

Remote Monitoring Services, Inc.

Procedures, Equipment and Tool List For System Repairs and Installations

The following list is the *minimum required tools and equipment* that must be carried by the service technician or installer.

RMS will not offer tech support for installations if any of the required items are not available for the technician to use during testing and trouble diagnosis. The technician must also have read the RMS instruction manual prior to calling for tech support and be able to refer to other manuals for equipment and lighting controllers (these manuals are readily available on the manufacturer's websites) that may operate in conjunction with the RMS equipment.

Additionally, the service technician should possess a basic knowledge of electricity, the ability to read voltages, resistance and the diagrams associated with the lighting controllers and a general ability to reason through a problem. The technician *must be able to read a meter and confirm a closed or open circuit*. We are more than happy to assist with installation but are not prepared or able to help a technician that has not followed our minimum requirements and instructions.

We strongly recommend that the technicians call RMS Tech Support at 888-441-2700 before traveling to a site for repairs or installations. Tech Support will provide an update of the problems at the tower site to avoid unnecessary tech visits. Any additional RMS replacement parts or equipment can be ordered at this time. RMS will not charge a restocking fee if the replacement equipment is not needed to complete the repair, providing the equipment is promptly returned to RMS.

Service and Troubleshooting – Required Equipment

1. Voltmeter, digital or analog, with volts AC, DC, and Ohms.
2. Small flat blade screwdriver for terminal connections, 1/8" width.
3. Phillips screwdriver, #3
4. Spare battery, 12V 7AH, rechargeable lead-acid (available from RMS)
5. Spare plug in transformer, 16VAC 40W (available from RMS)
6. Spare wire, such as telephone or sprinkler type.
7. Cell phone.
8. Replacement duplex outlet, NON GFI with matching metal cover for a "Bell" box.
9. Telephone butt set for testing telephone line and calling RMS when working on a land-line based systems.

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Equipment and Tool List continued

New Installations – Required Equipment

1. Small flat blade screwdriver for terminal connections, 1/8" width.
2. Voltmeter, digital or analog with AC, DC volts, and Ohms.
3. Large and small regular screwdriver.
4. #2 and #3 Phillips screwdriver.
5. Wire cutters.
6. Channel lock pliers.
7. 1/2" non-metallic flex conduit.
8. 1/2" flex connectors, straight and 90's.
9. Wire for transformer hookup- 14-18 ga. zip cord or 18 ga. sprinkler wire (normally supplied with RMS units).
10. Wire for lighting alarm hookup- 18 ga. sprinkler hookup (normally supplied with RMS unit).
11. Unistrut or channel rail hardware – 1/4-20 spring nuts, 3/4" and 1 1/2" bolts, 1/4-20 nuts, fender washers 1 1/2" dia. 1/4 hole.
12. Crescent wrench.
13. One piece of Unistrut or Electrical channel rail (10 ft.).
14. Hacksaw.
15. Cordless drill and bits.
16. Sunproof, black tie wraps, 14-18 inch.
17. A high quality short extension cord to supply lighting controller power to the RMS power transformer if no outlet is available on the same circuit. **RMS strongly recommends that the monitoring equipment be powered from an outlet on the same circuit as the lighting controller to provide accurate power fail reporting.**
18. Replacement duplex outlet, NON GFI with matching metal cover for a "Bell" box.

New Installations: Additional Recommended Equipment

1. Flashlight and/or droplight.
2. GPS to find tower and to verify actual location vs. given coordinates.
3. Notebook to document wire colors, terminal connections, etc.
4. Digital Camera to document wiring and site. Photos should be emailed to RMS for our files, to record the exact wiring connections and wire color.
5. Bolt cutters for locks with no keys or combinations and for cutting a chain link fence for access to the site.
6. Extra field settable combination locks.
7. Silicone sealer or caulk.
8. Masonry bits and anchors
9. Telephone butt set for testing telephone line and calling RMS when working on land-line based units.
10. Ladder
11. 50ft fish tape/sticks