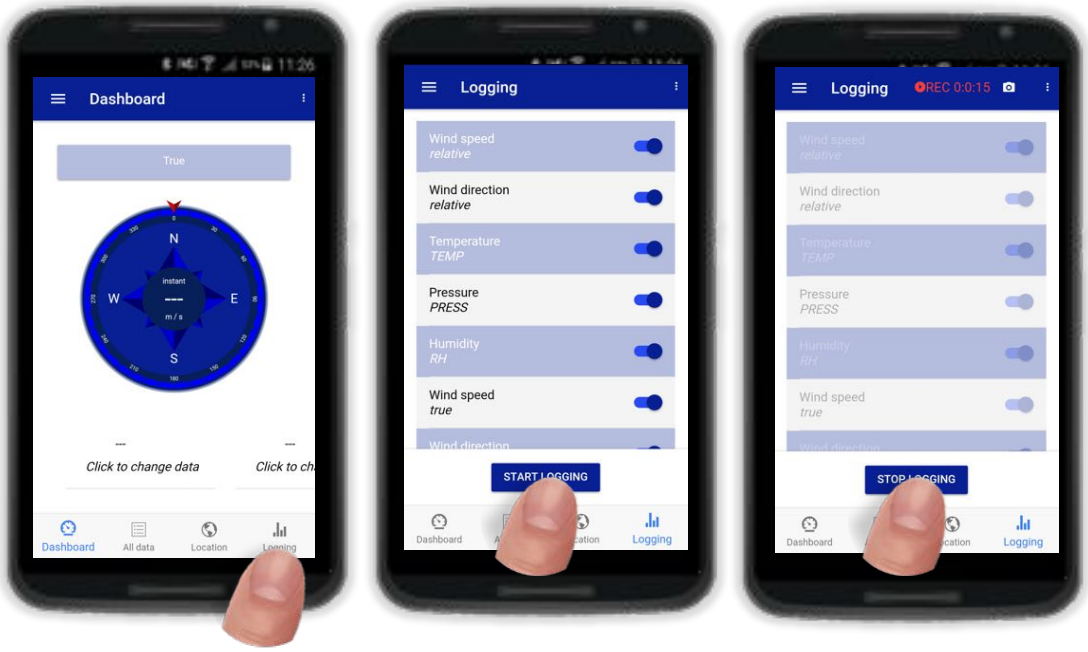
1. Search for “MET-LINK” App in Google Play store or alternatively scan the QR code below. Download and open the software.
2. Wait for the app to load.
3. Search for device to connect to by pressing on “Find Device”. If you cannot see the device, make sure that the MET-LINK interface module is available and the blue LED is on.
4. Select device from the available list. You will notice the LED indicator turns green when app is successfully connected to the module.

Note: If you want to turn off the module, make sure you disconnect the wireless module from the app.

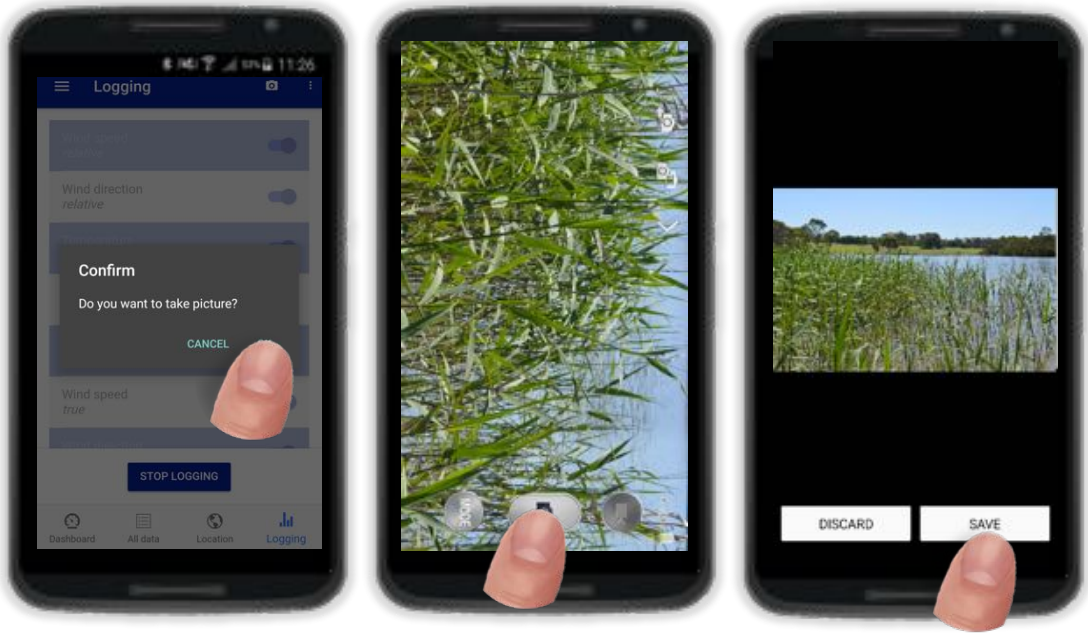


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Record data



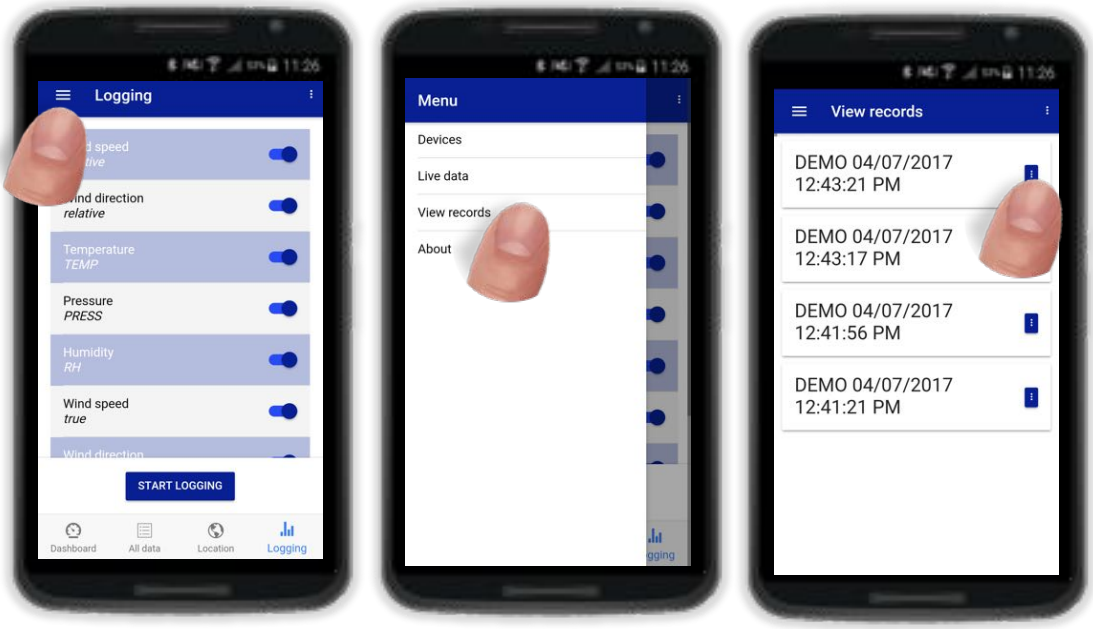
1. When connecting to the sensor for the first time, wait few seconds in order to load the data and select “Logging” menu.
2. Press on “Start Logging” to start the record.
3. A record message will be displayed while recording. Press “Stop Logging” when required.



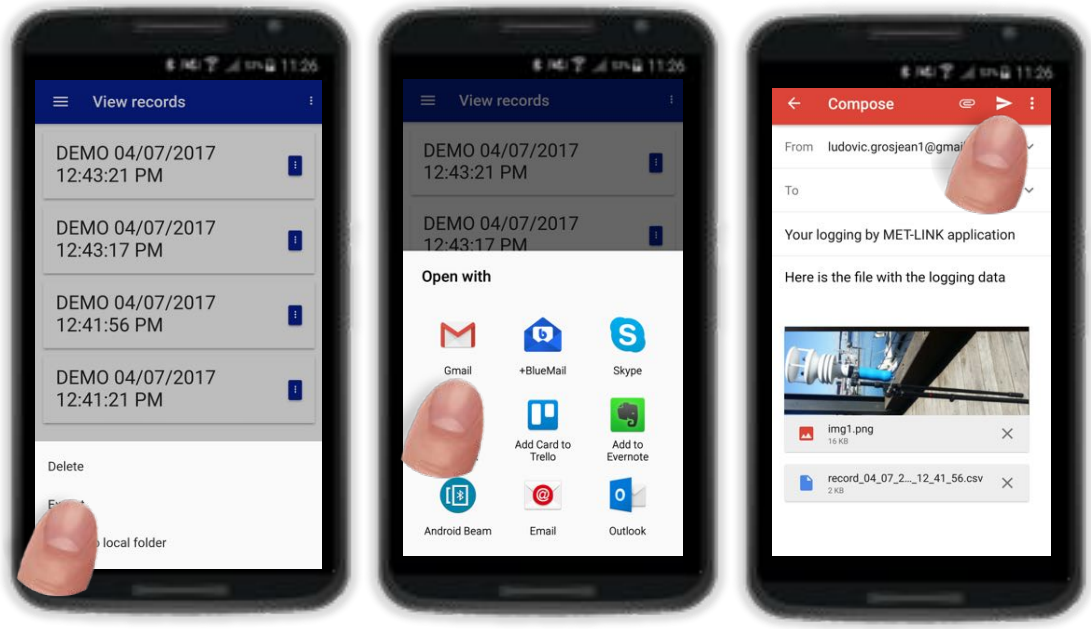
4. If the user did not take a picture, the app will offer the user to record a picture on the database, press “Ok”.
5. Take a picture.
6. Press “Save” to save the picture in the database, alternatively press “Discard” to take another picture.

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Export data



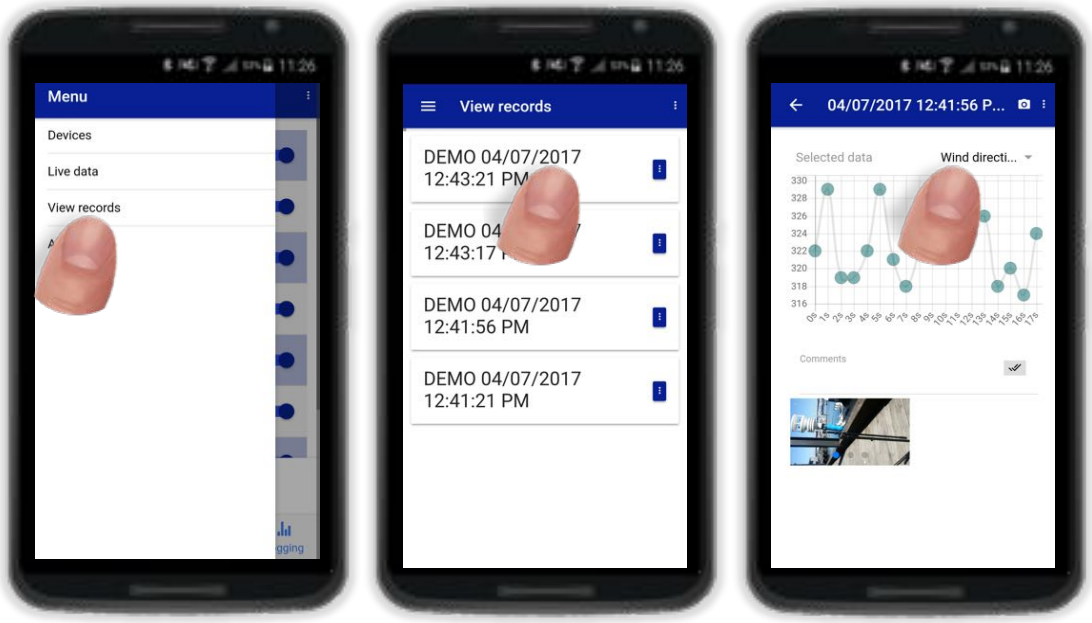
1. Go to the Menu Page by clicking on the left-hand side Icon.
2. Select “View records” menu.
3. “View records” menu will display the records available from the most recent to the oldest, click on the icon of the selected record to display options.



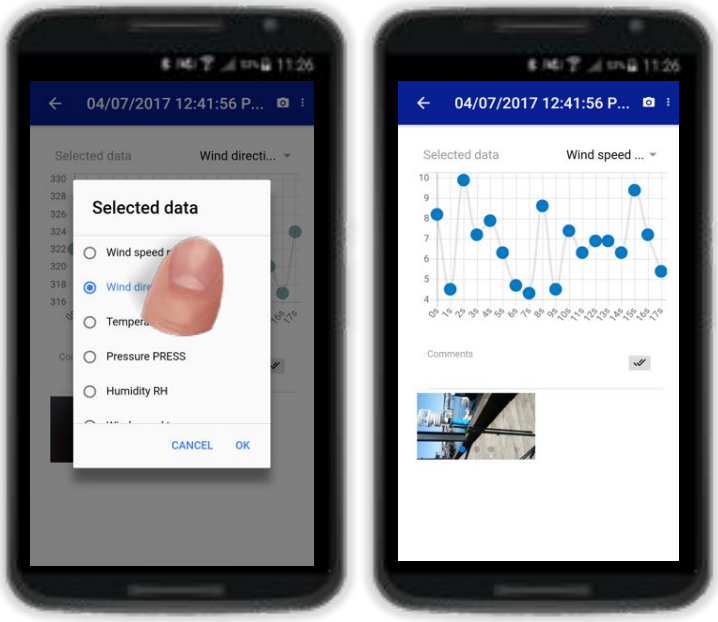
4. Select Export option.
5. Select your export Method.
6. Compose your email including the recipient and click on the send button to send the log file and the pictures attached.

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View a record



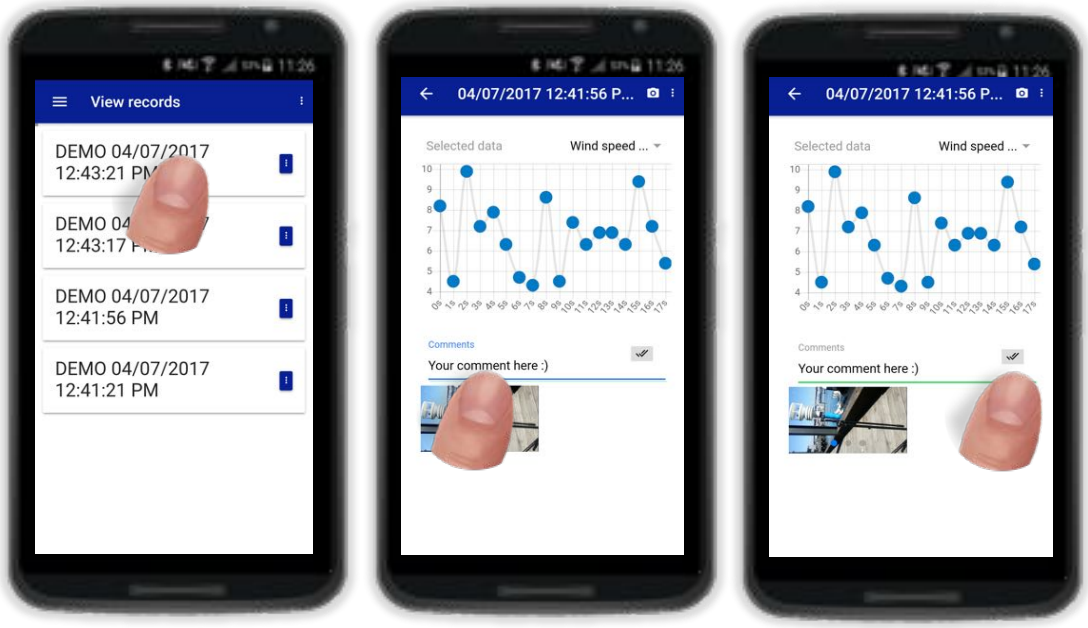
1. In the menu Page select “View records” menu.
2. “View records” menu will display the records available from the most recent to the oldest, click on any record to display the logged data.
3. The record displays a record of all wind measurements. Click on the Graph to access individual measurements. Alternatively click on the drop down menu to select which graph you want to visualize.



4. Select which graph you want to display from the available choices.
5. Scroll down to see attachments (pictures), GPS map or comments.

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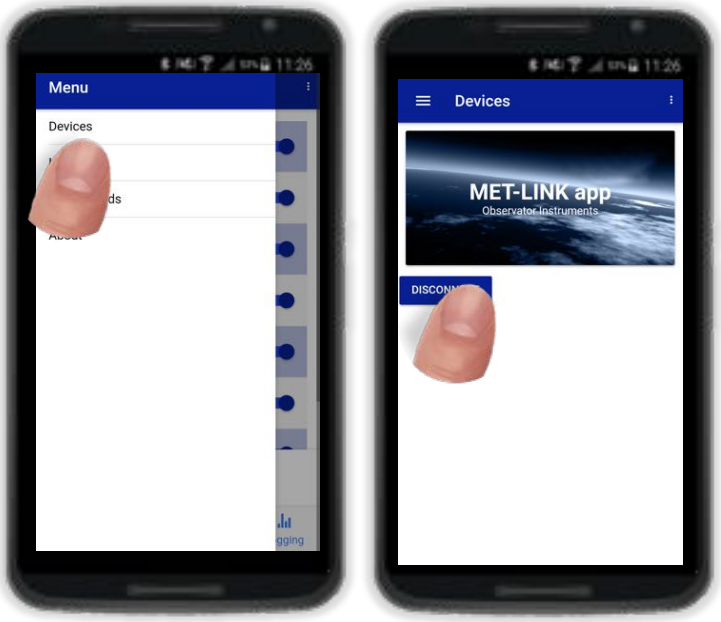
Comment a record



1. Follow steps 1, 2 of the previous section “View a Record”.
2. Type your comments in the “comments box”.
3. Press the green icon to save your comment.

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Turn off MET-LINK interface

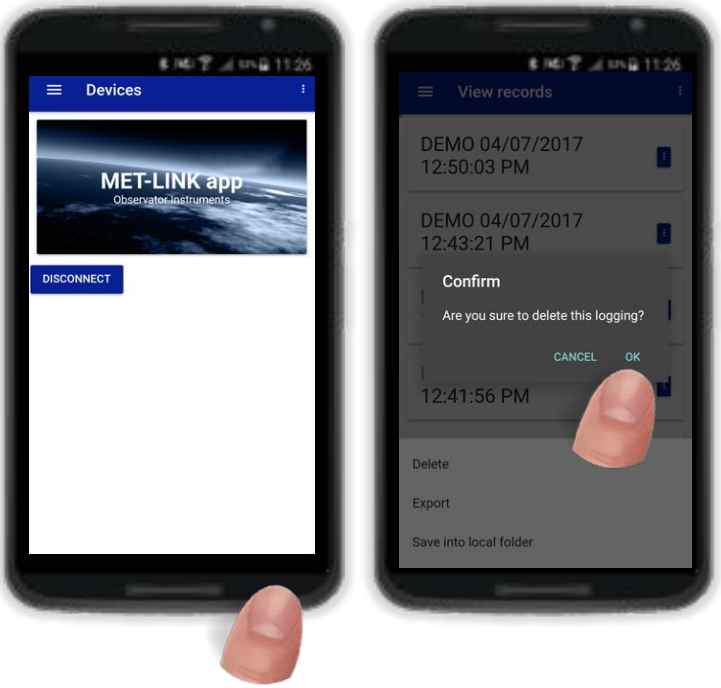


We highly recommend to disconnect the wireless when not taking measurements.

1. In the Menu Page select “Devices” menu.
2. Click on “Disconnect” button to disconnect the sensor, this will immediately turn off the MET-LINK interface module and turn off the Bluetooth LED indicator.

Note: *Unplugging the sensor from the wireless device will not turn off the module.*

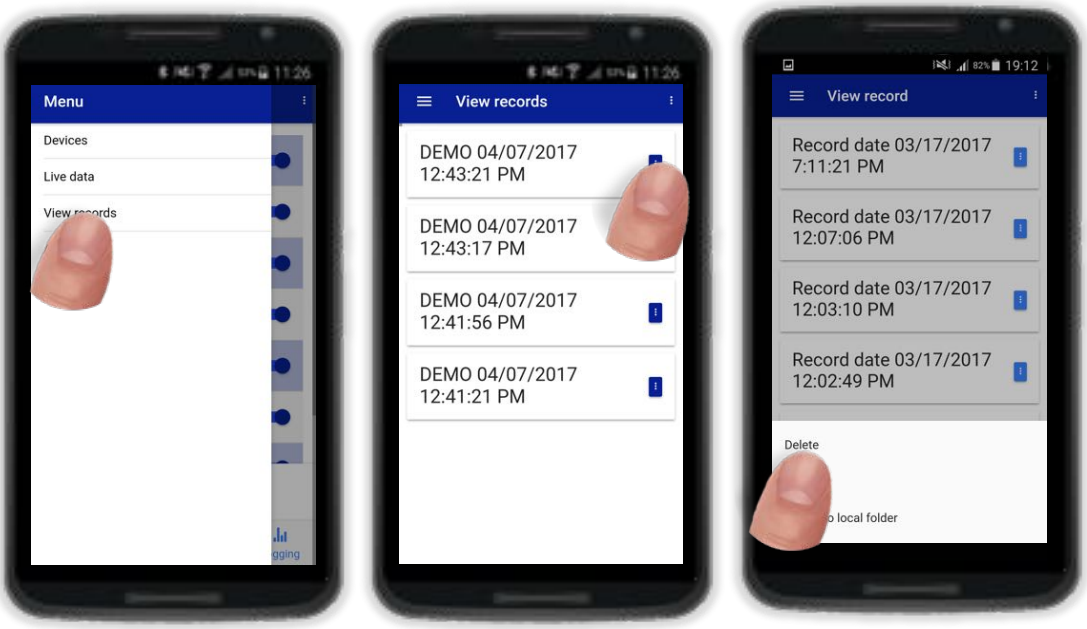
Quit the application

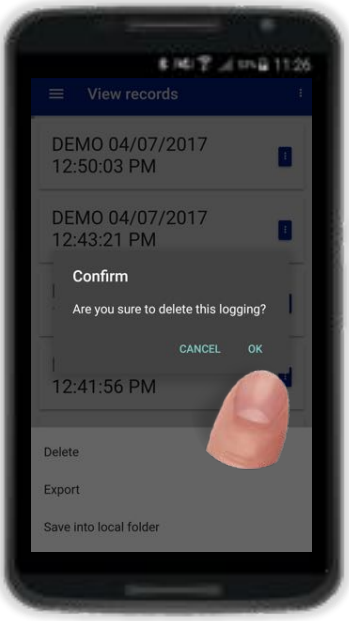


3. You can quit the application at any time by pressing on the return button of your phone.
4. Click on “Ok” to confirm that you are ready to shut down the application. This action will immediately turn off the MET-LINK interface module.

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Delete a record

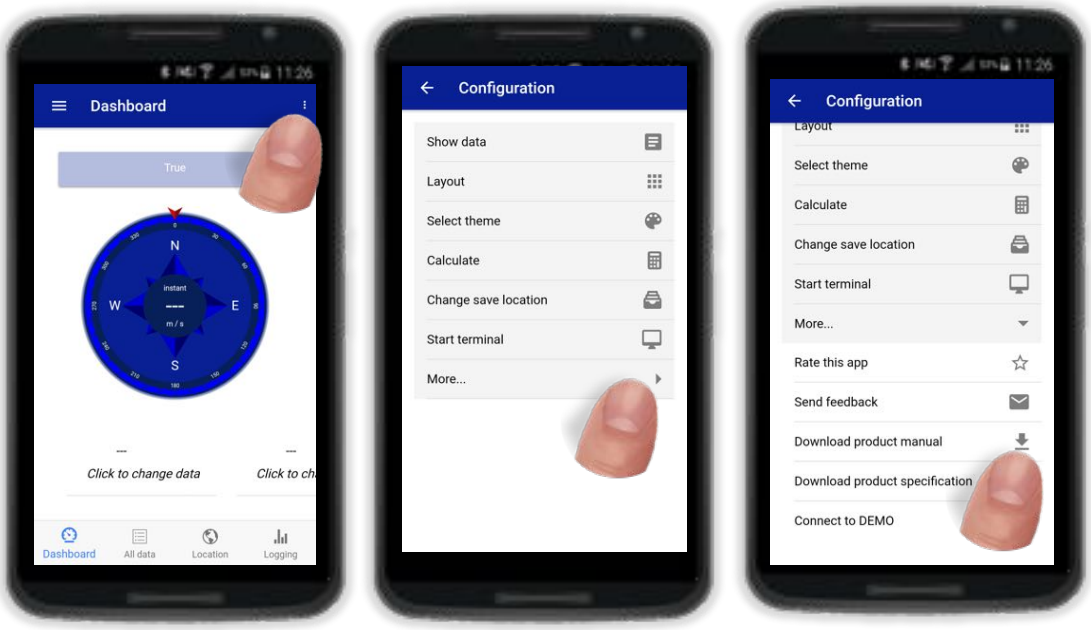




1. In the Menu Page select “View records” menu.
2. “View records” menu will display the records available from the most recent to the oldest , click on the icon of the selected record to display options.
3. Select “Delete”
4. Select “Ok” to confirm and delete data.

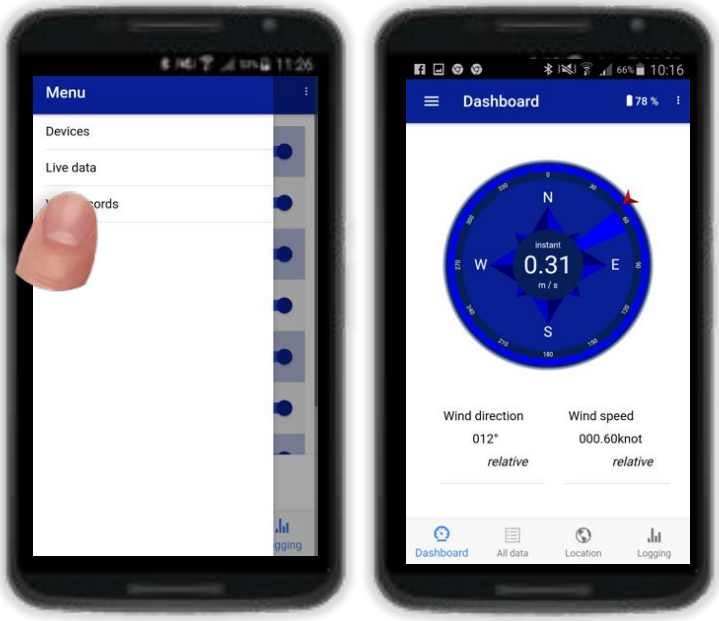
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Access additional information



1. On the Dashboard Page, click on the top-right corner.
2. Select “More” to access to the drop-down menu.
3. Documentation links are available on the “Download” buttons.

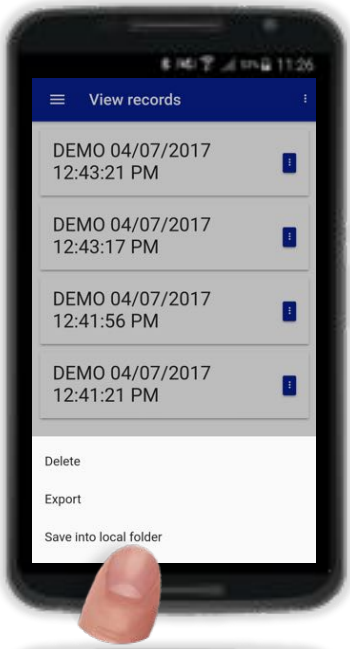
Read the Bluetooth battery level

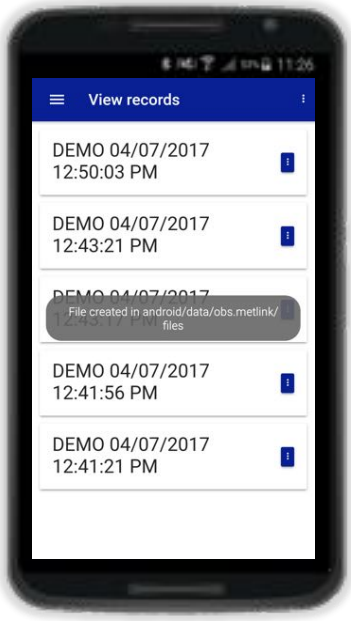


1. On the Menu Page select “Live data” menu.
2. The battery level is displayed on the top right corner.
   When Bluetooth Interface module is charging, sensor real-time data is no-longer available.

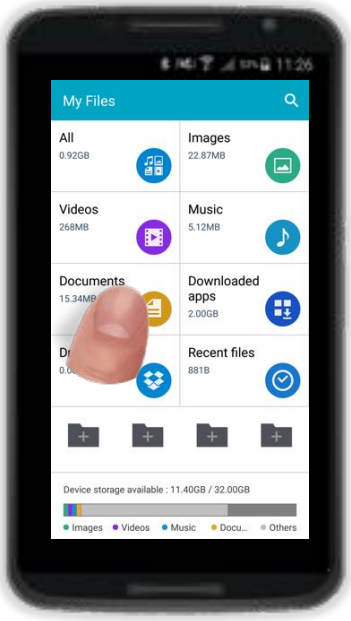
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Export in local folder



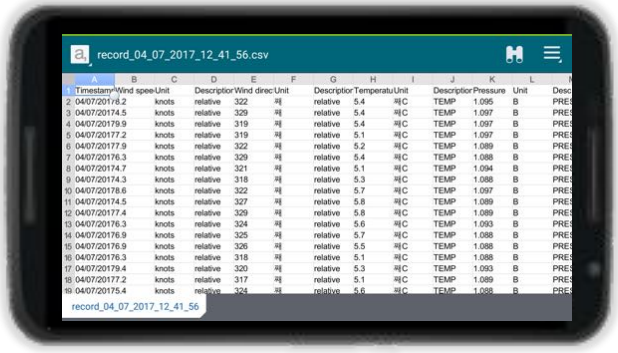


1. Follow steps 1, 2, 3 of the section "Export data". Press on "Save into local folder".
2. The exported record will be automatically saved into your local folder.





3. To open the file, search on your local folder.
4. Select and open the ".csv" file using Excel or equivalent.



5. Open the ".csv" file to view the logged data.
   The file name includes the date and timestamp of the recording. Comments, picture names are displayed in the header. Wind speed, Wind direction, Temperature, Pressure, Humidity, Longitude, Latitude data is displayed in columns according to the timestamp.

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10. DEPLOYMENT

Deploy the sensor

1. Start by **considering the environment of operation:** always operate wearing appropriate safety equipment in safe operating conditions.



2. Install the module on the tripod and make sure the sensor is securely attached and steady.



NB: *In a simple application the sensor* ***can be simply held*** *while performing measurement.*

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3. At any time, you can use the Smartphone application to connect to the sensor (refer to chapter "**Android Application interface**" of this document). In the case you cannot see live data, disconnect and reconnect the sensor to the MET-LINK interface module and start the application again.

***Note**: We highly recommend to verify the reading by doing the measurement twice for data redundancy purposes.*

Retrieve the sensor

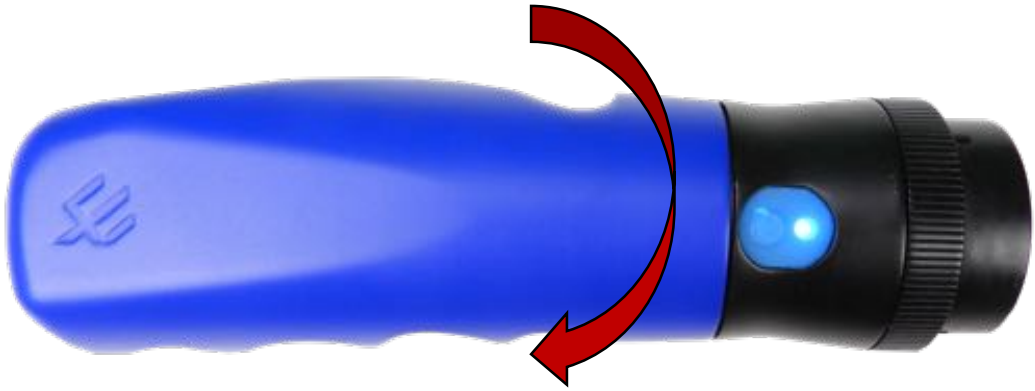
Carefully remove the sensor from the tripod, make sure the sensor is dry and store the sensor in appropriate conditions. After each use, **do not disconnect the sensor from the Bluetooth Interface Module**.

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11. MAINTENANCE & CALIBRATION

Battery replacement

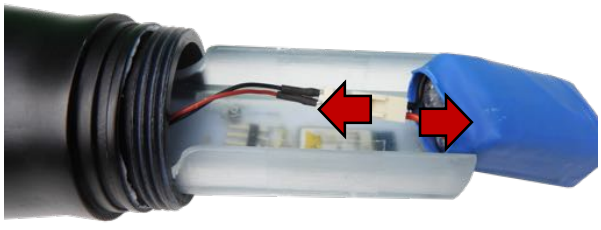
1. Please unscrew the cover of the Bluetooth Interface module.

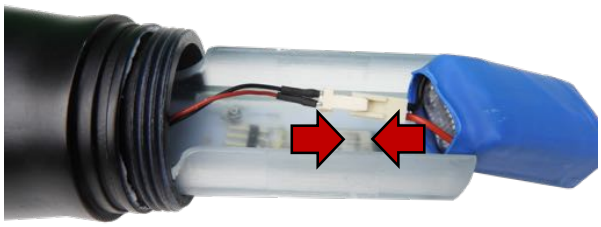




2. Disconnect the li-ion battery pack by pulling each part of the white connector.

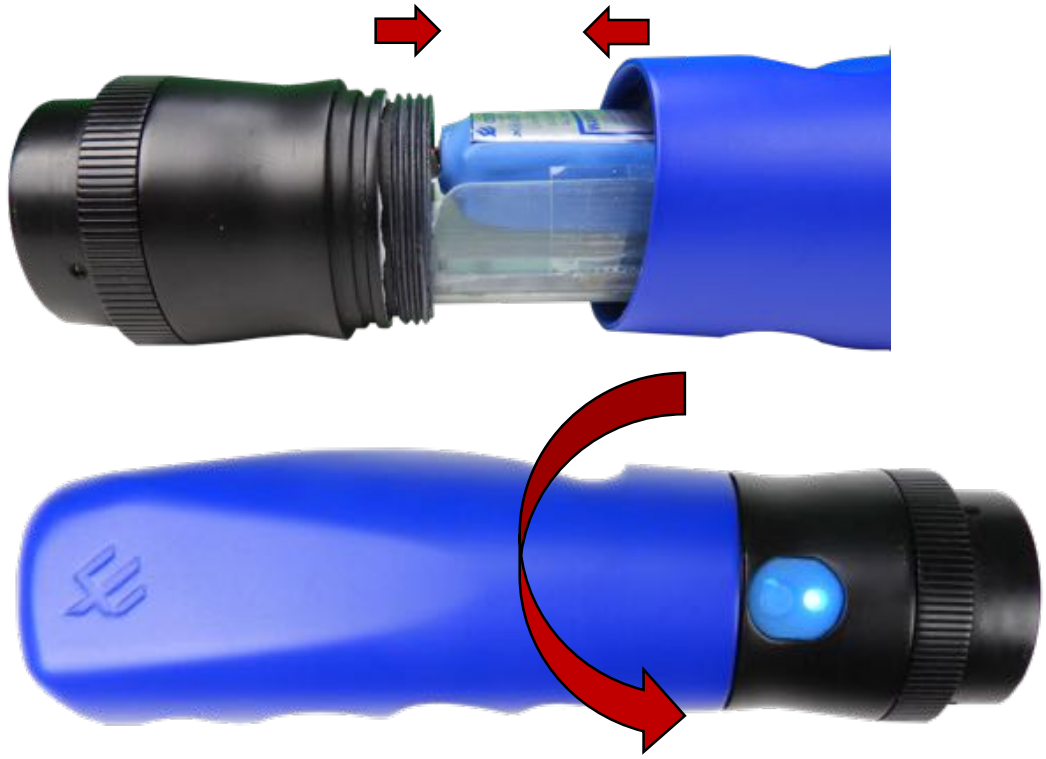
➔ **Warning**: do not pull on the cables otherwise it would damage the unit.





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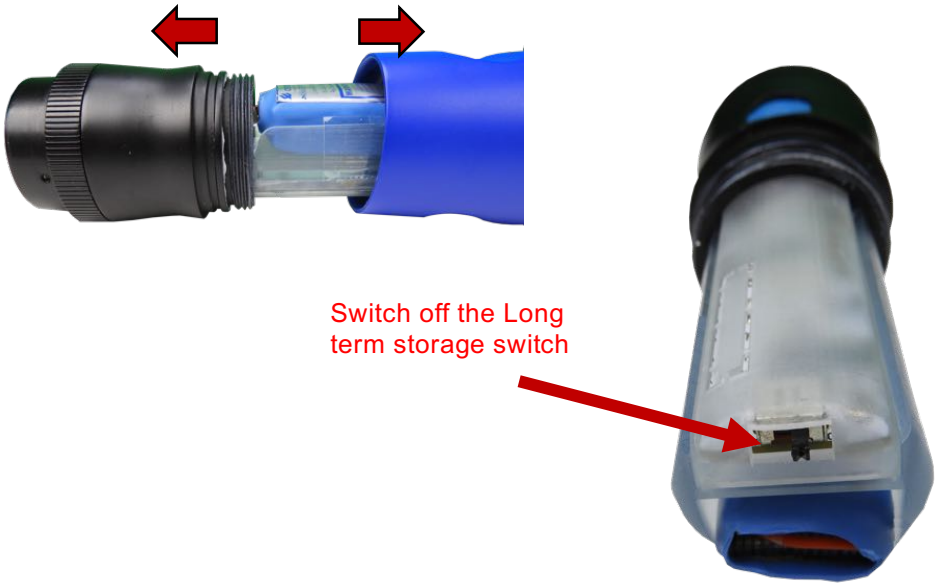
3. Connect the new battery to the white connector, place the battery in the holder. Finally, screw the cover until fully tight.



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Long term storage

In order to increase the life-expectancy of MET-LINK products, we highly recommend to switch off the long-term storage internal switch of the Bluetooth Interface Module.



Note: The internal switch should be only used to turn off the unit if the device is in storage more than 6 months or when transporting by air. Normally its best to leave it on the “ON position” with the cover closed at all times.

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ISO-9001

12. SERVICE & SUPPORT COVERAGE



MET-LINK

Valid Warranty

Warranty on MET-LINK products is one year.
See our Warranty and Terms and condition for details.

Telephone Technical Support

You can contact us any time about Technical Support.

Repair and Service Coverage

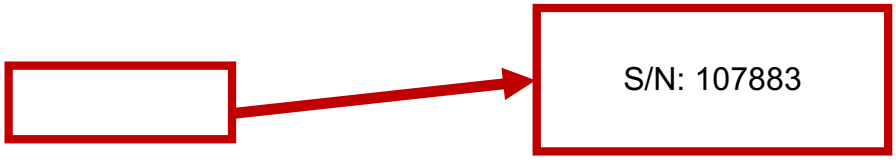
Please enquire about a maintenance program.

If warranty or repair is required, please request an RMA number at the Observator Website:

https://observator.com/en/support/rma-request

You will need: **1. Your Serial Number (can be found on the sensor sticker)**

2. A valid E-Mail



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Warranty conditions

MET-LINK products are warranted against defects in material and workmanship for one year from date of warranty registration. The **warranty does not cover the battery**. **Unauthorized service, tampering or abuse will void this warranty**. **Damage as a result of improper installation will also void this warranty**.

Should you require service (under warranty or otherwise) please **contact Observator Instruments distributor from whom you purchased the sensor, or our Service Centre**. If the sensor is being returned for service under warranty, please supply proof of purchase and the Warranty document which has been emailed to you during the warranty registration.

All support enquiries must include:

1. The serial number of the sensor labelled on the casing of the sensor
2. The shipping address for sensor returns

Contact & more information

Additional Information, including training video, this manual up-to-date and tutorials are available on our training page:
http://download.observator.com/files/?dir=User%20manuals/MET-LINK

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