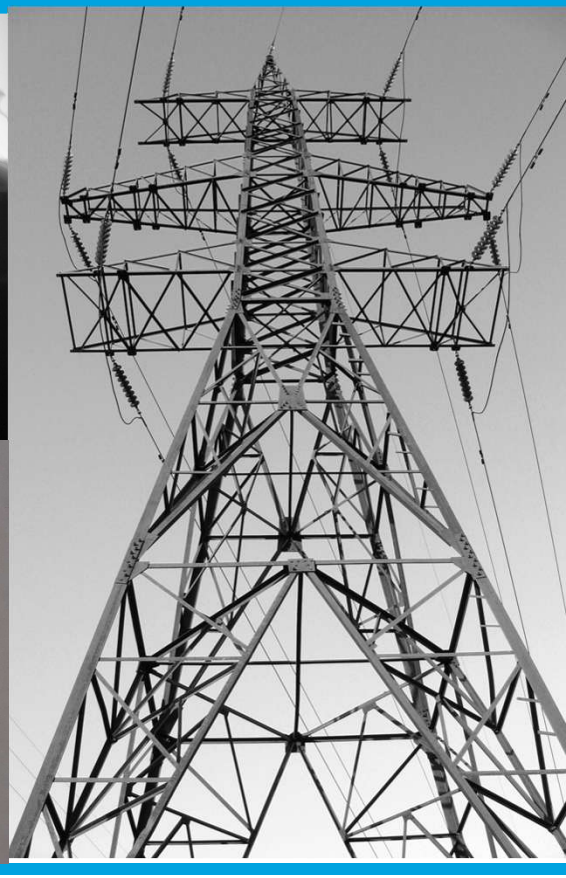
Atmospheric Corrosion LOGGER RMU Box (w. Solar panel)

Quick Start Guide



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MetriCorr
Corrosion & Cathodic Protection Remote Monitoring

Atmospheric Corrosion Logger RMU - QUICK START GUIDE

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Office Readings

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Tip:
The pdf-version of this document is “clickable”. The MetriCorr logo is a return link to this page.

1. Unpack

What's included:

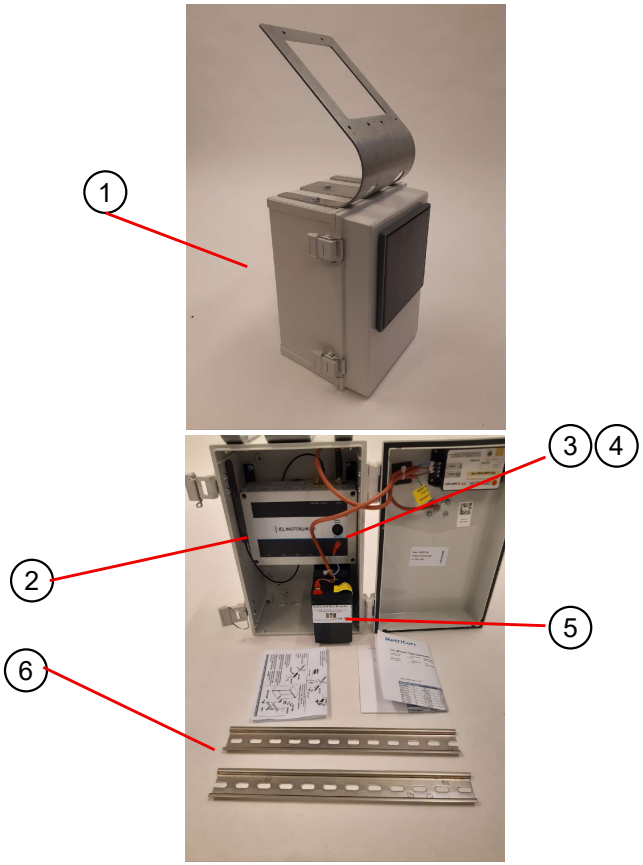
① Remote monitoring unit (RMU) in box.

The box contains:

② ICL Masterlink RMU
- ③ Control Button
- ④ Status LED

⑤ Lead Battery, 12V, 7Ah

⑥ DIN rail for mounting.



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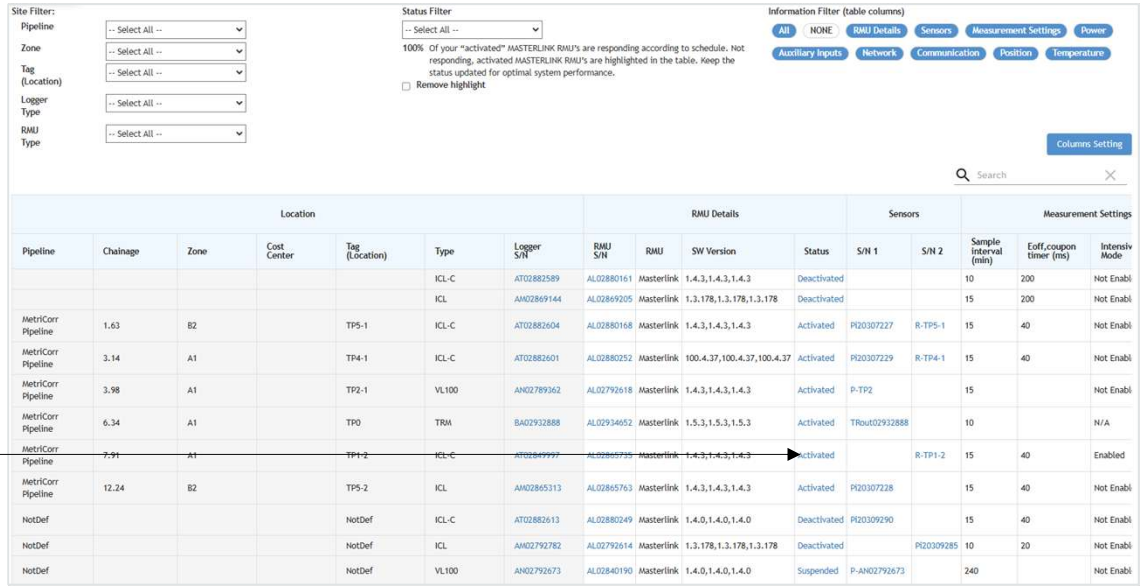
2. Confirm the S/N registered in CP*Manage

- Use the login credentials provided by MetriCorr to log on to https://data-metricorr.com
- Confirm that the Slimline unit is available in the RMU's Table
  (Locate the logger S/N on top of the unit)

- Set the RMU status to "Activated" to enable communication

- If you do not find your unit, contact MetriCorr
  support@metricorr.com
  (+45) 9244 8080



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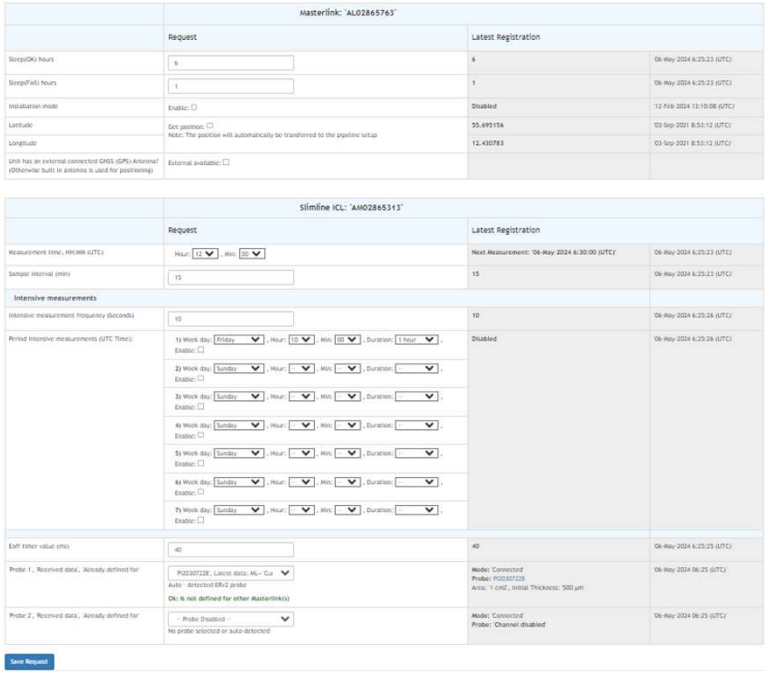
3. System setup in CP*Manage Web

CP*Manage Web is a powerful tool for organizing your data.

The RMU will monitor components defined in CP*Manage Web. Some components need to be defined first for a logger to monitor them. There are HOW TO manuals available online to assist further in this process.

1. Via the **COMPONENTS** can sensors/components be created and viewed. - ERv2 Probes from MetriCorr have embedded certificates and will automatically be registered in CP*Manage web upon connection to a logger, so there is no need to manually create any.
2. Via the **PIPELINE SETUP** menu, build your virtual pipeline and place your components and sensors. This can be done any time before or after installing the loggers.
3. Via the **RMU's** menu, go to **setup** for the logger and connect the components to the logger and set up logging & upload frequency, measurement details etc.

The "MetriCorr RMU" App offers a simpler way to finish step 3, especially during onsite installation. See next page.



RMU setup page (ICL example)

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4.1. MetriCorr RMU APP

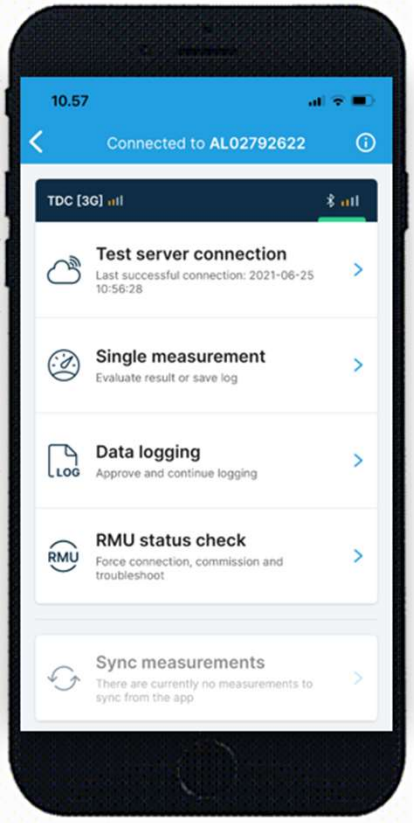
- Download the “MetriCorr RMU” App via Google Play or App Store.
- Use the login credentials provided by MetriCorr to log in.

The app uses Bluetooth to communicate with loggers. Make sure this service is enabled on your device. Only 1 device can be connected to a logger at the time. Only loggers registered to your account are available for connecting.

- Once connected to the logger, you can use this to
  - Test server connection
  - Perform single measurements*
  - Setup data logging
  - Perform RMU status check
  - Synchronize measurements with webservice (alternative to cellular data transfer)

The “**RMU status check”** is useful for commissioning of the logger, as this will perform both a measurement and test the connection with the webservice.

**) ICL loggers can only measure with at least 1 probe connected.*



MetriCorr RMU App

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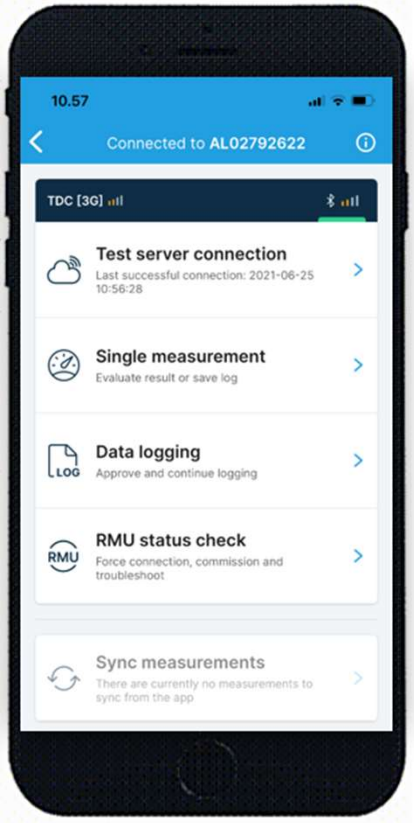
4.2. Server Connection Check RMU APP

With the APP you can easily check if the Logger is having a proper coverage on the Mobile network to be able to communicate with the server. It can be done with the 2 functions below:

- Test server connection
  - With this the logger will start the LTE (mobile) connection and check if is able to make a connection to the server. Note if this is done successfully
- RMU status check
  - With this the logger will go through a measurement sequence and display the measurement results.
  - The status check also includes a server connection test, and the result will be shown in a separate tab.

  The RMU status check is well for commissioning and thereby ensuring that both measurement values are valid and that results can be sent to the server.

*) *Logger can only measure with at least 1 probe connected.*



MetriCorr RMU App

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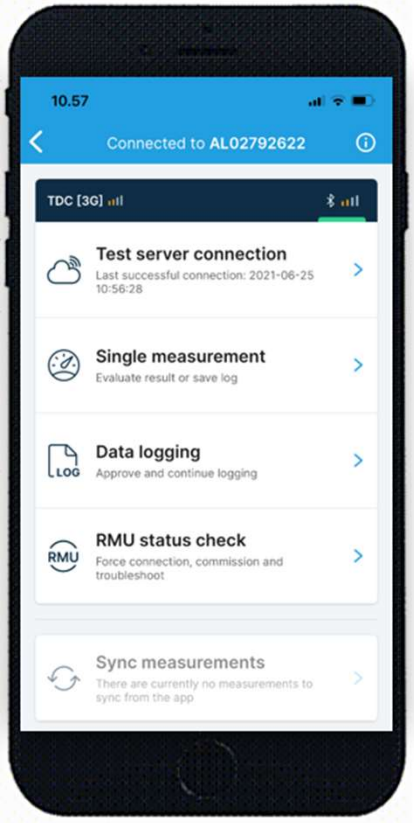
4.3. Setup Datalogging with RMU APP

- Data logging
  - The logger can be set to Datalogging OFF-line if network is unavailable. Then measurement are fetched with the APP and then synchronized with server, when the phone has network.
  - In the Datalogging menu, the measurement interval can be changed. An interval of 6 hours is recommended this is sufficient to determine atmospheric corrosion. A more intensive measurement rate will increase the battery discharge and then reduce battery life.
  - Factory setting (6h measurements and 24h Transmission Intervals)
  - With factory settings, continuous measurements are supported by a solar-charged battery.



MetriCorr RMU App

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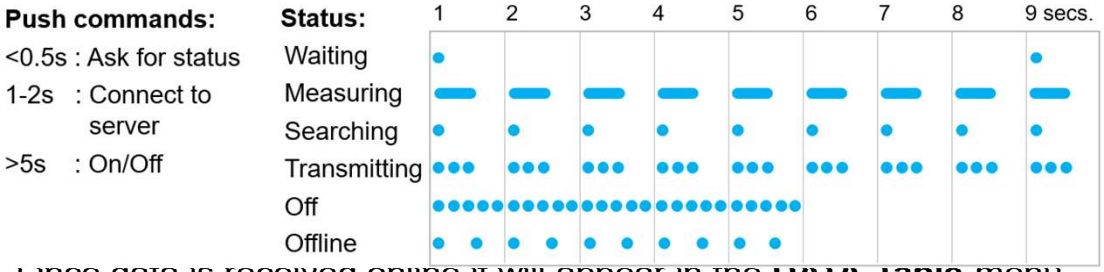
5. Confirm data flow

- Once everything is set up in CP*Manage, the RMU must be turned on to start measuring and connecting to server.
- The RMU is **delivered with power Off**. Connect battery and then then solar panel. Both marked with yellow stickers. The RMU will turn on.
- The Status LED should then show status according to the status patterns below.
- Depending on the scheduled measurement and upload frequency, data transfer may take some time. Use the Status/Control button on the logger to force server connection manually. Alternatively use the MetriCorr RMU App.



- Once data is received online it will appear in the **DATA-Table** menu.

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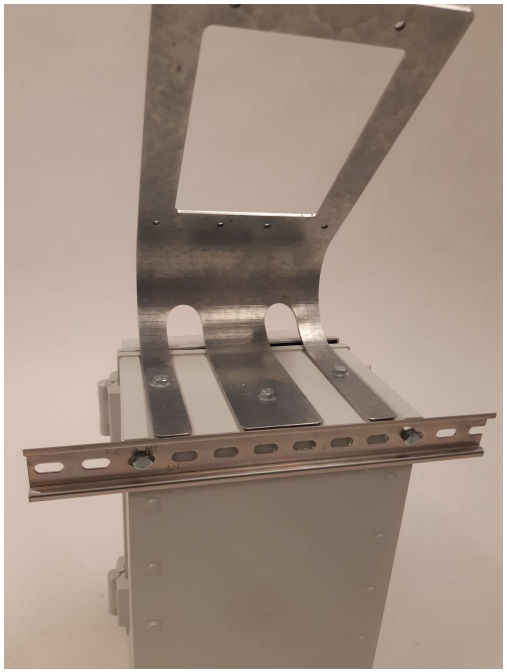
6. Mechanical Installation

- **Installation:**
  The Atmospheric Corrosion Logger is mounted inside the box
- The box is mounted either by using screws (M6) directly into the four corner holes or by fixing the DIN rails into them and then mounting the box onto structure.
- Make sure to mount with solar panel facing midday sun.
- **Signal GPS/GNSS:**
  Make sure the junction box is installed with direct access to the sky for obtaining a good GNSS signal for GPS time-synchronization of measurements.
- **Signal LTE**
  The LTE antenna for the mobile data communication is mounted inside the box. This should be adequate for communication in most areas. Make sure, that the box isn't shielded (surrounded) by metal to avoid signal loss.



7. Probe Installation

- **Probe mounting**.
  - Fix the probes onto the bracket with the 3 screws (M6 - supplied with probes)
- **Connection of Probes:**
  - Carefully draw cables through the bracket as shown on middle picture.
  - Fixate cable appropriately.
  - Take off the cable gland nut and insert the probe cables through the holes in the bottom of the box then remount the gland nut.
  - Insert the probe connectors in the mating sockets. The order does not matter
  - Then tighten the glands.
- **Cables:**
  - Protect the cables of the installation by suitable means
    (e.g. brackets or conduit).
    Cable protection is not included.

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8. Transmission Check & Commissioning

After on-site installation and power-up, MetriCorr recommends to perform a transmission check and a small commissioning report.

Option 1

- Use the App (chapter 4) to perform an “RMU status check”. Verify that connectivity is ok (green) and verify measured values against a manual measurement (potentials).
- If needed, capture screen-shots of the connectivity check and measurement for a report.

Option 2

- Force a server connection by pressing the control/status button of the RMU for 1-2 s. (See diode pattern in Chpt. 5).
- Observe status under **RMU’s Table**. The column “Network info” will provide information about the latest communication.

Signal	Rating	Strength	Provider	Date

- Verify measurements reported to the component online (visible in DATA-Table) against manual measurements (potentials).

9. Receive data in CP*Manage

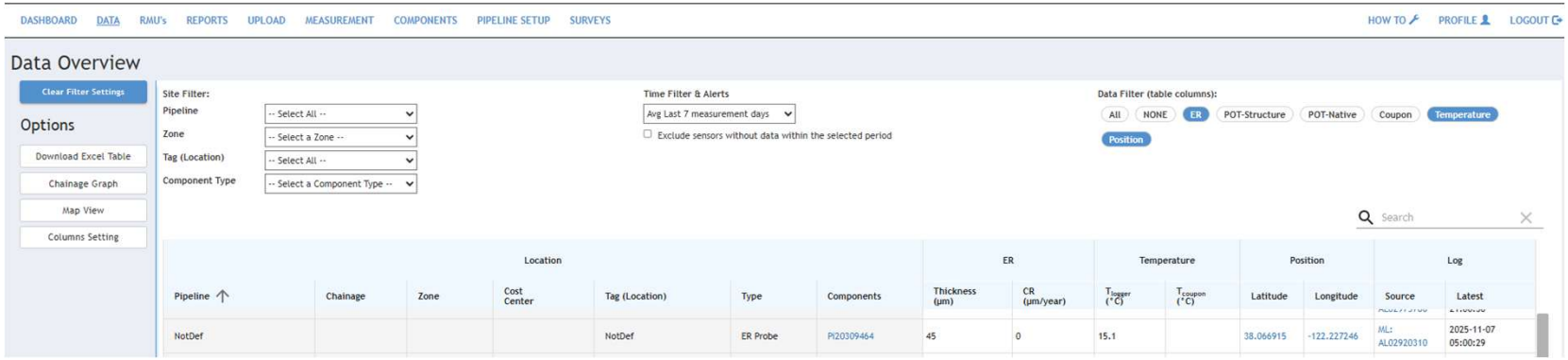
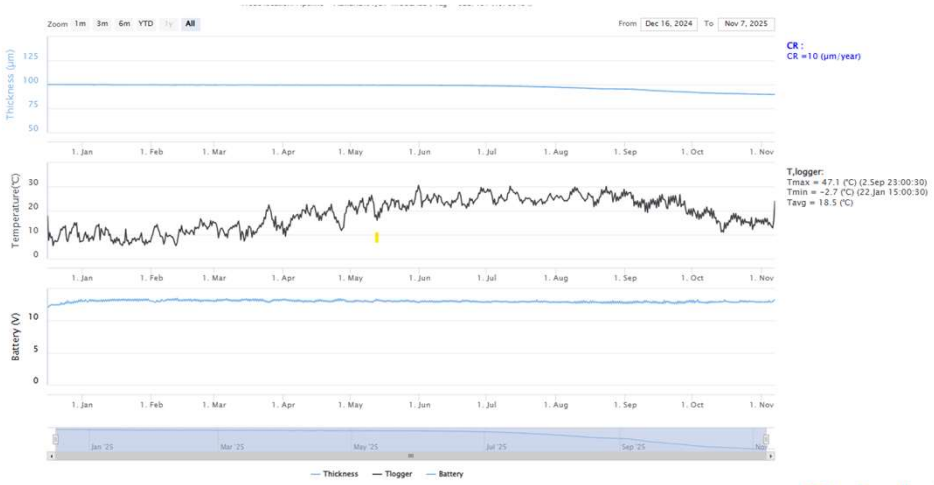


Table View

Data from an RMU is received in CP*Manage and available via the **DATA – Table** menu. Use the filters to make the visible data as relevant as possible. Click the component S/N to view time-graphs of your CP data.



Time Graph

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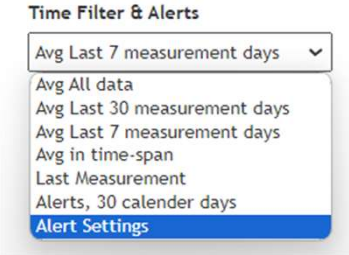
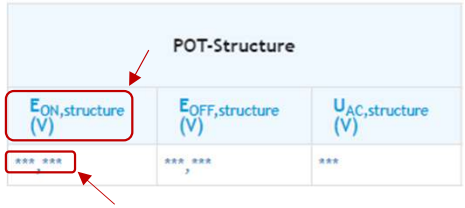
10. Set up alerts

- Alerts can be set for all measured parameters in CP*Manage. In the DATA Table, use the “Time Filter and Alerts” option to edit alert settings. Simply click each entry to edit the alert levels. Clicking the parameter names will create global alerts (within the applied Site Filter).





- Make sure to register an email under **PROFILE** to receive emails when an alarm is triggered.