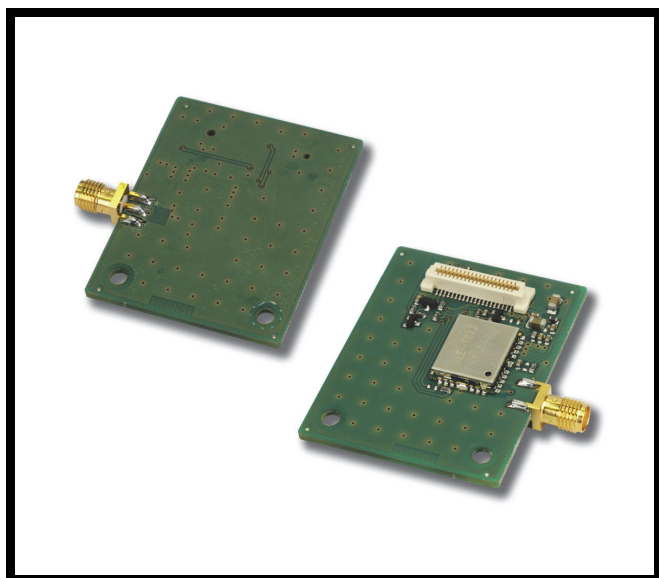
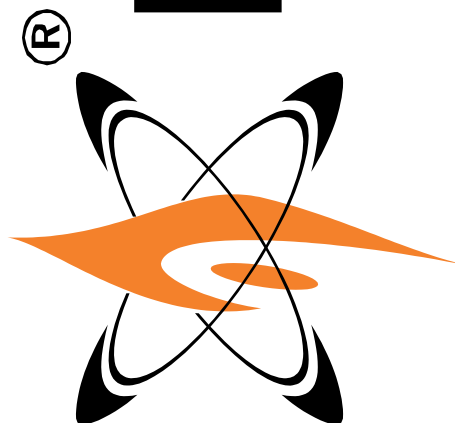


S.P.A.

ELMOS



CE



**GPS module for position management
arranged for use with indoor or outdoor
antenna**

**mod. MDGPSE
TECHNICAL MANUAL**

090020769

WARNING

FOR THE INSTALLER:

Please follow carefully the specifications relative to electric and security systems realization further to the manufacturer's prescriptions indicated in the manual provided.

Provide the user the necessary indication for use and system's limitations, specifying that there exist precise specifications and different safety performances levels that should be proportioned to the user needs. Have the user view the directions indicated in this document.

FOR THE USER:

Periodically check carefully the system functionality making sure all enabling and disabling operations were made correctly.

Have skilled personnel make the periodic system's maintenance. Contact the installer to verify correct system operation in case its conditions have changed (e.g.: variations in the areas to protect due to extension, change of the access modes, etc...)

.....

This device has been projected, assembled and tested with the maximum care, adopting control procedures in accordance with the laws in force. The full correspondence to the functional characteristics is given exclusively when it is used for the purpose it was projected for, which is as follows:

GPS module for position management arranged for use indoor or outdoor antenna

Any use outside of this area is not provided and it is not possible to guarantee its proper operation, and therefore it is expressly forbidden to the holder of this manual to use it for other reasons than those indicated.

The manufacturing process is carefully controlled to prevent defects and malfunctions; nevertheless the components used is subjected to faults extremely low percentage, as indeed it does for every other electronic or mechanical.

Given the target of this article (property and persons protection) invite the user to proportion the protection level offered by the system to the actual risk (considering the possibility that the system it is operating in degraded mode due to faults or other), reminding that there are clear rules for the design and construction of equipment to this type of application.

The system's operator is hereby advised to see regularly to the periodic maintenance of the system, at least in accordance with the provisions of current legislation, as well as to carry out checks on the correct running of said system on as regular a basis as the risk involved requires, with particular reference to the control unit, sensors, sounders, dialler(s) and any other device connected. The user must let the installer know how well the system seems to be operating, based on the results of periodic checks, without delay.

Design, installation and servicing of systems which include this product, should be made by skilled staff with the necessary knowledge to operate in safe conditions in order to prevent accidents. These systems' installation must be made in accordance with the laws in force. Some equipment's inner parts are connected to electric main and therefore electrocution may occur if servicing was made before switching off the main and emergency power. Some products incorporate rechargeable or non rechargeable batteries as emergency power supply. Their wrong connection may damage the product, properties and the operator's safety (burst and fire).

EU DECLARATION OF CONFORMITY

The product complies with current European EMC and LVD directives. The full text of the EU declaration of conformity is available at the following Internet address: elmospa.com – registration is quick and easy.



1. GENERALS

The MDGPSE module has been developed for VILLEGGIO control units and other compatible devices for the management and positioning communication for installation on vehicles. Take advantage of the signal, with the position data, provided by the worldwide network of satellites for civil use GPS service.

If it is installed with the MDGSMI or MDGSME module, the functions related to the GPS positioning include the GPS alarm generation when moved from a reference position, the position communication via SMS and a periodic automatic sent of this information.

2. FEATURES

2.1 General features

- Module for Villeggio applications (fw. 4.x or higher) or compatible device on vehicles such as campers or boats.
- Requires an external antenna installation, MDANT1 or MDANT2 used with the MDGSME module.
- In conjunction with the MDGSMI or MDGSME module allows to send SMS for:
 - displacement of the vehicle from the reference position,
 - Exceeding the speed limit,
 - Periodic sending of the geographical coordinates of the vehicle position,
 - Geographical coordinates of the vehicle position with links for navigation programs viewings.
- It can be programmed to carry out the position fix in 2D and 3D or automatic mode.

2.2 Electrical features

Model:	MDGPSE
Power supply:	DC12V.
Power consumption:	15mA medium, 28mA maximum.
Riceiver:	65 CH (51Ch for acquisition, 14 per tracking).
Sensibility:	-161dBm in tracking, -157dBm in re-acquisition, -148 dBm at the first powered.
Speed:	0.1 m/s.
Position accuracy:	2.5m CEP.
Module operating limits:	speed 515 m/s, acceleration < 4g, altitude 18Km.
Connection to the base board:	miniaturized multipolar connector.
Antenna:	<u>External not supplied</u> (eg. MDANT1 or MDANT2).
Installation:	plug with fixing clips into the connector in "A" position.
Dimensions:	W 50 x H 50 x D 9 mm.
Weight:	10 g.
Parts supplied:	Nylon clips for mounting kit with screw hex nuts and spacers, technical manual.
Option required:	MDANT1 or MDANT2 .
Certifications:	the module is an apparatus accessory with a CE certification.

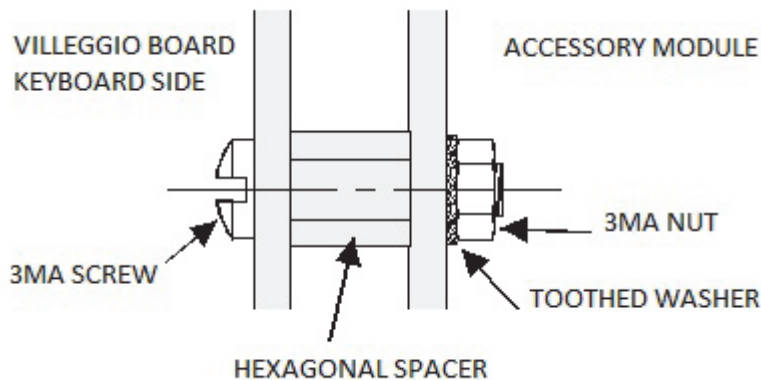


3. INSTALLATION

WARNING: the information regarding the module installation provide that the operator is already aware of the issues about the electronic boards manipulation and has taken all the precautions to eliminate the electrostatic charges effects. The operations must be carried out in potential free status. The MDANT2 external antenna connection can much more vehicular the atmospheric discharges effects and then the MDGPSE module must be considered as a wireless apparatus equipped with an external antenna. Arrange the antenna cable so as to prevent the rainwater infiltration, the minimum curvature radius shall be 50 mm.

To install the module comply with directions and general information contained in the manual of the VILLEGGIO control unit (**fw. 4.x or higher**) or compatible.

Note: Fix the accessory module with the kit with screws, hex nuts and spacers instead of the standard Nylon clips.



CAUTION: The 3MA nut must be tightened vigorously to ensure the tightness of the toothed washer.

Note: MDGPSE installed module in the VILLEGGIO control unit must be supported by 4.X firmware and appropriate software and registered by the installer menu.

For module programming is necessary to refer to the manual programming of the control unit with 4.x firmware or higher.

Note: In this manual we refer to the installing operations of the only MDGPSE module installation so that the installer must consult the MDGSME module technical manual.



3.1 Antenna installation

Before installation is necessary to decide the antenna model and its positioning on the vehicle.

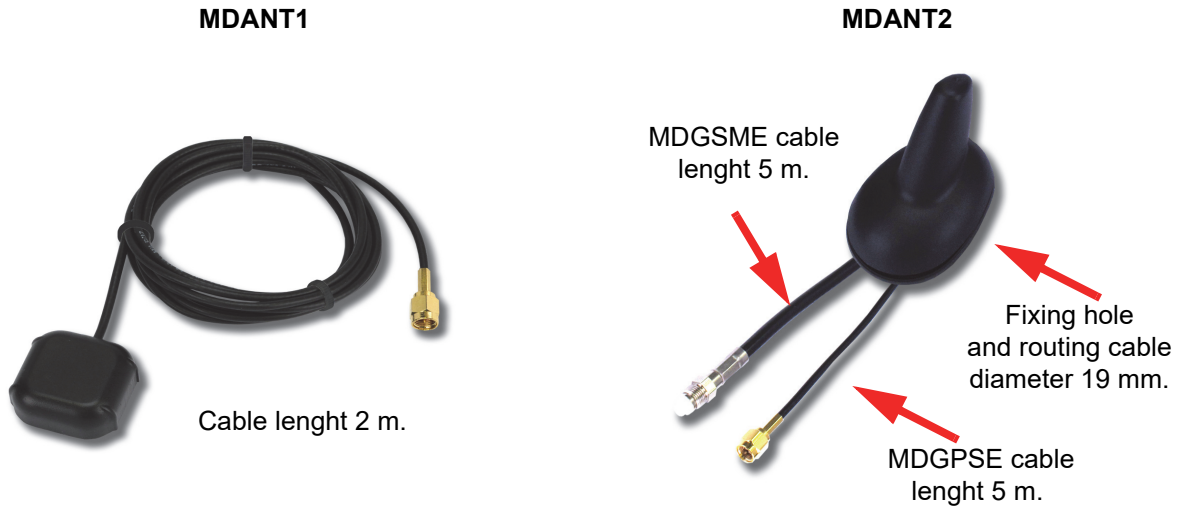
For its security use is possible to disassemble its presence using **MDANT1** module placed on a metal surface that may be protected by fiberglass parts of the vehicle.

The MDGSME module must therefore have its own separate antenna placed in a different position.

If you want to unify the antenna installation for the two modules is indicated the **MDANT2** module for roof mounting.

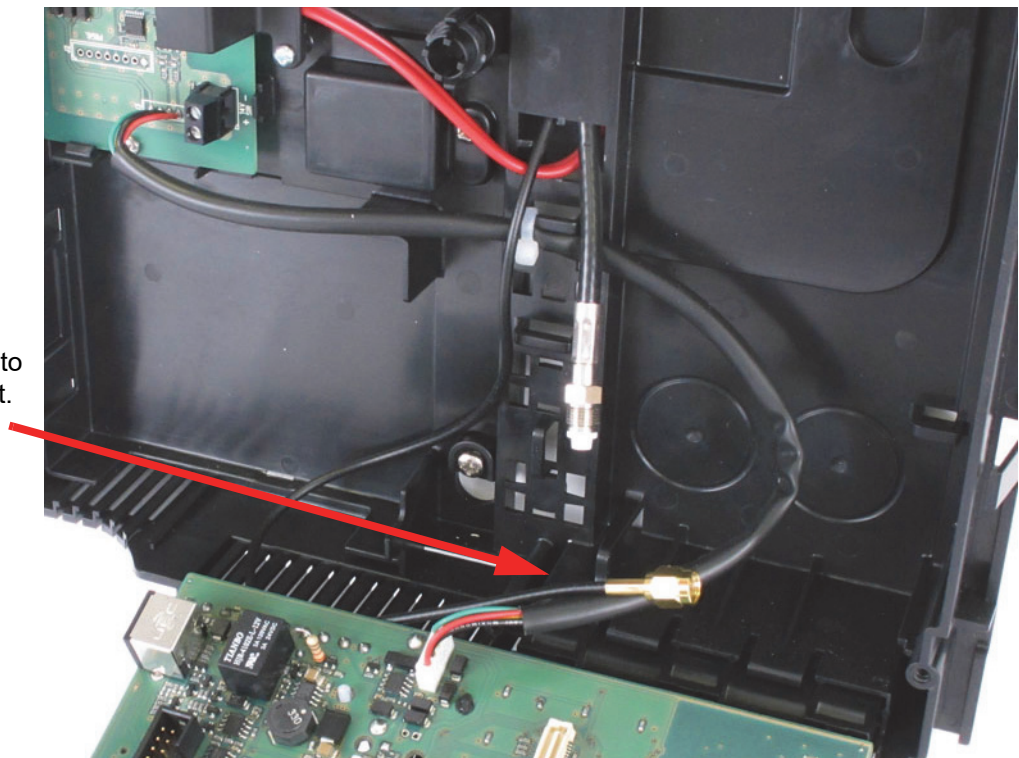
In both cases it is necessary to put in place all the typical attention for the antennas installation on a vehicle designed to prevent the entry of water in the vehicles, in case of mod. **MDANT2 will need to run a good mass contact with the metal surface.**

Use the length of the antennas supplied cables and not to proceed with their extension.



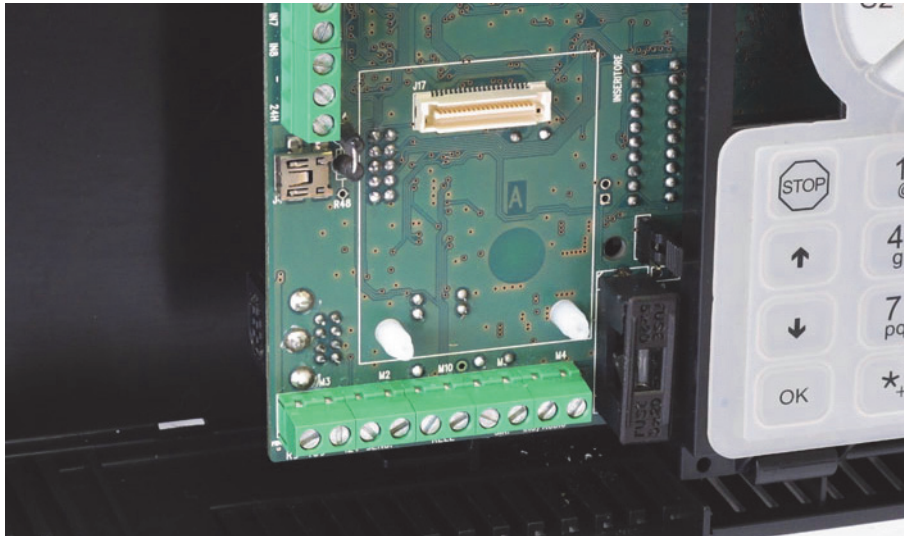
Now insert the free end of the cable / cables inside the case of the Villeggio control unit using rear preferential canalization.

Hold longer the MD-GPSE module cable to go on the board front.



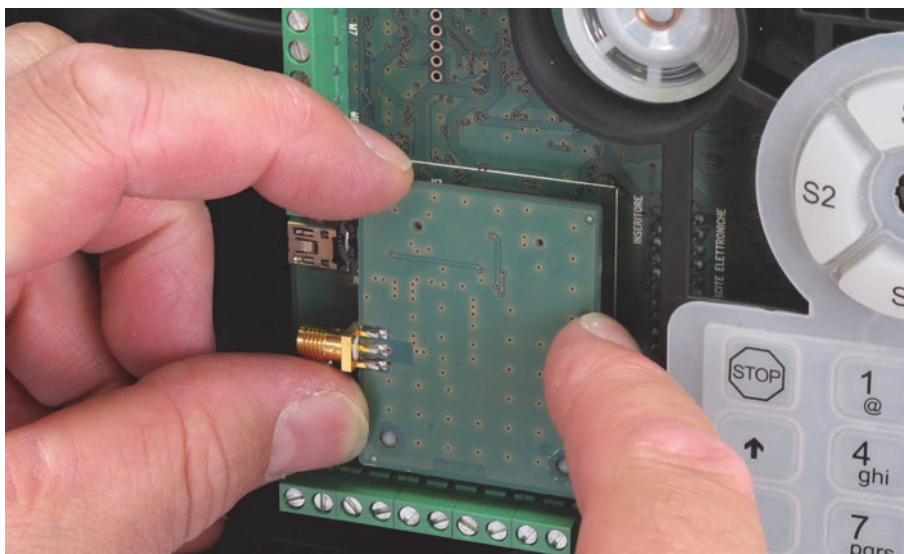
3.2 MDGPSEmodule installation

The MDGPSE module must be inserted **ONLY** into the connector marked with **A** on the printed circuit of the card base and the image below.

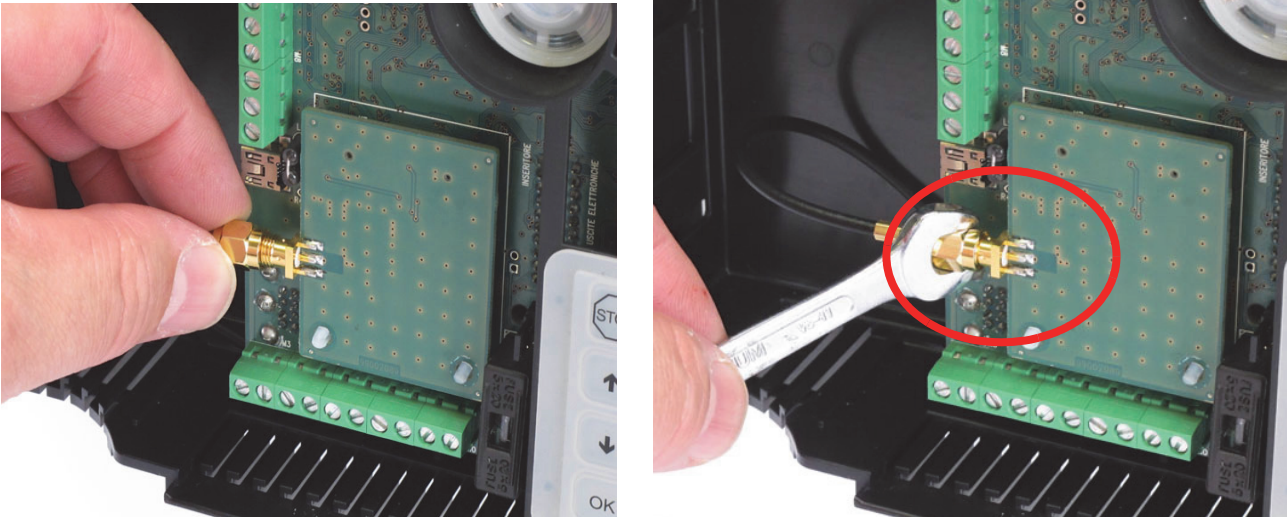


To do this, you must use two NYLON spacers, supplied with the module, or use the kit with screws, hex nuts and spacers as shown above.

Take the MDGPSE module, position it as in the following image, aligning the holes with the spacers of the base and the two connectors.



Take the gold connector of the antenna cable and insert it gently, finger-tighten as much as possible, then take a key 8 and end to fix it.



CAUTION: do not exaggerate in connector fixing to not ruin the solder points on the printed circuit of the MDGPSE module.

CAUTION: Do not powered the control unit equipped with the MDGPSE module with the antenna cable in short-circuited. The module provides the antenna voltage that is amplified and could be damaged.

Now proceed to the installation of any other modules required by following the information contained in the attached technical manuals, proceed to the proper powered of the plant according to the programming and operational requirements.

Proceed now with the installation of the other required modules according to their manuals; properly supply power to the control unit and program it according to the operating requirements.

4. DISPOSAL INSTRUCTION

Dispose of MDGPSE in accordance with current city regulations and by leaving the device in a dumping ground which is authorized for the disposal of electronic products; if required, please contact the appropriate city office for additional information.

The material used for this product is very harmful and polluting if dispersed in the environment.

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Products description as describe above do not bind the manufacturer and may be altered without prior notice.

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