

RAIN GAUGE MODEL WS-MM-200-K2

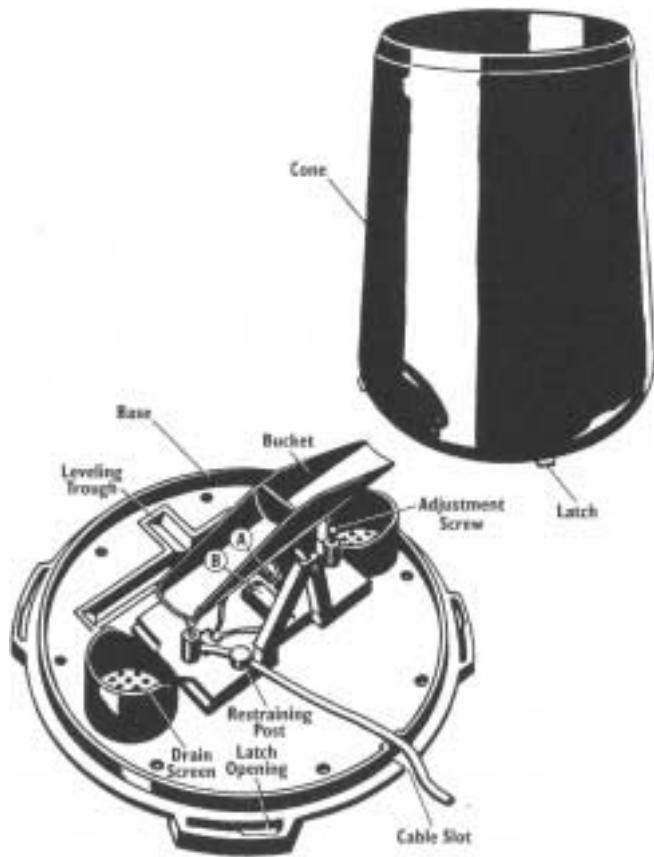
INSTALLATION MANUAL



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RAIN GAUGE INTERNAL COMPONENTS

The illustration below shows the internal components of the rain gauge, many of which are referenced in this manual. Note that the industrial versions of the rain gauge also include a terminal block to which the rain gauge cable is connected and a bubble level to help you insure that the rain gauge is mounted on a level surface. Neither is pictured below.



TOOLS AND MATERIALS TO NEEDED

You may need some of the following tools and materials in order to install the rain gauge.

Drill with 2 mm drill bit + Medium Phillips Screwdriver

5 mm Wrench

Cable Clips or Weather-Resistant Cable Ties with screw holes or other means for mounting

Bubble level (standard versions only)

INSTALLING THE RAIN GAUGE

CHOOSING A LOCATION FOR THE RAIN GAUGE

Keep the following in mind when choosing a location for your rain gauge.

You must mount the Rain Gauge on a level surface.

To make sure the surface is level, use a bubble level or pour water into the T-shaped levelling trough in the base and observe the surface of the water. Users of the industrial rain gauge may use the bubble level attached to the base to insure that the mounting surface is level.

Be sure there is an unobstructed path for water runoff from the drain screens.

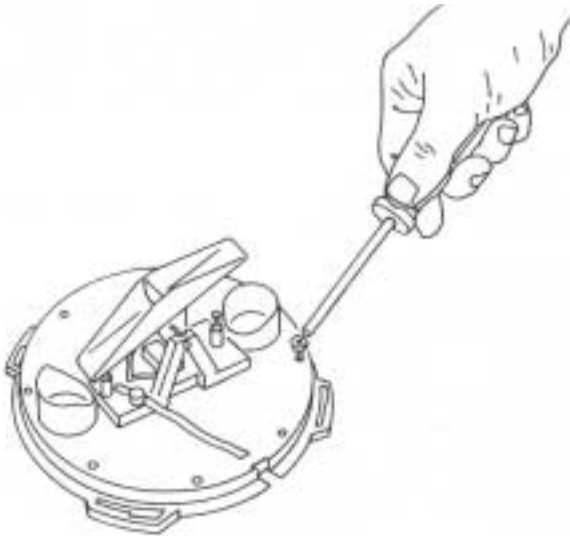
The Rain Gauge contains a magnet-operated switch that may not operate correctly if you mount the rain gauge on or near any object that attracts a magnet.

To install the rain gauge on a sheet metal roof, insulate the unit by making a platform out of wood. Mount the base of the rain gauge at least 4 cm away from any steel or iron surface and make sure the reed switch is at least 4 cm away from any steel or iron objects (e.g., nails).

Choose a location that is easily accessible for normal cleaning and is distant from trees or other sources of heavy pollen or debris.

INSTALLING THE RAIN GAUGE

1. If you have not already done so, separate the cone from the base.
2. If necessary, disconnect the rain gauge cable from the junction box.
3. Locate a suitable mounting surface, using the guidelines above.
4. Place the base on the mounting surface and mark the location of the four holes (the base has eight to choose from) you will use to secure the base.
5. Make pilot holes using a 2 mm drill bit. You should make the pilot holes about 12 mm deep.
6. Fasten the base to the mounting surface using the screws provided.



FASTEN BASE TO MOUNTING SURFACE

7. Attach the rain gauge cable to the appropriate connector on the junction box
8. Once you are sure the unit is functioning properly, place the cone back onto the base by putting the latches on the cone into the latch openings in the base and rotating the cone clockwise until the latches "lock" into place. As you reattach the cone, make sure to run the cable to the cable slot in the base, or the cone will not fit snugly against the base.
10. Place the debris screen, points down, into the cone. The screen prevents large bits of debris from blocking the tunnel hole.
11. To prevent fraying or cutting of the cable where it is exposed to weather, it is important that you secure it so it doesn't whip about in the wind. Use cable clips or weather resistant cable ties to secure the cable. Place clips or ties approximately every 1 to 1.6 m. Do not use metal staples or a staple gun to secure cables. Metal staples-especially when installed with a staple gun-have a tendency to cut the cables.

EXTENDING CABLE RUNS

If the cable length supplied with the rain gauge is not long enough for Your purposes, you may extend it. The maximum length of cable is 270 m. Note that this length represents the total length from the rain gauge to the console, including any length of cable from the junction box.

Standard Rain Gauge

Obtain Standard 4-Conductor Extension Cables and connect them to the existing rain gauge cable.

Industrial Rain Gauge

Obtain the desired length of Shielded 2-Twisted Pair Extension Cables. You may splice the extension cable to the existing rain gauge cable, or you may remove the rain gauge cable from the terminal block (and the cable clamp that secures it in place) and connect the extension cable to the terminal block in its place. You will need to obtain Shielded 2-Twisted Pair cable or 1-pair cable elsewhere. If using the Shielded 2-Twisted Pair cable, twist the red and white wires together for use as *one* wire and twist the two black wires together for use as the other wire. Note that it does not matter which wire goes to each screw as long as only *one* wire goes to each screw. Make sure you secure the extension cable in place using the cable clamp.



REPLACING INDUSTRIAL CABLE

ADJUSTING THE RAIN GAUGE

The Rain Gauge is calibrated at the factory so the bucket tips (and records rainfall) or each or 0.2 mm of rain. To adjust the calibration slightly, use a 5 mm wrench to rotate the adjustment screws which are located underneath the bucket (see "Rain Gauge Internal Components" on page 2). The adjustment guide embossed in the platform shows how far you must rotate both screws in turn to effect a 1% and a 2% change. Moving the screws in the positive (+) direction causes the bucket to tip more times (i.e. give a larger count) for a given amount of water.



ADJUSTMENT GUIDE

Note: Modify both adjustment screws by the same amount.

MAINTAINING THE RAIN GAUGE

For greatest accuracy, you should thoroughly clean the Rain Gauge at least once or twice a year.

1. Disconnect the rain gauge cable from the junction box.
2. Separate the cone from the base.
3. Use warm soapy water and a soft cloth to clean pollen, dirt, and other debris from the cone, cone screens, and bucket.
4. Use a pipe cleaner to clear the tunnel hole in the cone and the drain screens in the base.
5. When all parts are clean, rinse with clear water.
6. Reattach the cone and replace the screen.
7. Reconnect the rain gauge cable to the junction box.