



TheNODE – Quick Start Guide

1. Introduction

TheNODE comes in 3 variants:

- TheNODE – standard version
- TheNODE LCD – with LCD screen
- TheNODE IO – with IO ports

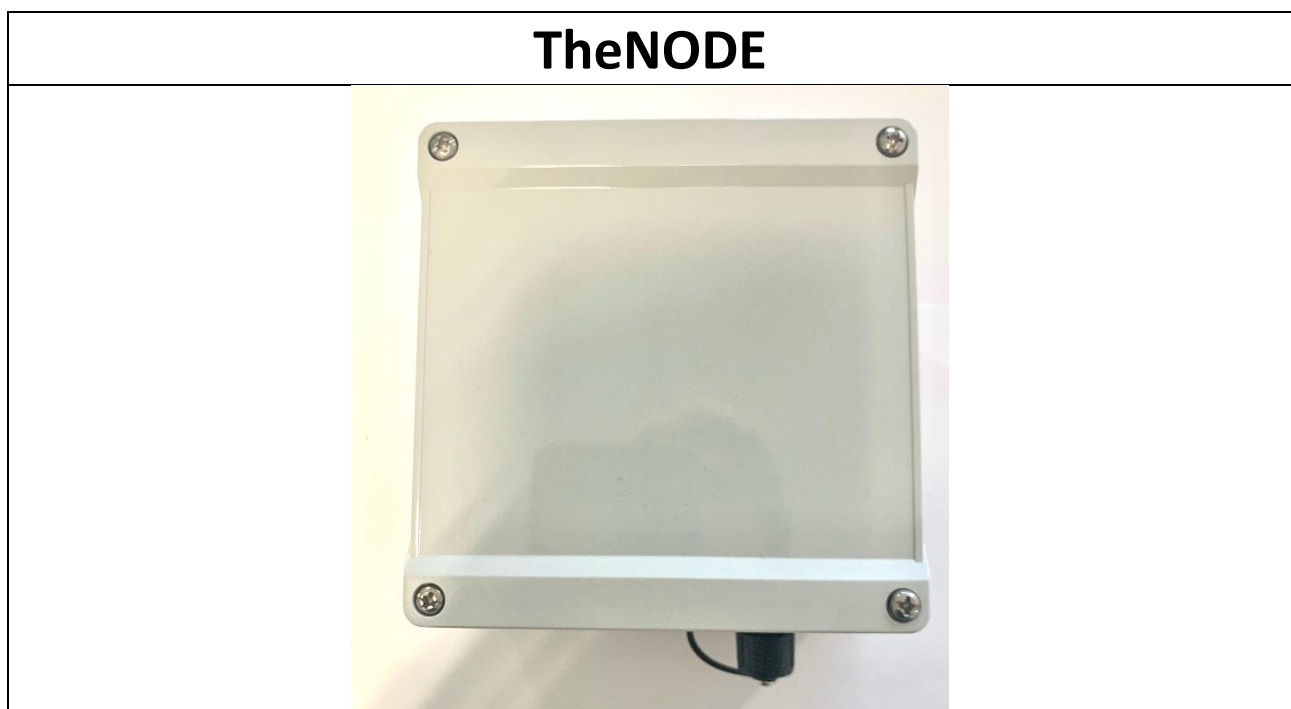
All variants have the same mechanical and basic electronic configuration

COMMON FEATURES	
Dimensions	120x120x60mm
Net Weight	350 g
Power Supply	5 – 36 Vdc, 7 W
Battery	Rechargeable battery: 3.6 Vdc, 3350 mAh
Radio Interface	GPS, 2G/LTE
Integrated Radio Module	2G / LTE: Quectel, BG95-M3 GPS: Quectel, L76
RF power	2G: 2 W (33 dBm $\pm$ 2dB) – Class 4 @ GSM 900 1 W (30 dBm $\pm$ 2dB) – Class 1 @ DCS 1800 0.5 W (27 dBm $\pm$ 3 dB) – Class E2 @ EDGE 900 0.4 W (26 dBm $\pm$ 3/-4 dB) – Class E2 @ EDGE 1800 LTE: 0.2 W (23 dBm $\pm$ 2,7 dB) – Class 3 @ E-UTRA LTE
Operating band	<u>EUROPE</u> 2G: E-GSM 900 (B8), DCS 1800 (B3) LTE: E-UTRA LTE FDD 1800 (B3) / 900 (B8) / 800 (B20) GPS: GPS/Galileo: 1559 $\div$ 1610 MHz GPS L1: 1575.42 MHz Galileo E1: 1575.42 MHz Glonass: 1592.9525 $\div$ 1610.485 MHz Glonass G1: 1602 MHz + (n * 0.5625 MHz, n = 7, -6, -5, ..., 0, ..., 6) <u>USA/CANADA</u> GSM 1900 LTE B2, B4, B12
Antenna	2G /LTE: Chip Antenna Antenova, model SR4L034L GPS: Chip Antenna Antenova, model M20047-1



TheNODE LCD	
Display	LCD Screen 128x64
Other UI	RGB Led / Single Button

TheNODE IO	
IO	2 Digital Inputs



TheNODE - LCD



TheNODE - IO



1. Startup

TheNode comes already pre-configured and now specific configuration is needed.

The device arrives with batteries disconnected, so it is necessary to open the case and connect the battery cable.





The TheNODE LCD versions has also a button present on the top panel, which has to be pressed to power up the device.



For this version please follow the attached document LCD Screen Description with the explanations of the functions displayed.

2. Power Supply

TheNODE comes with rechargeable batteries that are fully charged and ready for operation.

There is a 2 pin power supply connector and that needs to be attached to DC supply for charging the device.



TheNODE IO version has a 8 pin connector which includes the power supply, see image to identify plus and minus terminal.



For all version the power supply must be: 5 – 36 DC 0.5A.

3. Installation

The device is to be used as a standalone device with no fixed installation. In case a fixed installation is needed it is possible only using the approved mounting foot kit 1554FT from Hammond Manufacturing (<https://www.hammg.com/part/1554FT>).



4. Maintenance

No regular maintenance is necessary for the device.

In any case of malfunctioning please return the device and do not attempt to fix it.

5. Antennas

The Antennas supplied with the device are:

- GSM/LTE: Antenna SR4L034-L

Frequency Band	Antenna Gain
GSM 1900	3.5 dBi
LTE B2	3.5 dBi
TE B4	3.5 dBi
LTE B12	0.4 dBi

- GPS: Antenna M20047-1 (gain 18.5 dB)



6. RF Radiation Exposure statement

This product complies with FCC and ISED radiation exposure limits set forth for an uncontrolled environment. The antenna should be installed and operated with minimum distance of 20 cm between the radiator and your body.

Cet appareil est conforme aux limites d'exposition aux rayonnements de l'ISED pour un environnement non contrôlé. L'antenne doit être installée de façon à garder une distance minimale de 20 centimètres entre la source de rayonnements et votre corps.

7. Warnings

Particular attention is only required when attaching the device to an external power supply, that has to be plugged respecting the polarity of the pinout and has to have the correct voltage as specified in the introduction.

TheNODE and TheNODE IO is supplied in a IP65 casing and cannot be used underwater.

TheNODE – LCD variant is only IP55 and thus particular attention has to be used if installed outdoors under direct rain.

FCC and ISED COMPLIANCE

Contains FCC ID: 2AXU7-THENODE

Contains IC: 26592-THENODE

FCC compliance

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité peuvent annuler le droit de l'utilisateur à utiliser l'équipement.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Cet appareil est conforme à la partie 15 des règlements de la FCC. L'utilisation est soumise aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Remarque: Cet équipement a été testé et déclaré conforme aux limites d'un appareil numérique de classe B, conformément à la partie 15 des règlements de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Ce produit génère, utilise et peut émettre des ondes radio qui peuvent causer des interférences nuisibles s'il n'est pas installé et utilisé conformément aux instructions. Si néanmoins ce produit cause des interférences nuisibles à la réception de la radio ou de la télévision, ce qui peut être déterminé en éteignant et en rallumant l'appareil, l'utilisateur est encouragé à essayer de corriger l'interférence par une ou plusieurs des mesures suivantes:

- Réorienter ou déplacer l'antenne de réception
- Augmenter la distance entre le produit et le récepteur
- Brancher l'appareil sur une prise de courant différente de celle à laquelle le récepteur est raccordé
- Consulter le revendeur ou un technicien radio/TV expérimenté pour obtenir de l'aide.



ISED compliance

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed above, with the maximum permissible gain indicated.

L'émetteur/recepteur exempt de licence contenu dans le present appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) L'appareil ne doit pas produire de brouillage; (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Le présent émetteur radio a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antennes énumérés ci-dessus et ayant un gain admissible maximal.

ICES-003 Class B Notice -Avis NMB-003 Classe B:

This Class B digital device complies with Canadian ICES-003

Cet appareil numérique classe B est conforme à la norme Canadien NMB-003.

CAN ICES-3(B) / NMB-3(B)



Responsible party's contact located in Canada:

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The disposal of the product at the end of its life must take place in a special ecological area, in compliance with local regulations.