

Issued by Notified Body No. 0402 according to Directive 2014/32/EU MID annex II Module B, regarding:

## Weighing instrument, Lundaman Classic/Professional

Issued to

**Lundaman Instrument AB**

Grimsbygatan 24, SE-211 20 Malmö, Sweden.

### Certificate

The weighing instrument specified in this certificate is fulfilling the requirements of directive 2014/32/EU on measuring instruments (MID), implemented in Swedish law by SWEDAC Regulation STAFS 2016:1. The conformity assessment is performed according to annex II, Module B in Directive 2014/32/EU. RISE Certification Rule SPCR 302 has been applied.

### Applicable essential requirements of directive 2014/32/EU

- Annex I, Essential requirements
- Annex VIII, (MI-006), Automatic weighing instruments

### Harmonised standards and normative documents used

- OIML R51, edition 2006, Automatic catchweighing instruments

### Further applied documents

- WELMEC 2.6, Guide for the testing of automatic catchweighing instruments (Issue 3)
- WELMEC 7.2, Software Guide (Issue 5)

### Rated operating conditions

Measurand:	Bulk material	Mechanical environment class:	N/A
Measurement range:	10e-250e	Electromagnetic environment class:	E3
Accuracy class:	Y(b)	Climatic environment:	-20 to +50 °C

Originally issued: 2012-11-22

Expiry date: 2030-08-18

This issue 2 is issued due to certificate renewal and change of zero setting time and replaces the earlier issue. The previous issue 1 was issued in accordance with directive 2004/22/EC, and was issued by SP Technical Research Institute of Sweden which has changed its name to RISE Research Institutes of Sweden AB.

Martin Tillander

Certificate 0402-MID-SC1873-12 | issue 2 | 2020-08-18

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## Specification of the weighing instrument

### 1. Design of the instrument

#### 1.1 Construction

##### Product names

Lundaman Classic, Lundaman Professional

##### Type of instrument

An electronic automatic catchweigher (of single-interval type). Weighing is automatic and dynamically performed.

##### Measuring system description

The weighing instrument consists of a pressure sensor, measuring the hydraulic pressure applied to the lifting arm system, an indicating unit and a junction box. Furthermore, there are two position sensors in the system for decision of when to start and stop the dynamic weighing. There is also a sensor that indicates a warning if the load receptor is not fully tilted backwards. Both models of the instruments are built on the same PCB. All associated parts mounted on the machine are also the same. The difference between Classic and Professional is the keyboard and that some functions are blocked and cannot be used in Classic. In Professional it is possible to register the details about customer, car number, materials, etc. much like in a mobile phone and this information is then printed out directly on the receipt. When using Classic this information must be registered by hand on the paper receipt.

The weighing instrument is approved for weighing while driving.



Picture 1a Indicating unit Lundaman Classic

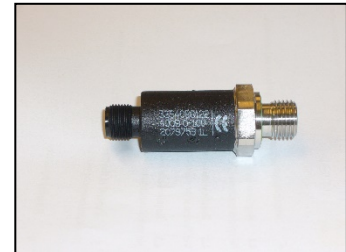


Picture 1b. Indicating unit Lundaman Professional

Supply voltage  
24 V DC

Measurand sensor (pressure sensor)  
Manufacturer      Tecsis GmbH, Offenbach  
Type                3354086122  
Capacity           40 MPa (400 bar)

A three-axial accelerometer is also built in to the indicating unit. It measures the machine slope in the forward/backward and side directions.



Picture 2. Pressure sensor



Picture 3. Mounted inductive sensors for start and stop of dynamic measurement.



Picture 4. Mounted tilt limiting device.

#### Hardware

The load is converted to a hydraulic pressure. This pressure is measured and converted to a DC voltage signal and converted in the indicating unit to a mass indication

The indicating unit shows the weighing results.

There can also be a printer (optional) connected which gives a printout of weighing results. See example to the right.

<u>K V I T T O</u>	
Maskin 1	Vågsedelnr: 356
Datum:	2012-05-19 10:45:40
<b>BIL:</b>	
Skopa2	6280 kg
Skopa2	6050 kg
<b>TOTAL:</b>	<b>12330 kg</b>
<b>SLÄP:</b>	
Skopa2	8000 kg
Skopa2	13000 kg
Skopa2	400 kg
<b>TOTAL:</b>	<b>21400 kg</b>
<b>Lundaman Instrument</b>	
Grimsbygatan 24	
211 20 Malmö	
Telefon: 046-291560	
Mobil: 0705-291560	
Hemsida: <a href="http://www.lundaman.se">www.lundaman.se</a>	
<b><u>Välkommen åter!</u></b>	

Picture 5, receipt, example

**1.2 Software**

The validation of software was based on the essential requirements given in MID and WELMEC Guide 7.2.

**Software version**

The following program versions are approved:

Type of program	Program version
Lundamann classic	C600.XXX
Lundamann Professional	P600.XXX

The operating manual includes technical specifications and for example how to get access to the program version

**1.3 Optional equipment and functions subject to MID requirements**

- initial zero setting
- tilt limiting device
- automatic zero setting every 9 hours (maximum)

**1.4 Technical documentation**

For market surveillance the construction, software and included components are described in 1.1 and 1.2.

**1.5 Integrated equipment and functions not subject to MID**

See operating manual.

**2. Technical data**

**2.1 Rated operating conditions**

**Measurand**

Any bulk material

**Measurement range**

Maximum capacity,	Max ≤ e*n
Minimum capacity,	Min ≥ 10 e
Verification scale interval, class Y(b)	e ≥ 10 kg
Number of verification scale intervals, class Y(a),	n ≤ 250

**Accuracy**

**Environment classes / influence quantities**

Mechanical:	NA
Electromagnetic:	class E3
Ambient temperature limits:	-20°C to +50°C

**2.2 Other operating conditions**

N/A

### 3. Interfaces and compatibility conditions

The instrument may use the following protective interfaces for data communication:

- telephone modem/antenna
- SD card reader
- RS 232 (printer port)

### 4. Requirements on production, putting into use and utilisation

#### 4.1 Requirements on production

No special requirements identified

#### 4.2 Requirements on putting into use

No special requirements identified

#### 4.3 Requirements for consistent utilisations

No special requirements identified

### 5. Control of the measuring tasks of the instrument in use

Tilting test shall be performed at the time of verification of this weighing instrument. Check also that the tilt limiting device is in function. Test at driving and weighing shall be also performed.

### 6. Security measures

#### 6.1 Sealing

Interfaces, Indicating unit and Junction box

Sealing is not necessary.

Pressure sensor

The pressure sensor shall have a clearly visible serial number and identification number.

The serial number shall be marked on the descriptive plate.

Bucket/shovel

The shovel shall be clearly and permanently marked with its number.

Descriptive plate

The descriptive plate shall be sealed with control marks.

#### 6.2 Securing of adjustment data

The event counter is displayed when the instrument is started. The date and time of latest adjustment and other legal parameters can be checked for inspection or market surveillance purpose.

### 7. Labelling and inscriptions

#### 7.1 Information to be borne by the instrument

The marking on the instrument shall contain the following information:

the name of the manufacturer

the serial number

the designation or type name (according to "Product names" on page 2)

the EU-type examination certificate number

the accuracy class

verification scale interval, e

- maximum capacity, Max
- minimum capacity, Min
- temperature range

**7.2 Conformity marking in accordance to MID article 21**

The instrument shall be marked in accordance to MID article 21 which e.g. describes the CE-marking together with M, year of marking and the notified body number.

**7.3 Further inscriptions, if necessary**

No further inscriptions considered necessary

**8. Manuals**

The following manuals are to accompany the different systems in the official language of the country of use (the manufacturer is responsible for the translation of approved documents).

<i>Version</i>	<i>Title of manual</i>
2012-12-05	Användarmanual Lundaman Professional
2012-10-09	Användarmanual Lundaman Classic
2020-06-10	Användarmanual Lundaman Classic vers P2

**9. Testing and examination**

Testing and examination has been carried out in accordance with report MTmPX21022-01–04, PX21022-04-1, 2P05549-01-1. The principal characteristics, approval conditions are set out in this certificate. All the plans, schematic diagrams and documentations are recorded under reference files 2P05549.