

Remote Mount Antenna Supplement

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OVERVIEW

This document guides the user through implementation of the Remote Mount Antenna option for the Smart Wireless Gateway. It includes notices for safety, and electrical installation; as well as hazardous area, and spectrum approvals. Also included are product specifications and best practices.

SAFETY NOTICES

WARNING

When installing remote mount antennas for the Smart Wireless Gateway, always use common sense and established safety procedures to avoid falling or contact with high-power electrical lines.

Install remote antenna components for the Smart Wireless Gateway in compliance with local and national electrical codes and use best practices for lightning protection.

Before installation consult with the local area electrical inspector, electrical officer, and work area supervisor.

WARNING

The Smart Wireless Gateway remote antenna options are specifically engineered to provide installation flexibility while optimizing wireless performance and maintaining local spectrum approvals. Each remote antenna kit contains 50 ft. (15,2 m) of LMR-400 coaxial cable, and a high-gain antenna. To maintain wireless performance and avoid non-compliance with local spectrum regulations, do not change the length or type of coaxial cable, or the antenna type.

If the remote antenna kit as specified is not used in this document, Emerson Process Management is not responsible for wireless performance, or non-compliance with local spectrum approvals

Product Discontinued

WARNING

Explosions could result in death or serious injury:

- In a hazardous area environment, do not open the Smart Wireless Gateway electronic housing.
- Cover must be fully engaged to meet hazardous approval requirements.
- Do not remove the gateway from its mounting enclosure in explosive atmospheres when the circuit is live.
- Verify that the operating atmosphere of the gateway is consistent with the appropriate hazardous locations certifications.
- If the device is installed in a high-voltage environment and a fault condition or installation error occurs, high voltage may be present on transmitter leads and terminals.
- Use extreme caution when making contact with the leads and terminals.
- Make sure only qualified personnel perform the installation.
- The Smart Wireless Gateway is approved for use in certain hazardous areas. For more information, consult the hazardous area specification section of this document.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: This device may not cause harmful interference, this device must accept any interference received, including interference that may cause undesired operation.

This device must be installed to ensure a minimum antenna separation distance of 20 cm from all persons

CAUTION

All wireless devices should be installed only after the Smart Wireless Gateway has been installed and is functioning properly. Wireless devices should also be powered up in order of proximity from the Smart Wireless Gateway, beginning with the closest. This will result in a simpler and faster network installation.

**PRODUCT
SPECIFICATIONS**

**Hazardous Area
Approvals**

North American Certifications

Factory Mutual (FM) Approvals

N5 FM Division 2 (Non-incendive)

Certificate Number: 3028321
Nonincendive for Class I, Division 2, Groups A,B,C, and D;
Dust Ignitionproof for Class II,III, Division 2,
Groups E,F, and G; Indoor/outdoor locations;
NEMA Type 4X
Temperature Code: T4 ($T_{amb} = -40\text{ }^{\circ}\text{C}$ to $60\text{ }^{\circ}\text{C}$)
Installation per Rosemount drawing 01420-1010

Canadian Standards Association (CSA)

N6 CSA Division 2 & Dust Ignitionproof

Certificate Number: 1849337
Suitable for Class I, Division 2, Groups A,B,C,D;
Installation per Rosemount drawing 01420-1011.
Temperature Code: T4($-40\text{ }^{\circ}\text{C} < T_a < 60\text{ }^{\circ}\text{C}$)
CSA Enclosure Type 4X

European Certification

N1 ATEX Type n (ATEX)

See note below
Certificate Number: BASEEFA07ATEX0056X
ATEX Marking: Ex II 3G
Ex nA nL IIC T4 ($-4\text{ }^{\circ}\text{C} < T_a < 60\text{ }^{\circ}\text{C}$)

ND ATEX Dust Ignition-proof Approval

Certificate Number: BASEEFA07ATEX0057
ATEX Markings: Ex II 3D Ex tD A22 IP66 ($-40\text{ }^{\circ}\text{C} < T_a < 6\text{ }^{\circ}\text{C}$)
 $V_{max} = 28\text{V}$

Worldwide Certification

N7 IECEx Type n

See note below
Certificate Number: IECEx BAS 07.0012X
Marking: Ex nA nL IIC T4 ($T_{amb} = -40\text{ }^{\circ}\text{C}$ to $60\text{ }^{\circ}\text{C}$)

NF IECEx Dust Ingress Protection

Certificate Number: IECEx BAS 07.0013
Marking: Ex tD A22 IP66 T135 ($-40\text{ }^{\circ}\text{C} < T_{amb} < 60\text{ }^{\circ}\text{C}$)

NOTE

Take into account during installation that the apparatus is not capable of withstanding the 500 V insulation test required by Clause 9.4 of IEC 60079-15: 2005.

Smart Wireless Gateway

Remote Antenna

1/2 Wavelength Dipole, Omni-Directional Antenna, 6 dB gain antenna

Coaxial Cable

LMR-400 coaxial cable.

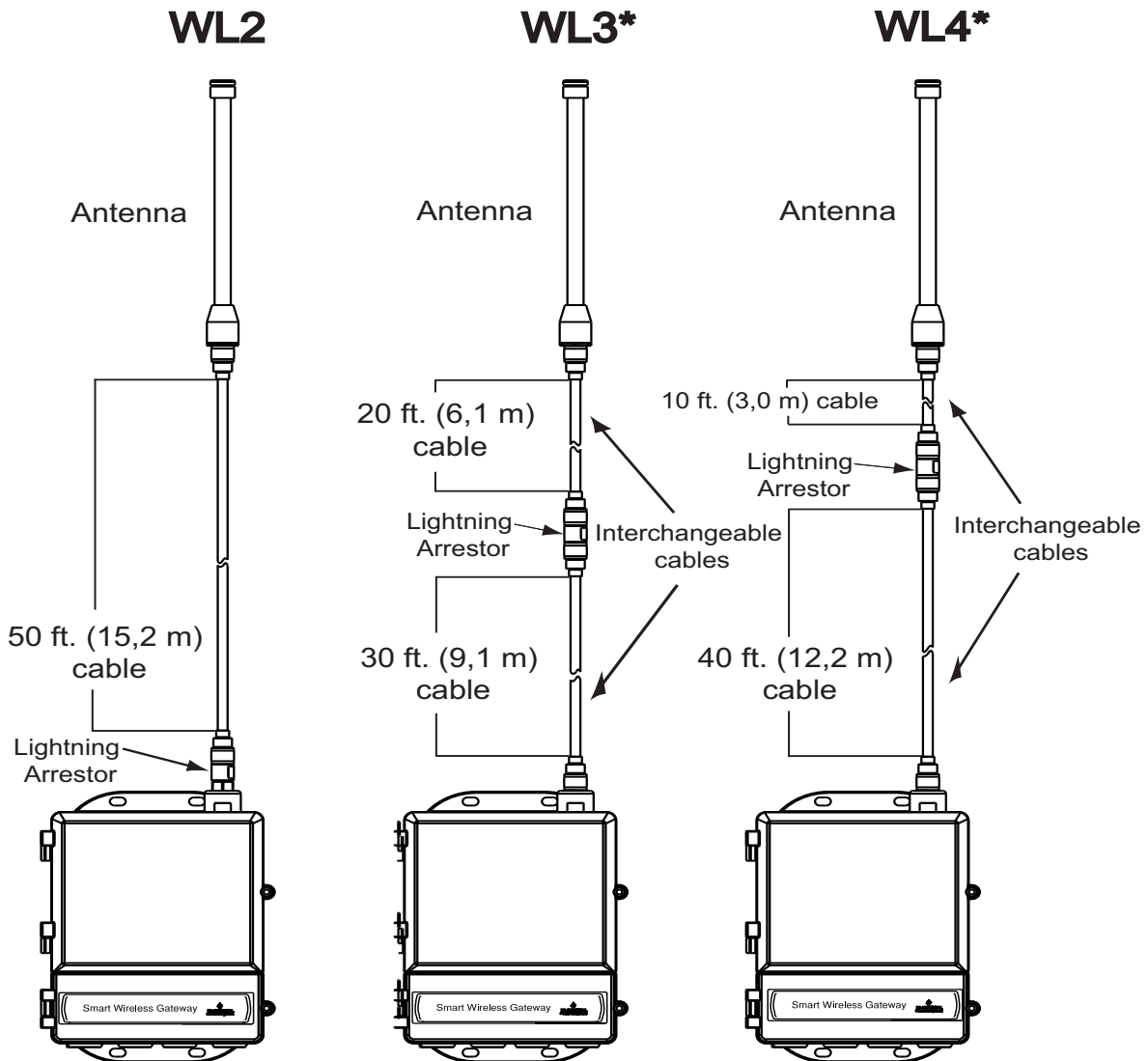
Lightning Arrestor

WL3/WL4:

In-line, gas-tube surge protector, 0.1 dB Insertion loss

WL2:

Bulkhead mount, gas tube type, 0.5 dB insertion loss



The Remote Omni-Antenna kit includes sealant tape for remote antenna connection, as well as mounting brackets for the antenna, Lightning Arrestor, and the Smart Wireless Gateway.

WL1 is optimal for installations not requiring lightning protection.

WL2, WL3, and WL4 are optimal for installations requiring lightning protection. WL3 and WL4 provide lightning protection along with the ability to have the gateway mounted indoors, the antenna mounted outdoors, and the lightning arrestor mounted at the building egress.

***Note that the coaxial cables on the remote antenna options WL3 and WL4 are interchangeable for installation convenience.**

BEST PRACTICES - IMPLEMENTATION

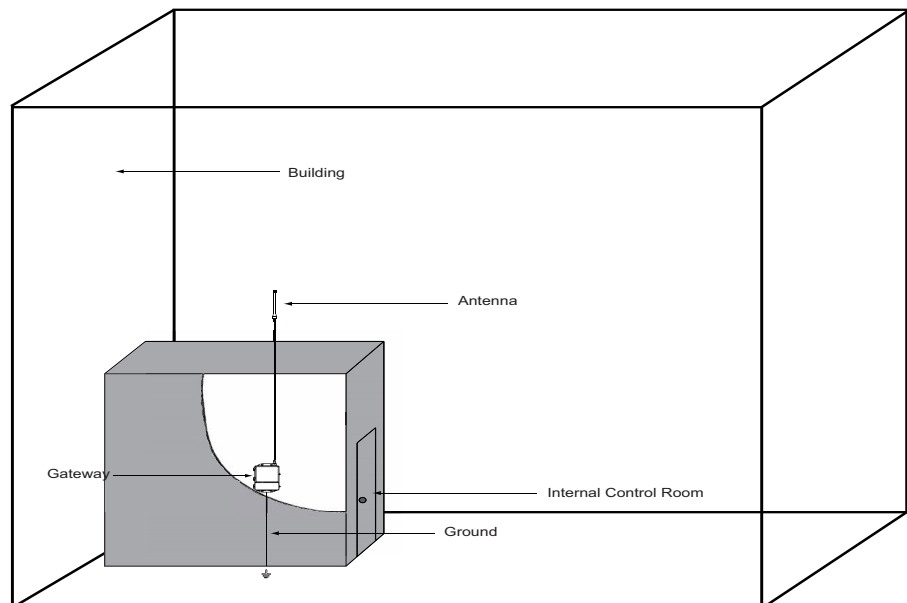
Best Practices Check List

The WL1, WL2, WL3, and WL4 remote mount antenna options provide flexibility for mounting the Smart Wireless Gateway based on organizational work practices for device management, wireless connectivity, and lightning protection.

1. Find the location where the remote antenna has optimal wireless performance:
 - The remote antenna should be installed 15 to 25 ft. (4,6 - 7,6 m) above the ground.
2. The gateway needs to be installed within the approved lengths of the coaxial cable. The WL3 and WL4 are designed to provide cable length flexibility when the coaxial cable traverses an enclosure wall. If a mast is needed to mount the remote antenna, it needs to be grounded.
3. Properly ground the gateway housing and lightning arrestor per local and national electrical codes.
4. For the WL3 and WL4 options, minimize the distance between the lightning arrestor and the egress into the equipment room/control enclosure for maximum lightning protection .
5. Any spare lengths of coaxial cable should be placed in 12" (0,3 m) coils.
 - No lightning arrestor
 - 50 ft. (15,2 m) cable

Example Installation for WL1 Option

Example use case: Enclosed structure with minimal risk of electrical surge to remote antenna.

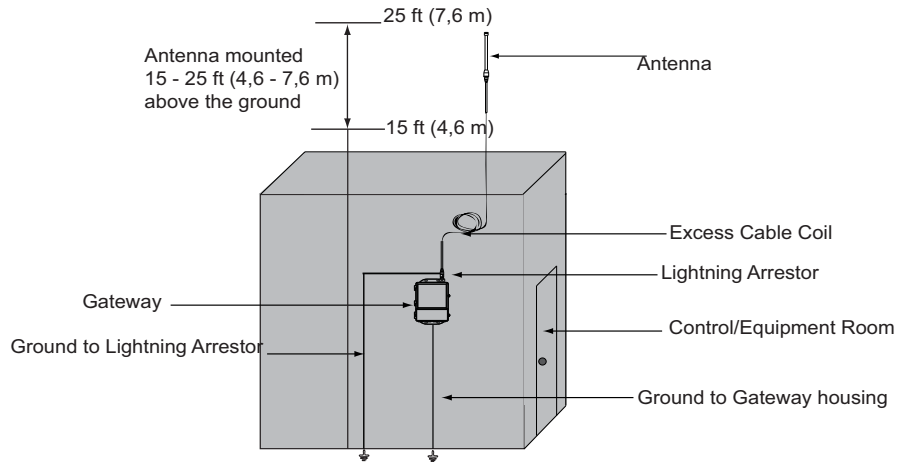


Smart Wireless Gateway

Example Installation for WL2 Option

- Lightning arrestor
- 50 ft. (15,2 m) cable

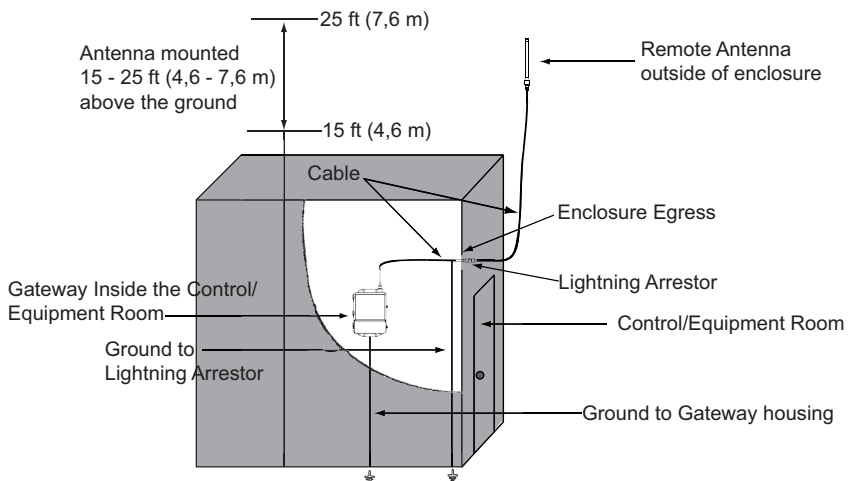
Example use case: Gateway and remote antenna are mounted outdoors where there is a risk of an electrical surge.



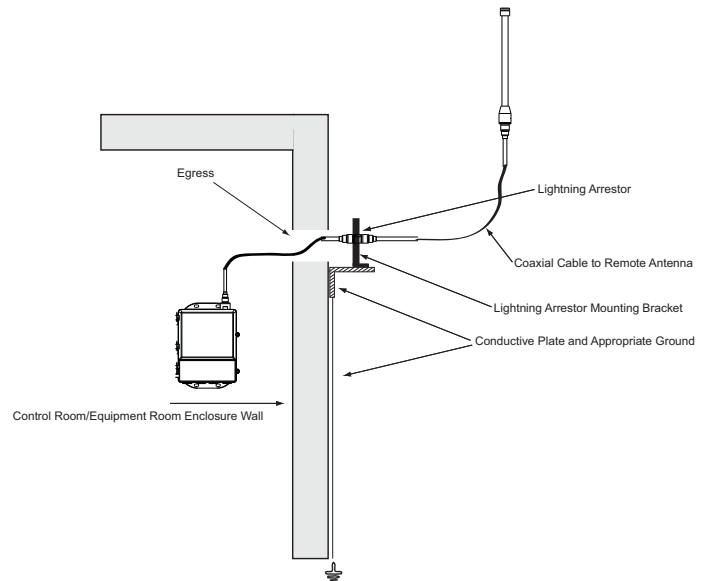
Example Installation for WL3 and WL4 Options

- Lightning arrestor
- 20 ft. (6.,1 m), 30 ft. (9,1 m) (WL3 Option) (Total of 50 ft. [15,2 m] cable).
- 40 ft. (12,2 m), 10 ft. (3,0 m) (WL4 Option) (Total of 50 ft. [15,2 m] cable).

Example use case: Gateway is mounted indoors with the remote mount antenna installed outdoors, and the lightning arrestor is located at an enclosure egress.



Detail of Building Egress for WL3 and WL4 Option



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