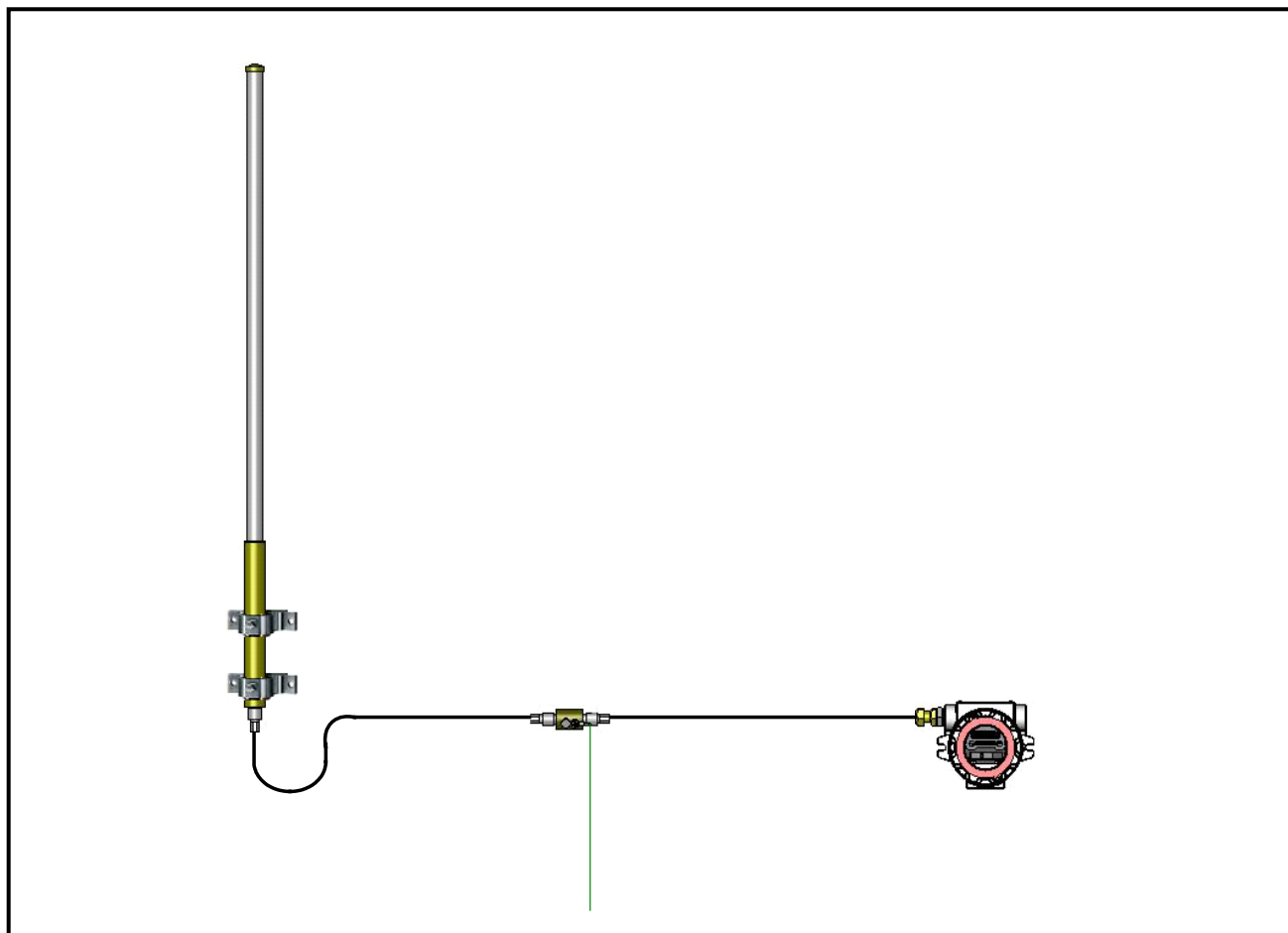


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# High Gain Omni Directional Antenna User Guide

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**About This Document**

## Revision Notes

The following list provides notes concerning all revisions of this document.

<u>Doc ID</u>	<u>Rel ID</u>	<u>Date</u>	<u>Notes</u>
34-XY-25-10	Rev. 3	3/05	Initial release.
34-XY-25-10	Rev. 3	4/05	Added bar codes.
34-XY-25-10	Rev. 4	8/06	Updated to include all model numbers.

## Contacts

## World Wide Web

The following lists Honeywell's World Wide Web sites that will be of interest to our industrial automation and control customers.

<u>Honeywell Organization</u>	<u>WWW Address (URL/e-mail)</u>
Corporate	<a href="http://www.honeywell.com">http://www.honeywell.com</a>
Industrial Measurement and Control	<a href="http://content.honeywell.com/imc/">http://content.honeywell.com/imc/</a>
International	<a href="http://www.honeywell.com/Business/global.asp">http://www.honeywell.com/Business/global.asp</a>
Field Instruments	<a href="http://www.honeywell.com/imc">http://www.honeywell.com/imc</a>
Technical Assistance Center	<a href="mailto:ACE@Honeywell.com">ACE@Honeywell.com</a> (e-mail)

## Telephone

Contact us by telephone at the numbers listed below.

	Organization	Phone Number
United States and Canada	Honeywell Inc. Industrial Automation and Control Global Technical Support Center	1-800-343-0228      Sales 1-800-525-7439      Service 1-800-423-9883
Asia Pacific	Honeywell Asia Pacific Inc. Hong Kong	(852) 8298298
Europe	Honeywell PACE Brussels, Belgium	[32-2] 728-2111
Latin America	Honeywell Inc. Sunrise, Florida U.S.A.	(305) 364-2355

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# 1. About the High Gain Omni Directional Antenna

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



**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 arrester to a Base Radio. If you are using a lightning arrester, go to section 2. If you are not using a lightning arrester, go to section 3.

The following model numbers are covered in this guide. Both Base Radios models can be used with any of the High Gain Remote Antenna models below.

Antennas	Description
HBW-00-TE-HA-9X	NEMA 4X Base Radio w/10 ft cable, RS-485 & Modbus, for rmt antenna with Omni Directional 6 dBd Pole remote antenna
HBW-00-TE-HB-9X	NEMA 4X Base Radio w/10 ft cable, RS-485 & Modbus, for rmt antenna with Omni 6 dBd remote antenna w/lightning arrester & 10 ft cable
HBW-00-TE-HC-9X	NEMA 4X Base Radio w/10 ft cable, RS-485 & Modbus, for rmt antenna with Omni 6 dBd remote antenna w/lightning arrester & 25 ft cable
HBW-00-TW-HA-9X	NEMA 4X Base Radio w/25 ft cable, RS-485 & Modbus, for rmt antenna with Omni Directional 6 dBd Pole remote antenna
HBW-00-TW-HB-9X	NEMA 4X Base Radio w/25 ft cable, RS-485 & Modbus, for rmt antenna with Omni 6 dBd remote antenna w/lightning arrester & 10 ft cable
HBW-00-TW-HC-9X	NEMA 4X Base Radio w/25 ft cable, RS-485 & Modbus, for rmt antenna with Omni 6 dBd remote antenna w/lightning arrester & 25 ft cable



## 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:

WBH-00-TE-HB-9X	Omni 6 dBd remote antenna w/lightning arrestor & 10 ft cable
WBH-00-TE-HC-9X	Omni 6 dBd remote antenna w/lightning arrestor & 25 ft cable
WBH-00-TW-HB-9X	Omni 6 dBd remote antenna w/lightning arrestor & 10 ft cable
WBH-00-TW-HC-9X	Omni 6 dBd remote antenna w/lightning arrestor & 25 ft cable

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### 2.1. Package Contents

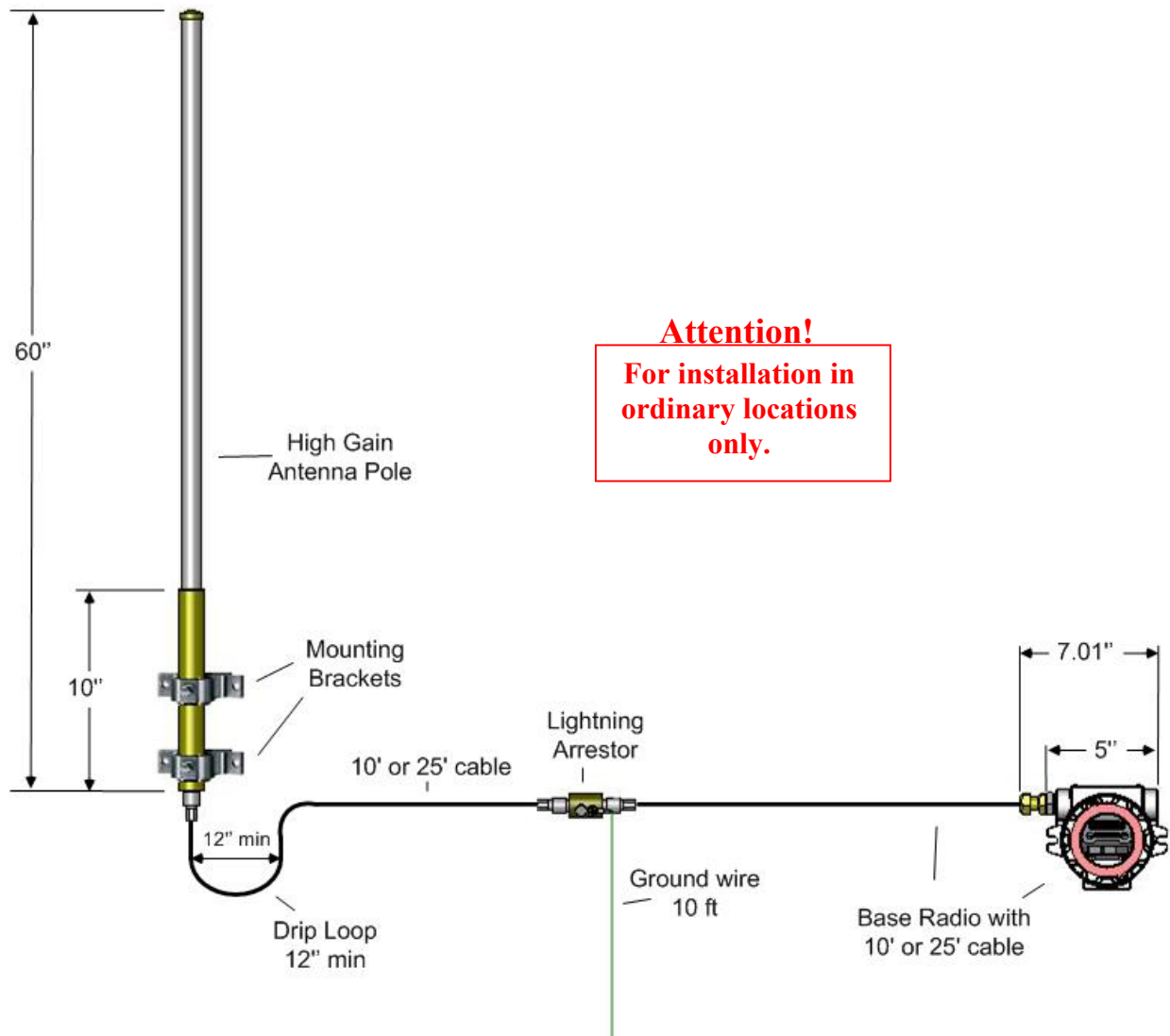
The high gain Omni 6 dBd antenna with the lightning arrestor kit comes complete with:

- [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 the WBH-00-TE-HB-9X and WBH-00-TW-HB-9X
  - 25' length for the WBH-00-TE-HC-9X and WBH-00-TW-HC-9X
- [5] Waterproofing material for the antenna coaxial connection

The following comes attached to the Base Radio:

- [6] Coaxial cable assembly:
  - 10' length for the WBH-00-TE-HB-9X and WBH-00-TE-HC-9X
  - 25' length for the WBH-00-TW-HB-9X and WBH-00-TW-HC-9X

## 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 arrester and Base Radio.



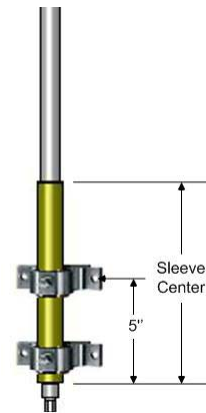
**Any Base Radio with an Omni Directional antenna is for ordinary locations only.**

It is recommended that the lightning arrester be mounted in close proximity to the building egress. The lightning arrester 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.

- [2] Position the antenna so that the gold sleeve clears any obstructions.
- [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 arrester 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 arrester 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.  
*Note: Do not cover the drain holes on the bottom of the antenna as they provide drainage for moisture.*
- [9] Finished.

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## 3. Installing the High Gain Antenna

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



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

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

WBH-00-TE-HA-9X    Omni Directional 6 dBd Pole remote antenna  
WBH-00-TW-HA-9X    Omni Directional 6 dBd Pole remote antenna

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### 3.1. Package Contents

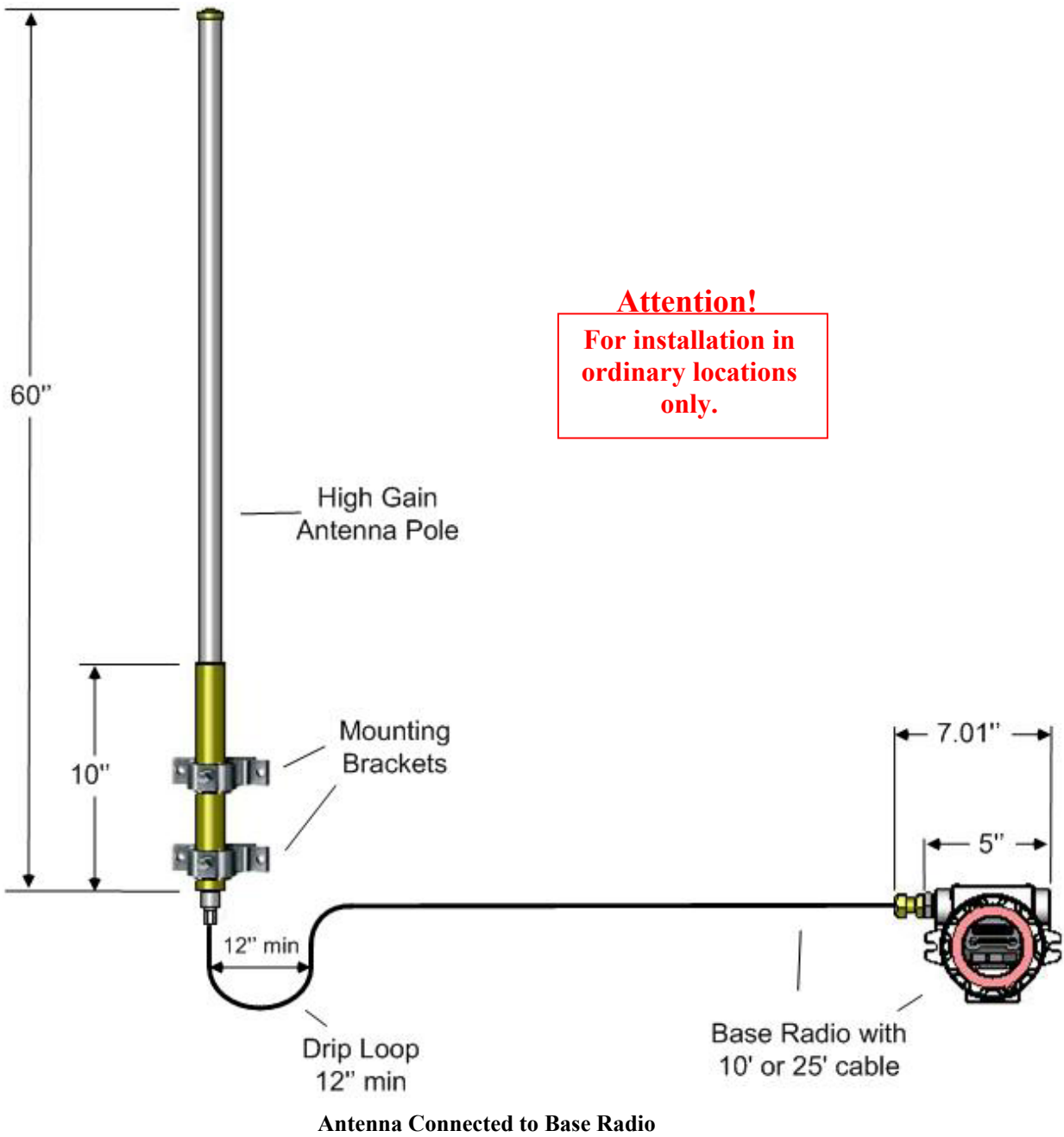
The high gain Omni 6 dBd antenna kit comes complete with:

- [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 the WBH-00-TE-HA-9X
  - 25' length for the WBH-00-TW-HA-9X

### 3.2. Antenna Connection



**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.

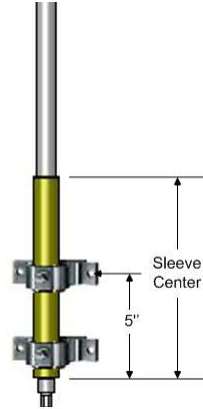
- [1] Select the locations for the high gain antenna and Base Radio. The location for the high gain antenna should be selected based on optimal positioning for RF communications with the field units.



**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.

- [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.

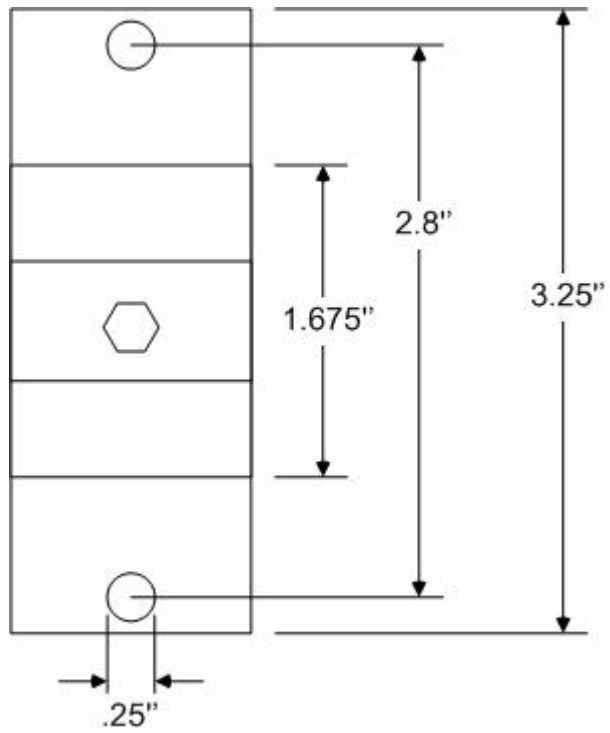
- [5] Wrap the connection with the supplied waterproofing material.

*Note: Do not cover the drain holes on the bottom of the antenna as they provide drainage for moisture.*

- [6] Finished.

## 4. Technical Specifications

<b>Base Radio High Gain Omni Directional Antenna</b>	
Length	65"
Gain	6 dBd (less cable loss $\approx$ 0.04 dBd/ft)
Weight	6 lbs
Polarization	Vertical
Mounting	Heavy wall gold anodized 1 1/4" aluminum with brackets included
Base Radio coaxial cable length	10' or 25'



**Mounting Bracket Dimensioned Drawing**



**\*17414\***

**Honeywell**

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**Industrial Measurement and Control**  
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Phoenix AZ, 85927



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