

# EU Type Examination Certificate

**No. 0200-MID-10773**

## **TODEM Dimensioner Head / TODEM Static Dimensioner**

**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**        **TODEM BILISIM DAN. VE TIC. LTD. STI. & TODEM TEKNOLOJI A.S.**  
ODTU İkizleri AR-GE Binası A Blok Kat: 1 No: 1.  
06531 Cankaya ANKARA  
TURKEY

**In respect of**    A semi-automatic multi-dimensional measuring instrument designated TODEM Dimensioner Head / TODEM Static Dimensioner for measuring dimensions of rectangular, non-rectangular and irregular shaped objects. The instrument is measuring static.  
Maximum dimensions:     $80 \times 60 \times 105$  cm (L  $\times$  W  $\times$  H)  
Scale interval (d):         $0.5 \times 0.5 \times 0.5$  cm (L  $\times$  W  $\times$  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 09 pages.

**Issued on**        **2021-05-18**  
**Valid until**     **2031-05-18**

FORCE Certification references:  
Task no.: 121-26774.90.10 and ID no.: 0200-MID-10773

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## Descriptive annex

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## 1. Name and type of instrument

The multi-dimensional measuring instrument is designated TODEM Dimensioner Head / TODEM Static Dimensioner and is intended for scanning the dimensions of objects up to 80 × 60 × 105 cm (L × W × H).

The instrument uses a 3-D camera to measure length, width and height of boxes positioned on a platform below the camera. The camera is mounted in a box above the platform.

## 2. Description of the construction and function

### 2.1 Construction

#### 2.1.1 System

The measurement of the multi-dimensional measuring instruments is performed by a dimensioner head – named TODEM Dimensioner Head. The dimensioner head can be placed mounted on a wall or in the ceiling. Alternately it can be delivered mounted on a pole which is mounted together with a platform for the objects to be measured. The platform may be a scale for determine the weight of the objects. This model is called TODEM Static Dimensioner.

#### 2.1.2 Dimensioner head

The dimensioner head of the instrument is designated TODEM Dimensioner Head. The head contains a 3-D camera for measuring the dimensions of the object on the platform.

#### 2.1.3 Display / Keyboard / Control

The result of the measurement process is shown on a 10” touch screen mounted on the pole for the TODEM Static Dimensioner model. The touch screen is also used for setup of the instrument.

Alternately can the dimensioner head be accessed via web interface.

A handheld barcode scanner can be connected to the system.

#### 2.1.4 Platform

The platform on which the objects are measured can be a scale. The scale is not part of this certificate. The weighing result is displayed on the screen.

## 2.2 Function

The TODEM Dimensioner Head measures the dimension of an object when it is placed in a defined measurement area. The measurement area is adjusted to the maximum dimensions for the instrument.

### 2.2.1 Power up

At power up the TODEM Dimensioner Head will perform a self-check.

### **2.2.2 Data capture**

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

The data can be retrieved via the user interface or the WEB interface or downloaded as a file. The data is protected by a checksum.

### **2.2.3 Event log with counter**

The system has an event log with a counter, which is incremented by one each time there has been performed a calibration event, configuration event or a software update event. There is no way of changing or manipulating the counter.

The event log can be accessed via the “LOG” key in the main menu. The “LOG” menu is protected by a password.

### **2.2.4 Operator information messages**

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

### **2.2.5 Trigger mode**

A measurement can be performed in several ways.

Manual triggering mode: The user needs to press a key on the touch screen or via the web interface.

Barcode scanner mode: A measurement is performed when a barcode is scanned with the connected scanner.

Automatic triggering mode: Whenever an object is placed in the measurement area the dimensions are measured and shown.

Scale triggering mode: When an object is placed on the scale and weight indication changes from zero a measurement is automatically triggered after a time delay

### **2.2.6 Connection to a 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.

### **2.2.7 Connection to barcode scanner**

The system can be connected to a barcode scanner for identifying of the measured object.

### **2.2.8 Software version**

The software version is shown via the “System Information” key in the main menu.

The approved software version is 3.6.6 with checksum ‘50fd3e5fd60938a2f2049c30cb156382’.

### 3. Technical data

The multi-dimensional measuring instrument has the following characteristics:

#### 3.1 TODEM Dimensioner Head / TODEM Static Dimensioner

Operation mode:	Semi-automatic
Scale interval (d):	0.5 × 0.5 × 0.5 cm (L × W × H)
Minimum object size:	5 × 5 × 5 cm (L × W × H)
Maximum object size:	80 × 60 × 105 cm (L × W × H)
Power supply:	230 VAC, 50 Hz
Electromagnetic class:	E2
Temperature range:	5°C to 35°C
Humidity:	Non-condensing
Principle of measurement:	3D camera
Peripheral interface:	Set out in Section 4

### 4. Communication interfaces

The TODEM Dimensioner Head / TODEM Static Dimensioner uses the following interfaces:

- Serial interface for connection of optional NAWI, printer or similar.
- Ethernet interface for connection to a PC or web interface
- WiFi
- USB for connection to a barcode reader, printer and touch screen monitor.

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 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 electronics shall be protected by using tamper evident stickers on the lid of the housing for the dimensioner.

### **7.1.2 Electronic securing**

The legally relevant parts of the software for the system can be sealed via a command from an external PC on the same local LAN as the instrument.

After this command the user can't change the settings of the system.

The software lock can be changed by a service technician. Therefore, shall the value of the event counter be 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 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**

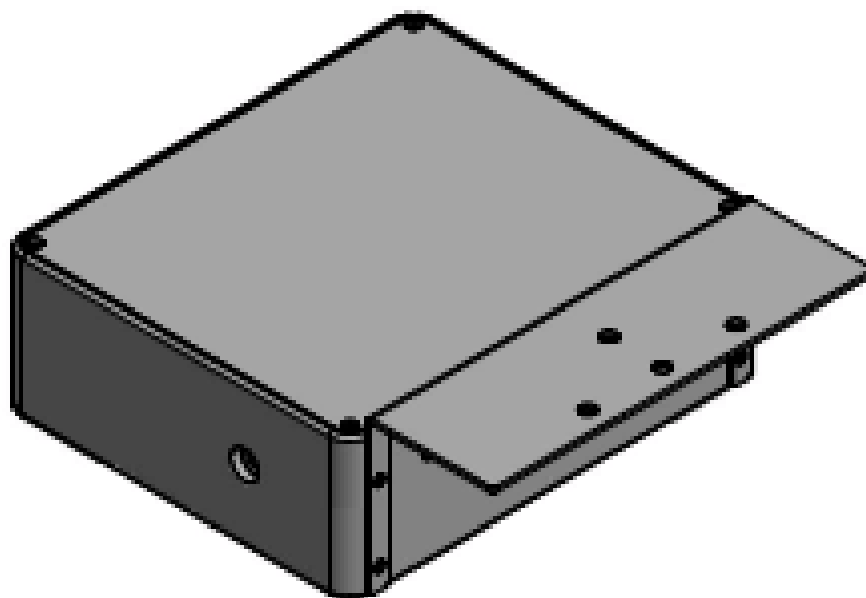
The CE mark of conformity and the supplementary metrological marking according to article 20 of Directive 2014/32/EU shall be located on the identification plate.

#### **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: 5 / 35 °C
- Electromagnetic class: E2
- Humidity: Non-condensing
- Type examination certificate number

## 9. Pictures

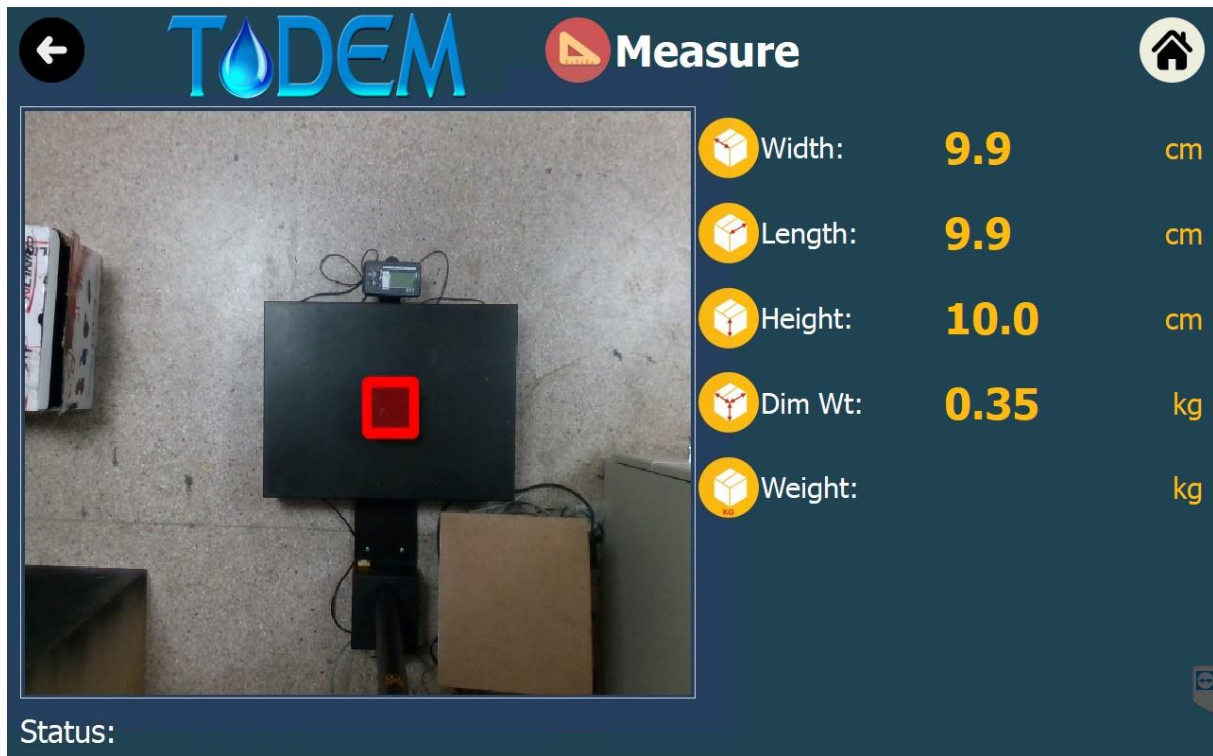


**Figure 1** TODEM Dimensioner Head.

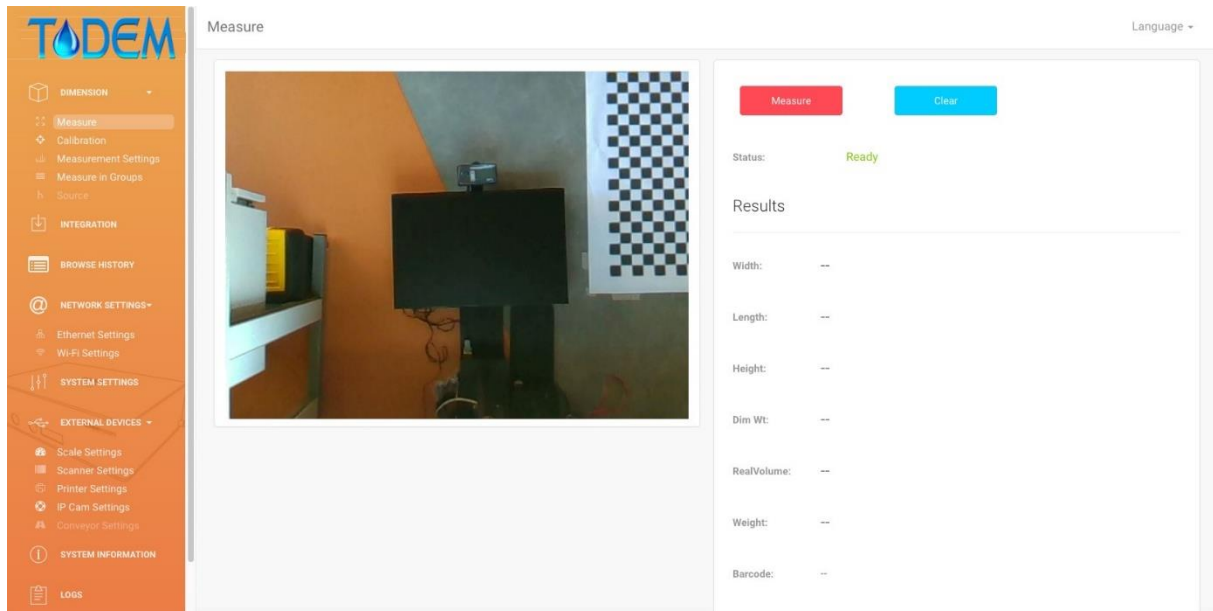




**Figure 2** TODEM Static Dimensioner



**Figure 3** GUI with indications.



**Figure 4** Indication menu in web interface