

EU Type Examination Certificate

No. 0200-MID-05983

LogiScan

MULTI-DIMENSIONAL MEASURING INSTRUMENT

Issued by **FORCE Certification**
EU - Notified Body No. 0200

In accordance with the requirements in Directive 2014/32/EU of the European Parliament and Council.

Issued to **TUNAYLAR BASKÜL SANAYİ VE TİCARET A.Ş.**
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Esenyurt / Istanbul
TURKEY

In respect of A semi-automatic multi-dimensional measuring instrument designated LogiScan for measuring dimensions of static placed objects.
Maximum object: 250 × 250 × 250 cm
Scale interval (d): 2 × 2 × 1 cm (L × W × H)

The conformity with the essential requirements in annex 1 and the specific requirements in annex XI, chapter I & IV of Directive 2014/32/EU is met by the application of OIML R129:2000, OIML D11:2004 section 12 & 13 with severity level 2, WELMEC Guide 7.2:2015 and WELMEC Guide 8.19-3:2006. The principal characteristics and approval conditions are set out in the descriptive annex to this certificate.

The annex comprises 11 pages.

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Descriptive annex

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1. Name and type of instrument

The semi-automatic multi-dimensional measuring instrument is designated LogiScan and is intended for scanning the dimensions of objects up to 2.5 m.

The instrument consists of two laser scanners for width and height placed on a bridge, which moves with constant speed in the length direction. The measurement data are transmitted to a PC, which calculates the dimensions.

2. Description of the construction and function

2.1 Construction

2.1.1 Bridge system

The bridge system consists of two rails upon which a bridge is placed. In each end of the bridge is a Sick LMS 511 laser scanner. On one of the rails markings are mounted, which can be detected by the moving bridge. The markings are speed control markings with equidistant spacing for accurate determination of the constant speed of the bridge.

2.1.2 PC

The measurements from the laser scanners and of the speed control markings are sent to a PC on which the LogiScan program calculates and displays the results.

2.2 Function

LogiScan software is used for calculating dimensions of the object. It also displays 3D view of the object measured. The software uses two-dimensional data coming from LMS laser scanners for width and height calculation. It combines these data together with inputs coming from speed measurement flags in order to calculate the length of the object.

There are filter values in order to eliminate dummy laser points. These values are entered in settings part.

2.2.1 Power up

At power up the LogiScan program will check its own integrity.

2.2.2 Data Storage Device

The LogiScan software includes a data storage device working as an alibi memory in which all performed measurements are stored.

2.2.3 Dimensional tare

If the object to be measured is placed on a pallet, the user can define the height of the pallet, so it can be eliminated from the measurement.

2.2.4 Event counter (Sayaç)

The system has an event counter, which is incremented by one each time settings on the setup page have been changed. There is no way of changing or manipulating the counter.

The setting menu can be accessed by pressing the “AYARLAR” (settings) button, located on the main menu by the users registered as the administrator (the settings button will not be displayed on the main menu for the users not having administrator authorization) and entering a special password.

2.2.5 Operator information messages

The instrument has a number of error messages, which are described in the user manual.

2.2.6 Extended resolution

It is possible – but only for verification and re-verification purpose and by breaking the electronic sealing – to setup the instrument to measure with 1 mm resolution ($\leq 0.1 \times d$). This can only be done in the password protected setting menu, and the correct d values must be re-entered after the measurements.

2.2.7 Connection to NAWI

The system can be connected to a non-automatic platform scale, so the weight of the measured object can be captured and stored together with the dimensions.

2.2.8 Connection to camera

The system can be connected to a camera, so a picture of the measured object can be captured and stored together with the dimensions.

2.2.9 Setup settings

The instrument has the following settings (see also Figure 3).

IP	Laser scanner IPs
Başlangıç Açısı	Starting angles of laser scanners
Bitiş Açısı	Ending angles of laser scanners
Kal mm	Distance between speed measurement marks
Lazerler Arası	Distance between laser scanners
Lazerler Yükseklik	Height of laser scanners
Filtre	Filter to eliminate dummy points for determining vehicle borders
Frekans	Frequency of laser scanners
Yatay Ölçüm	Horizontal scan distance of each laser scanner
Dikey Ölçüm	Vertical scan distance of each laser scanner
Giris tespit için adet	Number of minimum points required to specify beginning of object
Çıkış için adet	Number of minimum points required to specify end of object
İndikatör	Serial communication port for
Genişlik filtre	Filter for width (number of counts and acceptable distance between them)
Yükseklik filtre	Filter for height (number of counts and acceptable distance between them)
Açı	Inter-angle between laser beams
Düzeltilme katsayısı	Correction factor for closer objects. If the distance is less than the first value, it is multiplied by the second value.
Min. Hız için Sayım	Number of counts for minimum speed
Mak. Hız için Sayım	Number of counts for maximum speed
Kantar Yüksekliği	Height of the scale (if scale is integrated)
Çaprazlık düzeltme	Transversality correction function can be activated or
Kamera IP	Camera IP
Kamera Kayır	The recording path of the captured image by camera.
Çalışma Modu	Operation mode can be selected. Default Operating mode is
Sayaç	Counter displaying how many changes have been done up to now (read-only)

The settings are stored in an encrypted file on the PC.

2.2.10 Software version

The software version is shown on the Detailed Display screen.

The approved software version is 2.98 and has checksum 'd1d0e209'.

3. Technical data

The multi-dimensional measuring instrument has the following characteristics:

3.1 Model LogiScan

Laser scanner:	2 pcs. Sick LMS511
Operation mode:	Semi-automatic
Scale interval (d):	2 × 2 cm (W × L) 1 or 2 cm (H)
Minimum object size:	20 × 20 × 20 cm (W × H × L)
Maximum object size:	250 × 250 × 250 cm (W × H × L)
Bridge speed (fixed):	0.22 to 0.4 m/s
Power supply:	230 VAC, 50 Hz
Electromagnetic class:	E2
Temperature range:	-10 °C to +40 °C
Humidity:	Non-condensing
Principle of measurement:	Laser scanners
Peripheral interface:	Set out in Section 4

4. Communication interfaces

The LogiScan uses the following interfaces of its PC,

- Serial interface for connection of optional NAWI, printer or similar.
- Ethernet interface for connection between PC and bridge control, laser scanners and optional camera.

The interfaces are characterised "Protective interfaces" according to paragraph 8.4 of annex I of the Directive.

5. Conditions for certification

5.1 Limitations of measurements

The instrument cannot measure on black surfaces that have less than 10 % reflectivity. Neither can it measure on transparent surfaces.

6. Special conditions for verification

None

7. Securing and location of seals and verification marks

7.1 Securing and sealing

Seals shall bear the verification mark of a notified body or alternative mark of the manufacturer according to ANNEX II, module F or D of Directive 2014/32/EU.

7.1.1 Mechanical sealing

The identification plate shall be secured against removal with a tamper evident sticker.
The mechanical sealing shall be performed with wire and seal - as shown on Figure 8 to 10 – or using tamper evident stickers.

7.1.2 Electronic securing

The value of the event counter is written onto a brittle sticker, which is placed on the identification plate of the instrument.

The securing is regarded as broken if the displayed value of the event counter – “Sayaç” – differs from the number written on the identification plate.

8. Location of CE mark of conformity and inscriptions

8.1 Identification plate

All inscriptions for the instrument shall be placed on the identification plate, which shall be located visible on the instrument.

8.1.1 CE mark

The CE mark of conformity and the supplementary metrological marking according to article 20 of Directive 2014/32/EU shall be located on the identification plate.

8.1.2 Inscriptions

The identification plate shall bear the following inscriptions,

- Manufacturer's trademark and/or name
- Postal address of manufacturer
- Type designation
- Serial number
- d, Min, and Max for each dimension
- Temperature range: -10 / +40 °C
- Electromagnetic class: E2
- Humidity: Non-condensing
- Object type: vehicles
- Type examination certificate number
- Supply voltage

9. Pictures



Figure 1 LogiScan (with optional non-automatic platform scale).

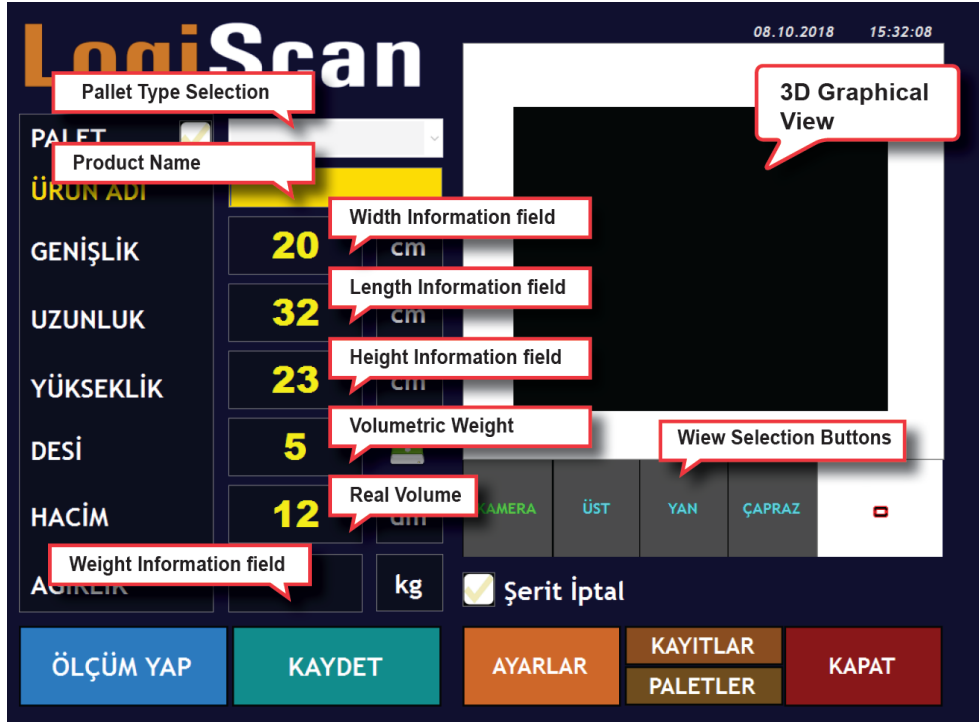


Figure 2 Main menu

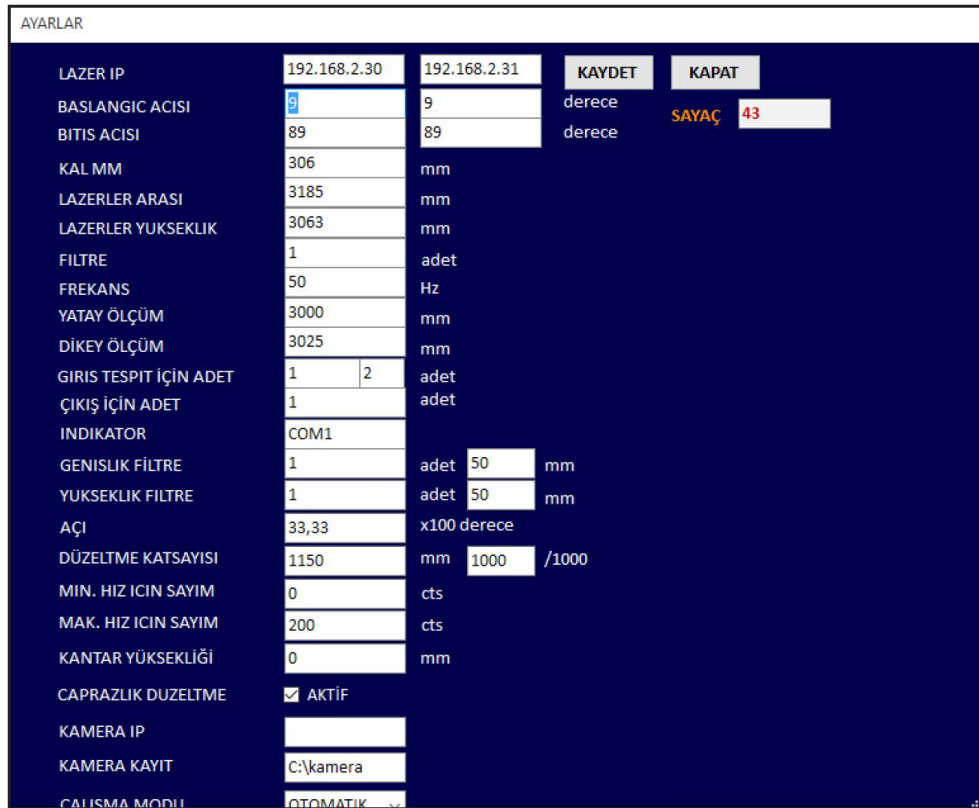


Figure 3 Settings menu.

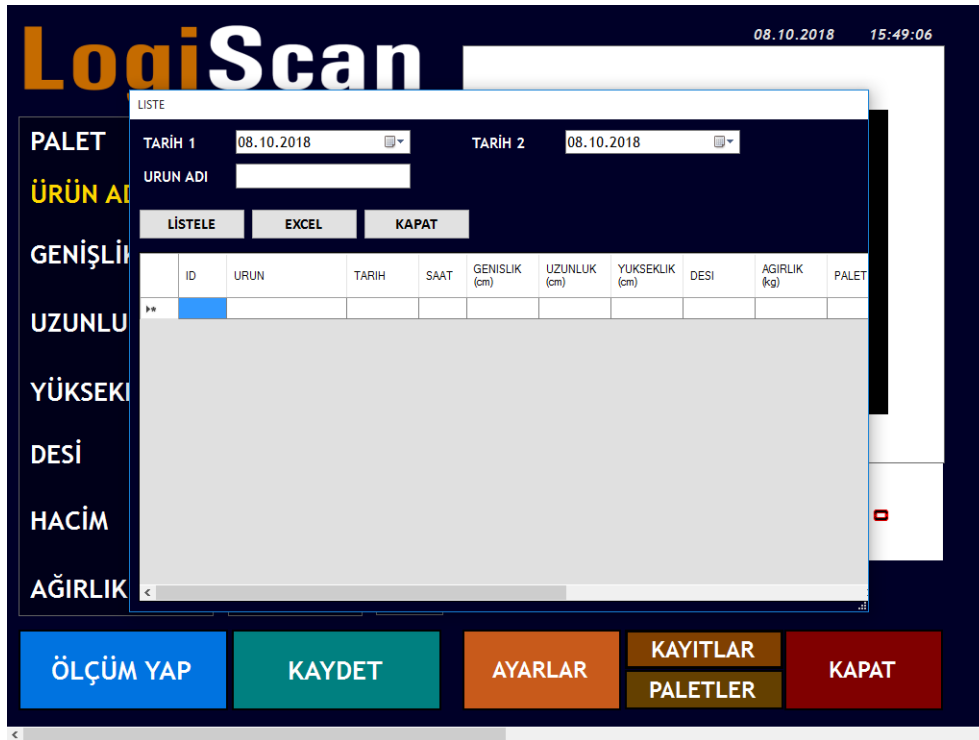


Figure 4 Record menu (pop-up).



Figure 5 Palette menu (pop-up).

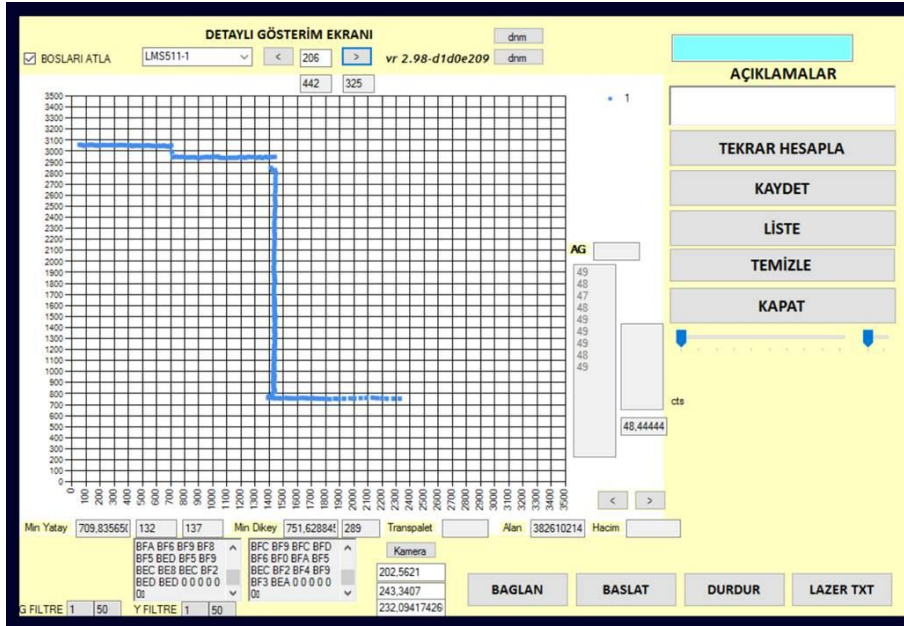
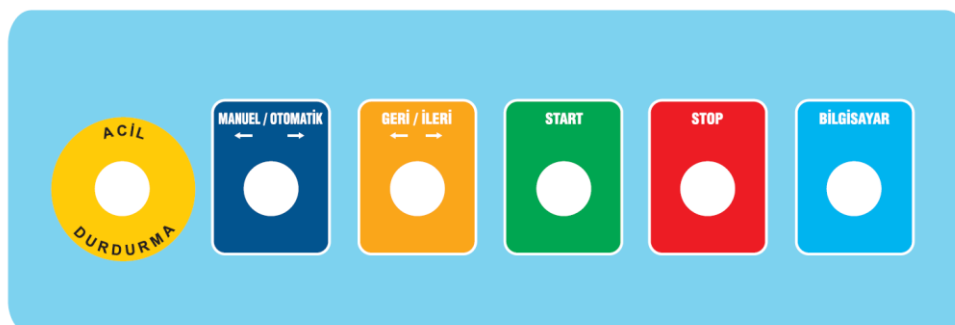


Figure 6 Detailed Display screen.



BUTTON NAME	FUNCTION
EMERGENCY STOP	It is used for stopping the measurement procedure in cases of emergency.
MANUEL / AUTOMATIC	It is used for passage between the automatic or manual mode. The measurement procedures are performed while in the automatic mode.
BACKWARD / FORWARD	It is used for moving forward and backward the measurement bridge manually. The system should be passed to the manual mode from the automatic mode with the "OTOMATIK/MANUEL" button for operating this button.
START	It is used for running the system.
STOP	It is used for stop the system.
COMPUTER	When it is pressed the computer will turn on.

Figure 7 Control panel

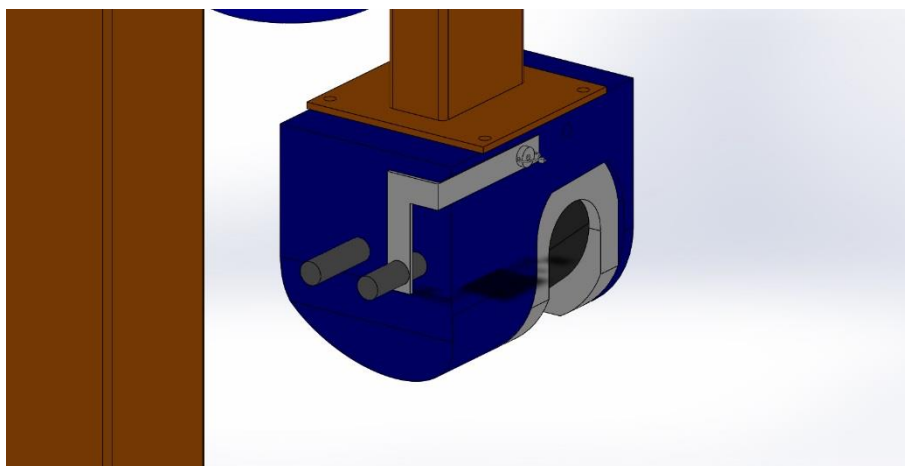


Figure 8 Sealing of ethernet cable to laser scanner.

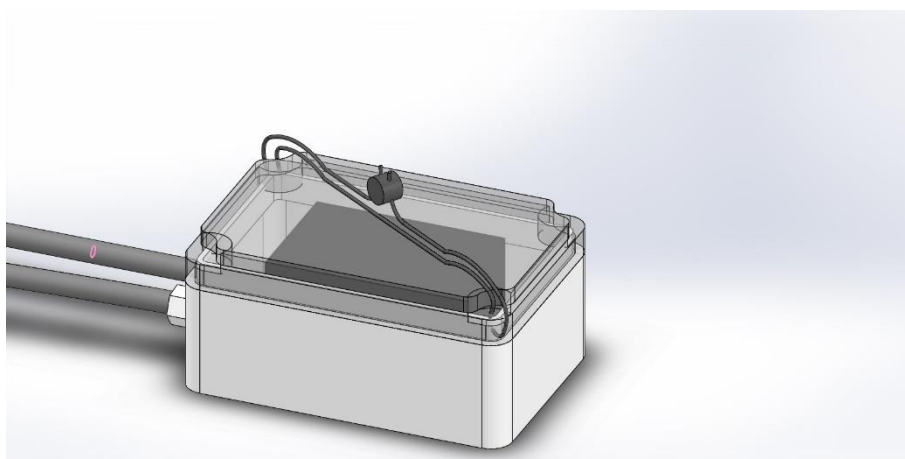


Figure 9 Sealing of junction box

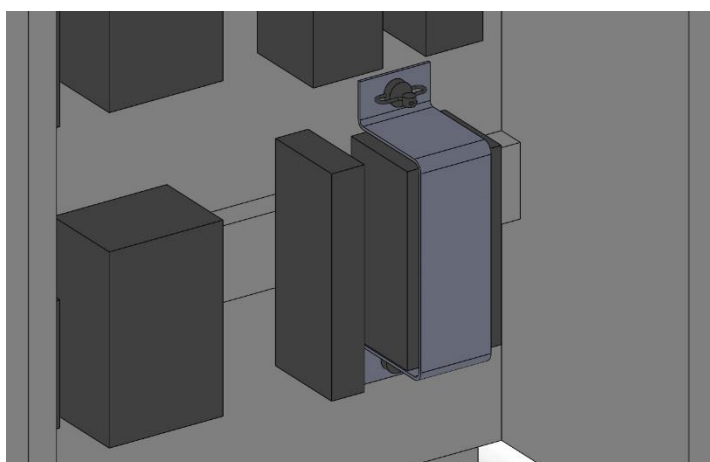


Figure 10 Sealing of bridge motor control.