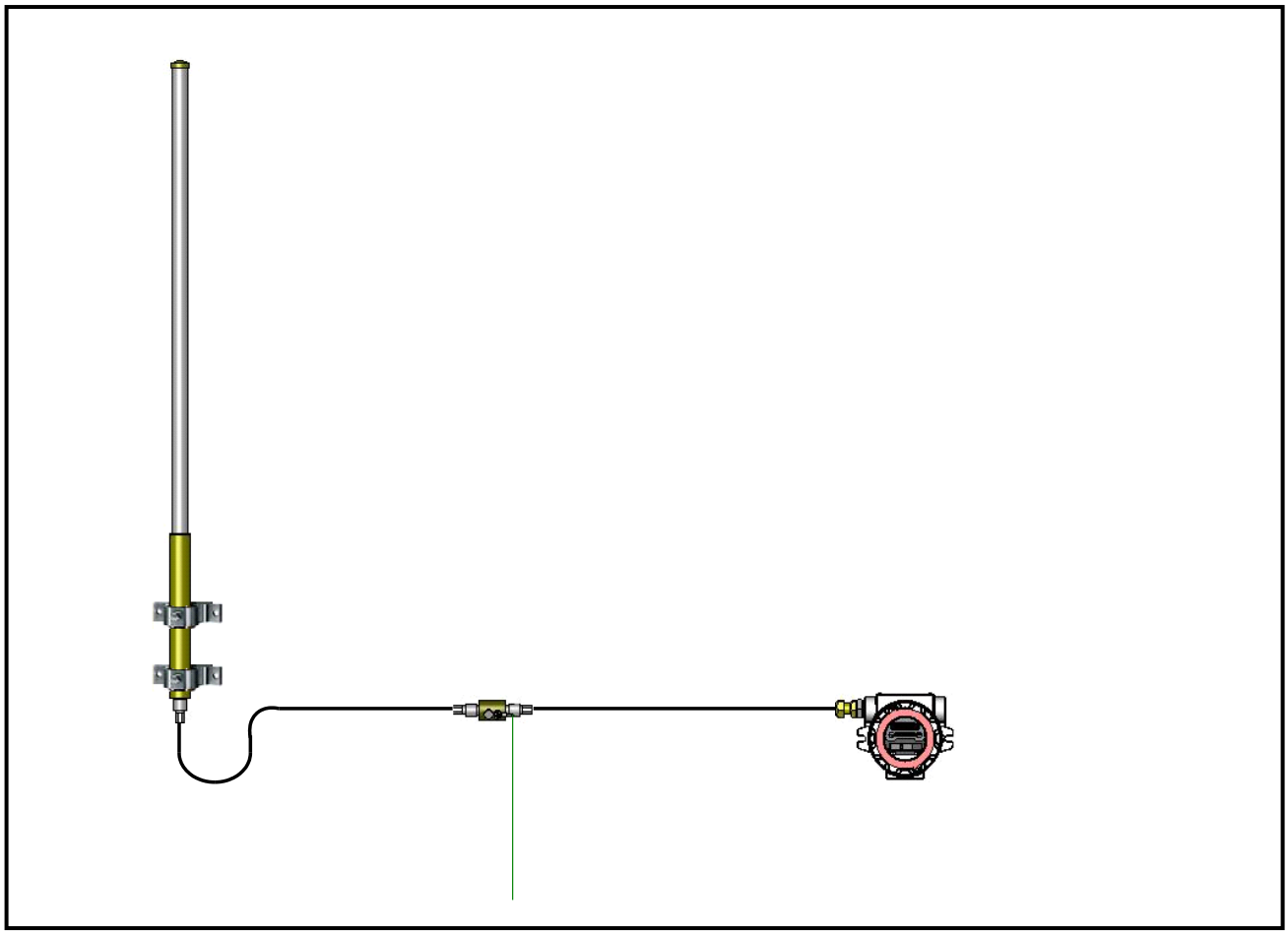
High Gain Omni-Directional Antenna User Guide

For Models:

WI-ANT-P6	**Omni-Directional 6 dBd Pole remote antenna**
WI-ANT-P6-A-10	**Omni 6 dBd remote antenna w/lightning arrestor & 10 ft cable**
WI-ANT-P6-A-25	**Omni 6 dBd remote antenna w/lightning arrestor & 25 ft cable**



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Rev	Date	Notes	Initials
1.0	1/17/2005	Release	TH
0505	05/17/2005	Updated format, changed an installation picture.	TH
0905	09/20/2005	Added drain hole warning	TH
1210	12/07/2010	AWS	MJ

1. About the High Gain Omni-Directional Antenna

High gain and remote antennas can increase the transmission distance of the Accutech Wireless Sensors. For even greater transmission distance, a high gain directional antenna (Yagi) may be purchased as an integral part of a field unit.

Warning! Any Base Radio with an omni-directional antenna is for ordinary locations only.

This manual will guide you through the steps to connect a High Gain Omni-Directional Antenna with or without a lightning arrestor to a Base Radio. If you are using a lightning arrestor, go to section 2. If you are not using a lightning arrestor, go to section 3.

The following model numbers are covered in this guide:

Remote Antennas

WI-ANT-P6	Omni-Directional 6 dBd Pole remote antenna
WI-ANT-P6-A-10	Omni 6 dBd remote antenna w/lightning arrestor & 10 ft cable
WI-ANT-P6-A-25	Omni 6 dBd remote antenna w/lightning arrestor & 25 ft cable

Each of the above High Gain Remote Antenna models can be used with any of the following Base Radio model numbers:

Base Radios

WI-BR-R10-4X	NEMA 4X Base Radio w/10 ft cable and RS-485 output for rmt antenna
WI-BR-R10-4X-MOD	NEMA 4X Base Radio w/10 ft cable, RS-485 & Modbus, for rmt antenna
WI-BR-R25-4X	NEMA 4X Base Radio w/25 ft cable and RS-485 output for rmt antenna
WI-BR-R25-4X-MOD	NEMA 4X Base Radio w/25 ft cable, RS-485 & Modbus, for rmt antenna

2. Installing the High Gain Antenna with the Lightning Arrestor

This section will show you how to install the high gain antenna with the lightning arrestor. If you are not using the lightning arrestor, go to Section 3. For additional information about the Base Radio see the Base Radio User Manual. Any of the Base Radio model numbers mentioned in section 1 may be used with the following remote antenna models:

WI-ANT-P6-A-10	Omni 6 dBd remote antenna w/lightning arrestor & 10 ft cable
WI-ANT-P6-A-25	Omni 6 dBd remote antenna w/lightning arrestor & 25 ft cable

2.1. Package Contents

The high gain Omni 6 dBd antenna with the lightning arrestor kit comes complete with:

[1] High gain antenna pole

[2] 2 Mounting brackets for the high gain antenna

[3] Lightning arrestor assembly consisting of lightning arrestor and 10' of 10 AWG ground wire

[4] Coaxial cable assembly attached to the lightning arrestor:

10' length for WI-ANT-P6-A-10

25' length for WI-ANT-P6-A-25

[5] Waterproofing material for the antenna coaxial connection

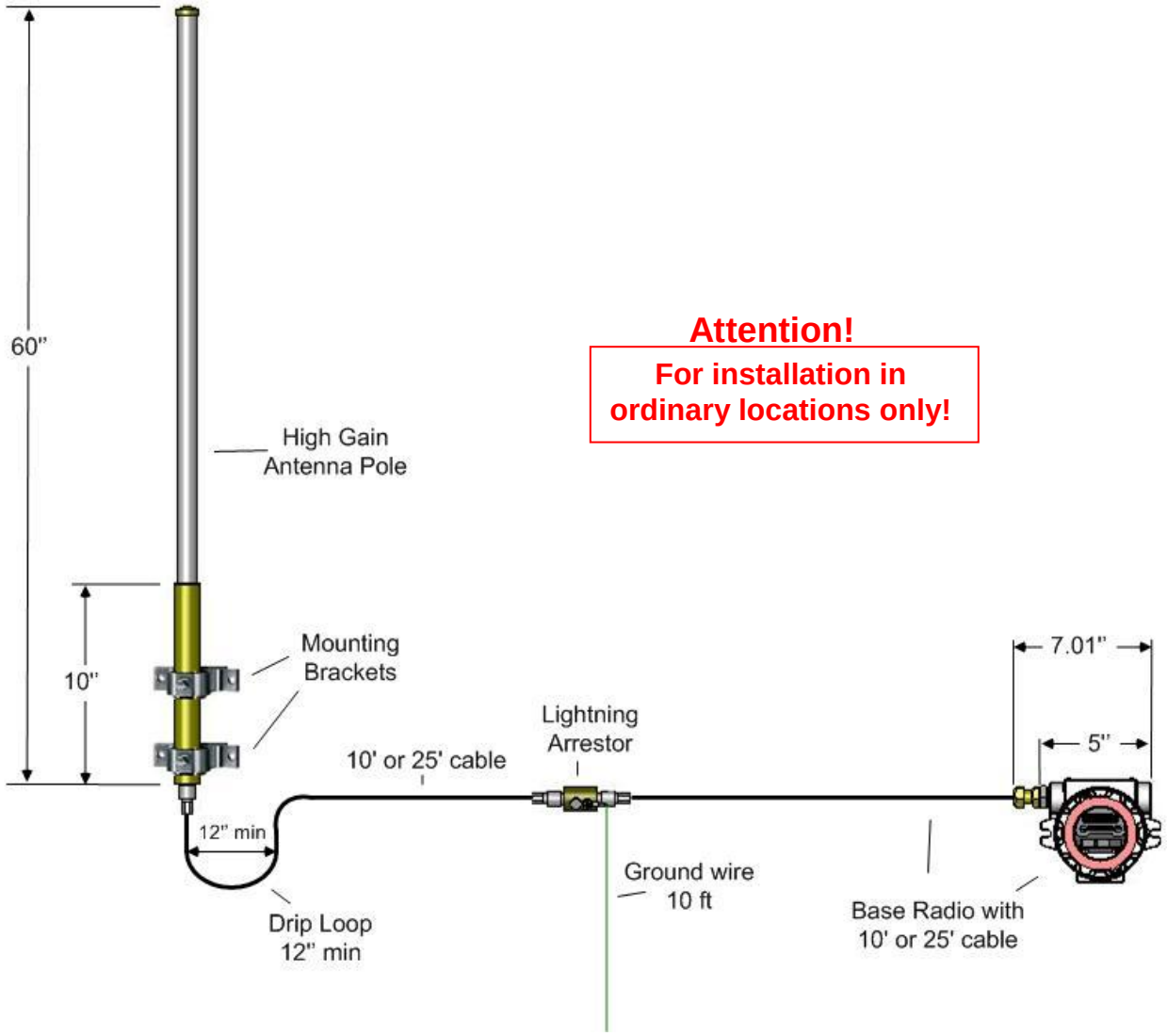
The following comes attached to the Base Radio:

[6] Coaxial cable assembly:

10' length for WI-BR-R10-4X and WI-BR-R10-4X-MOD

25' length for WI-BR-R25-4X and WI-BR-R25-4X-MOD

2.2. Antenna & Lightning Arrestor Connection



Antenna connected to Lightning Arrestor and Base Radio

Warning! Always use caution when installing this antenna. You can be seriously injured if this antenna comes near or in contact with a power line. Follow all local and national electrical code requirements when installing the Base Radio with the high gain antenna.

[1] Select the locations for the high gain antenna, the lightning arrestor and Base Radio.

It is recommended that the lightning arrestor be mounted in close proximity to the building egress. The lightning arrestor should be mounted indoors unless you have the weatherproof enclosure.

The location for the high gain antenna should be selected based on optimal positioning for RF communications with the field units and allow for sufficient length of coaxial cable to reach the building egress.

The Base Radio should be installed in a location where there is sufficient coaxial cable available to reach the building egress.

Warning! Any Base Radio with an omni-directional antenna is for ordinary locations only.

[2] Position the antenna so that the gold sleeve clears any obstructions. This includes masts and tower sections.

[3] Mount the antenna using the 2 mounting brackets. One clamp must be placed at the center of the gold sleeve, the other at any point below.

[4] Connect the Base Radio coaxial cable to the lightning arrestor and tighten by hand.

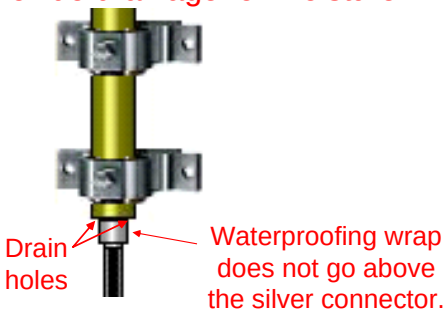
[5] Attach the ground wire to a suitable earth ground connection. Keep this wire as short as possible. Make sure this connection conforms to electrical code requirements.

[6] Connect the lightning arrestor coaxial cable to the antenna and hand-tighten.

[7] Install a drip loop in the cable to insure proper drainage.

[8] Wrap the antenna connection with the supplied waterproofing material. The waterproofing material should NOT touch the gold sleeve.

Warning! Do not cover the drain holes on the bottom of the antenna as they provide drainage for moisture.



[9] Finished.

3. Installing the High Gain Antenna

This section will show you how to install the high gain antenna without a lightning arrestor. If you are using a lightning arrestor, go to section 2. For additional information about the Base Radio see the Base Radio User Manual.

Warning! This configuration is for indoor use only. If you are mounting the antenna outdoors, a lightning arrestor must be used.

Any of the Base Radio model numbers mentioned in section 1 may be used with the following remote antenna model:

WI-ANT-P6 Omni-Directional 6 dBd Pole remote antenna

3.1. Package Contents

The high gain Omni 6 dBd antenna kit comes complete with:

[1] High gain antenna pole

[2] 2 Mounting brackets for the high gain antenna

[3] Waterproofing material for the antenna coaxial connection

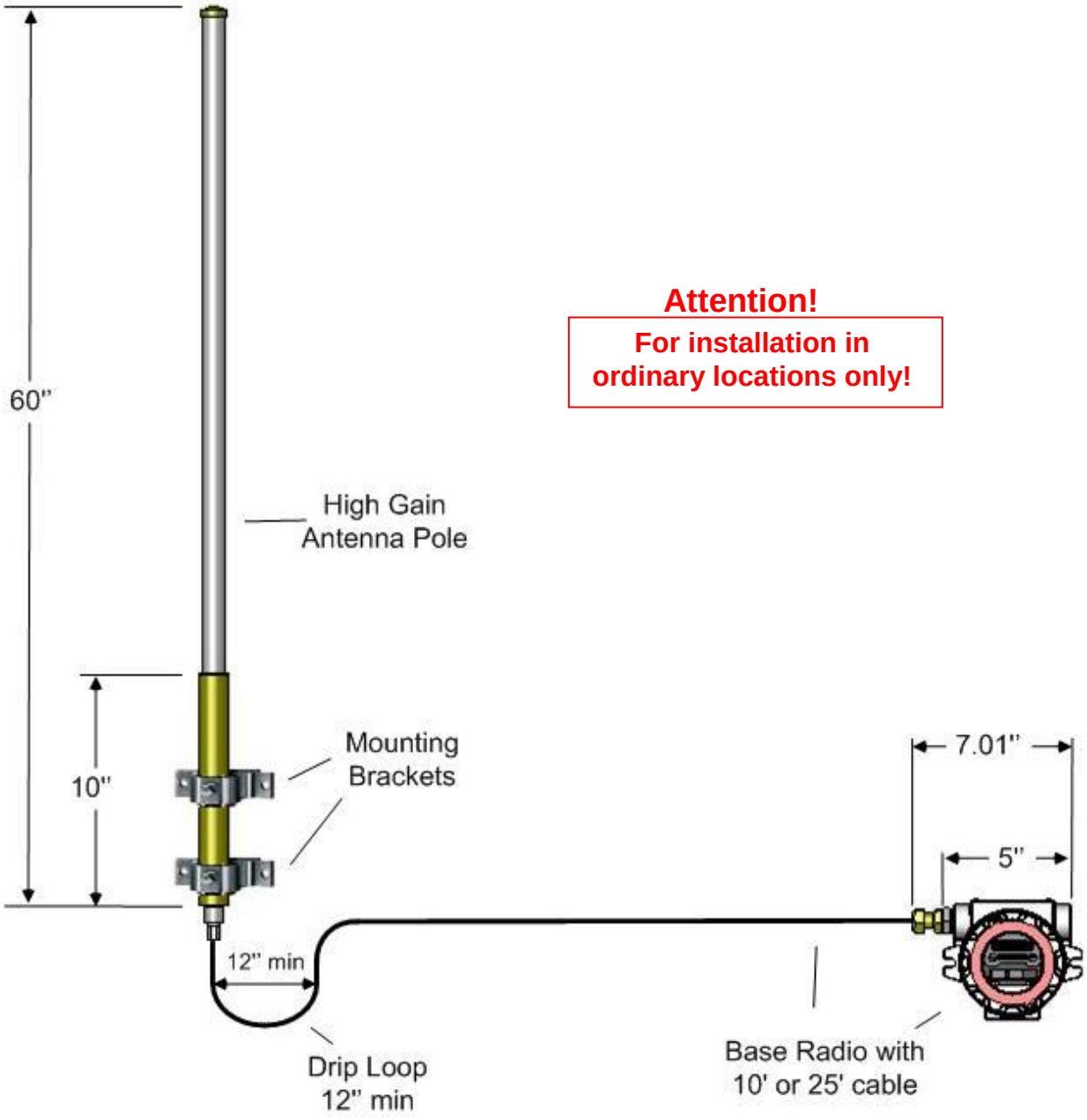
The following comes attached to the Base Radio:

[4] Coaxial cable assembly:

10’ length for WI-BR-R10-4X and WI-BR-R10-4X-MOD

25’ length for WI-BR-R25-4X and WI-BR-R25-4X-MOD

3.2. Antenna Connection



Attention!

For installation in ordinary locations only!

Antenna connected to Base Radio

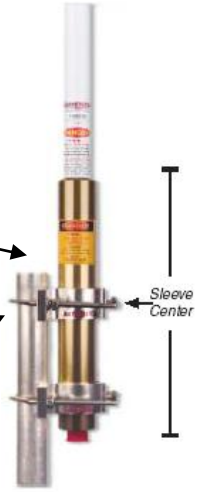
Warning! Always use caution when installing this antenna. You can be seriously injured if this antenna comes near or in contact with a power line. Follow all local and national electrical code requirements when installing the Base Radio with the high gain antenna.

[1] Select the locations for the high gain antenna and Base Radio. The location for the high gain antenna should be selected based on optimal positioning for RF communications with the field units.

Warning! Any Base Radio with an omni-directional antenna is for ordinary locations only.

[2] Position the antenna so that the gold sleeve clears any obstructions. This includes masts and tower sections.

[3] Mount the antenna using the 2 mounting brackets. One clamp must be placed at the center of the gold sleeve, the other at any point below.

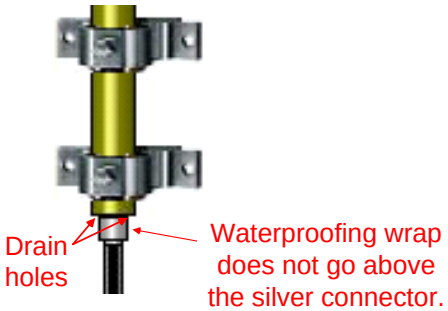


[4] Connect the Base Radio coaxial cable to the antenna and hand-tighten.

[5] Install a drip loop in the cable to insure proper drainage.

[6] Wrap the connection with the supplied waterproofing material.

Warning! Do not cover the drain holes on the bottom of the antenna as they provide drainage for moisture.



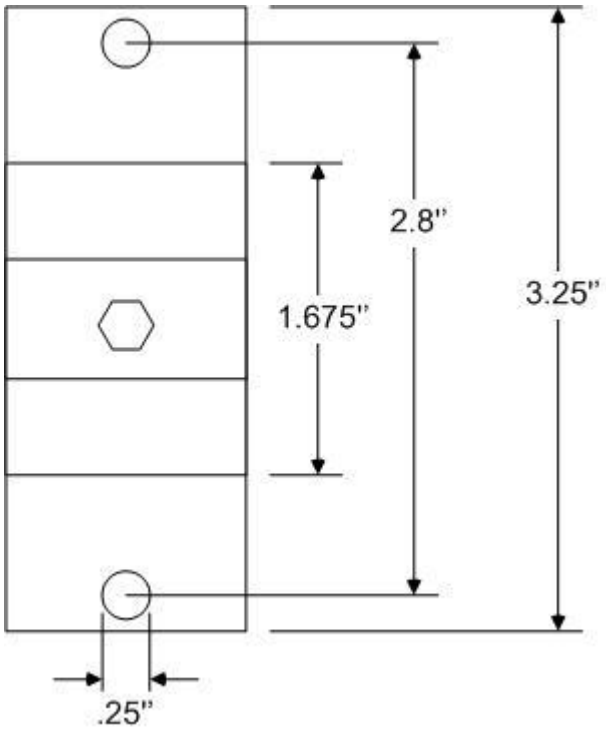
[7] Finished

4. Technical Specifications

4.1. High Gain Omni-Directional Antenna

Base Radio High Gain Omni-Directional Antenna	
Length	65”
Gain	6 dBd (less cable loss ≈ 0.04 dBd/ft)
Weight	6 lbs
Polarization	Vertical
Mounting	Heavy wall gold anodized 1 ¼” aluminum with brackets included
Base Radio coaxial cable length	10’ or 25’

4.2. Mounting Bracket Dimensioned Drawing



Mounting bracket dimensioned drawing

A B O U T U S

Adaptive Wireless Solutions develops, produces and supports partner specific, high value industrial measurement and process solutions that enable our end users to increase efficiency, through-put and environmental compliance.

AWS customers include large national companies in the oil and gas, chemicals, pharmaceutical, food and beverage, primary materials processing, and energy industries. In addition to the wireless product line, AWS also offers a traditional wired line of temperature, pressure and differential pressure instrumentation.

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