

FAQ • 02/2017

How to Weatherproof a RUGGEDCOM WIN Subscriber or Base Station

WIN5000 Series / WIN5200 Series / WIN7000 Series / WIN7200 Series

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1 Introduction

Most outdoor subscriber station, base station, antenna and cable problems are caused by coaxial cable connections loosened by vibration, allowing moisture to penetrate the connector interface. Siemens strongly recommends weatherproofing all outdoor cable connections to prevent the ingress of water and help secure connections.

Since PoE cables also carry DC current, the need for proper weatherproofing cannot be overstated.

Use cold shrink tubing or self-amalgamating tape, as well as UV-resistant tape and electrical insulation putty to seal connections.

NOTICE	The method of weatherproofing described in this section must be completed on all external connections. If surge arrestors are used, all associated connections and arrestors must be completely wrapped with splicing tape or self-amalgamating tape.
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1.1 Required Materials

The following materials are required to weatherproof a subscriber or base station:

Type	Material
Grease	Marine grease*
Spray	Cleaner and de-greaser
	Corrosion protection
	SCC3 conformal coating
Tape/Tubing	POE cold shrink tubing**
	Self-amalgamating tape
	UV-resistant vinyl tape
	Electrical insulation putty

* For marine applications only

** Maximum 49.2 mm (1.9 in) inner diameter before shrinking

2 Weatherproofing the Subscriber or Base Station

To protect a subscriber or base station from corrosion, do the following:

1. Before mounting the device, liberally apply a corrosion protection spray to all galvanized steel components, including mounting brackets, nuts, washers and screws.
2. After mounting the device, liberally apply a corrosion protection spray to exposed screw threads.
3. After connecting all cables, weatherproof all cable connections. For more information, refer to "Weatherproofing a Cable".
4. If the base station is installed in a marine environment – wind farm substation, coastal tower, or marine vessel – apply a coating of marine grease to the chassis and all galvanized steel components, including mounting brackets, nuts, washers and screws. This is in addition to the corrosion protection spray applied during the mounting process.

2.1 Weatherproofing a Cable

To weatherproof a cable, do the following:

NOTICE	The warranty is void if the base station is assembled without waterproof sealing or if the sealing is removed from the connections.
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NOTICE	PVC tape, silicon sealant and glue are not recommended for weatherproofing, as these materials are difficult to apply accurately and are difficult to remove.
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1. Spray the cable end and connector with a cleaner and de-greaser, making sure to remove any excess with a clean lint-free cloth.
2. Spray the cable end and connector with SCC3 conformal coating and allow them to dry fully (approximately 3 to 5 minutes depending on the ambient temperature).
3. Apply cold shrink or self-amalgamating tape to the connector end. For information about how to apply these types of seals, refer to "
4. Applying Cold Shrink Tub" or "Applying Self-Amalgamating Tape".
5. Apply two layers of UV-resistant vinyl tape to the cable ends.
6. Apply electrical insulation putty around the very end of the cable to form a seal between it and the subscriber/base station.

2.2 Applying Cold Shrink Tubing

To apply cold shrink tubing to a cable end, do the following:

1. Disconnect the cable and slide the tube over the connector end.
2. Reconnect the cable and slide the tube up to meet the base station chassis.
3. Hold the tube against the subscriber/base station chassis and start rotating it clockwise while gently pulling out the core. Stop rotating once the front end of the cold shrink has begun to form around the cable end.

4. Continue to remove the core in a counter-clockwise direction until it is completely removed.

Figure 2-1: Cable Weatherproofed with Cold Shrink Tubing



2.3 Applying Self-Amalgamating Tape

To apply self-amalgamating (or self-fusing) tape to a cable end, do the following:

NOTICE	When applying self-amalgamating tape, make sure to stretch it to 2/3 of its original width to form a tight seal.
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1. Cut a strip of self-amalgamating tape approximately 50 cm (19.7 in) long.
2. Apply one end of the tape to the cable end and tightly wrap it around the once fully, making sure the tape overlaps.
3. Tightly wrap the remainder of the tape down the cable, making sure the tape overlaps with each pass.
4. Repeat the previous steps to apply a second layer of tape.

Figure 2-2: Cable Weatherproofed with Self-Amalgamating Tape



3 Customer Support

Customer support is available 24 hours, 7 days a week for all Siemens customers. For technical support or general information, please contact Siemens Customer support through any one of the following methods:

- **Online**
Visit <http://www.siemens.com/automation/support-request> to submit a Support Request (SR) or check on the status of an existing SR.
- **Telephone**
Call a local hotline center to submit a Support Request (SR). To locate a local hotline center, visit <http://www.automation.siemens.com/mcms/aspa-db/en/automation-technology/Pages/default.aspx>.
- **Mobile App**
Install the Industry Online Support app by Siemens AG on any Android, Apple iOS or Windows mobile device and be able to:
 - Access Siemens' extensive library of support documentation, including FAQs, manuals, and much more
 - Submit SRs or check on the status of an existing SR
 - Find and contact a local contact person
 - Ask questions or share knowledge with fellow Siemens customers and the support community via the forum

4 History

Table 4-1

Version	Date	Modifications
1	02/2017	Initial release