

STRYDE



# INITIALISATION DEVICE

## 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:

FCC Part 18.305

FCC Part 15.209

FCC Part 15C Intentional radiators, Frequency Hopping Transmitters / Digital Transmission Systems

ETSI EN 303 417 V1.1.1 (2017-09) ETSI EN 303 446-1:V1.2.0 (draft – 2019-03)

FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v02

FCC Part 1.1310 Radiofrequency radiation exposure limits

ETSI EN 300 328 V1.1.1 (2017-09), ETSI EN 303 413 V1.1.1 (2017-09)

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, IEC 61010-1:2010/AMD1:2016

Industry Canada ICES-003, Issue 6 – Information Technology Equipment (ITE) OR RSS-Gen, Issue 5 – General Requirements for Compliance of Radio Apparatus and RSS-247, Issue 2 -

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 Initialisation Device, also referred to as the Initialisation Device. The STRYDE system is a seismic acquisition system for professional use, and the Initialisation Device is used to communicate with the recording sensors and hand-held terminals. For operation and detailed description of the entire system, please refer to the STRYDE Operation Support Product File.

### 4. Product Overview

The STRYDE Initialisation Device is an entirely sealed, self-contained device for initialising nodal recording sensors. The unit is using wireless data transmission through a custom optical link and standard Bluetooth technology. 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 wireless battery chargers through inductive coils. The Initialisation Device also contains a GNSS receiver system (GPS/GLONASS) for time synchronization. The main functions of the Initialisation Device is to communicate with sensors to time synchronize them, inject deployment location and instruct them to start and stop acquisition.

### 5. Technical specification

Dimensions (length, diameter)	177 mm, Ø 50mm
Weight	185g
Operating temperature	-40°C to 60°C
Recommended storage temperature	-40°C to 35°C
Survival temperature	-55°C to 75°C
Charge temperature	0°C to 60°C
Overtemperature shutdown	75°C with 5°C hysteresis
Water ingress	IPX7
Charging 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 Initialisation Device shall be carried out by trained personnel familiar with the STRYDE system.

During deployment, the Initialisation Device is used to activate the sensor and provide it with all necessary parameters from the hand-held terminal before planting it in the ground. The Initialisation Device is flashing blue and green when it is connected to the hand-held terminal and synchronized to GNSS. The operator shall ensure the terminal is connected to the correct Initialisation Device and that it is set to Initialize mode. The hand-held device will give an audio signal to confirm successful initialization. If the Initialisation Device does not have a flashing blue light, the sensor was successfully initialized with all parameters, but the synchronization to GNSS has failed. The hand-held device will also indicate this with an on-screen error message.

The sensors are left in the ground for days to weeks, acquiring seismic data. Upon retrieval, the operator ensures the Initialisation Device is connected to the hand-held terminal via Bluetooth and set to Retrieve mode. Then it is used to deactivate the sensor, and at the same time providing the last synchronisation event. This is acknowledged by the hand-held terminal using a different audio signal than for deployment.

At the end of each shift, the Initialisation Device is transported back to the hub where it is cleaned, charged and new parameters are downloaded. Having completed these process steps, the unit is ready for another day in the field.

Various LED sequences are used to distinguish the Initialisation Device state. In general, all the states described above can be verified by reading the Initialisation Device Status from an MPTS.

Initial start-up: **Short Blue-Green-Red** sequence followed by **Long Blue-Green-Red** sequence

Active mode: **Short green flashes**

Low-power mode: **Short red flashes**

GNSS lock: **Short blue flashes**

In charger, charging: **Red LED on/off**

In charger, full: **Green LED on**

SW download over Bluetooth: **Green LED on/off**

Loading GNSS almanac data internally: **Blue LED on/off, flashing turquoise three times** when completed

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

The Initialisation Device 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

Long-term storage areas should be clean, cool and ventilated, and large amounts of Initialisation Devices 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 Initialisation Devices shall be deactivated to avoid self-heating.

Regular maintenance charging of Initialisation Devices 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, Initialisation Devices should be properly secured in the vehicle. Personnel should not be transported in the same compartment as Initialisation Devices.

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 Initialisation Devices should have as low charge level as convenient.

## 9. Faults and repair

Except from firmware upgrade via Bluetooth, the Initialisation Device 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. FCC 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.