

# Installation Instruction - SW3-707

Part Number: MUG-NMO

MUG-NMO - SW3-707- Document Version 1.0



## A. Introduction

The MUG-NMO is a UHF ½ wave antenna to fit on a NMO type base. The antenna is available in different versions, pre-tuned for a specific frequency range. The default tuning mode is for mounting on a non-conductive (e.g. plastic) panel.

## B. Mounting Environment

The antenna is supplied tuned for installation on a non-metallic panel. (see section D for tuning requirement if used on a metal panel). The antenna should be located as far as possible from existing metal structures and on a flat, level surface to provide an effective seal to mounting the panel. The antenna location should be able to maintain safe minimum distance as shown in Section G.

## C. Fitting the Antenna

The NMO panel mount base should already have been installed according to the manufacturer's instructions. Ensuring that the sealing gasket is properly located on the antenna base, screw the antenna onto the NMO base thread and firmly hand tighten.

## D. Testing & Tuning the Antenna (If Required)

A DC check should be carried out on the NMO base, to check for low resistance earth continuity:

There should be a low resistance between the connector body and vehicle chassis, value  $<0,2\Omega$

An antenna analyser or VSWR meter will be required to check the antenna tuning. If the antenna is fitted on a non-conductive panel, no tuning should be required but a VSWR check should be carried out. With the antenna fitted on a metallic panel, it may be necessary to re-tune the antenna, which can be determined with a VSWR check. To adjust the tuning, remove the rod using the supplied hex key, remove a small amount from the lower end, refit the rod and check the VSWR. Connect the antenna to the wireless device and carry out an "on air" check if possible.

**IMPORTANT: DO NOT TOUCH OR ADJUST THE ANTENNA WHILE TRANSMITTING**

## E. Care for the Antenna

If removing the antenna for a carwash, a protective waterproof cap should be fitted to the base. Ensure that the antenna is re-fitted before attempting to transmit. Check the antenna periodically and re-tighten if necessary.

## F. Important Safety Notice

To ensure that human exposure to radio frequency energy is within safety guidelines, transmit only when people outside the vehicle are at least the minimum distance away from installed antenna.

**NOTE:** The distance depends on the transmitter power.

Transmitter Power Output	Min. Distance From Antenna
7-15 Watts	1 ft (31cm)
16-50 Watts	2 ft (62 cm)
Over 50 Watts	3 ft (93 cm)

G.

## Important Safety Notice (Cont'd.)



**DO NOT:**



**Operate the equipment in an explosive atmosphere**



**Install the antenna where contact with overhead power lines is possible**



**Utilise in low clearance scenarios or in vehicle car washes**



**Transmit with untuned or disconnected antenna. Damage to equipment may occur.**



### **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.



### **Directive 2011/65/EU (RoHS 2)**

This product is fully compliant with the RoHS 2 directive. Exemption 6.c applies

**Waiver:** This document represents information compiled to the best of our present knowledge. It is not intended as a representation or warranty of fitness of the products described for any particular purpose. This document details guidelines for general information purposes only. Always seek specialist advice when planning installations and ensure that antennas are always installed by a properly qualified installer in compliance with local laws and regulations.