



MyDro 50 Rainfall Monitoring (M54R)

Installation Manual

Warnings and Notices

The MyDro 54R is rated Class 1 Division 2 non-incendive when powered by its internal battery pack.

- **WARNING: EXPLOSION HAZARD. DO NOT REMOVE OR REPLACE COMPONENTS UNLESS POWER HAS BEEN DISCONNECTED OR THE AREA IS FREE OF IGNITABLE CONCENTRATIONS. AVERTISSEMENT : RISQUE D'EXPLOSION . NE PAS RETIRER OU REMPLACER LES COMPOSANTS QUE L'ALIMENTATION EST DÉBRANCHÉ OU ZONE EST LIBRE DE CONCENTRATIONS IGNITIBLE.**
- **WARNING – EXPLOSION HAZARD.** Substitution of components may impair suitability for Class I, Division 2.
AVERTISSEMENT - RISQUE D'EXPLOSION. La substitution de composants peut rendre ce matériel inacceptable pour les emplacements de classe I, division 2.
- **WARNING – EXPLOSION HAZARD.** Do not disconnect while circuit is live unless area is known to be nonhazardous.
AVERTISSEMENT - RISQUE D'EXPLOSION. Ne débranchez pas lorsque le circuit est en direct , sauf si la zone est connue pour être nonhazardous.
- **WARNING – All wiring methods must be in accordance with the NEC.**
AVERTISSEMENT - Toutes les méthodes de Essorez doivent être en conformité avec la NEC.
- **WARNING - EXPLOSION HAZARD.** Do no remove or replace while circuit is live unless the area is free of ignitable concentrations.
AVERTISSEMENT - RISQUE D'EXPLOSION. Ne pas enlever ou remplacer pendant que le circuit est vivant à moins que la zone soit exempt de concentrations ignitibles.
- **WARNING – EXPLOSION HAZARD.** Do not remove or replace lamps, fuses, or plug-in modules (as applicable) unless power has been disconnected or the area is free of ignitable concentrations.
AVERTISSEMENT - RISQUE D'EXPLOSION. Ne retirez ni ne remplacez les lampes, les fusibles ou les modules enfichables (le cas échéant) à moins que l'alimentation ait été coupée ou que la zone soit exempte de concentrations inflammables.

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The MyDro 54R RTU is a self-contained device that provides sensor readings over an LTE-M1 cellular network.

- Digital input that reports state and total counts
- Configurable from the Mission Communications web portal 123SCADA.com that also provides for data visualization, trends, reports, and alarms.
- Compact and simple to install and maintain.
- Internal backlog of a minimum of 200,000 data points in the event of loss of signal. Backlog will be automatically sent when the MyDro 50 reconnects.

Mounting Hardware

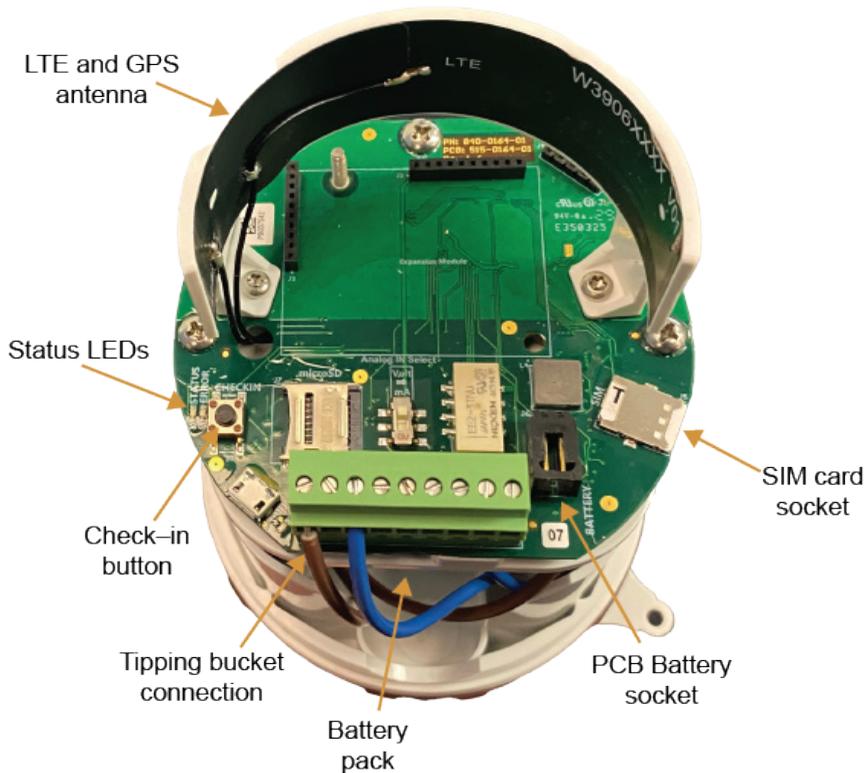
The M54R can be mounted to any standard pole. In addition to the RTU, the kit includes:

- Rain tipping bucket with cable
- Mounting plate with screws
- U-clamp and mounting bracket
- Base stand

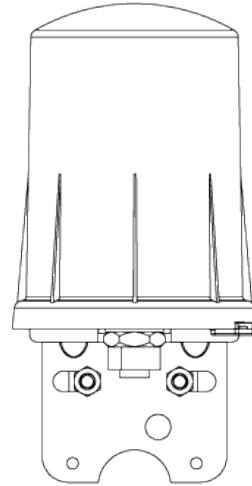


Specifications

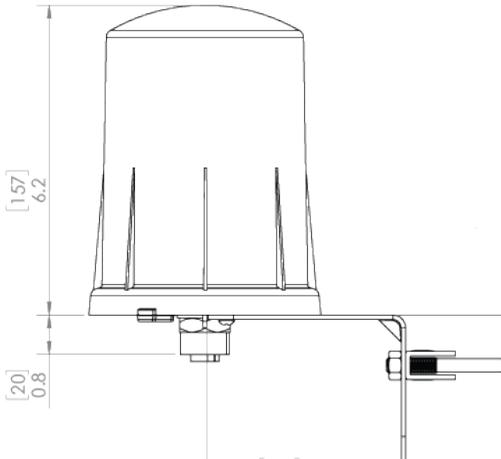
Enclosure Size and Weight	7.1in tall × 4.6in diameter, 1lb.
Power Source	Internal lithium battery pack.
Temperature Rating	-40°C to +85°C
MyDro 54R SIM Slot	4FF Nano SIM card
MyDro 54R Local ConfigPort	Standard micro-USB connector.
MyDro 54R Digital Input	One digital input—dry contact for tipping bucket, capable of reporting on state change.
Compliance	<ul style="list-style-type: none"> • Contains FCC ID: 2ANPO00NRF9160 and IC ID: 24529-NRF9160. • PTCRB and Verizon network certified. • Certified for use in Class I, Division 2, Groups A, B, C, D areas. Temperature Code T5 EXi [EXi] • [UL 121201:2017 Ed.9+R:26Aug2019], [CSA C22.2#213:2017 Ed.3+U1;U2] • IEC 62368-1:2014 (2nd Ed), EN 62368-1:2014+A11:2017



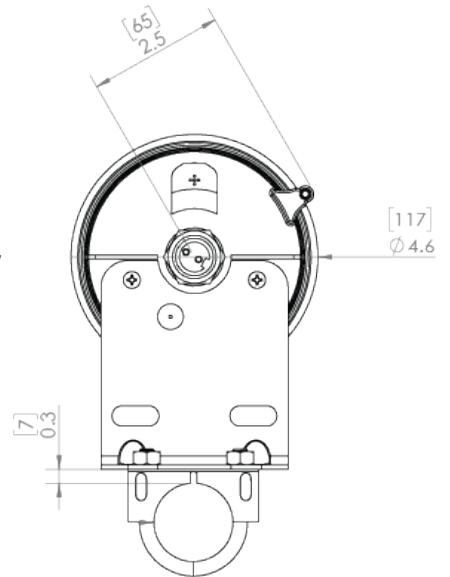
Front view



Side view



Bottom view



Connections and Components

Status LED

The Status LED (**green**) will flash 3 times on a successful data transmission to the server.

Error LED

The Error LED (**red**) will blink 3 times to indicate that an attempted data transmission failed.

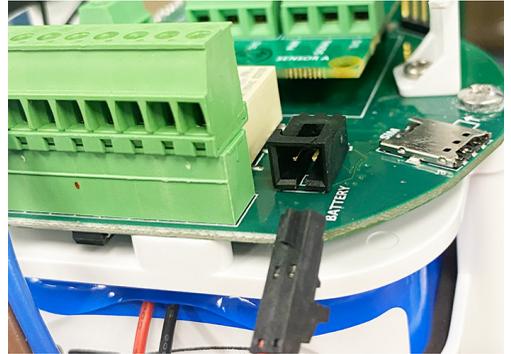
Check-in Button

If this button is pressed the MyDro 54R will blink the green Status LED or the red Error LED 3 times to indicate the status of the last transmission to the server. If the check-in button is pressed and held for more than 1 second, the MyDro 54R will take readings from the attached sensors and send the readings to the server.

Power Options

Lithium Battery Pack (4DPak)

The internal lithium battery pack is the default power source for the MyDro 50. Simply plug the battery pack into the PCB battery connector to power the MyDro 54R on.



Internal Lithium Battery Replacement

Battery packs can be changed with the MyDro 54R in place.

1. Unscrew the cover from the base.
2. Unplug the battery from the PCB by depressing the locking clip on the connector.
3. Loosen the three screws that attach the circuit board assembly to the base. Do not remove the two screws that attach the antenna assembly.
4. Remove and replace the battery.
5. Reinstall the circuit board assembly. Do not over tighten these screws.
6. Connect the battery to the main PCB battery connector.
7. Install the enclosure cover.

Mounting and Care

The MyDro 54R unit comes with an integrated ½ inch NPT connector with leads for connection to the sensors. It is important to mount the MyDro 54R vertically, with the NPT fitting facing down.

A standard fence post, handrail or 1½ inch EMT available at home supply stores can be used for the pole.

Kit Installation

1. Secure the mounting base. You can bolt or screw the base to a hard surface using any of the available holes along the bottom of the base or use a 2x2–inch wide wood or other material in the available base slots.
2. Insert the pole into the pole clamp and tighten the pole clamp screws.
Note: You can adjust the angle of the pole if installing to a roof or other sloped surface. Remove the screw that secures the pole clamp to the two supports, adjust the angle, and then reinsert the screw into the appropriate screw hole.
3. Connect the U-clamp to the bracket at the bottom of the M54R RTU. Leave it loose enough to fit over the pole.
4. From the top of the pole, slide the place the RTU U-clamp around the pole and slide to the desired level and tighten the clamp to the pole. Leave enough room for the plate to rest on the top of the pole but close enough for the connection cable.
5. Tighten the U-clamp nuts.
6. Fit the mounting plate on top of the pole and tighten the fitting with a 5/16–inch hex wrench.
7. Place the rain tipping bucket on top of the mounting plate, aligning the foot holes to the plate studs with the provided nuts and washers.
8. Level the rain tipping bucket and tighten the nuts and washers.
9. Connect the rain tipping bucket cable to the bottom of the M54R RTU.
10. Power on the M54R RTU by unscrewing and removing the cover, plugging the battery pack into the PCB battery connector socket and replacing the cover.

Test the Installation

Test that the bucket tips are received by pouring water into the bucket to ensure that rainfall will be accurately tracked by the customer or end-user once the unit is put into production.

Additionally, the customer or end-user should physically test the bucket every six months to ensure that all electrical components are still functioning as desired rain tips are being received.

Complete the following tests prior to leaving the job site:

1. Test the battery and confirm that the MyDro 54R is powered and on line.
2. Test the radio connection. Check the status LED and ensure that it flashes 3 times upon a successful transmission. If it blinks red or not at all, call Technical Support at (877) 993-1911 option 2.
3. Test the connectivity to 123SCADA. Mission Technical Support is available to confirm that data is being properly transmitted and received on your web portal. A smartphone can be also used. The 123SCADA mobile application is available from the Apple App Store and Google Play Store.

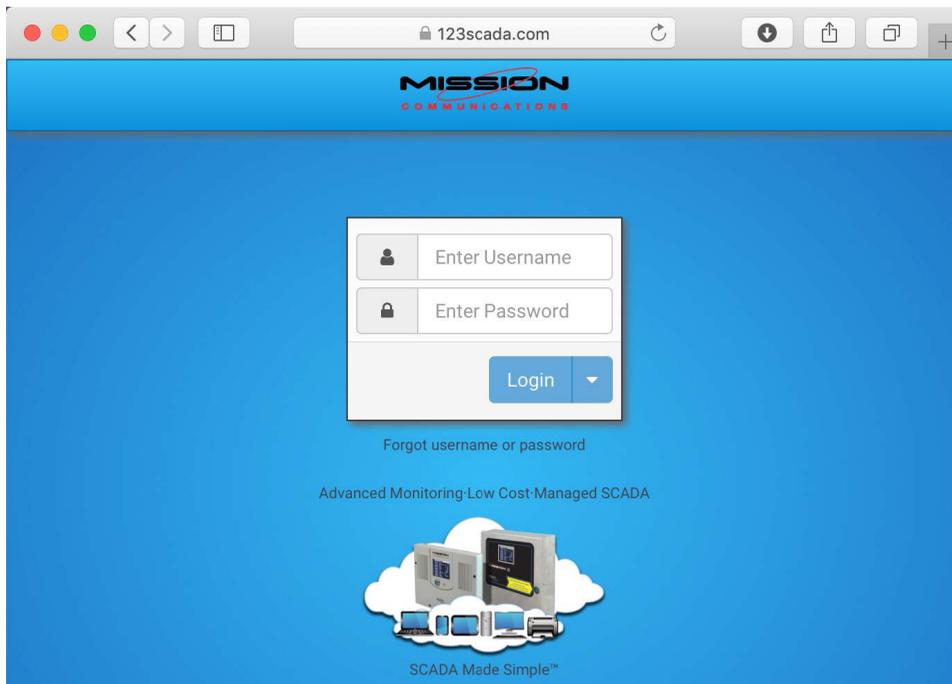


Site Commissioning

Confirm Paperwork and Credentials

Ensure that:

- Setup forms have been submitted to setupforms@123mc.com.
- Credentials have been received by the customer and they have proper login access and connectivity to the device. If it is a new customer they should have received a welcome email to establish access to 123SCADA Web portal.

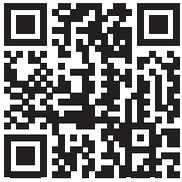


Log into 123SCADA Web Portal

The unit is now ready for use. Visit 123SCADA.com and log in with your credentials to view your web portal.

Verify proper labeling on your web portal and MyDro 54R connections. Users with Superadmin or Admin credentials have the ability to make changes to the web portal.

Support



Webinar

Mission hosts weekly webinars from 2–3 P.M. Eastern every Wednesday, except for weeks of national holidays and national trade shows. Staff members discuss the system hardware and software with live Q&A.



Video Demonstrations

A variety of videos are provided to cover topics relating to the MyDro 50 and the Mission system. These can be found on the 123SCADA web portal as well as the MyDro 50 product site on 123mc.com.



Documentation

Many documents are available through the web portal and marketing website which provide information about best practices, system troubleshooting, and more.



LinkedIn

Current product and company updates such as product releases, trade show appearances, and webinar schedules are regularly posted on LinkedIn so please connect with us. We also repost customer and partner posts.



X (Formerly Twitter)

Follow @123mc for notices about system enhancements, scheduled maintenance, and carrier issues. Download the mobile app and configure push notifications to receive immediate updates.

Technical Support
(877) 993-1911, option 2
techsupport@123mc.com,



Sales
sales@123mc.com
(877) 993-1911, option 4

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