nexxiot Globehopper 3 Tank Container

nexxiot Globehopper 3 Tank Container User Manual

Contents

nexxiot Globehopper 3 Tank Container

Revision History

Version	Author	Publishing date	Reason of the change
1.1	Florencia Roshardt	2022-05-03	Certificates updated
1.0	Kuno Bartschi	2021-11-18	nitial Release

Technical Data

- Product Globehopper Crossmodal 3 Ex
- ID AX.3A
- Physical Size 360 mm x 111 mm x 53 mm
- Weight 2.55 kg
- Mounting hole spacing 330 mm
- Environmental
- Operating temperature (EN 50155, Class TX) 35°C +50°C; Electronics operational up to +85°C
- ATEX ambient temperature (EN 60079-0) -40°C +60°C
- Altitude 2000 m / 6562 feet
- Ingress Protection IP66/IP67, IPx9k
- Energy Battery type NiMH
- Nominal battery voltage 2.4 V
- Battery capacity 38.4 Wh
- Energy harvesting source Solar panel
- Primary Battery None
- Shock detection ± 16 g
- GNSS Supported networks GPS/QZSS, GLONASS, Galileo, BeiDou
  No. of channels 72
- Cellular Frequency bands 4G (NB-IoT, Cat-M1) Bands; 2, 3, 4, 5, 8, 12, 13, 20, 26, 28 2G (GSM) 850/900/1800/1900 MHz
- IEEE 802.15.4 Frequency range 2405 MHz 2480 MHz
- Bluetooth Low Energy 5.1 ISM Band (2.402 GHz 2.480 GHz)
- NFC ISO 15693, 13.56 MHz Passive, connected to microcontroller

- ITSS Interface 2 ready
- Lifetime Maintenance free 6 to 10 years depending on environmental conditions and use of device

Certifications

Environment:

- RoHS
- WEEE
- IEC 61373 Category 1, Class A (Vibrations and shocks for rail) IEC 60529 (IP66/IP67)
- ISO 20653 (IPx9k)
- EN 50155
- EN 50125-1
- Product Safety:
- IEC 62368-1
- EN 45545-2
- IEC 62133-1
- NOM: NOM-001-SCFI-2018

Radio Equipment and EMC:

- Directive 2014/53/EU
- EN 301 489
- EN 50121-3-2
- EN 301 908-1
- EN 301 511
- EN 300 328
- EN 300 330
- EN 303 413
- EN 62311

ATEX and IECEx:

- ATEX Certificate Number EPT 20 ATEX 4088 IECEx Certificate Number EUT 20.0026 Directive 2014/34/EU
- EN 60079-0 and IEC 60079-0
- EN 60079-11 and IEC 60079-11
- II 2 GD
- Ex ib IIC T4 Gb
- Ex ib IIIC T135°C Db

Normal Location:

- UL 62328-1
- CSA C22.2 No. 62368-1

HazLoc:

- MET Laboratories, Inc. Listing Number: E114777 ANSI/UL 60079-0
- ANSI/UL 60079-11
- Class I, Zone 1, AEx ib IIC T4 Gb
- Class II, Zone 21, AEx ib IIIC T135°C Db
- Class I, II, III, Division 2, Groups A, B, C, D, F, G, T4
- CAN/CSA C22.2 No. 60079-0
- CAN/CSA C22.2 No. 60079-11
- Ex ib IIC T4 Gb
- Ex ib IIIC T135°C Db

FCC STATEMENT

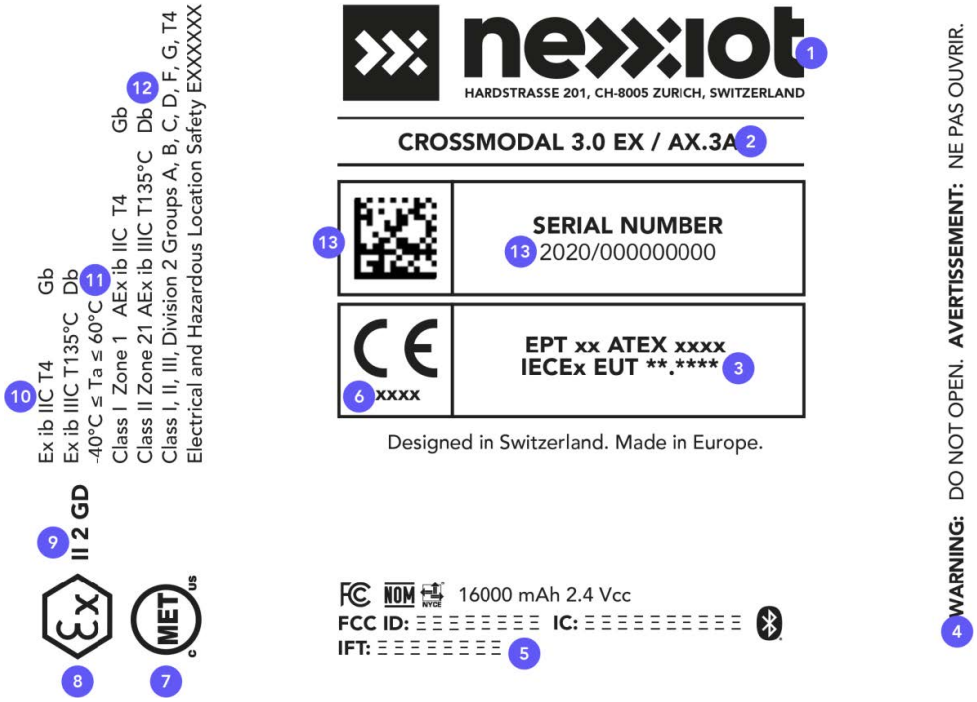
FCC ID: 2AXRX-AX3A IC: 26682-AX3A
IFT: RTIMOM717-0893

Product Information

Safety Notice

1. Do not drop the device.
2. Do not open the device.
3. Do not expose device to conditions other than those in chapter Technical Data .
4. WARNING: Device contains a NiMH. Danger of fire if punctured, crushed or otherwise forcefully damaged, exposed to heat above the values given in the chapter Technical Data .

Device Identification



Explanation of the label elements:

1. Nexxiot Logo and address
2. Device identification Crossmodal Version 3.0, certified for use in hazardous locations
3. Certificate number issued by the notified body involved in the verification of the annex III of the directive 2014/34/EU
4. English warning and French warning to not open the device
5. Device Identifiers for North American certification
    - Logo of Federal Communications Commission (FCC)
    - Norma Oficial Mexicana (NOM) and Normalización y Certificación (NYCE) logo with product ratings
    - FCC identifier (ID)
    - IFT ID for products approved under the Instituto Federal de Telecomunicaciones (IFT) Scheme
    - IC indicates that this is an Innovation, Science and Economic Development Canada (ISED) certification number
    - Bluetooth brand logo
6. CE marking together with the registered number of the Notified Body involved in the verification of the product
    - MET Laboratories, Inc. logo for Canada (C) and United States (US)
7. Specific symbol of ATEX directive 2014/34/EU, given in the annex II of the directive
8. Group and Category of the equipment
9. II: group of equipment. Group II refers to equipment not used in mining.
    - 2 GD: In presence of potentially explosive atmospheres of gas (G) and/or dust (D) the category 2 is suitable to be installed in zone 1 and/or zone 21; the process connection of the equipment is suitable to be installed in zone 1
10. ATEX Classification of the device within specific areas
    - Ex ib: this type of protection is applicable to electrical equipment in which the electrical circuits themselves are incapable of causing an explosion in the surrounding explosive atmospheres
    - IIC: Group of gas for which the equipment is suitable
    - IIIC: Group of dust for which the equipment is suitable
    - T4: temperature class for gas
    - T135°C temperature class for dust
    - Gb: equipment protection level, equipment for explosive gas atmospheres, having a “high” level of protection
    - Db: equipment protection level, equipment for explosive dust atmospheres, having a “high” level of protection
11. Temperature range -40°C ≤ Ta ≤ + 60°C: Ambient temperature for safe operation of the device according to ATEX
12. HazLoc classification of the device within specific areas
    - AEx ib: this type of protection is applicable to electrical equipment in which the electrical circuits themselves are incapable of causing an explosion in the surrounding explosive atmospheres
    - IIC: group of gas for which the equipment is suitable within Class I, Zone 1
    - IIIC: group of dust for which the equipment is suitable within Class II, Zone 21
    - T4: temperature class for gas
    - T135°C temperature class for dust
    - Gb: equipment protection level, equipment for explosive gas atmospheres, having a “high” level of

protection

- Db: equipment protection level, equipment for explosive dust atmospheres, having a “high” level of protection
- Hazloc class and division classification
    1. Class I, Division 2: Incendive concentrations of inflammable gases, vapors or liquids do not usually occur under normal operating conditions.
    2. Class II, Division 2: Incendive concentrations of combustible dust do not usually occur under normal operating conditions
    3. Class III, Division 2: Areas in which readily flammable fibers are stored or transported.
- Group A: Acetylene
- Group B: Hydrogen
- Group C: Ethylene
- Group D: Propane
- Group F: Coal
- Group G: Grain
- Temperature code T4: 135°C, 275°F
- Electrical and Hazardous Location Safety together with MET Laboratories, Inc. certification number

13. Serial number of the device as human-readable text and coded into data matrix, consisting of the manufacturing year and the serial number of the device

Functional Description

The Globehopper Crossmodal 3 Ex / AX.3A is a smart device for industrial asset monitoring and tracking. It is power independent with a rechargeable battery and a solar panel and it remains active for the lifetime of the asset it is attached to (6-10 years depending on conditions). It is intended to monitor railway wagons, containers, trucks, trailers, crates or other similar objects. Do not use this device for any other purposes. Nexxiot AG is not liable for any damage to property or personal injury that result from unintended use.

Installation Instructions

It is not permitted to perform an installation of the Globehopper Crossmodal device inside a hazardous area. If the installation of the Nexxiot device is performed outside of a Hazardous area, then there are no special safety considerations or precautions required.

- Before the device is mounted at the desired location, make sure the following conditions are met:
- Make sure, drilling holes in the chosen mounting location do not weaken the mechanical structure of the asset. In case of uncertainties, get in touch with the manufacturer of the asset to define appropriate mounting locations
- Make sure, drilling holes in the chosen mounting location does not puncture the asset s cargo holding area in an unwanted area. Special care must be taken for any kind of tank wagons and bulk goods wagons
- Make sure, drilling does not puncture any electrical, hydraulic or air tubes or lines or functionally vital installations on the asset. Such installations can be installed intentionally on the rear side of structural beams to protect them against damage

Wear the necessary personal safety gear during the whole installation to avoid any injuries.

Maintenance Instructions

While the operation of this device is maintenance-free, it is the responsibility of the customer to ensure maintenance operations according to IEC 60079-17. It is not possible to replace the battery.

Cleaning
For best performance, please clean the solar panel on every service interval of your asset. The cleaning of Globehopper Crossmodal device can be performed both inside and outside of a hazardous area. To avoid scratching the solar panel and degrading its performance, it is recommended to wash the device with a sponge or cloth, using water and soap, suitable for Polycarbonate surfaces.

Device replacement Instructions
Remove the old device from your asset by counterboring the rivets and using the App to initiate the unpairing process. Then, install the new device to your asset and use the Smartphone App to connect the new device to your asset.

Decommissioning an Old Device
Devices taken out of service must be sent back to Nexxiot AG. Please consult our website for the shipping address. Nexxiot AG will take care of proper recycling.

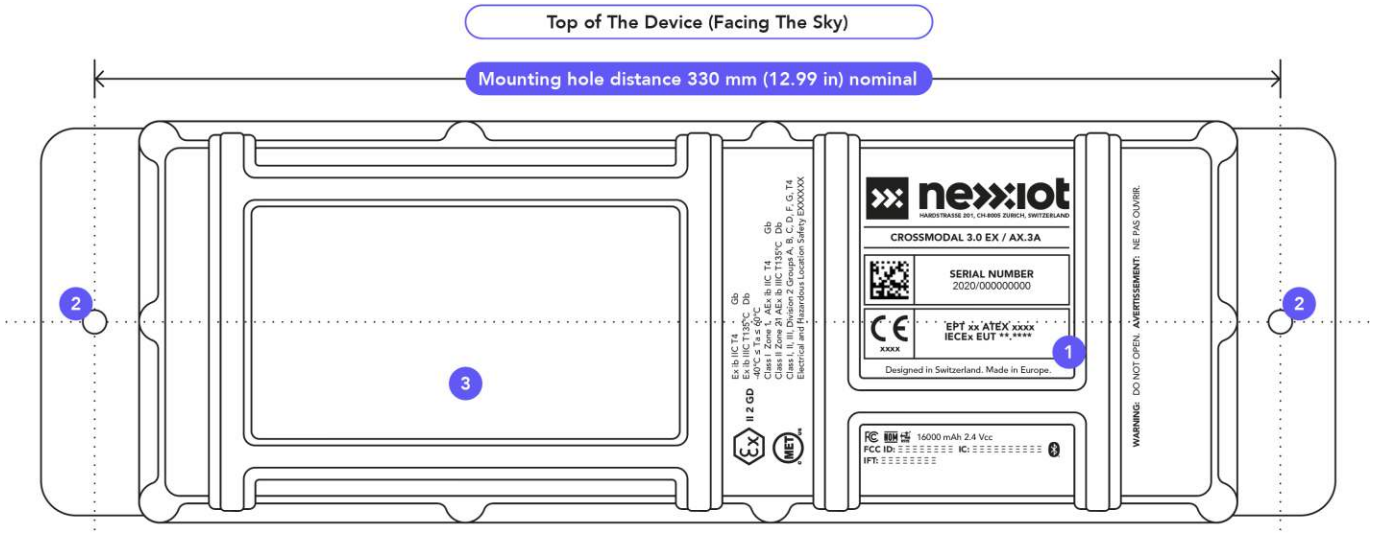
Installation and Mounting Guide

Recommended Installation Equipment (The equipment is not provided together with the Globehopper Crossmodal when delivered):

- Drill with 6.5 mm drill bit
- Riveting machine (Rivdom Two2)
- 2 pcs. 6.4 mm (1/4 inch) rivets Monobolt 02711-00824; 316 grade/A4

Installation of the device must only be done by appropriately qualified personnel and must be carried out according to IEC 60079-14.

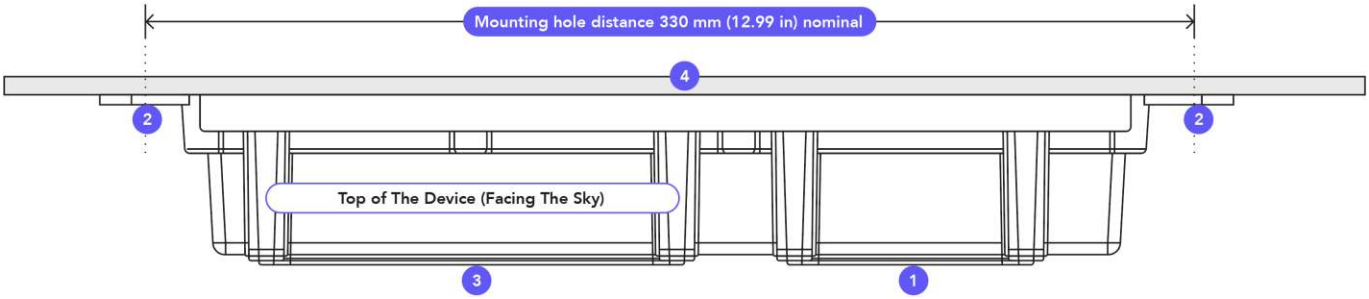
Device Outline and Mounting
The following sketches depicts the device outline dimension when choosing an appropriate mounting location. For detailed dimensions of the device, please refer to chapter 6 Device Overview Drawing on page 19.



Explanation of the table elements:

1. Device Label
2. Mounting Hole
3. Solar Panel

The device must be mounted onto a flat surface. The back of the device must be fully covered by the structure, to make sure the back of the device is protected against jet water washing. See top view of the installed device as shown below.



Explanation of the table elements:

1. Device Label
2. Mounting Hole
3. Solar Panel
4. Railway wagon Chassis

Installation steps:

1. Take the equipment and the Globehopper Crossmodal to the place of installation.
2. To avoid mistakes, the Globehopper Crossmodal needs to be fixed to the asset in a sequential order, which means it might be necessary for the assembly operator to get to the other side of the asset.
3. Determine the installation position for the Globehopper Crossmodal based on the mounting guidelines (see below)
4. Hold the Globehopper Crossmodal to the asset and drill two holes (6.5 mm diameter). Use the mounting holes of the Globehopper Crossmodal as stencil to mark the drill positions. Do NOT use the Globehopper

Crossmodal as a drill stencil as this damages the enclosure.

5. Fix the Globehopper Crossmodal onto the asset with two 6.4 mm blind rivets using a riveting machine. The Globehopper Crossmodal always needs to be mounted so that the solar panel is on the left-hand side of the device when viewed from the front.
6. Carry out the pairing of the Globehopper Crossmodal, using the mobile app as described in the Mobile App User Manual.

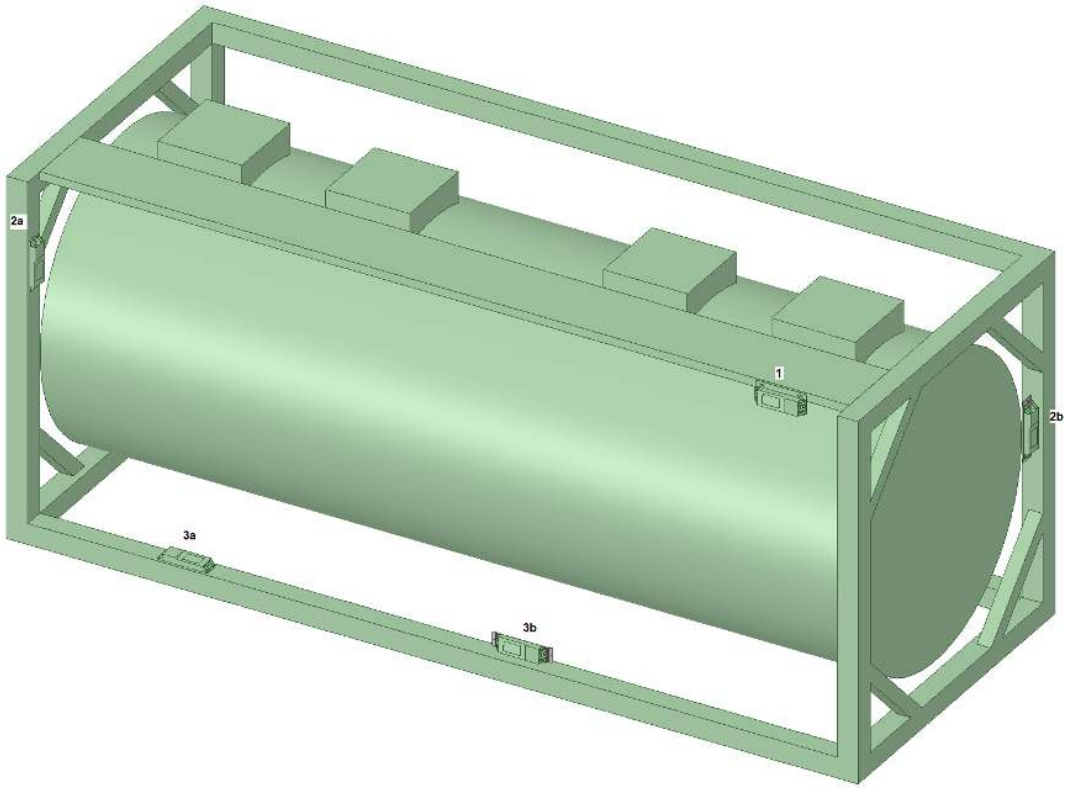
Safety Notice

The total thickness of the Globehopper Crossmodal mounting holes and the material thickness of the mounting location must not exceed the maximum allowed material thickness for a reliable riveting according to the datasheet of the manufacturer of the rivet. In situations where this cannot be met, please get in contact with Nexxiot AG for mounting accessories.

Mounting Guidelines

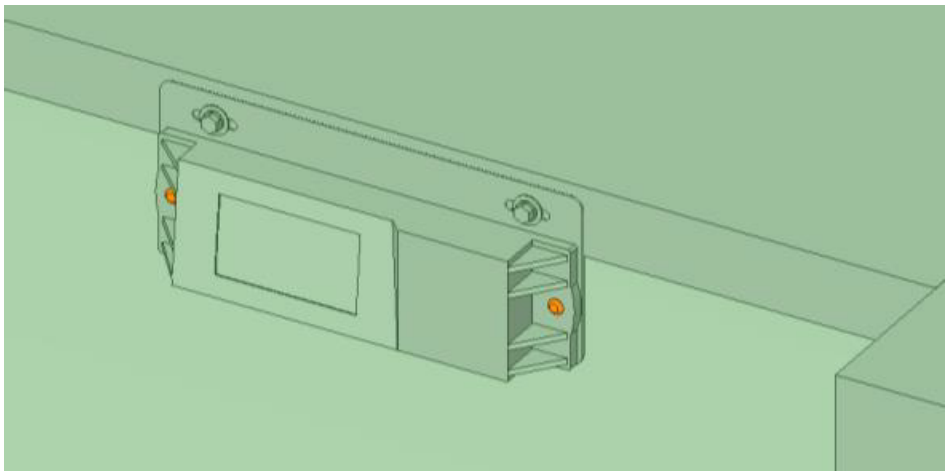
See the following reference images for recommendations for mounting the Globehopper Crossmodal in different configurations. Please check with the manufacturer of the specific asset type onto which the Globehopper Crossmodal 2.0 is to be mounted to get approval for the chosen mounting location.

Mounting positions overview

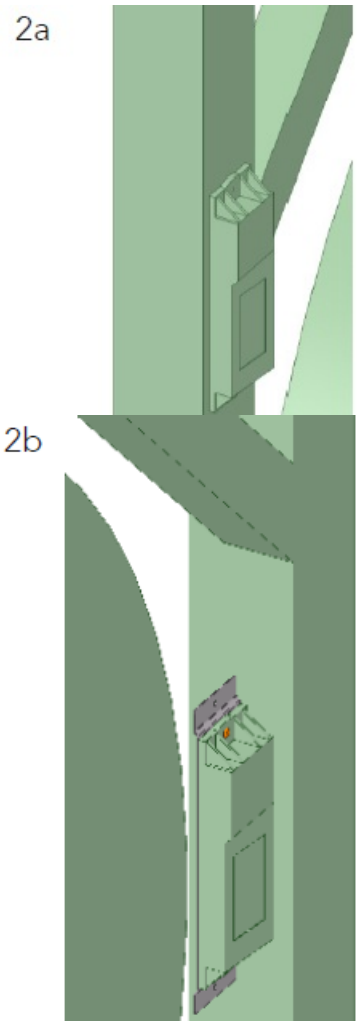


Mounting positions details:

1. If there is a walkway on top of the Tank Container mounting is done using mounting plate variant B (Globehopper Crossmodal riveted to the mounting plate. Mounting plate is either riveted, screwed or welded to the walkway) Globehopper Crossmodal directly mounted to the vertical beam by either using rivets or screws. Attention: make sure drilling is allowed in the vertical beam.

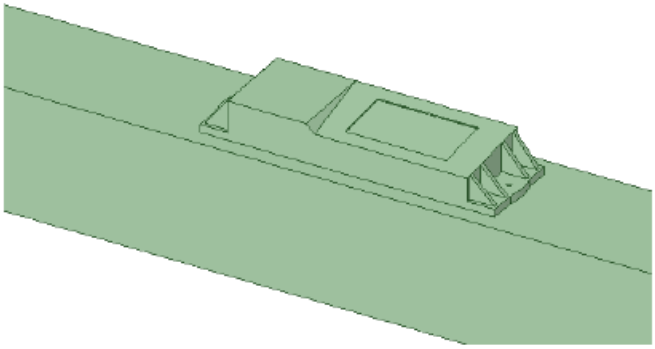


2. If drilling is not possible on the vertical beam the mounting plate variant A can be welded to the vertical beam and the Globehopper Crossmodal is riveted to the mounting plate. Attention: Mounting plate needs to be welded before the Globehopper Crossmodal is mounted.



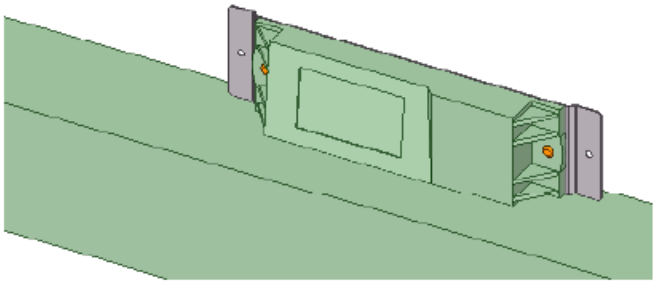
3. Globehopper Crossmodal directly mounted to the lower horizontal beam by either using rivets or screws. Attention: make sure drilling is allowed in the lower horizontal beam.
    -

3a



If drilling is not possible on the lower horizontal beam the mounting plate variant A can be welded to the lower horizontal beam and the Globehopper Crossmodal is riveted to the mounting plate. Attention: Mounting plate needs to be welded before the Globehopper Crossmodal is mounted.

3b

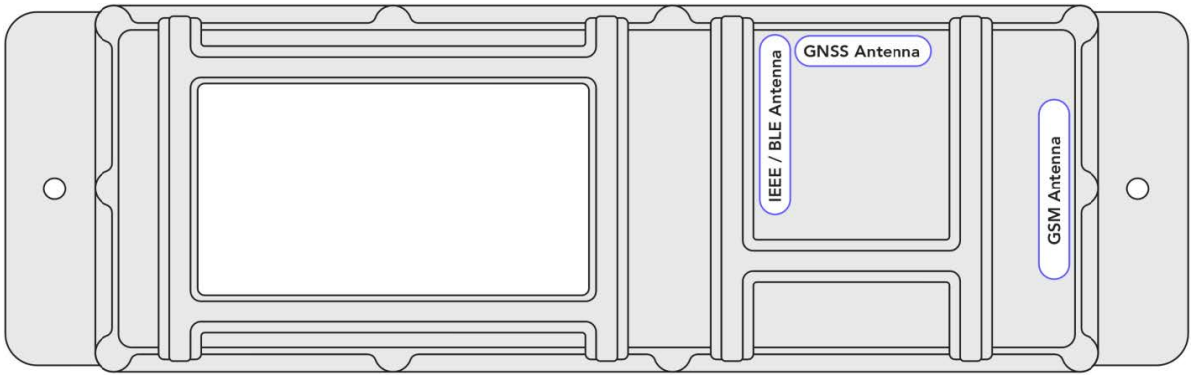


General Recommendations about Globehopper Crossmodal Performance
The installation location of the Globehopper Crossmodal is very important for achieving the best performance. The GNSS signal is very sensitive with regards to steel obstructions; therefore, the mounting position should be chosen so that the Globehopper Crossmodal is not affected by such obstructions. GNSS satellites are circling the earth in an orbit of about 20’000 km and their signal needs to be able to reach the Globehopper Crossmodal. Every obstacle will make it harder for the signal to reach the device. Therefore, these rules should be applied to find the optimal mounting location:

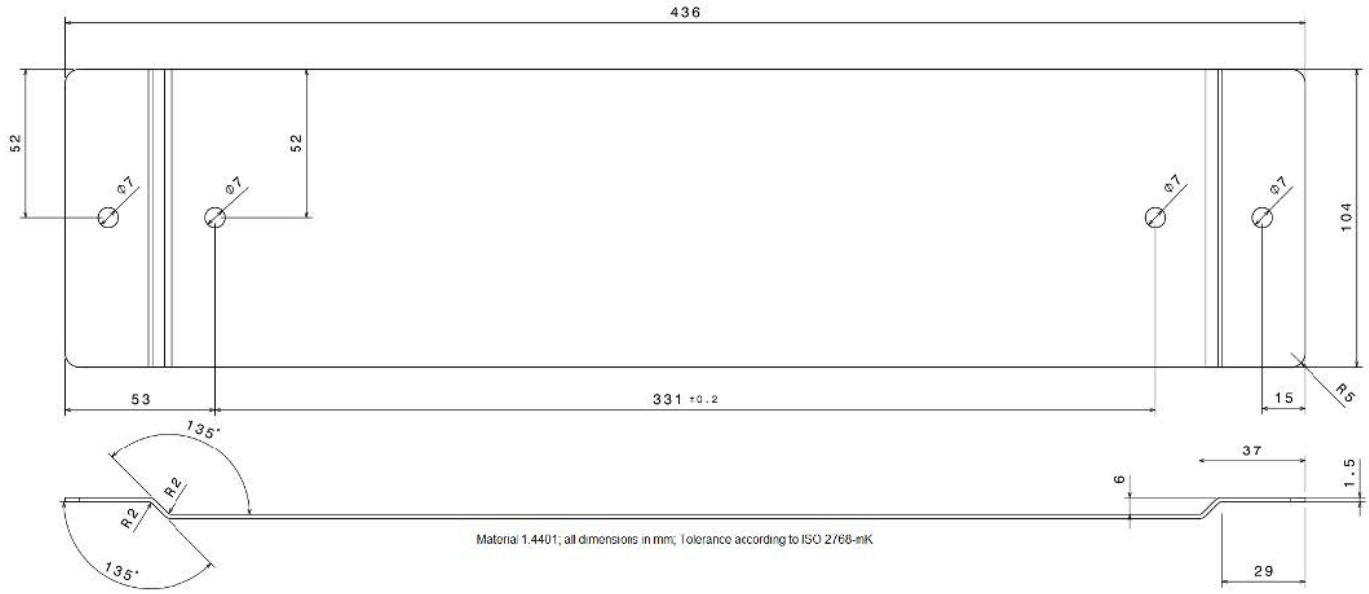
- Try to avoid overhanging steel structures above or below the Globehopper Crossmodal whenever possible. The top plate of the Globehopper Crossmodal should have an unobstructed view of the sky • Try to avoid overhanging structures in general
- Choose a place with as much sunlight as possible and avoid locations where spillage is possible

Examples of unfavorable installation locations:

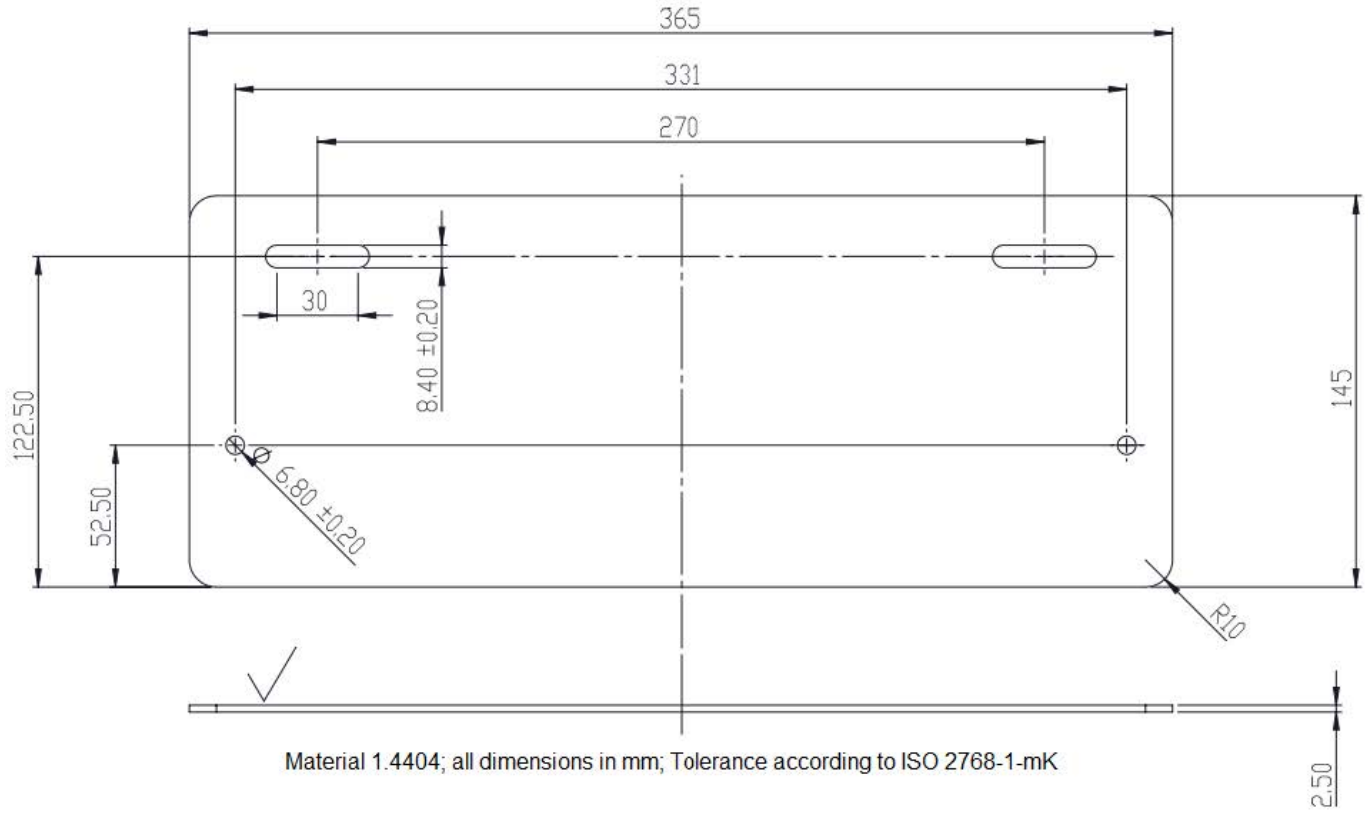
- Shady, almost impossible to receive direct sunlight
- Surrounded by steel, metal or other obstructions, e.g. inside I-Beams
  Attention: for any chosen installation location, make sure the solar panel is facing outwards, not against the tank itself and the antennas (depicted below) have a clear unobstructed view, facing outwards.

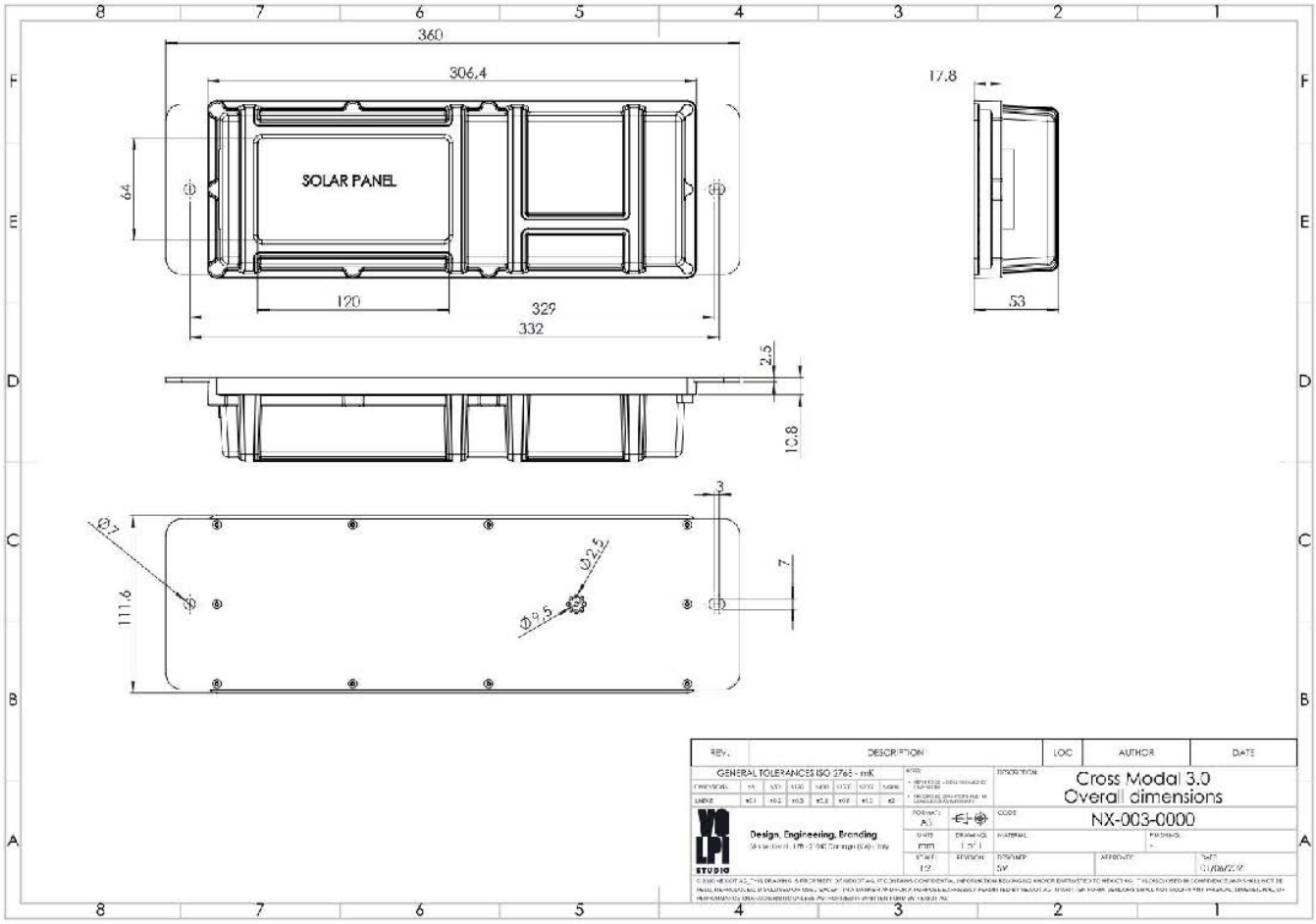


Available mounting plate variant A:



Available mounting plate variant B:





Appendix Certifications and Declarations

nexxiot
the source of flow

1902 Globehopper Crossmodal 3.0
EU DECLARATION OF CONFORMITY

Product model:
Globehopper Crossmodal 3.0 Ex / AX.3A

Name and address of the manufacturer:
Nexxiot AG
Hardstrasse 201
8005 Zürich, Switzerland

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration:
The Nexxiot Globehopper Crossmodal 3.0 Ex is a tracking device.

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

Equipment for explosive atmospheres (ATEX): Directive 2014/34/EU

Radio equipment (RED): Directive 2014/53/EU

Restriction of the use of certain hazardous substances (RoHS): Directive 2011/65/EU and Directive 2015/863 (RoHS 3)

References to the relevant harmonized standards to which conformity is declared:

EN IEC 60079-0: 2018	**EN 60079-11: 2012**	
EN 301 908-1: V13.1.1	**EN 301 511: V12.5.1**	**EN 301 489-1: V2.2.3**
EN 300 328: V2.2.2	**EN 300 330: V2.1.1**	**EN 50121-3-2: 2016**
EN 303 413: V1.1.1		

The notified body **Eurofins Product Testing Italy S.r.l,** notified body number **0477,** performed the **ATEX EU-Type Examination** and issued the certificate: **EPT 20 ATEX 4088**.

Signed for and on behalf of:
Nexxiot AG
Zürich, January 14, 2021

Stefan Kaufmund (CEO)

CE

Hardstrasse 201
8005 Zürich, Switzerland
Telephone: +41 44 275 51 51
Email: info@nexxiot.com
www.nexxiot.com

eurofins | Product Testing

[1] # EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU – Annex III**

[3] Certificate Number: **EPT 20 ATEX 4088 issue 5**

[4] Equipment: **LTE Cat M1 / NB1 and GSM / GPRS global position system tracker**

Crossmodal 3.0 Ex / AX.3A

[5] Manufacturer: **NEXXIOT AG**

[6] Address: Prime Tower, Hardstrasse 201 - 8005 Zürich, SWITZERLAND

[7] This equipment and its accepted variations are specified in the annex to this Certificate.

[8] Eurofins Product Testing Italy S.r.l., Notified Body n. 0477 in accordance with Article 21 of the Directive 2014/34/EU of the European Parliament and of the Council of 26th February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II of the Directive. The examination and test results are recorded in the confidential Report N°EPT.22.REL.02/2213018

[9] Compliance with the essential health and safety requirements is assured through the verification of them and by compliance with the following harmonized standards:

EN IEC 60079-0:2018, EN 60079-11:2012

[10] If the sign "X" is placed after the Certificate number, it indicates that the equipment is subject to the special conditions for safe use specified in the annex to this Certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, the exam and the tests of the specified equipment.
Further requirements of the Directive 2014/34/EU apply to the manufacture and supply of this equipment. These requirements are not object of this Certificate.

[12] The equipment shall include the sign Ⓔx and the following strings:

II 2 GD
Ex ib IIC T4 Gb
Ex ib IIIC T135°C Db

-40°C ≤ Ta ≤ +60°C

Place and date of issue:
(DD-MM-YYYY)

Torino, 15-04-2022

Dionisio Bucchieri
Directive Responsible

Paolo Trisoglio
Managing Director

Eurofins Product Testing Italy S.r.l. eurofins Notified Body N. 0477

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This Certificate has 4 pages and it is reproducible only in its entirety. Conditions of validity are reported below.

CP-ATEX-MOD-26-00

[13]
[14]

ANNEX
EU-TYPE EXAMINATION CERTIFICATE
N. EPT 20 ATEX 4088 issue 5

[15] **Equipment description**

The Crossmodal 3.0 Ex / AX.3A is a smart device for industrial asset monitoring and tracking. It is intended to monitor railway wagons, containers, trucks, trailers, crates and other similar assets.
It has an internal autonomous power supply using a battery pack and a solar panel to remain powered for the lifetime of the asset (6-10 years depending on conditions and usage).
The device can be used in an environment having an ambient temperature in the range of -40 °C ÷ +60 °C.

Warning label

- DO NOT OPEN

Routine tests

None.

[16] **Assessment Report n° EPT.22.REL.02/2213018**

This EU-Type Examination Certificate is released after the positive result of the conformity assessment of the Council Directive 2014/34/EU and to harmonized technical standards listed in this certificate performed by the Notified Body Eurofins Product Testing Italy S.r.l., and reported in the Assessment Report above cited.

[17] **Special condition for a safe use**

None.

[18] **Essential Health and Safety Requirements**

Assured by compliance with harmonized standards.

[19] **Descriptive documents**

The equipment object of this Certificate are described by the following documents that are scheduled documents and therefore they cannot be modified without the explicit authorization of the Notified Body.

Type of document	Document identification	Rev.	Date
*Technical note	20200316001	1.14	28-03-2022
*Bill of material with thermal and rating assessment details (common to all variants)	20210324001	1.7	28-03-2022
*Schematic MainBoard Ver. 3.0.0	20200505004	31	15-02-2022
*Schematic MainBoard Ver. 3.0.1	20201202014	12	15-02-2022

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CP-ATEX-MOD-26-00

[13]
[14]

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*Schematic MainBoard Ver. 3.0.2	20210212003	12	15-02-2022
*Schematic MainBoard Ver. 3.0.3	20211014006	12	15-02-2022
Schematic NFC Antenna	20211207006	10	11-11-2021
*PCB Specification (Gerber 20200807001)	20200505003	29	24-03-2022
*PCB Specification (Gerber 20201202011)	20201202011	12	24-03-2022
*PCB Specification (Gerber 20210212006)	20210212002	12	24-03-2022
*PCB Specification (Gerber 20211014004)	20211014003	12	24-03-2022
PCB Specification (Gerber 20201204002)	20211207003	11	09-12-2021
PCB Specification (Gerber 20201202002)	20201202002	10	16-12-2020
*Label drawing	20200408001	2.6	15-02-2022
Instruction manual	20200511001	1.4	10-12-2021

*Note: An * is included before the title of documents that are new or revised.*

[20] **Terms and conditions**

The product liability rests with the Manufacturer, his representative or, in the absence of a representative, with the importer, in accordance with the General Product Safety Directive 2001/95/EC.

The following conditions may render this certificate invalid:

- changes in the design or construction of the product;
- changes or amendments to the Directive;
- changes or amendments in the standards which form the basis for documenting compliance with the essential requirements of the 2014/34/EU Directive.

[13]
[14]

ANNEX
EU-TYPE EXAMINATION CERTIFICATE
N. EPT 20 ATEX 4088 issue 5

[21] **History**

Issue	Description	Date
0	First Emission.	30-11-2020
1	The manufacturer modified its documents on the basis of some changes summarized below: • Ex label modified for the exclusion of details not relevant to the assessment scope. • Two alternative components related to U25 and U34 have been added. • New gerber versions have been implemented for the use of the above mentioned alternative components. • Technical note and bill of material with thermal and rating assessment details have been implemented for the use of the above mentioned alternative components • References to the certification documents of the Ex component battery pack have been updated	21-12-2020
2	The manufacturer modified its documents on the basis of some changes summarized below: • Alternative components for MOSFETs and DC-DC converter have been included. • A new gerber variant related to the main board has been included. • The file name included in the gerber revision index of gerber file 20201202002 has been updated considering the same name of the file. • The new schematic 20210212003 issued as first release for production has been included and it is based on the new alternative components. • The new BOM related to the schematic 20210212003 has been included and it is based on the new alternative components. • The document "Technical note" has been updated in order to give details related to the alternative components as well as the new main board variant.	25-03-2021
3	The manufacturer modified its documents in order to manage the use of introduced alternative components.	22-07-2021
4	The manufacturer modified its documents in order to manage the use of introduced alternative components. Minor changes have been applied to the instruction manual document.	23-12-2021
5	The manufacturer modified its documents in order to manage the use of introduced alternative components. Schematics have been restructured in such a way to integrate all the variants. Gerber files and related PCB specifications have been updated.	15-04-2022

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CP-ATEX-MOD-26-00

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Directive Responsible

End of Certificate

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx EUT 20.0026**

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Certificate history:

Status: **Current**

Issue No: 5

Issue 4 (2021-12-23)
Issue 3 (2021-07-22)
Issue 2 (2021-03-25)
Issue 1 (2020-12-21)
Issue 0 (2020-11-30)

Date of Issue: 2022-04-15

Applicant: **Nexxiot AG**
Prime Tower
Hardstrasse 201
Zürich 8005
Switzerland

Equipment: **LTE Cat M1 / NB1 and GSM / GPRS global position system tracker model Crossmodal 3.0 Ex / AX.3A**

Optional accessory:

Type of Protection: **Intrisic safety "ib"**

Marking: Ex ib IIC T4 Gb
Ex ib IIIC T135°C Db

Approved for issue on behalf of the IECEx Certification Body: **Bucchieri Dionisio**

Position: **Head of IECEx CB**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Eurofins Product Testing Italy S.r.l.
Via Cuorgnè
n.21 - 10156 Torino
Italy

eurofins | Product Testing

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Manufacturer: **Nexxiot AG**
Prime Tower
Hardstrasse 201
Zürich 8005
Switzerland

Manufacturing locations: **Nexxiot AG**
Prime Tower
Hardstrasse 201
Zürich 8005
Switzerland

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

IT/EUT/ExTR20.0028/05

Quality Assessment Report:

CH/SEV/QAR17.0003/04

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Crossmodal 3.0 Ex / AX.3A is a smart device for industrial asset monitoring and tracking. It is intended to monitor railway wagons, containers, trucks, trailers, crates and other similar assets.
It has an internal autonomous power supply using a battery pack and a solar panel to remain powered for the lifetime of the asset (6-10 years depending on conditions and usage).
The device can be used in an environment having an ambient temperature in the range of -40 °C ÷ +60 °C.

Warning label
DO NOT OPEN

Routine tests
None

SPECIFIC CONDITIONS OF USE: NO

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
The manufacturer modified its documents in order to manage the use of introduced alternative components.

Schematics have been restructured in such a way to integrate all the variants.

Gerber files and related PCB specifications have been updated.

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- EMAIL: info@nexxiot.com

- WEB: www.nexxiot.com

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FAQ

- **What should I do if the device is damaged?**
  If the device is damaged, do not attempt to repair it yourself. Contact the manufacturer or authorized service center for assistance.
- **How long does the battery last?**
  The battery life is estimated to be between 6 to 10 years depending on environmental conditions and device usage.

Documents / Resources

	nexxiot Globehopper 3 Tank Container [pdf] User Manual Globehopper 3 Tank Container, Globehopper 3, Tank Container, Container

References

- Nexxiot - Asset Intelligence for Rail and Intermodal
- Nexxiot - Asset Intelligence for Rail and Intermodal
- User Manual