# *lineScale 3i*


PPE certified
Electronic Bluetooth
Load Cell / Dynamometer

Designed in Germany
Assembled in China

CE 1019

# PPE Instruction Manual

Rev. 4.4 / 250325

PPE-R/11.114 V3:2021
UIAA 130 V1:2021

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Regulation (EU) 2016/425

Personal Protective Equipment against falls from a height
EU declaration of conformity: www.linegrip.com/LS3#certificates
Technical specification No. 1LGC/2021

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# *lineScale 3i*

PPE Instruction Manual
PPE-R/11.114 V3:2021

## 1. Specifications

### 1.1. Technical

| | |
|---|---|
| Minimum Breaking Strength (MBS): | 90 kN |
| Working Load Limit (WLL): | 30 kN |
| Operating temperature range: | -10° to +40° C |
| Relative operating humidity: | 10% to 80% RH |
| Weight: | 530 g |
| Measure L x H x W: | 190 x 90 x 20 mm |
| Size load eyes: | 58 x 37 mm (R28 D-Shape) |
| Material body: | Aviation aluminum alloy LY12CZ |
| Protection Class: | IP68-0.1 (10cm submerge for 1h) |

**RF regulations**
**BQB BLE 4.2/5.0**
**CE ETSI RED, IC**
**FCC ID: 2ADXE-HY-40R204PC**

1550 mAh Li-Ion

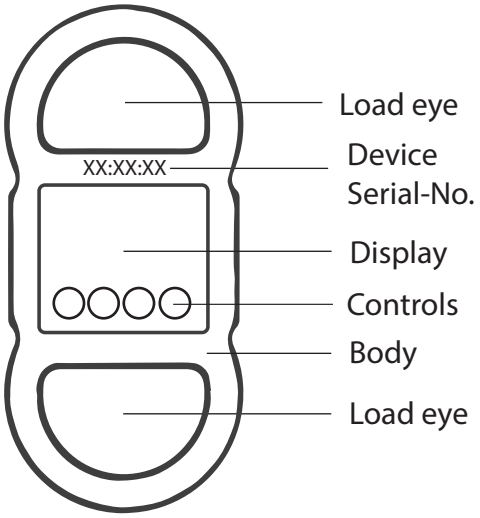
### 1.2. Designation of use

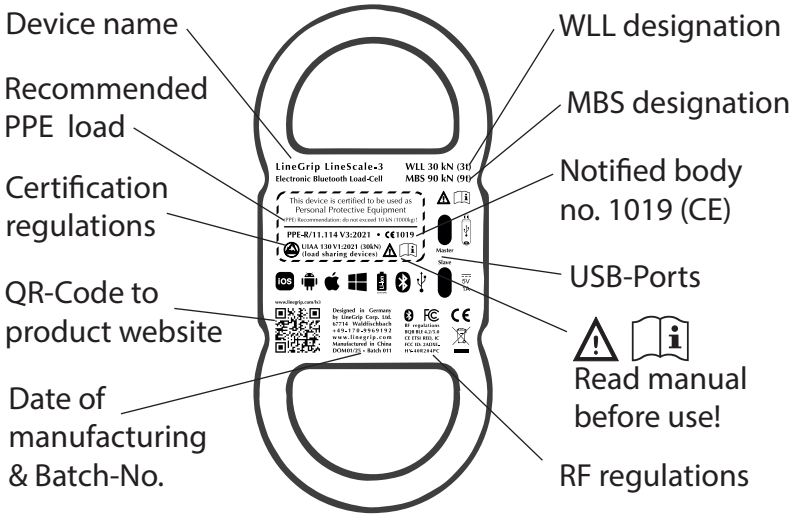
The LineScale is an electronic bluetooth load cell designed for industrial and rescue PPE use.
In PPE relevant applications this equipment is to be used by trained PPE personnel only. Ensure a rescue plan is in place to deal with any emergencies that could arise during PPE use.

### 1.3. Load Recommendation, Admissible Load, Safety Factor

We recommend to not exceed 10 kN load when used as PPE (9:1 safety factor). Expert users may choose to adjust this safety factor based on the 90 kN MBS, however, when used as PPE the maximum force applied to the LineScale must never exceed 30 kN!
The user must always evaluate the system to determine the maximum force applied to the LineScale during its application. Based on this he/she must decide, using industry best practice, if the safety factor is appropriate for the scenario. If not, the system must be adjusted to meet the safety factor.

## 2. Nomenclature of parts & Marking




*Note: CE = Conformité Européenne (European Conformity)*

## 3. Compatibility

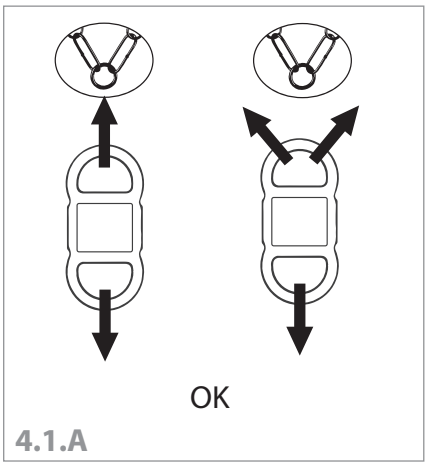
### 3.1. Connectors

Per EN standards and depending on the field of application, for the connection use only EN 362 connectors specific for work at height or EN 12275 connectors specific for mountaineering activities, equipped with locking gates, or attach ropes & slings directly to the load eyes.

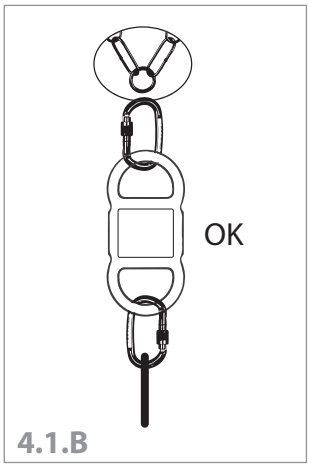
### 3.2. Anchor Points

Per EN standards, only use anchor points with sufficient performance for the intended purpose (e.g. CEN TS 16415, EN 795), preferrably located above the user's position.

## 4. Instructions for use

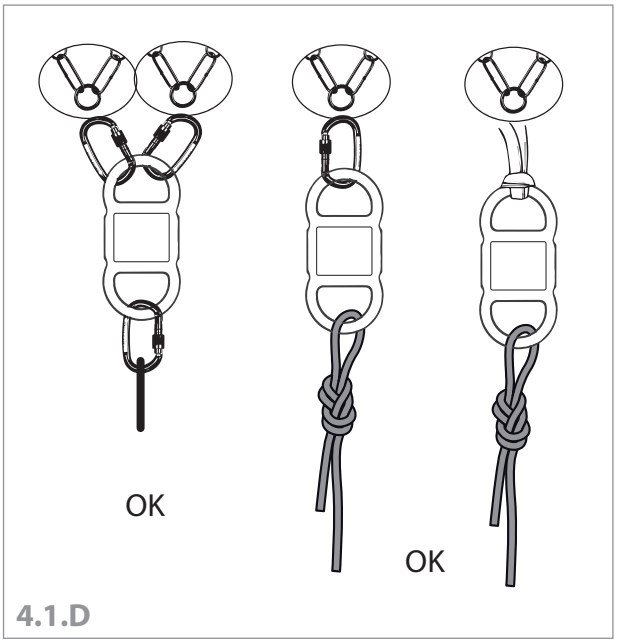


4.1.A



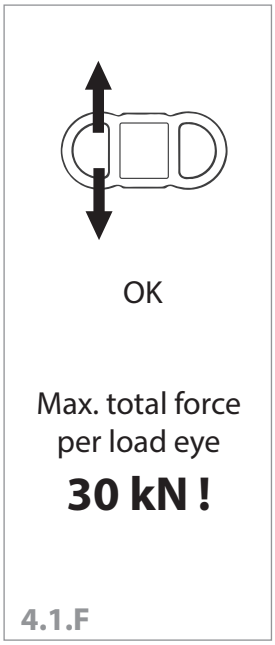
4.1.B

4.1.C



4.1.D

4.1.E



4.1.F

### 4.2. Multi directional loading

The load eyes are specifically designed for multi directional loading (illustration 4.1.A).
All directions of load (0-180°) of one single load eye (e.g. illustration 4.1.F) are fully approved for a total of 30kN force for the entire device (both load eyes).

### 4.3. Edge loading


Make sure the LineScale is clear of any edges and protruding elements to avoid crossloading! (illustration 4.1.C) Danger: in the event of crossloading severe injury or death may be the consequence!


### 4.4. Connecting methods

Any permissible connector according to section 3.1, and any direct "soft" connection to the load eyes, like ropes, slings, soft shackles, etc. are permissible. (illustrations 4.1.D)
Note: Do NOT mix "hard" connectors with "soft" connections in the same load eye! (illus. 4.1.E)

## 5. Warnings & Inspection

### 5.1. Hazardous materials

Aluminum can be structurally damaged by various chemicals such as acids and alkalines. Keep the LineScale clear of any aggressive chemicals at any time!

### 5.2. Sharp metals

Aluminum is softer than steel. Sharp or burred objects can damage the LineScale body. Do not use any connectors with sharp, damaged or burred edges.

### 5.3. Falls from great height

Aluminum can suffer internal micro fracturing when dropped from great height. Never drop the LineScale from any height on to a hard surface, and always protect it from hard impacts.

### 5.4. Inspection before use

Always visually inspect the LineScale thoroughly before any PPE use!
Do not use the LineScale if you have any doubt about it's integrity.
Do not use the LineScale when significant wear or damage is visible.
Please ensure legibility of all product markings.
In case of doubt or visual damage or suspected hard impacts or falls from great height, always have a professional inspect and verify the LineScale integrity before using it for PPE.

### 5.5. Prohibited use for PPE designated devices

The LineScale may NOT be:

5.5.1. loaded with more than 30kN;
5.5.2. used for industrial lifting purposes;
5.5.3. used for tie-downs & lashing;
5.5.4. used for towing (vehicles, heavy loads);
5.5.5. connected to abrasive materials (e.g. moving steel ropes);
5.5.6. altered in any way without the written prior consent of the manufacturer.
Any undesignated use renders the LineScale PPE certification NULL and VOID!

### 5.6. Periodic professional inspection/examination

For industrial and rescue work all your **local and industry specific** inspection intervals must be followed! A periodic examination and/or inspection is to be conducted at least every 12 months by a trained expert for PPE or a PPE certified entity, in accordance with the regulations that apply to your industry or organization in your country.
It is highly recommended to keep a record of these inspections in a detailed inspection record, as for example supplied in Annex-1 on the last page of this manual.

### 5.7. Retirement

The LineScale shall be retired from PPE use if:
5.7.1. any doubts arise about the devices' condition for safe use;
5.7.2. the metal body is heavily damaged or the load eyes are heavily worn;
5.7.3. it has been exposed to a load or shock of more than 45kN (Menu: Service / Max-seen-load);
5.7.4. it has been exposed to long term cyclic loading at more than 20kN (inquire for details);
5.7.5. it was dropped from height onto a hard surface (risk of microfracture).

## 6. Storage, Cleaning, Disinfection, Lifespan

### 6.1. Storage

The LineScale shall be stored in a dark, dry, cool place, free of chemicals and chemical fumes. Before storage the unit shall be cleaned according to section 6.2.

### 6.2. Cleaning & Disinfection

When the LineScale was in contact with salt water, always rinse with warm water, wipe with a dry and soft cloth, and take care to blow dry the USB ports! Fully dry in ventilated area before storing. The LineScale may be disinfected with a cloth dampened with Isopropyl alcohol or any commercially available object disinfection liquid. Note: do not spray disinfectant directly on the unit!

### 6.3. Lifespan

The LineScale lifespan is not limited by time. Lifespan is determined by assessment as per section 5.

## A1. Annex 1 - Equipment Inspection Record

| EQUIPMENT RECORD | | | | |
|---|---|---|---|---|
| **Product:** Electronic Bluetooth PPE Load Cell | | | | |
| **Model & type/identification**<br>LineScale-3i | | **Trade name**<br>LineGrip LineScale-3i | | **Identification number** |
| **Manufacturer**<br>LineGrip Corp. Ltd. | | **Address**<br>Hauptstr. 41<br>67714 Waldfischbach, DE | | **Tel, fax, email and website**<br>www.linegrip.com |
| **Year of manufacture/life expiry date** | | **Purchase date** | | **Date first put into use** |
| **Other relevant information** (e.g. document number) | | | | |
| **PERIODIC EXAMINATION AND REPAIR HISTORY** | | | | |
| **Date** | **Reason for entry (periodic examination or repair)** | **Defects noted, repairs carried out and other relevant information** | **Name and signature of competent person** | **Periodic examination next due date** |
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## A2. Annex 2 - Certification Body

EU type-examination and EU conformity to type is performed by:
NB1019 • VVUÚ a.s., Pikartská 1337/7, 716 00, Ostrava-Radvanice, Czech Republic • www.vvuu.cz

*Stay safe!*