

# Installation Sheet

## TLA4100/4200

4G LTE Low Profile Transit Antenna  
698-960, 1710-2700 & 5700-5800 MHz  
GPS (for TLA4200)



The TLA4100/4200 Antenna is designed specifically for rail, light rail & bus applications and other similarly demanding transit or stationary applications.

The TLA4100/4200 can be installed with or without a ground plane. Maximum gain is achieved when a ground plane of greater than 1m<sup>2</sup> is used.



### Electrical

Model Number	Frequency	VSWR	Gain
TLA4100	698 -960 MHz 1710-2700 MHz 5700-5800 MHz	<2.5:1 – Full band on ground plane* <2.0:1 – 800-5800MHz off ground plane*	5dBi @ 698-960MHz 6dBi @ 1710-2170MHz 3dBi @ 2300-2700MHz 7dBi @ 5700-5800MHz
TLA4200	698-960 MHz 1710-2700 MHz 5700-5800 MHz GPS = 1575.42 MHz		

### Mechanical

Overall dimensions mm	100(W) x 200(L) x 90(H) includes gasket
Radome material	UV Stabilised Plastic Moulding
Mount	4 x M6 screws (not included)
Termination	Antenna Port = Fixed N female (TLA4100) GPS Port = Fixed TNC female (TLA4200)

## 1. Introduction

These instructions provide a guide to installing a TLA4100/TLA4200 on the roof of a vehicle.

## 2. Installation

The method of installation will depend on the type of roof (i.e. material, thickness etc.). It is recommended that this information is obtained from the vehicle builder prior to installation.

## 3. Roof Preparation

The area of the roof where the antenna is to be mounted should be free of paint, non-conductive surface treatment, dirt, corrosion, soot of any kind, oil or grease.

Determine the area where the antenna is to be mounted allowing suitable clearances, and ensuring the mounting area is flat. Ideally the antenna will be installed at the highest position on the roof structure with no obstructions at the same height for at least 1m around the antenna. The antenna is shaped with minimal wind loading in mind. Mount the antenna with the longest dimension of the antenna running parallel with the direction of travel of the vehicle.

## 4. Installation

### 4.1 Corrosion

The TLA4100 & TLA4200 are designed using materials and surface finishes that have been selected for their resistance to corrosion. However, the risk and severity of corrosion will depend on the composition of the mounting surface. Awareness of the roof material is critical to ensure that the likelihood of corrosion is mitigated.

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### Installation continued

In cases where the antenna is mounted in harsh environmental and industrial conditions, and in particular on a stainless steel surface, the risk of galvanic corrosion between the antenna base plate and roof is increased. In these instances we recommend:

- I. Application of an electrically conductive primer (commercial zinc spray) to the roof where the antenna is to be mounted
- II. Application of a suitable sealer:
  - around the antenna base plate & roof junction,
  - around the base plate & radome junction,
  - to fill the antenna mounting screw holes.

### 4.2 Mounting the Antenna

Use the Mounting Detail drawing as a guide (or the actual antenna base plate) to mark out the mounting hole positions for drilling. Ensure there are no obstructions inside the roof structure at the mounting position. Drill holes to accommodate M6 screws.

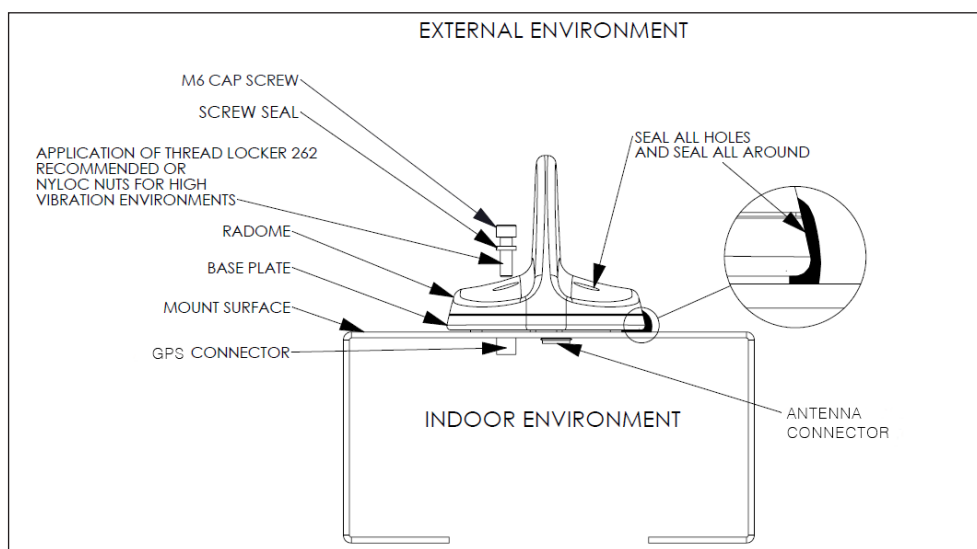
Use the Mounting Detail drawing as a guide (or the actual antenna base plate) to mark out the connector position(s) for drilling / cutting / punching. Ensure there are no obstructions inside the roof structure at the mounting position. Drill / cut / punch holes to accommodate the connector(s). Hole diameters shown on the Mounting detail drawing allow room for diameter of the mating connector(s). \*\*\*\*Only the TLA4200 requires a hole for the GPS connector.

**NOTE: To meet high voltage protection specifications for applications involving overhead wires, it is necessary to ensure electrically conductive contact between the base of the antenna and the conductive roof of the vehicle.**

### 4.3 Sealing

The TLA4100/TLA4200 incorporates a sealing gasket. The antenna needs to be mounted on a mechanically stable surface with good electrical contact between the antenna and the vehicle's roof. The antenna gasket also requires sufficient compression to ensure a weather proof seal.

In normal situations, we recommend sealing of the antenna base and mounting screw holes with an appropriate sealant. The sealant must be liberally applied all around the antenna. Refer to the installation diagram below:



### 5. Testing the Antenna

Using appropriate test equipment, check the VSWR.

### 6. Connection of GPS (TLA4200)

Connect to GPS receiver and test functionality (TLA4200).

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**NOT TO SCALE.**  
**IMPORTANT: THIS IS NOT A TEMPLATE FOR DRILLING.**

