

## AlarmNet GSM-ANT Indoor, Fixed Length Antenna Installation Guide

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### General

7845GSM and 7845i-GSM Communication Modules both come equipped with an internal dual band cellular antenna. In most cases, this antenna will provide a sufficient received signal strength indication (RSSI) for a successful installation.

The Honeywell GSM-ANT Indoor Fixed Length Antenna should be used in installations where moving the antenna to a higher point within the building will provide better RSSI.

### Signal Strength

For reliable service, 7845GSM and 7845i-GSM should only be installed in locations where the RSSI is a minimum of three bars. RSSI is a measure of how well the 7845GSM/7845i-GSM is receiving the cell tower. The RSSI value measured in dBm can be viewed using the 7720P Programming Tool, by using the *shift <E>* command.



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**dBm is displayed as a negative value on the 7720P and a smaller negative number is better. i.e., -60 dBm is a better RSSI than -100 dBm.**

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### Installation Guidelines

By following a few simple guidelines, you can maximize the performance of the 7845GSM/7845i-GSM and simplify your installation.

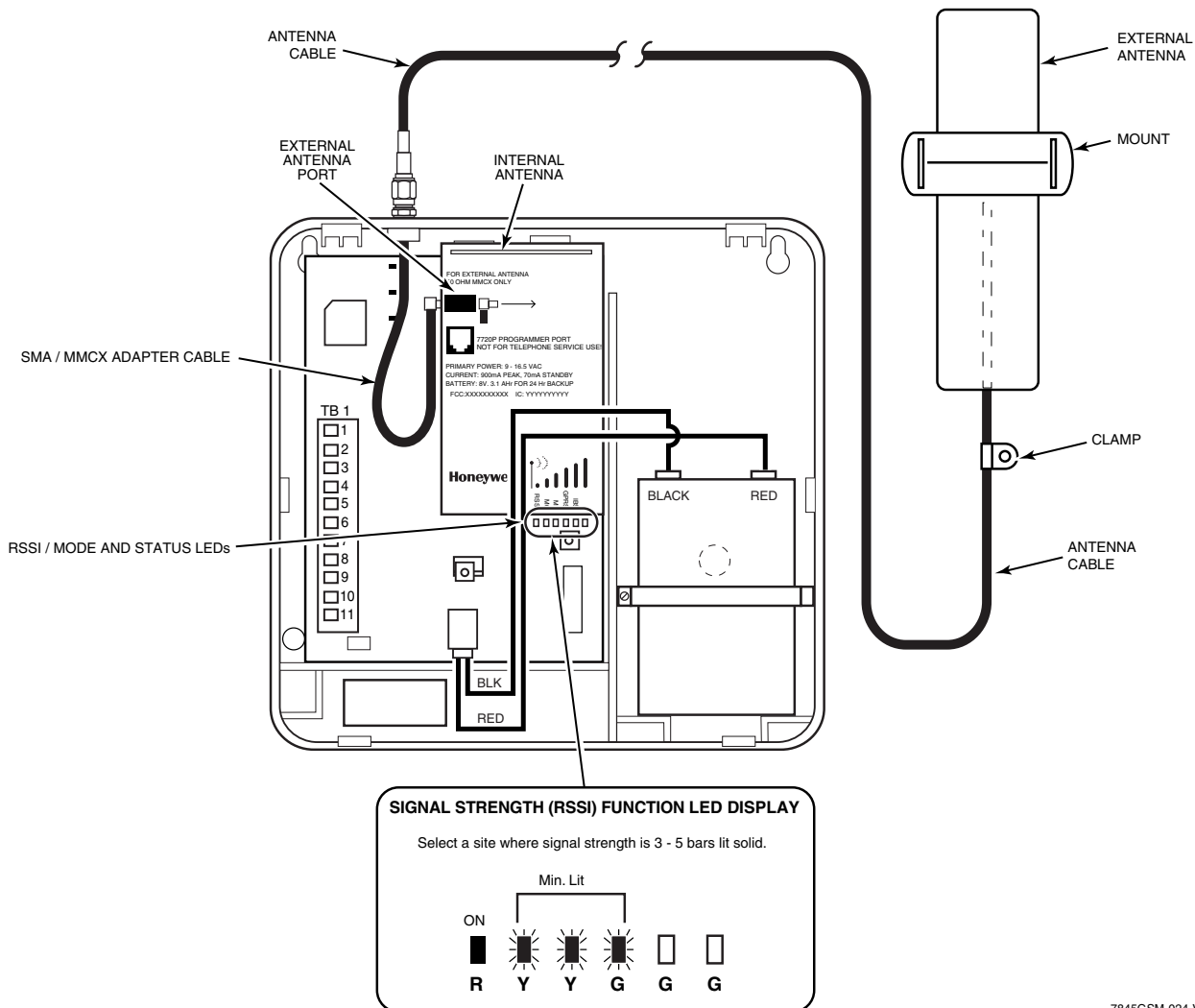
- Find the best coverage before mounting and wiring the radio by moving 7845GSM/7845i-GSM to several locations while monitoring the RSSI.
- The best RSSI can usually be found on an exterior wall at the highest point in the building. Avoid the basement.
- Maintain at least 12 inches of clearance between 7845GSM/7845i-GSM and steel I-beams, HVAC ducts, metal studs, steel roofs or roofs, exterior walls with metalized insulation or aluminum siding and other large metal objects.

If a consistent RSSI of three bars cannot be found with the internal antenna, an external antenna should be used.

### External Antenna

The GSM-ANT is not weatherproof, and must be installed indoors and mounted vertically while maintaining 12 inches of clearance from large metal objects. Install the antenna as follows:

1. Measure and record the 7845GSM/7845i-GSM RSSI using the internal antenna for reference.
2. Disconnect all power from the unit, including the battery.
3. Remove plastic plug from the SMA mounting hole on top of the 7845GSM/7845i-GSM, and insert the SMA end of the adapter cable.
4. Secure the SMA connector with the included washer and nut.
5. Plug the MMCX end of the adapter cable into the external antenna port and route cable as shown in Figure 1.
6. Find a suitable location that will allow the antenna to be mounted vertically.
7. Route the antenna cable and connect the SMA to the 7845GSM/7845i-GSM.
8. Restore power to the unit, measure the RSSI and compare the new value to the value recorded in step 1.
9. Adjust the location of the antenna to maximize the RSSI, for at least three bars.
10. Permanently mount the antenna vertically using the included hardware.



7845GSM-024-V0

Figure 1 – GSM-ANT Indoor, Fixed Length Antenna Installation

**SPECIFICATIONS:**

|                            |                              |                        |                   |
|----------------------------|------------------------------|------------------------|-------------------|
| <b>Type:</b>               | Dual band, dipole, PCB       | <b>VSWR:</b>           | <2:1              |
| <b>Bands:</b>              | 824-896 MHz<br>1850-1990 MHz | <b>Dimensions:</b>     | 143 x 27 mm       |
| <b>Polarization:</b>       | Linear                       | <b>Cover:</b>          | Polyolefin, black |
| <b>Gain (Average):</b>     | 1 dBi                        | <b>Cable Type:</b>     | RG-174            |
| <b>Impedance:</b>          | 50 Ohms                      | <b>Cable Length:</b>   | 3m                |
| <b>Input Power (Max.):</b> | 10W                          | <b>Connector Type:</b> | SMA male          |

# Honeywell

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