Recommended Installation Instructions

Twin Tower Mounted Amplifier (TMA) Auto Bypass

ATM181412D-3, ATM181412D-1A20, ATM1900D-1CWA, ATM1900D-1A20, ATM2100D-1A20, ATM261612D-1A20 ATMAWSD-1A20, ATMAP-1A20

PACKAGE CONTENTS

Please find the following products inside the box:

- (1) Twin Tower Mounted Amplifier
- (2) Hose Clamps (For pole mounting – diameter 40-110mm)
- (1) Installation Instructions.

RECOMMENDED TOOLS

The following tools are needed for proper installation

- **5 mm Allen Key** – for fixation of the hose clamps onto the tower [Torque 5.5 Nm (4.1 ft-lb)]
- **10 mm Spanner** – for fixation of the ground cable to the TMA
- **Additional Tools** – for fixation of the ground cable onto the TMA, for fixation of the ground cable onto the tower grounding point, for tightening the 7/16 connector swivels and for mounting the TMA onto the wall

POLE MOUNTING INSTRUCTIONS

1. **Check that RF signals and DC power coming from the Base Station are OFF/disconnected.**
2. Fix the hose clamps onto the TMA.
3. Mount the TMA to the pole by tightening the hose clamps with 5.5 Nm (4.1 ft-lb) torque.
4. Attach a grounding cable (RFS Models CA020-2 or CA030-2 – Not Included) to the grounding screw.
5. Tighten the ground cable nut with 4 Nm (3 ft-lb) torque.
6. Adjust the length of the ground cable and fix it onto the tower ground connection.
7. Connect the jumpers between the 7-16 connectors of the antennas and the 7-16 connectors (ANT 1 and 2) of the TMA(s). Connect the jumpers between the 7-16 connectors (BTS 1 and 2) of the TMA(s) and the 7-16 connectors of the feeder cables.
8. When attaching the jumper cable 7-16 connector swivel to the TMA 7-16 female connector it is mandatory that the jumper cable meets with the 7-16 female connector of the TMA straight in line. Press the inner part of the jumper cable connector into the TMA connector and maintain this pressure when turning the swivel. Hereby the swivel will fit the thread of the female connector correctly and it will run smoothly. Tighten the swivel by hand.

   Note: No angular torque from the jumper cable is allowed at any time.
9. Tighten the connector assembly with 25 Nm (18.4 ft-lb) torque.
10. Seal all connectors. The tape around the connectors must connect with the TMA top/bottom plates for correct weather protection. See section "Connector Insulation" details.

IMPORTANT SAFEGUARDS

IMPORTANT: All national safety rules and regulations must be followed during installation and maintenance of the TMA.

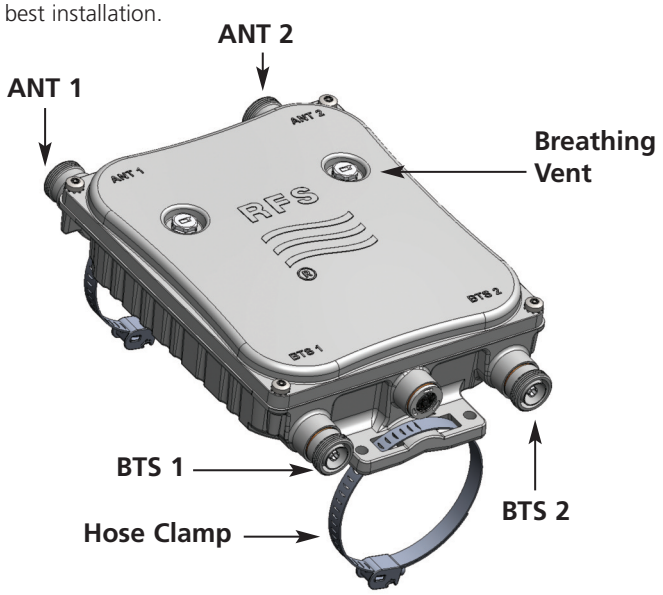
! Make sure that the Base Station is sending the proper DC input voltage (10-30VDC) through the feeder cables. The DC input voltage MUST be applied on both the TMA BTS Port 1 and the BTS Port 2.

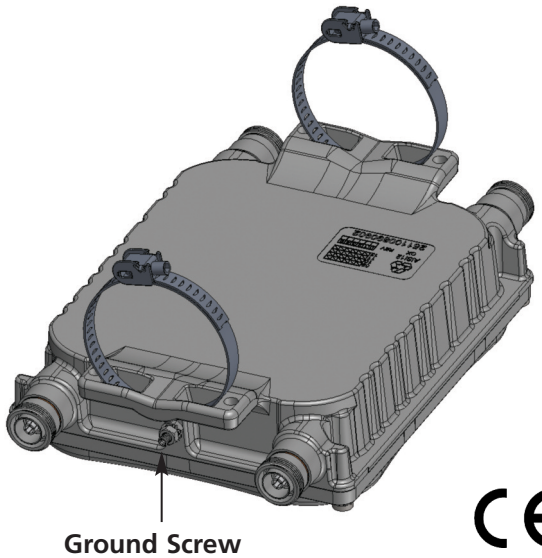
! It is important that no RF and DC power is floating in the associated RF feeder cables and, in general, that no power is radiated from the tower or site during the TMAs installation.

! RFS recommends using the shortest jumper cables from the TMA ANT Ports to the Antenna in order to optimize system performance.

! RFS recommends applying additional anti-corrosion protection and using best practices when products are installed in areas with high-salt concentration, on chimneys (SO2) or other extreme harsh environment, to lengthen the product lifetime.

! RFS recommends using RFS accessories and cables to ensure the best installation.





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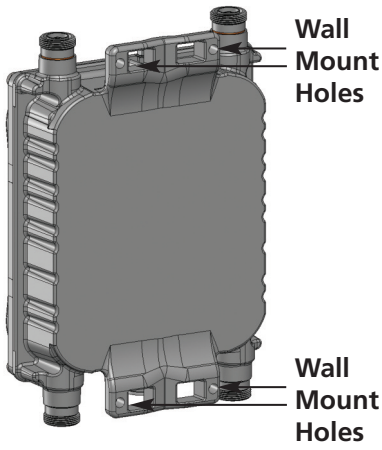
WALL MOUNTING INSTRUCTIONS

1. Mount the TMA to the wall using the 4 holes (8.5 mm) on the brackets.
2. Follow instructions 8-15 on the Pole Mounting Instructions.



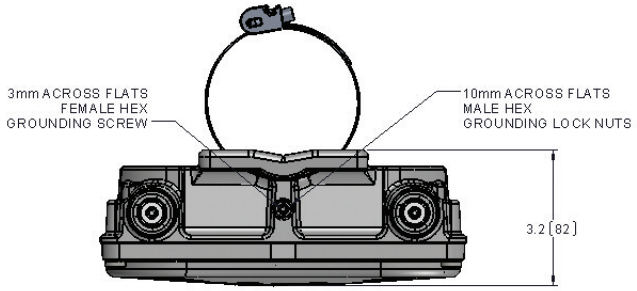
CONNECTOR INSULATION

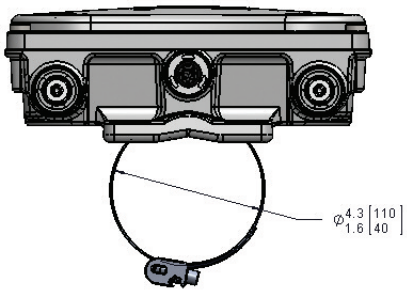
In order to ensure the best quality of transmission and to avoid water ingress, RFS recommends insulating all connections. This insulation is carried out after all connections (Antenna-to-Jumper, Jumper-to-TMA, TMA-to-Jumper, Jumper-to-Feeder Cable and TMA-to-ACU) have been tightened.

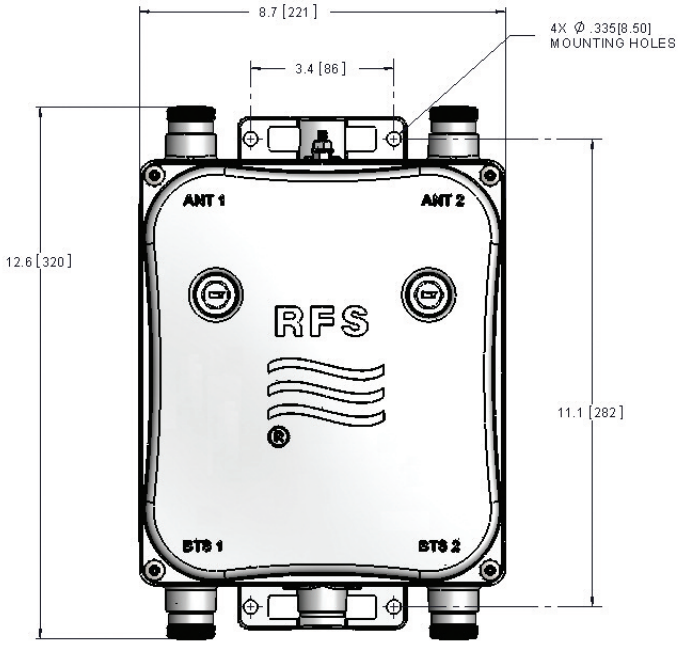
VPET: Vinyl Plastic Electric Tape **LRST:** Liners Rubber Splicing Tape

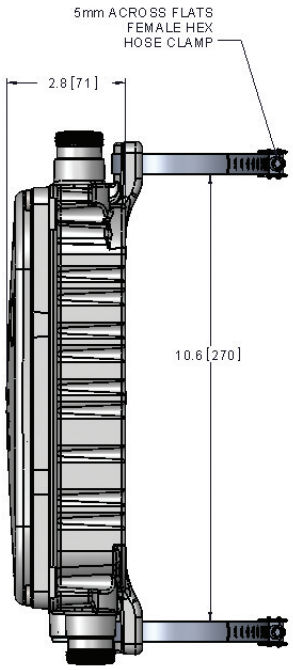
1. The inner layer of the VPET tape protects the connectors from the strong glue on the LRST tape. It eases connector dismantling if disassembling may be needed later on.
2. Apply the VPET tape from the top of the connector, wrapped downwards by overlapping itself to half-width until 50 mm beyond the connection is reached (on the TMA all of the 7/16 connectors must be covered and meet the top/bottom plate around the connectors).
3. Apply the LRST tape in two layers over the connection overlapping itself to half-width. The first layer of LRST tape shall not exceed the VPET tape; the second layer must exceed both the first layer of LRST tape and the first layer of VPET tape.
4. Apply VPET over the LRST, wrapped downwards by overlapping itself to half-width until the LRST is completely covered.

TOWER MOUNTED AMPLIFIER DRAWINGS









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