

EU Type Examination Certificate

No. 0200-NAWI-03437

Argos Pro PL - SP / Argos Pro SS - SP
NON-AUTOMATIC WEIGHING INSTRUMENT

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

In accordance with the requirements in Directive 2014/31/EU of the European Parliament and Council.

Issued to **BCI Ingenieria SAS**
CR 88 A N° 64D90 Bodega 23,
Bogota D.C.
COLOMBIA

In respect of Non-automatic weighing instrument designated Argos Pro PL - SP / Argos Pro SS – SP with variants of modules of load receptors and load cells.
Accuracy class III, dual-range
Maximum capacity, Max: From 30 kg to 600 kg
Verification scale interval: $e_i = \text{Max}_i / n_i$
Maximum number of verification scale intervals: $n = 2 \times 3000$.
Variants of models are set out in the annex.

The conformity with the essential requirements in annex 1 of the Directive is met by the application of the European Standard EN 45501:2015 and of OIML R76:2006.

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

The annex comprises 9 pages.

Issued on **2018-02-09**
Valid until **2028-02-09**


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FORCE Certification references:
Task no.: 117-37672 and ID no.: 0200-NAWI-03437

Descriptive annex

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1. Name and type of instrument and modules

The non-automatic weighing instruments are designated Argos Pro PL - SP / Argos Pro SS - SP. They are bench scales, which consist of an electronic weighing indicator, connected to a load receptor and peripheral equipment such as printers or other devices, as appropriate. The instrument is Class III.

The indicator consists of an analogue to digital conversion circuitry, microprocessor, control circuitry, non-volatile memory for storage of calibration and setup data, all contained within a single enclosure. The electronic is the same for both models.

2. Description of the construction and function

2.1 Construction

2.1.1 Indicator

The electronic indicator consists of an electronic board bearing the microcontroller and the analog to digital converting electronic and of an electronic board for the RS323 interface.

The enclosure of the Argos Pro PL indicator is made of plastic and with the possibility to be mounted on a bracket. Connectors for power supply, load cell, and RS232 interface are on the rear side.

The enclosure of the Argos Pro SS indicator is made of stainless steel. Connectors for power supply and RS232 interface is on the back side. Cable from load cell is going via a cable gland also on the rear side.

Display and keys on the indicators are on the front.

The display is a 7-segment LCD type with 6 digits. There are also indicators for Stable, Zero, Net, Gross and E2 (off when in range 1, on when in range 2).

There are 6 keys which are used to enter commands in operation or setup. Each key is identified with name and/or a pictograph.

All instrument calibration and metrological setup data are stored in the non-volatile memory.

The indicator is power supplied with 10 VDC via an external power supply with input 110-240 VAC 50/60 Hz. The indicator can optionally be equipped with an internal rechargeable 6 V battery.

2.1.2 Load receptor and load cell

The load receptor of the bench scales is a platform with one load cell.

2.1.3 Interfaces and peripheral equipment

Set out in Section 4.

Models.

Model	Platform		Max [kg]	e = [g]	Min [kg]	ZEMIC Load cell		
	Size [mm]	Material				No .	Type	E _{Max} [kg]
Argos Pro PL - SP	300×300	Carbon steel	15/30	5/10	0.1/0.2	1	L6D	50
	300×400		30/60	10/20	0.2/0.4		L6E	100
	400×400		30/60	10/20	0.2/0.4		L6E	100
	400×500		60/150	20/50	0.4/1		L6E	200
	500×500		60/150	20/50	0.4/1		L6E	200
	500×600		150/300	50/100	1/2		L6G	500
	600×600		150/300	50/100	1/2		L6G	500
	600×600		300/600	100/200	2/4		L6G	750 or 1000
	600×800		300/600	100/200	2/4		L6G	750 or 1000
Argos Pro SS - SP	300×300	Stainless steel	15/30	5/10	0.1/0.2	1	L6D	50
	300×400		30/60	10/20	0.2/0.4		L6E	100
	400×400		30/60	10/20	0.2/0.4		L6E	100
	400×500		60/150	20/50	0.4/1		L6E	200
	500×500		60/150	20/50	0.4/1		L6E	200
	500×600		150/300	50/100	1/2		L6G	500
	600×600		150/300	50/100	1/2		L6G	500
	600×600		300/600	100/200	2/4		L6G	750 or 1000
	600×800		300/600	100/200	2/4		L6G	750 or 1000
800×800	300/600	100/200	2/4	L6G	750 or 1000			

2.2 Functions

The primary functions provided are detailed below.

2.2.1 Display range

The weight indicators will display weight from –Max (Net weight) to Max (gross weight) within the limits of the display capacity.

2.2.2 Zero-setting

2.2.2.1 Initial zero-setting

If the selected Zero mode permits initial Zero-setting it will operate within a range of $\pm 10\%$ of Max. Zero-setting is possible only when the load receptor is not in motion.

2.2.2.2 Zero-tracking

If the selected Zero mode permits the zero-tracking feature, it operates over a range of $\pm 2\%$ of Max and only when the display show zero (gross or net) and the load receptor is not in motion.

2.2.2.3 Semi-automatic zero-setting

If the selected Zero mode permits semi-automatic zero setting the following procedure applies: Pressing the “ZERO” key causes a new zero reference to be established and turn on ZERO indicator.

The semi-automatic zero-setting feature operates over a range of $\pm 2\%$ of Max and only when the load receptor is not in motion.

2.2.3 Tare

The instrument models are provided with a semi-automatic subtractive tare feature activated using the “TARE” key. Tare is possible only when the load receptor is not in motion.

2.2.4 Totalization

The scales have a totalisation function for accumulating weighing results.

2.2.5 Printing

A printer may be connected to the optional RS232 serial data port.

The printing will not take place if the load receptor is not stable, if the gross weight is less than zero, or if the weight exceeds Max.

2.2.6 Operator information messages

The weight indicator has a number of general and diagnostic messages, which are described in detail in the user’s guide.

2.2.7 Software version

The software version can be displayed by pressing the M+ key during the countdown sequence after power up.

The approved software version is 100913.

3. Technical data

3.1 Specifications

The Argos Pro PL - SP / Argos Pro SS – SP bench scales have the following characteristics:

Accuracy class:	III
Weighing range:	multi-range
Maximum number of verification scale intervals (n):	2×3000
Maximum capacity (Max):	30 kg to 600 kg
Verification Scale Interval(e _i):	5 g to 200 g
Minimum capacity (Mini):	20 e _i
Maximum tare effect:	≤ -Max
Excitation voltage:	5 VDC
Supply voltage:	10 VDC via external power supply with input 110-240 CAC 50/60 Hz, 6 V internal rechargeable battery (optional).
Operating temperature range:	-10 °C/+40 °CFunction
Peripheral interface:	Set out in Section 4

3.2 Documents

The documents filed at DELTA (reference No. T211676) are valid for the weighing instruments described here.

4. Interfaces and peripheral equipment

4.1 Interfaces

4.1.1 Load cell input

The connector terminals for load cell connection are located on the rear of the enclosure.

4.1.2 Other interfaces

- RS232

The interface is characterised “Protective interfaces” according to paragraph 8.4 in the Directive and do not have to be secured.

4.2 Peripheral equipment

Connection between the indicator and peripheral equipment is allowed by a shielded cable.

The instrument may be connected to any simple peripheral device with a CE mark of conformity.

5. Approval conditions

5.1 Measurement functions other than non-automatic functions

Measurement functions that will enable the use of the instrument as an automatic weighing instrument are not covered by this type approval.

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 2014/31/EU.

7.1.1 Indicator

Access to the configuration and calibration facility requires that a calibration switch connected to the main board is activated.

Sealing of the cover of the enclosure - to prevent access to the calibration switch and to secure the electronics against dismantling/adjustment - is accomplished differently on the two models.

Argos Pro PL: Wires with lead or plastic seal in two metal rods mounted in one part of the enclosure and sticking out through holes in the other part of the enclosure. Furthermore, a brittle sticker is covering a small plastic cover over the access hole to the calibration switch (see Figure. 5).

Argos Pro SS: Wire with lead or plastic seal in two of the screws holding the enclosure together. Calibration switch is inside the enclosure and cannot be accessed without removing the wire (see Figure 6).

7.1.2 Indicator - load cell connector - load receptor

Sealing of the connection between the BW indicator and the load receptor and load cell(s) is accomplished by sealing the connector with brittle plastic sticker(s) or with wire and seal.

7.1.3 Peripheral interfaces

All peripheral interfaces are “protective”; they neither allow manipulation with weighing data or legal setup, nor change of the performance of the weighing instrument in any way that would alter the legality of the weighing.

8. Location of CE mark of conformity and inscriptions

8.1 Scale

8.1.1 CE mark

CE mark and supplementary metrological marking shall be applied to the scale according to article 16 of Directive 2014/31/EU.

8.1.2 Inscriptions

Max_i, Min, and e_i shall be located near the display(s).

On a label located on the side of the scale enclosure:

- Manufacturer's name or trademark and postal address
- Type designation
- Accuracy class
- Max_i, Min, and e_i =
- Tare (if T ≠ -Max)
- EU type examination certificate number

Model no., serial no., electrical data and other inscriptions

9. Pictures



Figure 1 Argos Pro PL indicator

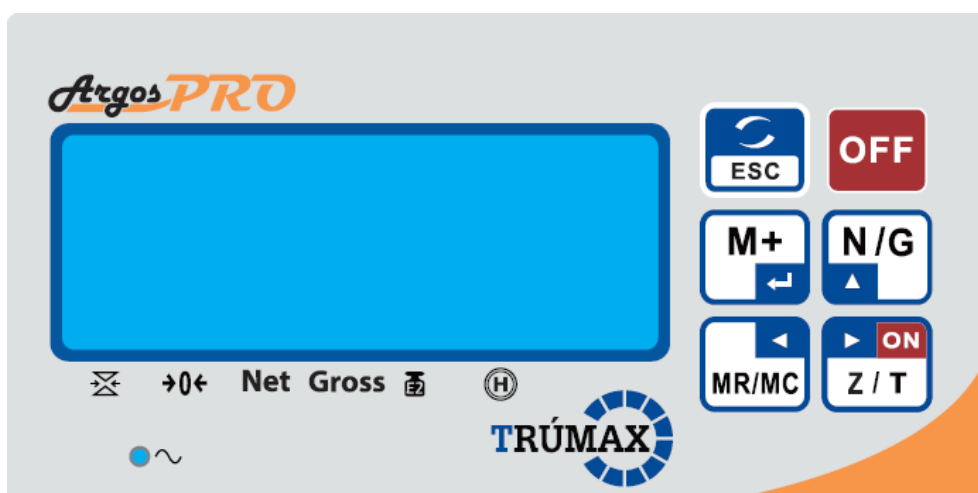


Figure 2 Front layout for Argos Pro PL indicator



Figure 3 Argos Pro SS indicator

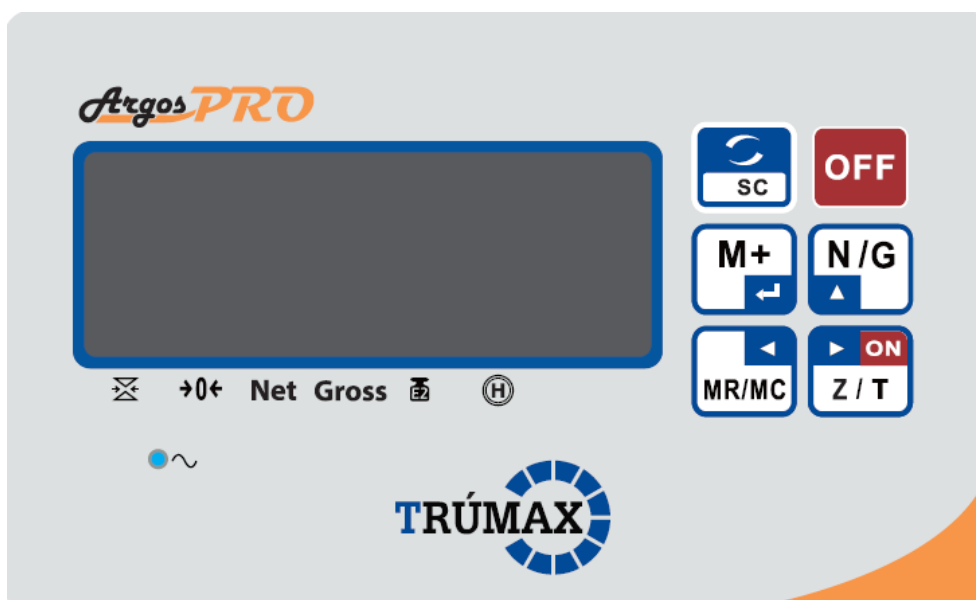


Figure 4 Front layout for Argos Pro SS indicator



Figure 5 Sealing of Argos Pro PL indicator

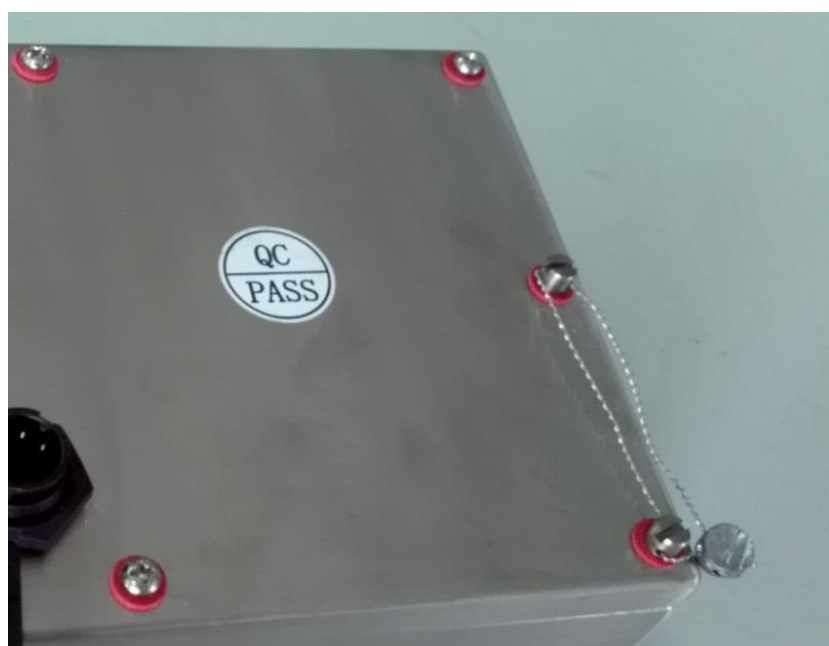


Figure 6 Sealing of Argos Pro SS indicator