

STRYDE



# NODE

## V6 INSTRUCTIONS FOR USE

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## 1. Safety Information

The following general safety precautions must be observed during all phases of operation of this product.

### WARNING

**Do not use the device if it appears damaged or defective.**  
**Do not dismantle or try to repair a broken unit.**  
**Do not perform any unauthorized modification or change to the device.**  
**Do not expose to excessive heat or flames.**

### CAUTION

Dropping the device and other mechanical abuse may cause damage to sensor, electronics and mechanical parts.  
The device is sealed and not serviceable.

Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. STRYDE assumes no liability for the customer's failure to comply with these requirements.

For further information on safety, please refer to the STRYDE Operation Support Product File.

## 2. Certifications

This product is designed for use in compliance with, and is certified according to, the following certification rules:

EN 301 489-01:V2.2.0

EN 301 489-03:V2.1.1

EN 301 489-17:V3.2.0

EN 61000-6-1:2007

EN 61000-6-3:2007 + A1:2011

IEC 61010-1:2010, AMD1:2016

ETSI EN 303 413 V1.1.1 (2017-09)

FCC Part 15, subpart B: Other Class B Digital Device

Industry Canada ICES-003, Issue 6: Information Technology Equipment (ITE)

UN38.3 Rev. 6, T.7

## 3. Introduction

This manual describes the necessary safety precautions and gives a brief overview of the functionality of the STRYDE Node, also referred to as the Node. The STRYDE system is a seismic acquisition system for professional use, and the Node is the recording sensor in this system. For operation and detailed description of the entire system, please refer to the STRYDE Operation Support Product File.

## 4. Product Overview

The STRYDE Node is an entirely sealed, self-contained nodal recording sensor. The unit uses wireless data transmission through an optical link and wireless battery charging through an inductive coil. The optical transmitter is low-energy and considered not hazardous to people nor animals. The battery is a single Li-Ion cell, and charging is done by system specific battery chargers. The Node stores the acquired data internally and contains a GNSS receiver system (GPS/GLONASS) for time synchronization.

## 5. Technical Specifications

Dimensions (length, diameter)	135 mm, Ø 41 mm
Weight	140g
Operating temperature	-40°C to 70°C
Recommended storage temperature	-40°C to 35°C
Survival temperature	-55°C to 85°C
Charge temperature	0°C to 60°C
Overtemperature shutdown	80°C with 5°C hysteresis
Water ingress	IPX8 – 10m, 72 hours
Node autonomy	29 days (24h operation)
Charging and data harvesting time	<4 hours
Shelf life in storage	>18 months at room temperature
Power supply	Internal Li-Ion battery, nominal 3.6V

## 6. Operation

Operation of the Node shall be carried out by trained personnel familiar with the STRYDE system.

In a typical deployment cycle, the Node is transported from the local operations hub to the field location where it is initialized and deployed into the ground. It is left in the ground for days to weeks, acquiring seismic data. The Node is eventually picked up, de-initialized and transported back to the hub where it is cleaned and calibrated. The battery is charged, and simultaneously data is extracted and finally erased from Node memory. Having completed these process steps, the unit is ready for re-deployment in the field.

Bespoke magazines and backpacks are used for lifting and carrying the Node in the field. In the hub, there are jib cranes available that should be used for lifting and moving trays of Nodes.

The Node shall be inspected for damage when retrieved from the field. Units with broken housing shall be clearly marked on the top cap so they are easily identified when placed in a magazine. To avoid water ingress in the cleaning process, such damaged units shall be decommissioned when returned to the hub.

The Node shall only be charged in chargers specifically designed for the STRYDE system. Charging shall be done away from flammable materials, and a fire extinguisher shall be within reach for emergency use.

## 7. Storage and Maintenance

In general, the Node should be stored in the magazines designed for the STRYDE system. Magazines are assembled into trays, and trays can be stored on top of each other. Long-term storage areas should be clean, cool and ventilated, and large amounts of Nodes should be kept in storage containers at a safe distance from other structures.

When placed in cardboard boxes with plastic packaging material, e.g. for shipping, the Node shall be deactivated to avoid self-heating.

Regular maintenance charging of Nodes in storage is not necessary.

## 8. Transportation

The product contains one single Li-Ion battery cell and is classified as UN 3481 Lithium ion batteries contained in equipment. For in-field transportation, Nodes should preferably be placed in magazines/trays and be properly secured in the vehicle. Personnel should not be transported in the same compartment as Nodes.

3rd party transportation shall be according to IATA PI967, section II or IMDG/ADR SP 188 where these regulations apply. Approved shipping agents familiar with dangerous goods transportation shall be used.

There is currently no maximum charge requirement for shipping Li-Ion cells in equipment, but they are less likely to cause an incident at low state-of-charge. Hence it is suggested that when shipping large quantities, the Nodes should have as low charge level as convenient.

## 9. Faults and repair

Except from firmware upgrade via the optical interface, the Node is non-serviceable and shall never be disassembled by unauthorized personnel.


The product is equipped with a light emitting diode which, when activated, sends out red light clearly visible through the clear plastic cap. If a red blinking pattern or steady light is observed in the field, it may indicate the unit is in a fault situation. Such units should be removed from operation for further investigation by authorized service personnel.

## 10. End of Life

This product shall be safely disposed of as electronic waste. The owner of the system is responsible for disposal in accordance with local laws and regulations at the time it is disposed of. The unit contains recyclable materials and they should be recycled where facilities are available. Ultimate disposal of this product should be handled according to all national laws and official regulations. For detailed instructions for end of life disassembly, please refer to STRYDE Operation Support Product File.

Recycling of materials helps to conserving natural resources. By proper waste handling of this product the user ensures it has no negative consequences for the environment and human health, which could otherwise be caused if this product is disposed of as general waste.




## 11. Safety Symbols

	Caution, risk of danger (refer to this manual for specific Warning or Caution information)
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<b>WARNING</b>	<b>A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.</b>
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<b>CAUTION</b>	<b>A CAUTION notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.</b>
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## 12. Regulatory Markings

	The CE mark is a registered trademark of the European Community. This CE mark shows that the product complies with all the relevant European Legal Directives.
ICES/NMB-003(B)	This product complies with the Canadian ICES-003(B). Cet appareil est conforme a la norme NMB-003(B) du Canada.
	This product is tested and certified by Nemko and complies with IEC/EN 61010-1, UL 61010-1 and CSA C22.2 No. 61010-1
	This product complies with the WEEE Directive (2012/19/EU) marking requirement. This product label indicates that you must not discard this electrical or electronic product in general waste.

### 13. Compliance Statement

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.

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 STRYDE for help

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

### 14. IC (Canadian Industry) Notice

This Class B digital apparatus complies with Canadian ICES-003.

Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Le présent appareil est conforme aux CNR d'Industrie 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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.