

AEXCELL – USING AN EXTERNAL ANTENNA

Introduction

The ELK-AEXCELLA includes two LTE antennas and, because it communicates with the E27 over the RS-485 data bus, it can often be mounted remotely to obtain improved cellular reception. In some installations, however, signal strength may still be inadequate at the AEXCELLA mounting location.

When cellular signal strength is poor, an external antenna may be connected to improve reception. ELK offers the ELK-WA003 Remote Antenna with a 19 ft. (6 m) cable for this purpose. Longer cable and antenna assemblies from third-party manufacturers may also be used provided they support LTE operation and use an SMA male connector.

ELK-WA003 Remote Antenna

Features:

- 19 ft. (6 m) cable length
- Magnetic base
- SMA male connector
- Color: Black

AEXCELLA Antenna Connections

The AEXCELLA contains two antenna connectors. Refer to the AEXCELLA Hardware Overview for connector locations.

- The **left antenna connector** is the Primary antenna.
- The **right antenna connector** is the Secondary antenna.
- When using an external antenna, connect it to the **left (Primary) connector**.
- Leave the supplied antenna connected to the **right (Secondary) connector**.
- Do not operate the communicator with only one antenna connected.

Installation Guidelines

1. Remove the supplied antenna from the left (Primary) connector.
2. Connect the external antenna cable to the left connector and tighten finger-tight only.
3. Leave the supplied antenna installed on the right connector.
4. Route the antenna cable away from AC wiring and sources of electrical interference.
5. Mount the antenna in a location with improved cellular coverage.
6. Verify signal strength after installation.

Cable Length Considerations

The ELK-WA003 19 ft. cable provides excellent performance for most installations.

If additional distance is required, longer LTE-compatible antenna and cable assemblies are available from several manufacturers. Any replacement assembly should:

- Support LTE cellular frequencies.
- Use an SMA male connector.
- Use low-loss cable construction.
- Be suitable for indoor or outdoor installation as required.

Excessive cable lengths or poor-quality cable may reduce signal performance.

Notes

- Because the AEXCELLA is an RS-485 bus device, relocating the communicator itself is often preferable to using long antenna cables.
- A minimum signal strength of 2 bars is recommended for reliable operation.
- Position antennas vertically and avoid mounting near metal objects or inside metal enclosures whenever possible.

For additional information please visit www.elkproducts.com. If you have any questions please feel free to contact us at 800-797-9355 or email us at techsupport@elkproducts.com.