ZCG

Model
M99U-400

UHF band highly flexible whip
400-520 MHz
2.1 dBi
200mm

- Black heatshrunk highly flexible whip
- Field tune once installed to 10 MHz bandwidth around centre frequency
- UHF male connector as mount base

INSTALLATION GUIDE

www.zcg.com.au

ANTENNA DESCRIPTION

Standing 200mm tall (prior to field tuning), constructed from a highly flexible internal stranded wire core with a UV stabilised black heatshrunk outer the M99U-400 UHF band highly flexilbe whip antenna is virtually unbreakable.

Manufactured for the UHF frequency range 400-520 MHz, the M99U-400 highly flexible UHF whip must be field tuned once installed into mounting location to your intended centre frequency requirements with a 10 MHz bandwidth.

The M99U-400 UHF highly flexible whip is suitable for installation locations where possible contact from overhead obstructions such as moving machinery or low overhead clearance may occur. The stranded wire design ensures once free from obstructions the antenna will return to the optimum vertical orientation.

Please note: Excessive pressure or long periods of time in a folded/bent over orientation may cause the helical core to lose its structural integrity and diminish the ability to return to the optimum vertical orientation.

An in-depth technical specification sheet is available on our website **www.zcg.com.au**

SELECTING THE MOUNTING POSITION

To achieve best performance from your antenna, these are the important principles you should consider when selecting the mounting point:

1. **Mount the antenna in as high a place as possible.**
2. **Mount the antenna as far away from other antennas and metallic objects as possible to avoid interference and distortion of the 360^{O} omnidirectional pattern. At least 350 mm side clearance is desireable, preferably more.**
3. **Mount the antenna vertical, not at an angle.**
4. **Ensure your antenna is securely fitted onto your mounting base for effective connection and performance.**

ANTENNA MOUNTING

This whip can be fitted to any UHF female terminated mount base or device/equipment and mounted in various locations, either fixed or vehicle mounted/mobile. Ensuring the UHF male connector is securely fitted onto your mount base or device/equipment will ensure strong connectivity for signal performance as well as ensuring your antenna system can withstand extreme conditions.

The UHF male connector at the base of the antenna is known as a PL-259 and required a SO-239 UHF female terminated device.

Antenna Tuning Guide

The M99U-400 is manufactured to arrive at the installation location capable of the lowest frequency capability, in this case 400 MHz, allowing you to tune your antenna (once installed in final location) to your required centre frequency.

Due to the helical construction and wide range of installation locations suitable for the M99U-400, no cutting guide can be supplied due to variances.

Ensure your antenna is mounting onto the mount base/equipment and in its final location for usage. Attach a network analyser or SiteMaster to your system (through mount base if fitted). Remove the top cap and begin to slowly trim the top of the helical whip. Between trims ensure to refit the cap as this will load the end of the antenna up, leading to slight down-tune variations.

Once your required frequency has been achieved ensure the cap is fitted. A very small amount of adhesive (Loctite 401 recommended) can be applied to the heatshrink/cap surface to ensure cap retention.

Disconnect your network analyser/SWR meter or SiteMaster and connect to your communications device, test performance through your device, if at acceptable/stated levels your tuning is complete.

Maintenance

The M99U-400 has been constructed for a low maintenance and long service life. ZCG recommends a yearly inspection of your entire antenna system to ensure no damage has occured that may lessen the performance or survivability of your system.

A check to ensure no dirt/debris has entered the UHF connection is recommended.

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