

Installation Instruction - SW3-179

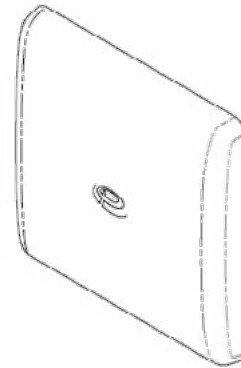
WM8-xx-NJ series UHF Panel Antenna

WM8-xx-NJ - SW3-179 - Document Version 1.0

A.i. Introduction

The WM8 (UHF) is a range of directional panel antennas with IP66 protection and high performance Gore® gland, suitable for external or internal mounting. Different versions are available to cover specific UHF frequency ranges, so please ensure that you have the correct version before commencing the installation. The antenna is supplied with a multi-tilt bracket that allows a maximum of 28 degrees tilt.

Please Note: This instruction does not cover the process for installing a mast structure if this is required.



A.ii. Part Number Matrix

Part Number	Frequency Range	Weight (inc. Bracket)	Wind Loading
WM8-TET-NJ	380-450MHz	2.4kg	227N @ 45m/s
WM8-U-NJ	390-472MHz	2.4kg	227N @ 45m/s
WM8-U2-NJ	450-520MHz	2.4kg	227N @ 45m/s

B. Planning the installation

This product is designed to be fitted by a trained installer - if you are installing an antenna for the first time or unsure about the process, then for your own safety as well as others, please seek professional advice.

The antenna is directional with a horizontal beam width of 70 degrees, so the selected mounting position should ensure that the required service coverage can be met. A multi-tilt bracket is provided, allowing wall or mast (<60mm diameter) mounting.

To minimize the effects of surrounding objects, mount the antenna as high up and far away from other nearby objects as possible. Consideration of position should be given to minimise the length of the coaxial cable run.

Safety Notes

- If the antenna will be fitted to an existing mast, please ensure that it will not overload it.
- Ensure that the installation location can be safely accessed with the equipment that you have available.



CAUTION

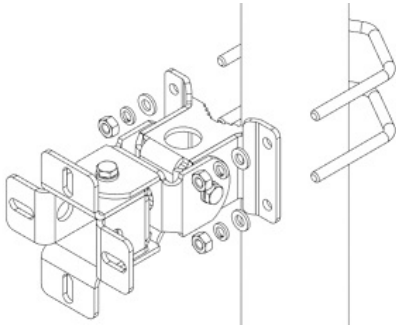
Parts of the antenna are an electrical conductor. Contact with power lines can result in death, or serious injury. Do not install the antenna where there is any possibility of contact with (or high voltage arc-over from) power cables. The antenna and supporting mast must not be close to any power lines during installation, removal or in the event that part of the system should accidentally fall.



CAUTION

If the antenna is installed above the roof line or in an exposed location, it is advisable to fit a lightning surge arrester in the coaxial cable feed line. A suitable unit should be sourced and installed as per the manufacturer instructions. The installer is responsible for determining if this is a requirement for the antenna installation.

C. Mast Mounting the Multi-Tilt Bracket



Offer the multi-tilt bracket to mast in selected position and fit V bolts with washer & nuts. Tighten by hand to allow final positioning and alignment of the bracket.

Note: minor directional adjustment in both azimuth (horizontal) and elevation (vertical) can be made using the tilt/swivel feature. Once correctly aligned, fully tighten the V bolts evenly from each side to secure the bracket.

Caution: Do not overtighten the V bolts as this may damage or distort the mast tube section.

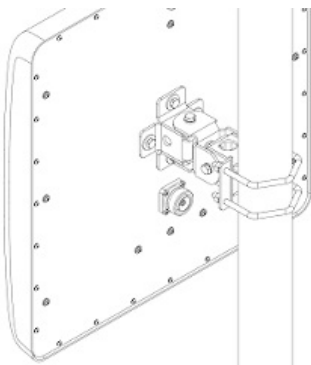
D. Planning the installation

Wall fixing hardware is not supplied with the bracket, due to the variations that can be found in wall materials. For brick or masonry walls, M6 diameter screws should be used with suitable wall plugs. Use the bracket as a template to mark the mounting hole positions. Select the correct size drill bit to suit the

wall plug, drill holes and insert wall plugs. Align the bracket over the prepared holes, insert screws and fully tighten evenly.

Safety Check: Ensure that the bracket is securely fixed to wall before fitting the antenna.

E. Mast Mounting the Multi-Tilt Bracket



It is recommended that the coaxial cable, terminated with a N type plug is already in position at this stage if the antenna will need to be tilted near to the maximum limit (28 degrees). Offer the antenna to the mounting bracket face, fit the supplied bolts with washers and tighten securely. Connect the N plug to the antenna socket. Seal the connection using self amalgamating tape (or similar) and finally cover with plastic (insulating) tape. Adjust antenna position in azimuth and elevation planes and fully tighten the swivel bolts.

F. Planning the installation

The coaxial cable should be routed away from the antenna, ensuring that there is no pull strain on the connector and secured to the mast or wall using suitable fixings. Route the cable to the radio terminal location, ensuring that it is fixed at regular intervals and protected from accidental damage. Ensure that any bends or turns in the cable routing comply with minimum bend radius for the cable type being used.

Fit a suitable connector. If using a 10mm (or larger) diameter, low loss cable, it may be advisable to use a short tail of RG58 (5mm diameter) or similar type cable to give a more flexible connection at the radio terminal. Test the antenna installation using an antenna analyser or through line device – the antenna should present a VSWR in agreement with the datasheet. Connect the antenna to the radio and carry out an on-air test.

G. Notices



European Waste Electronic Equipment

Directive 2002/96/EC

Please ensure that your old Waste Electricals and Electronics are recycled do not throw them away into standard waste.



RF Safety Note

This antenna should be mounted in such a way that no person is exposed to an unsafe RF field level from the antenna during use. The exact distance will need to be determined by the installer or user and will be dependent on the RF power input level to the antenna.