EU Type Examination Certificate

No. 0200-MID-09395 Revision 2

COMPASS

AUTOMATIC CATCHWEIGHING / CHECKWEIGHING 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	**FLINTAB Srl** 22 Carpenului Street 100430 Ploiesti Romania

In respect of Automatic catchweigher designated COMPASS with variants of modules of load receptor and load cell.

Accuracy class	Y(a)
Maximum capacity:	$Max_i \leq 300$ t
Minimum capacity:	$Min_i \geq 20$ e
Verification scale interval:	$e_i \geq 20$ kg
Verification scale intervals:	$n_i \leq 3000$

Variants of modules and conditions for the composition of the modules are set out in the annex.

The conformity with the essential requirements in Annex 1 and the specific requirements in Annex VIII (MI-006), chapter I & II of the Directive 2014/32/EU is met by the application of OIML R51-1:2006, OIML D11:2004, and WELMEC Guide 7.2:2015.

The principal characteristics and approval conditions are set out in the descriptive annex to this certificate.

The annex comprises 11 pages.

Issued on	**2021-10-22**
Valid until	**2030-11-16**

Descriptive annex

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1. Name and type of instrument and modules

The FLINTAB COMPASS is a statically weighing automatic catchweigher. It is intended for automatic weighbridges for weighing trucks and/or containers and for automated off-road heavy truck scales.

The load can be placed on the weighing platform by crane (Figure 1) or truck (Figure 2), once stable, the identification and the weight of the load are captured and stored before an external display informs the crane/truck operator that the cycle is complete.

2. Functional description

2.1 Construction and operation

The instrument comprises a weight indicator type ITx000E, ITx000ET, or ITx000M (where x = 3, 4, 6 or 8) (Figure 3), manufactured by SysTec, connected to a weighing platform comprising 4, 6, 8, 10 or 12 load cells.

The indicator is configured as single-interval or multi-range (2 ranges).

Correct positioning of the truck is ensured by infrared barriers.

A traffic light and external display (Figure 4) show the crane/truck operator, when the container/truck is in position, and when the weighing cycle is complete.

The Automatic Container Code Recognition (ACCR) system captures the container identification code, when weighing containers.

The automatic weighing of trucks could be done by Automatic Number Plate Recognition (ANPR) and identification of truck driver by RFID card with all driver data or with automatic capture of personal data with devices readable MRZ (machine-readable zone). After the reading ANPR and RFID card or MRZ reading the capture of weight is done.

Alternatively, can RFID cards / tags and an RFID reader be used to identify each captured weight. The RFID reader must recognize an RFID card / tag, before a weight will be captured (figure 7)

The automatic terminal allows data transfer between modules: weighing platform, infrared barriers, external display and traffic lights, system interface, and FLINTAB server.

The System Interface allows the bidirectional interface of the COMPASS system with the system operator/technician or the maintenance engineer.

Weighing and identification data (Container code and/or truck license number and if present driver ID) is transmitted via Ethernet to the on-site FLINTAB server. The on-site FLINTAB server is connected to the internet for diagnosis purposes (errors/malfunctions).

An additional functionality calculates the center of gravity of the shipping container; this is not covered under this certificate.

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2.2 Devices

The instrument has the following devices:

- Semi-automatic zero setting (≤ 4% of Max)

- Zero tracking (≤ 4% of Max)

- Initial zero setting (≤ 20% of Max)

- Semi-automatic subtractive tare weighing (≤ -Max)

- Pre-set tare (≤ -Max)

2.3 Software

The legally relevant software is held on the EPROM. Download of software and access to the legally relevant parameters is prevented by fixing a jumper on the ADM as shown on Figure 6.

The software identification (checksum value) can be displayed on each indicator by using the key sequence as follows:

- ITx000E series:
    - Alt- and Zero-Setting key simultaneously. "Mastermode Info" is displayed
    - "Enter"
    - Select "ADM CHECK" with left / right arrow keys
    - "Enter" twice

- ITx000ET series:
    - Platform selection button until menu "Firmware Information" is displayed
    - "Mastermode" button at bottom of the screen
    - Select "Mastermode: Info" with left / right arrow buttons
    - "Enter"
    - Select "ADM CHECK" with left / right arrow keys
    - "Enter" twice

- IT3000M:
    - "F" and "8" key simultaneously
    - "Info" key repeat until "Master Mode" is displayed
    - "Enter"
    - Select "ADM CHECK" with left / right arrow keys
    - "Enter" twice

The checksum value should be as follows:

Indicator Model	Software version number	Checksum value
ITx000E	V4.x.x	15487782
ITx000ET	V4.x.x	15487782
IT3000M	V4.x.x	15487782

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3. Technical data

3.1 COMPASS configurations

The COMPASS instrument has the following technical characteristics.

Configuration	Crane	Truck				
Maximum capacity (Max_i)	40 000 kg	60 000 kg	80 000 kg	150 000 kg	200 t	300 t
Number of verification scale intervals (n_i)	2000	≤ 3000 or $\leq 2\times3000$				
Scale interval (e_i)	20 kg	≥ 20 kg				
Minimum capacity (Min_i)	20 e					
Number of load cells (n_{LC})	4, 6, or 8	6 or 8		8	10	12
Load cell model	Flintec RC3D digital load cell					
Load cell capacity (E_{max})	30 000 kg		40 000 kg		50 000 kg	
Accuracy class	Y(a)					
Climatic environment	Open, condensing (load cells) Closed, non-condensing (indicator)					
Temperature range	-10 to +40 °C					
Electromagnetic class	E2					

3.2 Analog configurations

The technical data for the indicator are as follows:

Maximum number of scale intervals	6000
Load cell excitation voltage	5VDC
Minimum load cell impedance	21 Ω
Maximum load cell impedance	4.5 kΩ
Minimum input voltage per verification scale interval	0.33 µV
Measuring range minimum voltage	0.3 mV
Measuring range maximum voltage	30 mV
Power supply	110-240 VAC, 50 Hz 12-30 VDC

Any compatible analogue load cells can be used providing the following conditions are met:

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- There is a respective OIML Certificate of Conformity (R60), or a Parts (Test) certificate (EN45501) issued for the load cell by a Notified Body responsible for type examination under Directive 2014/31/EU.

- The certificate contains the load cell types and the necessary load cell data required for the manufacturer's declaration of compatibility of modules (WELMEC 2:2015), and any particular installation requirements. A load cell marked NH is allowed only if humidity testing to EN45501 has been conducted on this load cell.

- The compatibility of the load cells and indicator is established by the manufacturer by means of the compatibility of modules calculation, contained in the above WELMEC 2 document, at the time of verification or declaration of EU conformity of type.

- The load cell transmission must conform to one of the examples shown in the WELMEC Guide 2.4, "Guide for Load cells".

3.3   Documents

The documents filed at FORCE (reference No. 120-33796) are valid for the weighing instruments described here.

4.   Interfaces and peripheral devices

4.1   Interfaces

The instrument may have the following interfaces:

- Ethernet
- RS485 (connecting digital load cells)
- RS232
- USB
- Field bus
- WLAN
- MF II / PS2

4.2   Peripheral devices

The instrument may be connected to any peripheral device that has been issued with a Part or Evaluation Certificate by a Notified Body responsible for Annex B (MI-006) under Directive 2014/32/EU in any Member State and bears the CE marking of conformity to the relevant directives.

or

A peripheral device without a Part or Evaluation Certificate may be connected under the following conditions:

- it bears the CE marking for conformity to the EMC Directive

- it is not capable of transmitting any data or instruction into the weighing instrument, other than to release a printout, checking for correct data transmission or validation

- it prints weighing results and other data as received from the weighing instrument without any modification or further processing

- it complies with the applicable requirements of Paragraph 8.1 of Annex l.

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5. Approval conditions

If analog load cells are use the Compatibility of Modules calculations of OIML R76-1:2006 annex F shall be fulfilled.

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 according to ANNEX F of the Directive 2014/32/EU or alternative mark of the manufacturer according to ANNEX D of the Directive 2014/32/EU.

7.1.1 Indicator

Changes to the legally relevant parts of the indicator are prevented by securing a jumper on the circuit board with a wire and lead seal, and load cell connections are secured via a tamper-evident label solution, bearing a securing mark (Figure 6).

7.1.2 Junction box

If a junction box for connection of load cells is used, it shall be sealed with tamper evident stickers against opening.

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 is to be placed on a visible place on the measuring instrument.

8.1.1 CE mark

The CE mark of conformity and the supplementary metrology marking consisting of the capital letter 'M' and the last two digits of the year of its affixing, surrounded by a rectangle, shall be located on the identification plate.

8.1.2 Markings on display

The following markings are permanently shown on the display,

- Max, Min, e =

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8.1.3 Markings on inscription plate

The identification plate shall at least bear the following inscriptions:

- Manufacturer's trademark and / or name
- Postal address of the manufacturer
- Type designation
- Serial number
- Accuracy class
- Temperature range
- Electromagnetic class: E2
- Humidity: Non-condensing
- Type examination certificate number

The markings and inscriptions shall fulfil the requirements of Article 8, Article 21, Article 22 and Point 9 of Annex I of Directive 2014/32/EU.
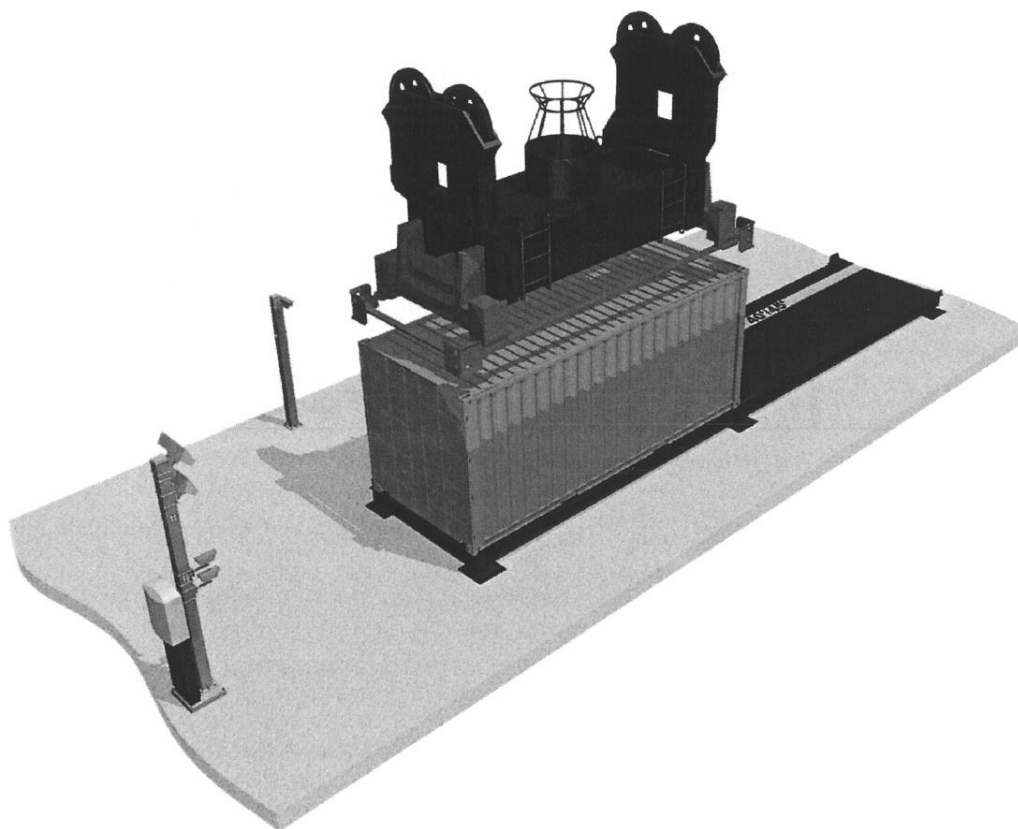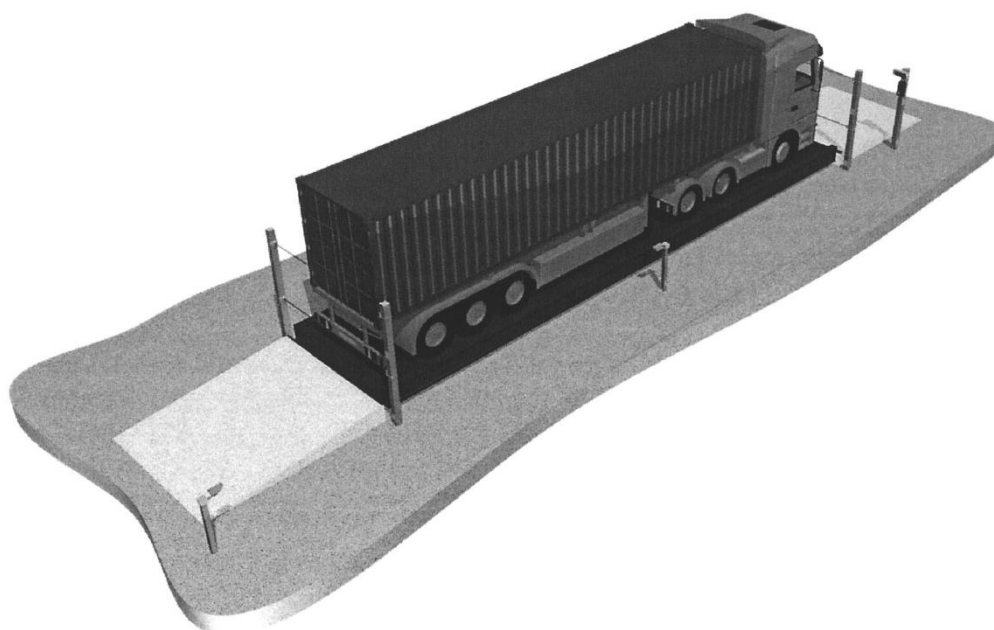
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9.   Pictures

Figure 1 Crane configuration

Figure 2 Truck configurationshowing infared barriers and cameras

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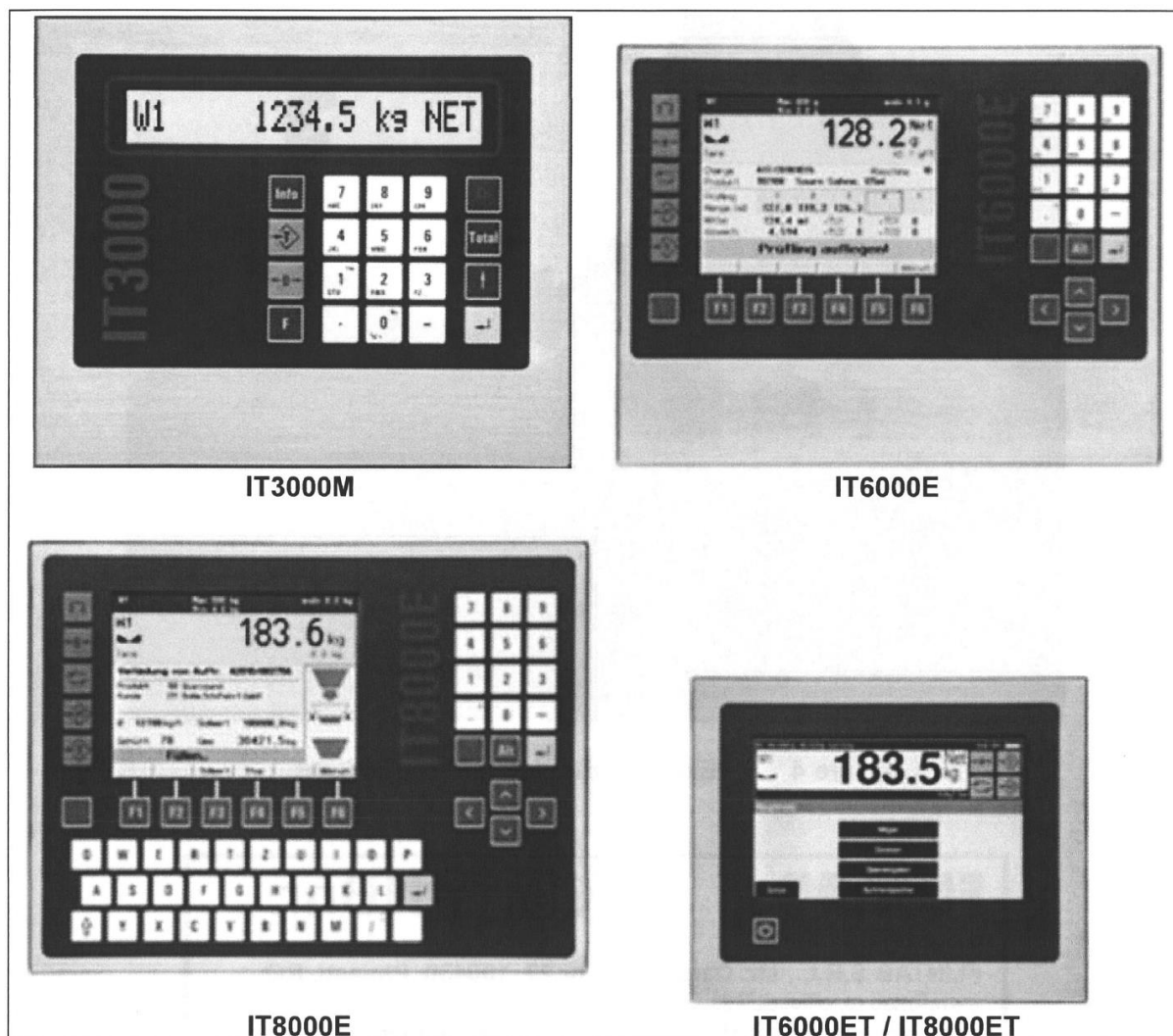
Figure 3 SysTec ITx000xx indicators

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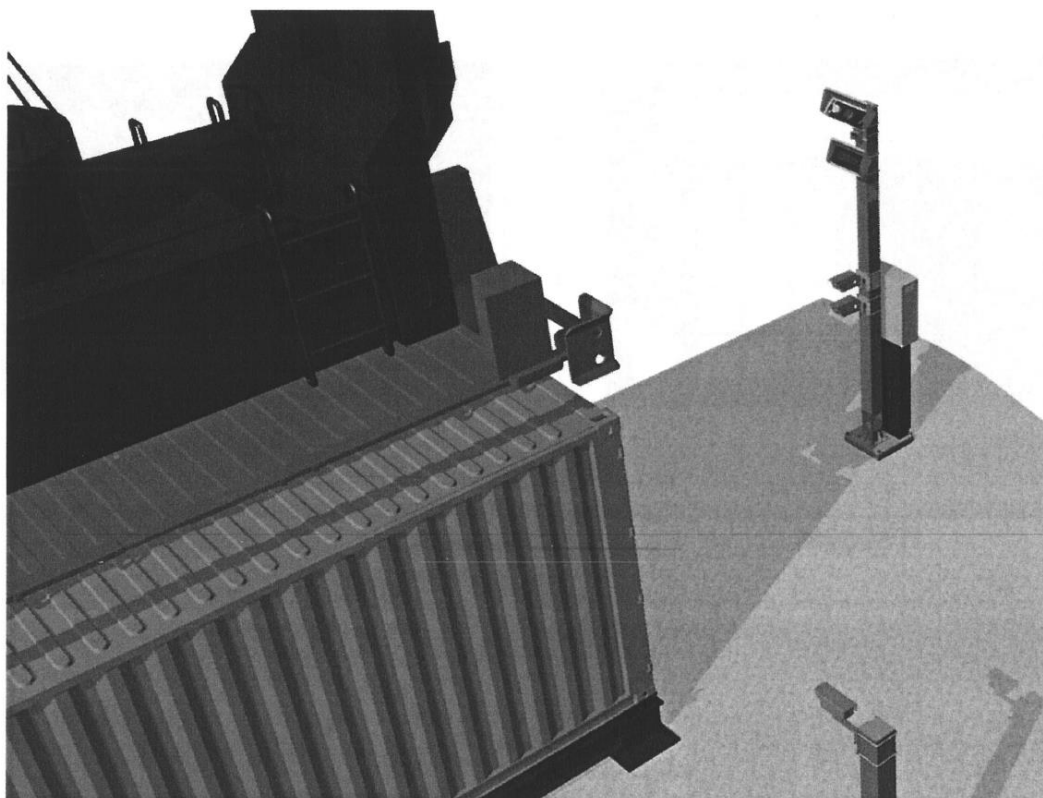
Figure 4 External display and traffic light
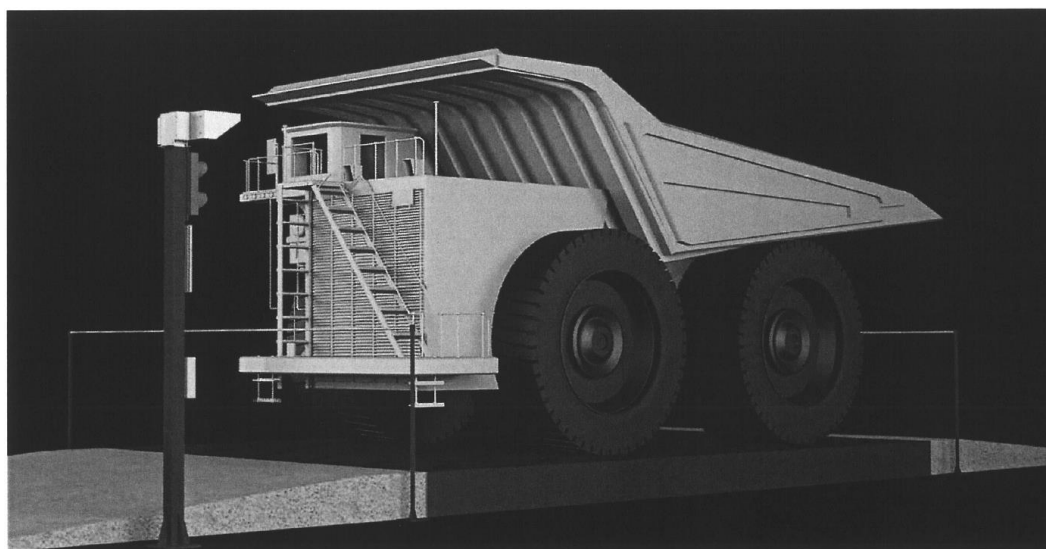
Figure 5 Heavy truck configuration

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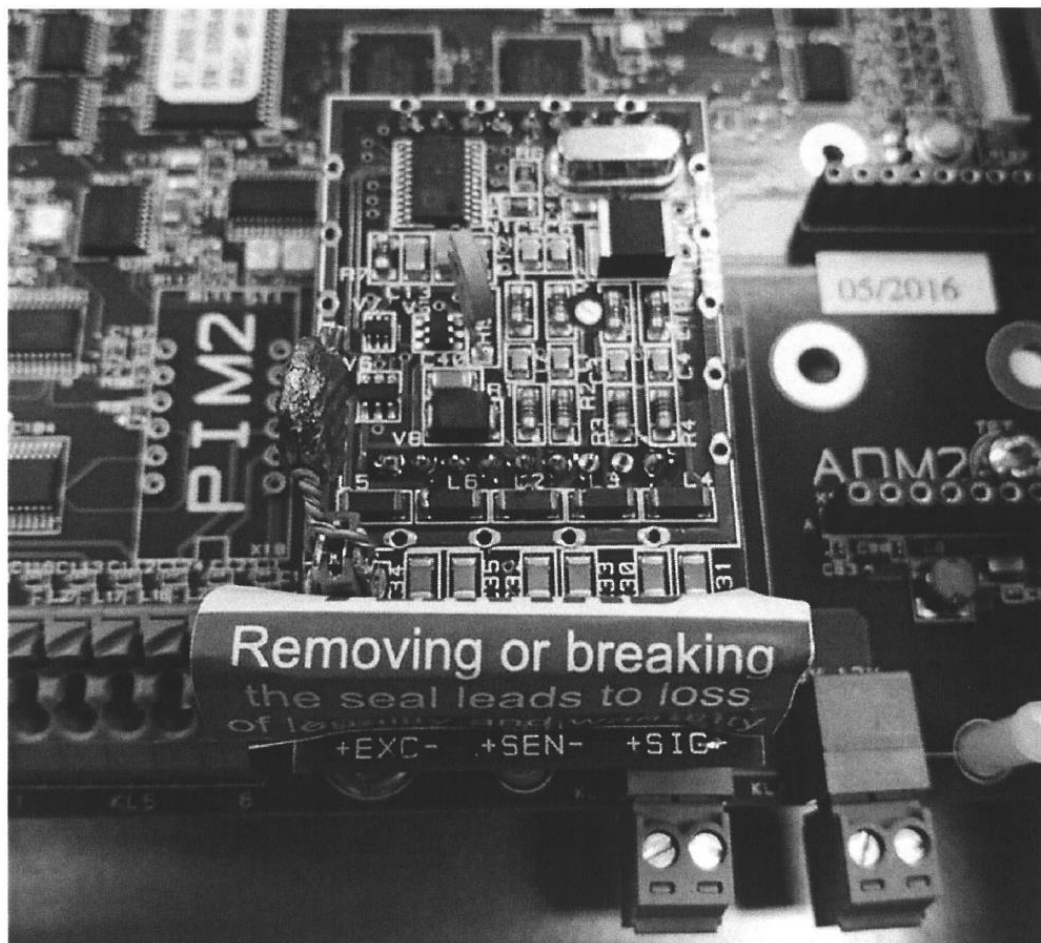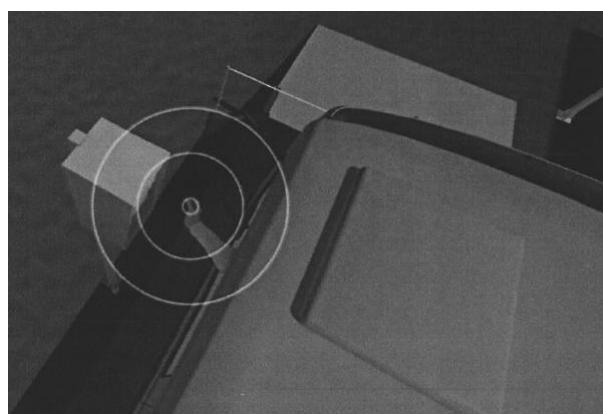Annex page 10 of 11

Figure 6 Indicator sealing method

Figure 7 RFID card and reader

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