Installation and User Manual
version 1.10

W200-C
Load

SYMBOLS

Here are the symbols used in the manual to draw the reader's attention:

Caution! Risk of electric shock.

Caution! This operation must be performed by skilled personnel.

Pay particular attention to the following instructions.

Further information.

WARRANTY

24 months from the date of the delivery note. Warranty covers only failures of defective components (due to construction defects or defects in materials) and includes replacement or repair of the components and related labor costs.
Warranty is automatically forfeited in the event of:
- tampering, deletion, removal of the identification label and/or serial number of the product
- misuse, transformation, alteration, repair of products not carried out by Laumas personnel
Laumas provides a 1-year warranty from the date of the delivery note on defects in material or manufacture of the battery.

GUIDELINES FOR PROPER DISPOSAL

Sealed Lead Acid Battery Must be recycled Properly

PB

This symbol on the product or packaging indicates that:
- This is electrical/electronic equipment and cannot be disposed of as municipal solid waste, but must be delivered to a recycling center
- Improper use or disposal can pollute the environment or damage human health
- Non-compliance with these guidelines will be penalized in accordance with the regulations in force in the country of destination
- It is recommended to dispose of the packing and packaging as required by local regulations

TABLE OF CONTENTS

USER WARNINGS

RECOMMENDATIONS FOR THE PROPER USE OF WEIGHING INSTRUMENT
- Keep away from heat sources and direct sunlight
- Repair the instrument from rain (except special IP versions)
- Do not wash with water jets (except special IP versions)
- Do not dip in water
- Do not spill liquid on the instrument
- Do not use solvents to clean the instrument
- Do not install in areas subject to explosion hazard (except special Atex versions)

RECOMMENDATIONS FOR CORRECT INSTALLATION OF WEIGHING INSTRUMENTS

The terminals indicated on the instrument's wiring diagram to be connected to earth must have the same potential as the weighed structure (same earthing pit or earthing system). If you are unable to ensure this condition, connect with an earthing wire the terminals of the instrument (including the terminal – SUPPLY) to the weighed structure.

The cell cable must be individually led to its panel input and not share a conduit with other cables; connect it directly to the instrument terminal strip without breaking its route with support terminal strips.

Use "RC" filters on the instrument-driven solenoid valve and remote control switch coils.

Avoid inverters in the instrument panel; if inevitable, use special filters for the inverters and separate them with sheet metal partitions.

The panel installer must provide electric protections for the instruments (fuses, door lock switch etc.).

It is advisable to leave the equipment always switched on to prevent the formation of condensation.

MAXIMUM CABLE LENGTHS
- RS485: 1000 metres with AWG24, shielded and twisted cables
- RS232: 15 metres for baud rates up to 19200
- Analog current output: up to 500 metres with 0.5 mm^2 cable
- Analog voltage output: up to 300 metres with 0.5 mm^2 cable

RECOMMENDATIONS FOR CORRECT INSTALLATION OF THE LOAD CELLS

SIZING OF LOAD CELLS CAPACITY
For safety reasons, in case of <u>static weighing</u>, it is advisable to use the load cells at a maximum of 70-80% of its nominal capacity (assuming that the load is uniformly distributed over the entire weighed structure); depending on the handling mode of the load to weigh, consider to further reduce the % of load with respect to the nominal capacity (ex.: forklifts handling, bridge cranes, etc.).

In case of <u>weighing with dynamic loads</u>, the installer has to estimate the thrust speed, the acceleration, the frequency, etc.

INSTALLING LOAD CELLS
The load cells must be placed on rigid, stable in-line structures; it is important to use the mounting modules for load cells to compensate for misalignment of the support surfaces.

CONNECTING SEVERAL CELLS IN PARALLEL
Connect several cells in parallel by using - if necessary - a watertight junction box with terminal box. The cell connection extension cables must be shielded, led individually into their piping or conduit and laid as far as possible from the power cables (in case of 4-wire connections, use cables with $4x1 \text{ mm}^2$ minimum cross-section).

PROTECTION OF THE CELL CABLE
Use water-proof sheaths and joints in order to protect the cables of the cells.

MECHANICAL RESTRAINTS (pipes, etc.)
When pipes are present, we recommend the use of hoses and flexible couplings with open mouthpieces with rubber protection; in case of hard pipes, place the pipe support or anchor bracket as far as possible from the weighed structure (at a distance at least 40 times the diameter of the pipe).

WELDING
Avoid welding with the load cells already installed. If this cannot be avoided, place the welder ground clamp close to the required welding point to prevent sending current through the load cell body.

WINDY CONDITIONS - KNOCKS – VIBRATIONS
The use of weigh modules is strongly recommended for all load cells to compensate for misalignment of the support surfaces. The system designer must ensure that the plant is protected against lateral shifting and tipping relating to: shocks and vibration; windy conditions; seismic conditions in the installation setting; stability of the support structure.

EARTHING THE WEIGHED STRUCTURE

By means of a copper wire with suitable cross-section, connect the cell upper support plate with the lower support plate, then connect all the lower plates to a single earthing system. Electrostatic charges accumulated because of the product rubbing against the pipes and the weighed container walls are discharged to the ground without going through or damaging the load cells. Failure to implement a proper earthing system might not affect the operation of the weighing system; this, however, does not rule out the possibility that the cells and connected instrument may become damaged in the future. It is forbidden to ensure earthing system continuity by using metal parts contained in the weighed structure.

**FAILURE TO FOLLOW THE INSTALLATION RECOMMENDATIONS WILL BE CONSIDERED
A MISUSE OF THE EQUIPMENT**
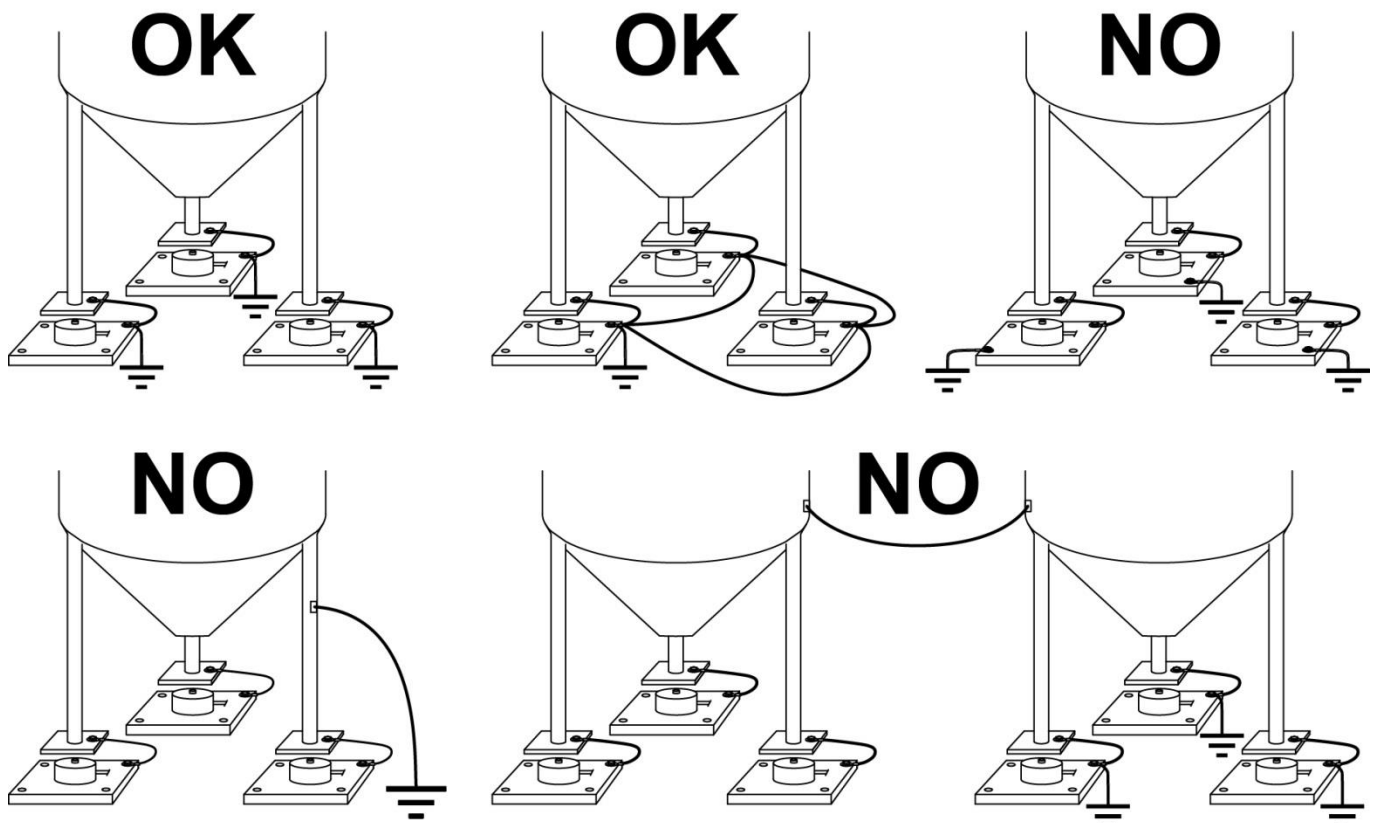
LOAD CELL INPUT TEST (QUICK ACCESS)

$$\boxed{000000} \; \boxed{\overset{\text{PRINT}}{\blacktriangle}} \; \overset{3 \text{ s}}{\underset{}{\xrightarrow{\hspace{3cm}}}} \; \boxed{\Pi U\text{-}CEL}$$
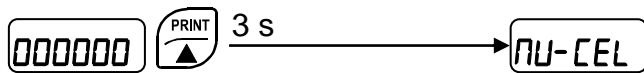
From the weight display, press ▲ for 3 seconds; the response signal of the load cells is displayed, expressed in mV with four decimals.

LOAD CELL TESTING

Load cell resistance measurement (use a digital multimeter):

- Disconnect the load cells from the instrument and check that there is no moisture in the cell junction box caused by condensation or water infiltration. If so, drain the system or replace it if necessary.
- The value between the positive signal wire and the negative signal wire must be equal or similar to the one indicated in the load cell data sheet (output resistance).
- The value between the positive excitation wire and the negative excitation wire must be equal or similar to the one indicated in the load cell data sheet (input resistance).
- The insulation value between the shield and any other cell wire and between any other cell wire and the body of the load cell must be higher than 20 Mohm.

Load cell voltage measurement (use a digital multimeter):

- Take out the load cell to be tested from underneath the container, or alternatively, lift the container support.
- Make sure that the excitation of two wires of the load cell connected to the instrument (or amplifier) is 5 VDC ±3%.
- Measure the response signal between the positive and the negative signal wires by directly connecting them to the tester, and make sure that it is comprised between 0 and ±0.5 mV.
- Apply load to the cell and make sure that there is a signal increment.

IF ONE OF THE ABOVE CONDITIONS IS NOT MET, PLEASE CONTACT THE TECHNICAL ASSISTANCE SERVICE.

MAIN SPECIFICATIONS OF THE INSTRUMENT

Indicator with 6-wire load cell input in DIN box (96x96x130 mm; drilling template 91x91 mm) for panel front mounting. Front panel protection rating IP54 (IP65 front optional). 6-digit semi−alphanumeric display, 14 mm, 7 segments; 8 indicator LEDs. 5−key membrane keypad with buzzer. Real-time clock/calendar with buffer battery.

W200BOX - IP67 waterproof ABS box version: dimensions 170x140x95 mm; four fixing holes Ø 4 mm (centre distance 152x122 mm).

W200BOX-EC - IP64 waterproof ABS box version: dimensions 170x140x95 mm, four fixing holes Ø 4 mm (centre distance 152x122 mm). Equipped with external selector switch for formula selection (EC option), Start and Stop buttons.

Two serial ports (RS485 and RS232) for connection to: PC/PLC up to 32 instruments (max 99 with line repeaters) by ASCII Laumas or ModBus R.T.U. protocol, remote display, printer. Optional: integrated Profibus DP, DeviceNet, CANopen, Profinet IO, Ethernet/IP, Ethernet TCP/IP, Modbus/TCP output.

The instrument can be connected to a CLM serie intelligent junction box or to a weight transmitter.

BUFFER BATTERY

The instrument is equipped with an internal battery that allows to keep active the internal clock even in the event of power failure.

At the first start and after long periods of inactivity, leave the instrument on for at least 12 hours to fully charge the battery.

TECHNICAL SPECIFICATIONS

POWER SUPPLY and CONSUMPTION **(VDC)**	12/24 VDC ±10%; 5 W (standard)
POWER SUPPLY and CONSUMPTION **(VAC)**	115/230 VAC (optional); 50-60 Hz; 6 VA
NO. OF LOAD CELLS IN PARALLEL and SUPPLY	max 8 (350 ohm); 5 VDC / 120 mA
LINEARITY / ANALOG OUTPUT LINEARITY	< 0.01% F.S.; < 0.01% F.S.
THERMAL DRIFT / ANALOG OUTPUT THERMAL DRIFT	< 0.0005% F.S./°C; < 0.003% F.S./°C
A/D CONVERTER	24 bit (16000000 points)
MAX DIVISIONS (with measurement range ±10 mV = sens. 2 mV/V)	±999999
MEASUREMENT RANGE	±39 mV
MAX SENSITIVITY OF USABLE LOAD CELLS	±7 mV/V
MAX CONVERSIONS PER SECOND	300 conversions/second
DISPLAY RANGE	±999999
NO. OF DECIMALS / DISPLAY INCREMENTS	0÷4 / x 1 x 2 x 5 x 10 x 20 x 50 x 100
DIGITAL FILTER / READINGS PER SECOND	10 levels / 5÷300 Hz
RELAY OUTPUTS	N.5 - max 115 VAC; 150 mA (N. 4 – analog output version)
DIGITAL INPUTS	N.3 - optoisolated 5 - 24 VDC PNP (N. 2 – analog output version)
SERIAL PORTS	RS485, RS232
BAUD RATE	2400, 4800, 9600, 19200, 38400, 115200
HUMIDITY (non condensing)	85%
STORAGE TEMPERATURE	-30°C +80°C
WORKING TEMPERATURE	-20°C +60°C
OPTOISOLATED ANALOG OUTPUT (OPTIONAL) 16 bit - 65535 divisions	0÷20 mA; 4÷20 mA (max 300 ohm); 0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kohm)

c**ᴿᵁ**US	RELAY OUTPUTS	N.5 - max 30 VAC, 60 VDC; 150 mA (N. 4 – analog output version)
	WORKING TEMPERATURE	-20°C +50°C
	Equipment to be powered by 12-24 VDC LPS or Class 2 power source.	

ELECTRICAL CONNECTIONS

TERMINALS LEGEND

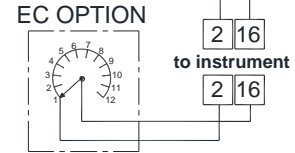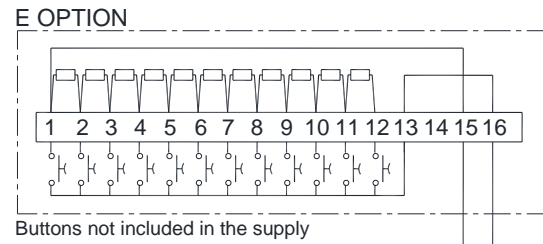|			
1	+SUPPLY (12/24 VDC) **115/230 VAC optional version:** +OUTPUT (24 VDC)	15	OUTPUT No. 5: TOLERANCE *otherwise:* +ANALOG OUTPUT (0÷10 V)
2	-SUPPLY (12/24 VDC) RS232, RS485: SHIELD, GND E/EC OPTION: GND **115/230 VAC optional version:** -OUTPUT (24 VDC) RS232, RS485: SHIELD, GND E/EC OPTION: GND	16	E/EC OPTION *otherwise:* -ANALOG OUTPUT COMMON
3	RS232: TXD	17	RS485: -
4	RS232: RXD	18	RS485: +
5	OUTPUT No. 1: PRESET	19	-LOAD CELL EXCITATION (-Exc) LOAD CELL SHIELD
6	OUTPUT No. 2: SET	20	+LOAD CELL EXCITATION (+Exc)
7	OUTPUT No. 3: CYCLE END	21	+LOAD CELL REF/SENSE
8	OUTPUT No. 4: ALARM	22	-LOAD CELL REF/SENSE
9	OUTPUT COMMON	23	-LOAD CELL SIGNAL (-Sig)
10	INPUT No. 1: START (+VDC min 5 V max 24 V)	24	+LOAD CELL SIGNAL (+Sig)
11	INPUT No. 2: STOP (+VDC min 5 V max 24 V)	L	PHASE **(115/230 VAC optional version)**
12	INPUT COMMON (-VDC 0 V)	N	NEUTRAL **(115/230 VAC optional version)**
13		⏚	GROUND **(115/230 VAC optional version)**
14	INPUT No. 3: selectable (+VDC min 5 V max 24 V) *otherwise:* +ANALOG OUTPUT (0÷20 o 4÷20 mA)		

BASIC INFORMATION

- It is recommended that the power supply negative pole be grounded.
- It is possible to supply up to eight 350 ohm load cells or sixteen 700 ohm load cells.
- For 4-wire load cells, make a jumper between EX- and REF- and between EX+ and REF+.
- Connect terminal "– SUPPLY" to the RS485 common of the connected instruments in the event that these receive alternating current input or that they have an optically isolated RS485.
- In case of an RS485 network with several devices it is recommended to activate the 120 ohm termination resistance on the two devices located at the ends of the network, as described in the paragraph **RS485 SERIAL CONNECTION.**
- Option **E/EC**: selects the first 12 formulas.

WIRING DIAGRAM

12/24 VDC supply

OUTPUTS max 115 VAC 150 mA

INPUTS supply 5÷24 VDC

E OPTION

Buttons not included in the supply

EC OPTION

to instrument

(1) ANALOG OUTPUT OPTION

Current output: max load 300 ohm
Voltage output: min.load 10 kohm

4-WIRE load cell CONNECTION

RS485
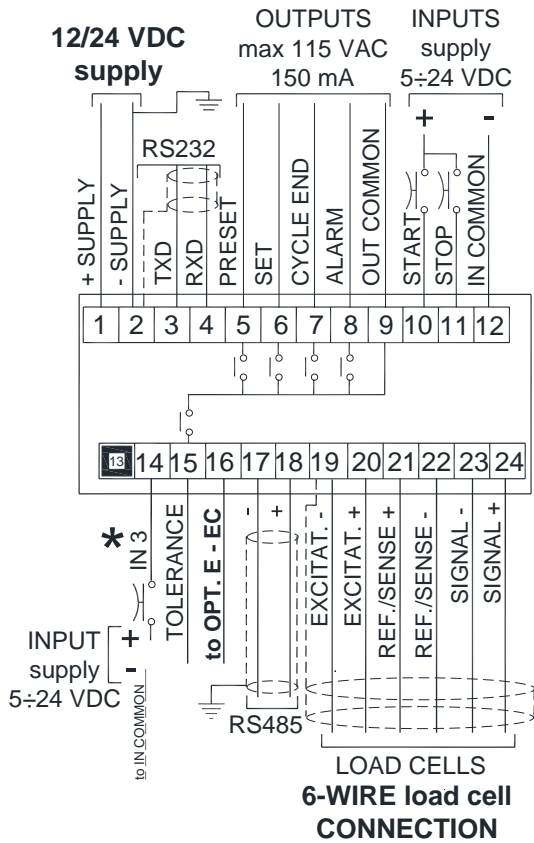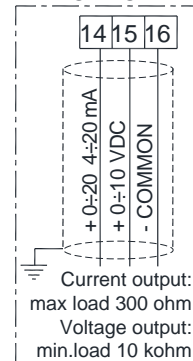
LOAD CELLS
6-WIRE load cell CONNECTION
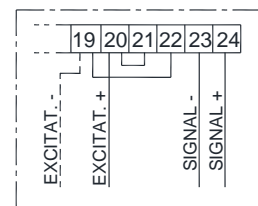
★) The **IN3** input can have the following functions:
- **APPROVAL**
- **SEMI-AUTOMATIC ZERO** (default)
- **NET/GROSS WEIGHT**

(1) If the analog output is present (ANALOG OUTPUT OPTION) the following are no longer available:
- **IN3** input
- **TOLERANCE** output
- **E/EC** options

WARNING! 115 V / 230 V OPTIONS

INSTRUMENT

115/230 VAC

24 VDC OUTPUT
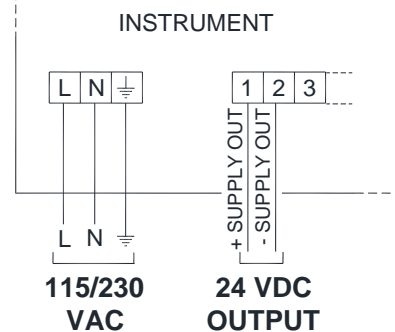
WARNING: connect power supply specified on the plate found on the back of the instrument.
In 115 V and 230 V versions, terminals "+ SUPPLY" and "– SUPPLY" generate continuous voltage at 24 VDC only to be used as power supply for instrument inputs.

CHANGING VOLTAGE 115 VAC / 230 VAC

Remove the instrument power board and work on the welding side: join the red points using a stiff wire.

230 VAC

115 VAC
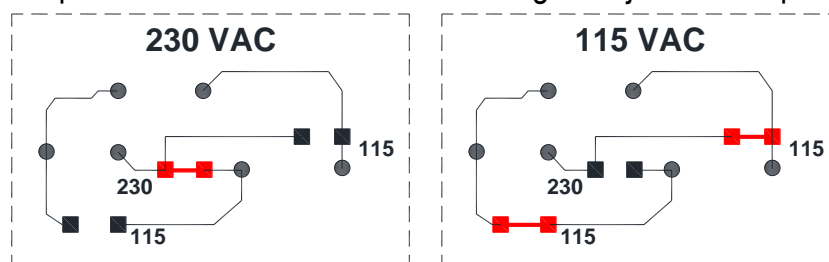
The instrument is able to load automatically a settable amount of product on the weighing structure, driving the batching organ (including two-speed) through the PRESET and SET contacts.
The instrument has the following features:
- Maximum 99 settable formulas (see section **FORMULAS PROGRAMMING**);
- Batching resume after blackout (see section **RESUME BATCHING AFTER A POWER CUT**);
- Automatic fall calculation (see section **FALL**);
- Autotare at batching start (see section **AUTOTARE**);
- Tolerance error control (see section **TOLERANCE**);
- Precision batching through slow function (see section **SLOW**);
- Precision batching through tapping function (see section **TAPPING FUNCTION**);
- Consumption storage (see section **CONSUMPTION**);
- Print of batching data (see section **PRINT AT CYCLE END**);
- Alarm contact (see section **ALARM RELAY CLOSURE**);

BATCHING START:
- via keypad, setting formula and cycle number to be performed;
- via external contact (see section **BATCHING START FROM EXTERNAL CONTACT**).
For further information on the batching sequence, see section **BATCHING**.

CONSUMPTION STORAGE:
The instrument, at the end of every batching, stores the consumed amount for each formula. Consumption value can be viewed directly on instrument display in standby mode.

INSTRUMENT CALIBRATION:
The instrument calibration can be performed both with THEORETICAL CALIBRATION, setting the instrument full scale and the load cells sensitivity (see section **THEORETICAL CALIBRATION**), and with REAL CALIBRATION through SAMPLE WEIGHT (see section **REAL CALIBRATION (WITH SAMPLE WEIGHTS)**).

ALARM MANAGEMENT:
If an alarm occurs during the batching, the instrument shows the alarm on the display, closes the related contact (if enable) and waits for operator intervention to abort or continue the batching.

LED AND KEY FUNCTION

LED	Function
NET	net weight (semi-automatic tare or preset tare)
→0←	zero (deviation from zero not more than ±0.25 divisions)
�	stability
kg	unit of measure: kg
g	unit of measure: g
W1	
W2	
W3	

KEY	Short press	Long press (3 s)	Into menus
→0← ESC	Semi-automatic zero	Tare resetting	Cancel or return to previous menu
TARE ◄	Gross → Net	Net → Gross	Select figure to be modified or go to previous menu item.
START STOP	Batching start / stop		
PRINT ▲	Print menu	mV load cell test	Modify selected figure or go to next menu item.
MENU ENTER	Setting formulas and batching constants	Formula selection for START input (EC not present)	Confirm or enter in submenu
MENU ENTER + →0← ESC	Setting general parameters (press MENU ENTER immediately followed by →0← ESC)		
MENU ENTER + TARE ◄	Setting preset tare (press MENU ENTER immediately followed by TARE ◄)		
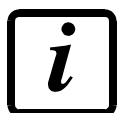
i Into menus LEDs light up in sequence to indicate that it is not displaying a weight.

MENU MAP

Into menus changes are applied right after pressing the ENTER key (no further confirmation is required).

SYSTEM PARAMETERS

000000	MENU/ENTER + →0←/ESC	CALI b	→	FS-tEO
		◄ ▲		SEnSI b
		FILtEr		dI UI S
		PArA O → O SEt	000000 →0←/ESC 3 s	ZErO
		AUtO O		I nP O
		trAC O		UEI GHt
optional		AnALOG		uni t
		SErI AL → rS485	nOnE / ModbUS / rI P / HdrI P / HdrI Pn / PrI ntr / UEI MOd / UEI rI P	tYPE
		◄ ▲		MOdE
		rS232		AnA O
				AnA FS
		ALArM → COnS		COr O
		Out-I n → I n 3	ENPtY	COr FS
		tESt → I n	MASFOr	bAUd
		Out	tArE	Addr
optional		AnALOG	LOAd	dELAY
optional		EC	UnLOAd	PArI tY
000000 PRINT▲ 3 s	→	MU-CEL	FALL	StOP
			SLAuE	
		dAtE		
		PSUbLC		
		SEttI n → nEHt P		
		I nFO → GEnrI C	PSS	
000000 MENU/ENTER + TARE◄	P-tArE	OP2	EndnEt	
			bLACH	

- 11 -

000000	MENU ENTER	FOrP	→	FOrP01	→	PrESEt

◄ ▲   SEt

◄ ▲   FOrP02 → PrESEt

...   SEt

CAnCFO → FOrP00 → SUrE

* tOtAL → 123456 → 0 1.10.10 → COn   1

* CAnCtO → SUrE   COn   2

COnSt → Π¡n   SLOUOn   COn   3

ΠASS   SLOUOF   ...

t51 C   AtArE

t¡ΠEAt   t¡ΠEtA

tnCOΠP   StAbtA

tnLOAd   tOtAL

tnUnLO   Pr¡nt

ΠOdFAL   nCOPY

FALdᴸᵤ   PC

FALL   SLAᵤE

tOL   rALArΠ

SLOU   rtOLEr

*: it appears only if in constants TOTAL = YES

INSTRUMENT COMMISSIONING

Upon switch-on, the display shows in sequence:
- $111111 \rightarrow 999999$ (<u>ONLY in case of approved program</u>);
- instrument model (e.g.: *U200*);
- *SU* followed by the software code (e.g.: *SU 5*);
- program type: *bASE* (base); *LOAd*; *UnLOAd*; *3PrOd*; *6PrOd*; *14PrOd*; *nULtI* (no active program);
- *r* followed by the software version (e.g.: *r 1.08.00*);
- *HU* followed by the hardware code (e.g.: *HU 104*);
- serial number (e.g.: *1005 15*);

Check that the display shows the weight and that when loading the load cells there is an increase in weight. If there is not check and verify the connections and correct positioning of the load cells.

- **If the instrument has already been theoretical CALIBRATED** (plant system identification tag present on the instrument and on the cover: load cell's rated data already entered):
  - Reset to zero (see section **TARE WEIGHT ZERO SETTING**)
  - Check the calibration with sample weights and correct the indicated weight if necessary (see section **REAL CALIBRATION (WITH SAMPLE WEIGHTS)**).

- **If the instrument HAS NOT BEEN CALIBRATED** (missing plant system identification tag) proceed with calibration:
  - If load cells data are unknown, follow the procedure in section **REAL CALIBRATION (WITH SAMPLE WEIGHTS)**
  - Enter the rated data of load cells following the procedure given in section **THEORETICAL CALIBRATION**
  - Reset to zero (see section **TARE WEIGHT ZERO SETTING**)
  - Check the calibration with sample weights and correct the indicated weight if necessary (see section **REAL CALIBRATION (WITH SAMPLE WEIGHTS)**).

- If you use the analog output, set the desired analog output type and the full scale value (see section **ANALOG OUTPUT**).
- If you use serial communication, set the related parameters (see section **SERIAL COMMUNICATION SETTING**).
- Set instrument's clock with current date and time (see section **DATE AND TIME SETTING**)

Required settings for the first batching:
- Access the Batching Constants menu and set the minimum weight value (see section **MINIMUM WEIGHT**);
- Access the System Parameter menu and set the *PSS* parameter (see section **OPERATION SETTINGS**);
- Access the Formulas menu and set the formula 01 (see section **FORMULAS PROGRAMMING**);
- Start the batching by pressing the START button or by closing the START contact

PROGRAMMING OF SYSTEM PARAMETERS

From the weight display, press simultaneously keys MENU and ESC to access the parameter setting.

MENU/ENTER: to enter a menu/confirm the data entry.
▲:   to modify the displayed figure or menu item.
◀:   to select a new figure or modify the displayed menu item.
ESC: to cancel and return to the previous menu.

THEORETICAL CALIBRATION

000000 [MENU/ENTER] + [→0← ESC] CALIb [MENU/ENTER] FS-tEO [MENU/ENTER] SEnSIb [MENU/ENTER] dIUIS

This function allows the load cell rated values to be set.

To perform the theoretical calibration set the following parameters in sequence:
- FS-tEO (default: dENo)**:** the **system full scale** is given by one cell capacity multiplied by the number of cells used. Example: 4 cells of 1000 kg → FULL SCALE = 1000 x 4 = 4000. The instrument is supplied with a theoretical full scale value dENO corresponding to 10000. To restore factory values, set 0 as full scale.
- SEnSIb (default: 2.00000 mV/V): **sensitivity** is a load cell rated parameter expressed in mV/V. Set the average sensitivity value indicated on the load cells. It's possible to set a value between 0.50000 and 7.00000 mV/V. Example of 4-cell system with sensitivity: 2.00100, 2.00150, 2.00200, 2.00250; enter 2.00175, calculated as (2.00100 + 2.00150 + 2.00200 + 2.00250) / 4.
- dIUIS: the **division** (resolution) is the minimum weight increment value which can be displayed. It is automatically calculated by the system according to the performed calibration, so that it is equal to 1/10000 of full scale. It can be changed and be variable between 0.0001 and 100 with x1 x2 x5 x10 increments.

- By modifying the full scale or the sensitivity, the real calibration is cancelled and the theoretical calibration only is considered valid.
- If the theoretical full scale and the recalculated full scale in real calibration (see section **REAL CALIBRATION (WITH SAMPLE WEIGHTS)**) are equal, this means that the calibration currently in use is theoretical; if they are different, the calibration in use is the real calibration based on sample weights.
- By modifying the theoretical full scale, the system's parameters containing a weight value will be set to default values.

TARE WEIGHT ZERO SETTING

`000000` [MENU ENTER] + [→0← ESC] `CALI b` [MENU ENTER] `FS-tEO` ◀ ▲ `ZErO`

This menu may also be accessed directly from the weight display, holding down the [→0←] **key for 3 seconds.**

Perform this procedure after having set the THEORETICAL CALIBRATION data.

Use this function to set to zero the weight of the empty system after commissioning and then later on to compensate zero variations due to the presence of product residues.
Procedure:
-   Confirm the message `ZErO` by pressing ENTER.
-   The weight value to be set to zero is displayed. In this phase all of the LEDs are flashing.
-   Confirming once again, the weight is set to zero (the value is stored to the permanent memory).
-   Press ▲ to display the value of the total weight reset by the instrument, given by the sum of all of the previous zero settings.

ZERO VALUE MANUAL ENTRY

`000000` [MENU ENTER] + [→0← ESC] `CALI b` [MENU ENTER] `FS-tEO` ◀ ▲ `I NP O`

WARNING: perform this procedure only if it's not possible to reset the weighed structure tare, for example because it contains product that can not be unloaded.

Set in this parameter the estimated zero value (from -999999 to 999999; default: 0).

REAL CALIBRATION (WITH SAMPLE WEIGHTS)

| 000000 | MENU ENTER | + | →0← ESC | CALI b | MENU ENTER | FS-tEO | ◀ ▲ | UEI GHt |

After having performed the THEORETICAL CALIBRATION and TARE WEIGHT ZERO SETTING, this function allows correct calibration to be done using sample weights of known value and, if necessary, any deviations of the indicated value from the correct value to be corrected.

Load onto the weighing system a sample weight, which must be **at least 50%** of the maximum quantity to be weighed.

By confirming the message *UEI GHt* the flashing value of the weight currently on the system is displayed. In this phase all of the LEDs are off. Adjust the value on display by using the arrow keys if necessary. After confirming, the new set weight will appear with all the LEDs flashing.

After an additional confirmation, the message *UEI GHt* will be restored and by repeatedly pressing the key ESC the weight will once again be displayed.

Example: for a system of maximum capacity 1000 kg and 1 kg division, two sample weights are available, one of 500 kg and the other one of 300 kg. Load both weights onto the system and correct the indicated weight to 800. Now remove the 300 kg weight, the system must show 500; remove the 500 kg weight, too; the system must read zero. If this does not happen, it means that there is a mechanical problem affecting the system linearity.

WARNING: identify and correct any mechanical problems before repeating the procedure.

- If theoretical full scale and recalculated full scale in real calibration are equal, it means that the theoretical calibration is currently in use; otherwise, the real calibration based on sample weights is in use.
- If the correction made changes the previous full scale for more than 20%, all the parameters with settable weight values are reset to default values.

LINEARISATION OPTION ON MAX 8 POINTS:
It is possible to perform a linearisation of the weight repeating the above-described procedure up to a maximum of eight points, using eight different sample weights. The procedure ends by pressing the ESC button or after entering the eighth value; at this point it will no longer be possible to change the calibration value, but only to perform a new real calibration. To perform a new calibration, should return to the weight display and then re-entering into the calibration menu.

By pressing ▲ after having confirmed the sample weight that has been set, the full scale appears, recalculated according to the value of the maximum sample weight entered and making reference to the cell sensitivity set in the theoretical calibration (*SEnSI b*).

FILTER ON THE WEIGHT

$\boxed{\texttt{000000}}$ $\boxed{\substack{\text{MENU}\\\text{ENTER}}}$ + $\boxed{\substack{\rightarrow 0 \leftarrow\\\text{ESC}}}$ $\boxed{\texttt{CALIb}}$ ◄ ▲ $\boxed{\texttt{FILtEr}}$

Setting this parameter allows a stable weight display to be obtained.

To increase the effect (weight more stable) increase the value (from 0 to 9, default 4).
As seen in the diagram:
- By confirming the $\texttt{FILtEr}$ message, the currently programmed filter value is displayed.
- By changing and confirming the value, the weight is displayed and it will be possible to experimentally verify its stability.
- If stability is not satisfactory, confirming brings back the message $\texttt{FILtEr}$ and the filter may be modified again until an optimum result is achieved.

The filter enables to stabilise a weight as long as its variations are smaller than the corresponding "response time". It is necessary to set this filter according to the type of application and to the full scale value set.

FILTER VALUE	Response times [ms]	Display and serial port refresh frequency [Hz]
0	12	300
1	150	100
2	260	50
3	425	25
4 (default)	850	12.5
5	1700	12.5
6	2500	12.5
7	4000	10
8	6000	10
9	7000	5

ANTI PEAK

When the weight is stable, the anti peak filter removes any sudden disturbances with a maximum duration of 1 second. Confirm the filter on the weight with ENTER and select one of the following options:
- $\texttt{AntPOn}$: anti peak filter enabled (default);
- $\texttt{AntPOF}$: anti peak filter disabled.

000000 [MENU/ENTER] + [→0←/ESC] [CALIb] ◄ ▲ [PArA 0]

RESETTABLE WEIGHT SETTING FOR SMALL WEIGHT CHANGES

0 SEt (from 0 to full scale; default: 300; considered decimals: 300 – 30.0 – 3.00 – 0.300): this parameter indicates the maximum weight value resettable by external contact, keypad or serial protocol.

AUTOMATIC ZERO SETTING AT POWER-ON

AUtO 0 (from 0 to 10% of full scale; default: 0): If at switch-on the weight value is lower than the value set in this parameter, the weight is reset. To disable this function, set 0.

ZERO TRACKING

trAC 0 (from 1 to 5, default: nOnE): When the weight value is stable and, after a second, it deviates from zero by a figure in divisions smaller or equal to the figure in divisions set in this parameter, the weight is set to zero. To disable this function, set nOnE.

Example: if the parameter dIUIS is set to 5 and trAC 0 is set to 2, the weight will be automatically set to zero for variations smaller than or equal to 10 (dIUIS x trAC 0).

SETTING UNITS OF MEASURE

| `000000` | MENU/ENTER | + | →0←/ESC | `CALI b` | MENU/ENTER | `FS-tEO` | ◄ ▲ | `unI t` |

These are the available units of measure:

`HI LOG`:   kilograms
`G`:   grams
`t`:   tons
`Lb`:   pounds
`nEUton`:   newtons
`LI trE`:   litres
`bAr`:   bars
`AtN`:   atmospheres
`PI ECE`:   pieces
`nEU-N`:   newton metres
`HI LO-N`:   kilogram metres
`OtHEr`:   other generic units of measure not included in the list

If the print function is enabled, the symbol corresponding to the selected unit of measure will be printed after the measured value.

OUTPUTS AND INPUTS CONFIGURATION

| `000000` | MENU/ENTER | + | →0←/ESC | `CALI b` | ◄ ▲ | `Out-I n` | MENU/ENTER | `I n 3` |

OUTPUTS
- OUTPUT 1: PRESET (for operation see **OPERATION SETTINGS**)
- OUTPUT 2: SET (for operation see **OPERATION SETTINGS**)
- OUTPUT 3: CYCLE END (the relay is closed to the achievement of Cycle End)
- OUTPUT 4: ALARM (the relay is closed when an alarm is present)
- OUTPUT 5: TOLERANCE (the relay is closed when the weight is out of tolerance)

INPUTS
- INPUT 1: START
- INPUT 2: STOP
- INPUT 3 (default = `2Er0`): It's possible to select one of the following functions:
    - `nE-LO` (NET/GROSS): by closing this input for no more than one second, it's making an operation of SEMI-AUTOMATIC TARE and the display will show the net weight. To display the gross weight again, hold the NET/GROSS input closed for 3 seconds.
    - `2Er0` (SEMI-AUTOMATIC ZERO): by closing the input for no more than one second, the weight is set to zero (see section **SEMI-AUTOMATIC ZERO (WEIGHT ZERO-SETTING FOR SMALL VARIATIONS)**).
    - `COnS` (APPROVAL): the instrument starts the batching only after verifying that this input is closed.

SEMI-AUTOMATIC TARE (NET/GROSS)

THE SEMI-AUTOMATIC TARE OPERATION IS LOST UPON INSTRUMENT POWER-OFF.

To perform a net operation (SEMI-AUTOMATIC TARE), close the NET/GROSS input or press the TARE key for less than 3 seconds. The instrument displays the net weight (just set to zero) and the NET LED lights up. To display the gross weight again, keep the NET/GROSS input closed or press TARE for 3 seconds.
This operation can be repeated many times by the operator to allow the loading of several products.

Example:
Put the box on the scale, the display shows the box weight; press TARE, the display shows the net weight to zero; introduce the product in the box, the display shows the product weight. This operation can be repeated several times.

While the net weight is displayed, keep ▲ pressed to display gross weight. When the key is released the net weight will be displayed again.

The semi-automatic tare operation is not allowed if the gross weight is zero.

PRESET TARE (SUBTRACTIVE TARE DEVICE)

$\boxed{000000}$ $\boxed{\text{MENU ENTER}}$ + $\boxed{\text{TARE ◄}}$ $\boxed{P\text{-}tArE}$
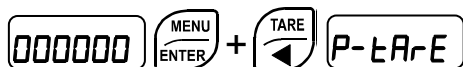
It is possible to manually set a preset tare value to be subtracted from the display value provided that the $P\text{-}tArE$ ≤ max weight condition is verified.

By default the instrument shows the last programmed preset tare value: to apply it press ▲ and then ENTER.
After setting the tare value, going back to the weight display, the display shows the net weight (subtracting the preset tare value) and the NET LED lights up to show that a tare has been entered.
To delete a preset tare and return to gross weight display, hold down TARE for about 3 seconds or keep the NET/GROSS input (if any) closed for the same length of time (3 seconds). The preset tare value is set to zero. The NET LED is turned off when the gross weight is displayed once again.

While the net weight is displayed, keep ▲ pressed to display the gross weight. When the key is released the net weight will be displayed again.
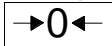
- IF A SEMI-AUTOMATIC TARE (NET) IS ENTERED, IT IS NOT POSSIBLE TO ACCESS THE ENTER PRESET TARE FUNCTION.
- IF A PRESET TARE IS ENTERED, IT'S STILL POSSIBLE TO ACCESS THE SEMI-AUTOMATIC TARE (NET) FUNCTION. THE TWO DIFFERENT TYPES OF TARE ARE ADDED.

ALL THE SEMI-AUTOMATIC TARE (NET) AND PRESET TARE FUNCTIONS WILL BE LOST WHEN THE INSTRUMENT IS TURNED OFF.

| SEMI-AUTOMATIC ZERO (WEIGHT ZERO-SETTING FOR SMALL VARIATIONS) |

By closing the SEMI-AUTOMATIC ZERO input, the weight is set to zero; alternatively, by pressing the →0← key for less than 3 seconds, the 5ŁD⁻E? message is displayed for 3 seconds, by pressing ENTER the weight is set to zero.

This function is only allowed if the weight is lower than the D 5EŁ value (see section **RESETTABLE WEIGHT SETTING FOR SMALL WEIGHT CHANGES**), otherwise the alarm Łⁱ⁻⁻⁻⁻ appears and the weight is not set to zero.

ANALOG OUTPUT(ONLY FOR INSTRUMENTS WHERE THIS OPTION IS AVAILABLE)

$\boxed{000000}$ $\boxed{\text{MENU ENTER}}$ + $\boxed{\text{→0← ESC}}$ $\boxed{\text{CALI b}}$ ◀ ▲ $\boxed{\text{AnALOG}}$
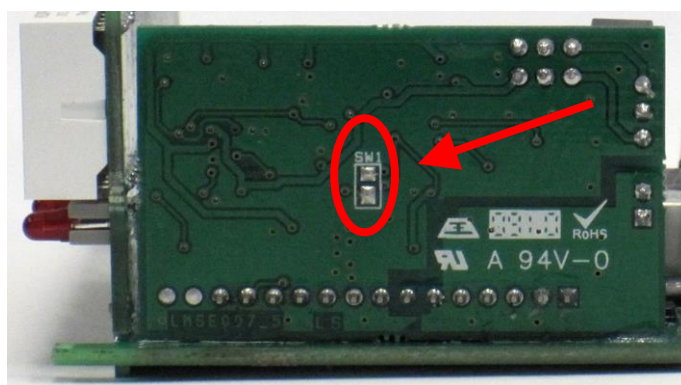
- **ŁYPE**: it selects the analog output type (4÷20 mA, 0÷20 mA, 0÷10 V, 0÷5 V, ±10 V, ±5 V; default: 4÷20 mA).

> For the output ±10 V and ±5 V the soldered jumper SW1 must be closed:
> - open the instrument, releasing with a screwdriver the locking tabs that hold together the two sides of the case;
> - locate on the printed circuit board the soldered jumper SW1 highlighted in the picture below:

> - close the jumper shorting the pads with a drop of tin.

- **MOdE**: choice of a weight followed by the analog output: gross (**GrOSS**) or net (**nEt**). If the net function is not active, the analog output varies according to gross weight.
- **AnA 0**: set the weight value for which you wish to obtain the minimum analog output value.

> Only set a value different from zero if you wish to limit the analog output range; for instance: for a full scale value of 10000 kg you require an 4 mA signal at 5000 kg and 20 mA at 10000 kg, in this case, instead of zero, set 5000 kg.

- **AnA FS**: set the weight value for which you wish to obtain the maximum analog output value; it must correspond to the value set in the PLC program (default: calibration full scale). E.g.: if I am using a 4÷20 mA output and in the PLC program I wish to have 20 mA = 8000 kg, I will set the parameter to 8000.
- **COr 0**: analog output correction to zero: if necessary adjust the analog output, allowing the PLC to indicate 0. The sign "-" can be set for the last digit on the left. E.g.: if I use a 4÷20 mA output and, with the minimum analog setting, the PLC or tester read 4.1 mA, I must set the parameter to 3.9 to obtain 4.0 on the PLC or tester.
- **COr FS**: correction of analog output to full scale: if necessary permit modification of the analog output by allowing PLC to indicate the value set in the parameter **AnA FS**. E.g. if I am using a 4÷20 mA output with the analog set to full scale and the PLC or tester reads 19.9 mA, I must set the parameter to 20.1 to get 20.0 on the PLC or tester.

Minimum and maximum values which can be set for zero and full scale corrections:

ANALOG OUTPUT TYPE	Minimum	Maximum
0÷10 V	-0.150	10.200
0÷5 V	-0.150	5.500
±10 V	-10.300	10.200
±5 V	-5.500	5.500
0÷20 mA	-0.200	22.000
4÷20 mA	-0.200	22.000

NOTE: the analog output may also be used in the opposite manner, i.e. the weight setting that corresponds to the analog zero (ᎯᏁᎯ Ꭷ) may be greater than the weight set for the analog full scale (ᎯᏁᎯ ᖴᏕ). The analog output will increase towards full scale as the weight decreases; the analog output will decrease as the weight increases.

For example:

ᎯᏁᎯ Ꭷ = 10000   ᎯᏁᎯ ᖴᏕ = 0   analog output 0÷10 V

Weight =   0 kg   analog output =   10 V
Weight =5000 kg   analog output =   5 V
Weight =10000 kg   analog output =   0 V

All analog outputs of the instrument are ACTIVE and SINGLE ENDED type, therefore they can be connected only to PASSIVE receiver devices. The minimum load allowed for voltage outputs is 10 kohm, the maximum load allowed for current outputs is 300 ohm.

SERIAL COMMUNICATION SETTING

000000 (MENU/ENTER) + (→0←/ESC) ᏟᎯᏞᎥ Ꮟ ◀ ▲ ᏕᎬᏒᎥ ᎯᏞ
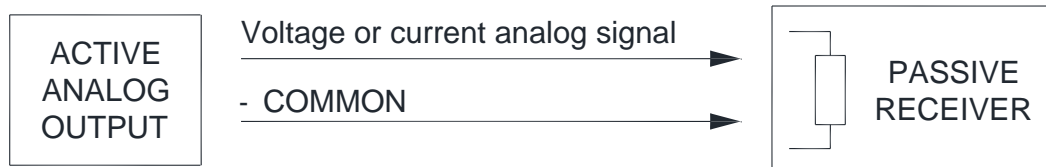
- ᏒᏕᎦᎦᏕ / ᏒᏕᎨᎨᎨ: communication port.

 - ᏁᎾᏁᎬ: it disables any type of communication (default).
  - ᎷᎾᏧᏏᎤᏕ: MODBUS-RTU protocol; possible addresses: from 1 to 99 (see Communication protocols manual).
  - ᏒᎥ Ꮲ: continuous weight transmission protocol to RIP5/20/60, RIP50SHA, RIPLED series remote displays; the remote display shows the net weight or gross weight according to its settings (set: ᏏᎯᏌᏧ = 9600, ᏢᎯᏒᎥ ᏖᎩ = ᏁᎾᏁᎬ, ᏕᏖᎾᏢ = 1).

- $Hdr1 P$: continuous weight transmission protocol to RIP6100, RIP675, RIP6125C series remote displays; the remote display shows the net weight or gross weight according to its settings (set: $bAUd = 9600$, $PAr1 tY = nOnE$, $StOP = 1$).
- $Hdr1 Pn$: continuous weight transmission protocol to RIP6100, RIP675, RIP6125C series remote displays (set: $bAUd = 9600$, $PAr1 tY = nOnE$, $StOP = 1$).
  When the remote display is set to gross weight:
  - if the instrument displays the gross weight, the remote display shows the gross weight.
  - if the instrument shows the net weight, the remote display shows the net weight alternated with the message nEt.
- $Pr1 ntr$: printer.
- $UEI NOd$: weight reception mode (see section **WEIGHT READING VIA SERIAL PORT**).
- $UEI r1 P$: weight reception mode (see section **WEIGHT READING VIA SERIAL PORT**).

  - $bAUd$: transmission speed (2400, 4800, 9600, 19200, 38400, 115200; default: 9600).
  - $Addr$: instrument address (from 1 to 99; default: 1).
  - $dELAY$: delay in milliseconds which elapses before the instrument replies (from 0 to 200 ms; default: 0).
  - $PAr1 tY$:
    - $nOnE$: no parity (default).
    - $EUEn$: even parity.
    - Odd: odd parity.
  - $StOP$: stop bit (1 – 2; default: 1).
  - $ENPtY$: number of blank lines between one printout and the next.
  - $HEAdEr$: printing of custom heading from PC ($YES – nO$; default: nO).
  - $PrtNOd$: connected printer type:
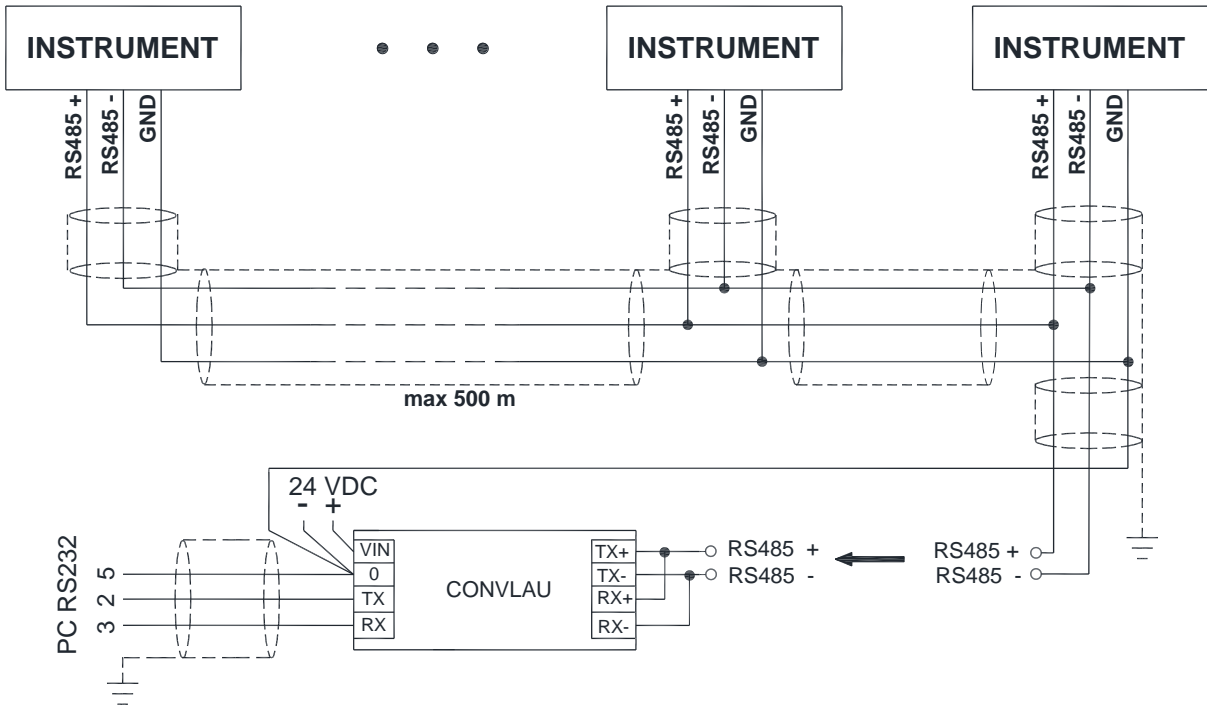   - $P190$
    - $StAUP$
    - $StAUt$
    - $tNt203$

For more information about protocols and methods of communication, request the proper manual to technical assistance.

RS232 SERIAL COMMUNICATION
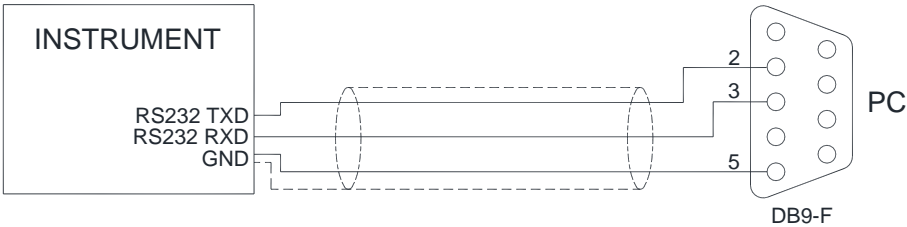
RS485 SERIAL COMMUNICATION

If the RS485 network exceeds 100 metres in length or baud-rate over 9600 are used, two terminating resistors are needed at the ends of the network. Two 120 ohm resistors must be connected between the "+" and "–" terminals of the line, on the terminal strip of the furthest instruments. Should there be different instruments or converters, refer to the specific manuals to determine whether it is necessary to connect the above-mentioned resistors.

DIRECT CONNECTION BETWEEN RS485 AND RS232 WITHOUT CONVERTER

Since a two-wire RS485 output may be used directly on the RS-232 input of a PC or remote display, it is possible to implement instrument connection to an RS-232 port in the following manner:

INSTRUMENT		RS232
RS485 **–**	→	RXD
RS485 **+**	→	GND

This type of connection allows A SINGLE instrument to be used in a ONE WAY mode.

Overview:

By <u>transmitting</u> instrument, it means the one connected to the load cell.

By <u>receiving</u> instrument, it means the one which receives the weight via serial port.

This function allows the instrument to read the weight by another instrument (<u>transmitting</u> instrument) rather than by a load cell, via the RS485 or RS232 serial port. Outputs, serial ports and analog output (if present) continue to work as described in this manual, using as weight value the one received via serial port.

The instrument supports the following modes of weight reading via serial port:

- *UEI ПОd* (see section **WEIMOD MODE**)
- *UEI rI P* (see section **WEIRIP MODE**)

 WARNING: in order to use the weight reading via serial port, the weight reading mode must be set as *SErI AL* (see section **DATA DELETION AND PROGRAM SELECTION**).

WEIMOD MODE

The instrument works as if it were directly connected to the load cell, therefore calibrations and zero settings can be done. The protocol used is Modbus (the <u>receiving</u> instrument works as master and the <u>transmitting</u> one as slave).

Procedure:

1. *TRANSMITTING INSTRUMENT* (see section **SERIAL COMMUNICATION SETTING** in the <u>transmitting</u> instrument manual)
   - select the desired serial port
   - set *ПodbUS* protocol
   - set the serial communication parameters
   - set the desired filter value (see section **FILTER ON THE WEIGHT** in the <u>transmitting</u> instrument manual)

2. *RECEIVING INSTRUMENT* (see section **SERIAL COMMUNICATION SETTING**)
   - select the desired serial port
   - set the *UEI ПОd* mode

 It's not possible to enable this function on several serial ports; in case of conflict, the last serial set remains active.

   - set the serial communication parameters as on the <u>transmitting</u> instrument:
     - *bAUd*: transmission speed (2400, 4800, 9600, 19200, 38400, 115200; default: 9600)
     - *SLAUE*: <u>transmitting</u> instrument address (from 1 to 99; default: 1)
     - *dELAY*: delay in milliseconds which elapses before the instrument replies (from 0 to 200 ms; default: 0)

- $PArItY$:
  - $nOnE$: no parity (default)
  - $EUEn$: even parity
  - Odd: odd parity
- $StOP$: stop bit (1 – 2; default: 1)

> The transmitting instrument display is locked and shows the instrument model. To unlock it, disconnect the receiving instrument and follow the procedure in section **KEYPAD OR DISPLAY LOCKING** in the transmitting instrument manual.

WEIRIP MODE

The instrument receives the gross weight via serial port; calibrations and zero settings must be performed on the transmitting instrument.
Procedure:

1. *TRANSMITTING INSTRUMENT* (see section **SERIAL COMMUNICATION SETTING** in the transmitting instrument manual)
   - select the desired serial port
   - set rIP protocol
   - set the serial communication parameters

2. *RECEIVING INSTRUMENT* (see section **SERIAL COMMUNICATION SETTING**)
   - select the desired serial port
   - set the $UEI\ rIP$ mode

   > It's not possible to enable this function on several serial ports; in case of conflict, the last serial set remains active.

   - set the serial communication parameters as on the transmitting instrument:
     - $bAUd$: transmission speed (2400, 4800, 9600, 19200, 38400, 115200; default: 9600)
     - $dELAY$: delay in milliseconds which elapses before the instrument replies (from 0 to 200 ms; default: 0)
     - $PArItY$:
       - $nOnE$: no parity (default)
       - $EUEn$: even parity
       - Odd: odd parity
     - $StOP$: stop bit (1 – 2; default: 1)
   - set unit of measure ($UnIt$) and number of decimals ($dECIM$) of the gross weight received by the transmitting instrument

   > The $UnIt$ and $dECIM$ menu items appear in the main menu after having set the $UEI\ rIP$ mode.

RS485 CONNECTION

Transmitting instrument   Receiving instrument
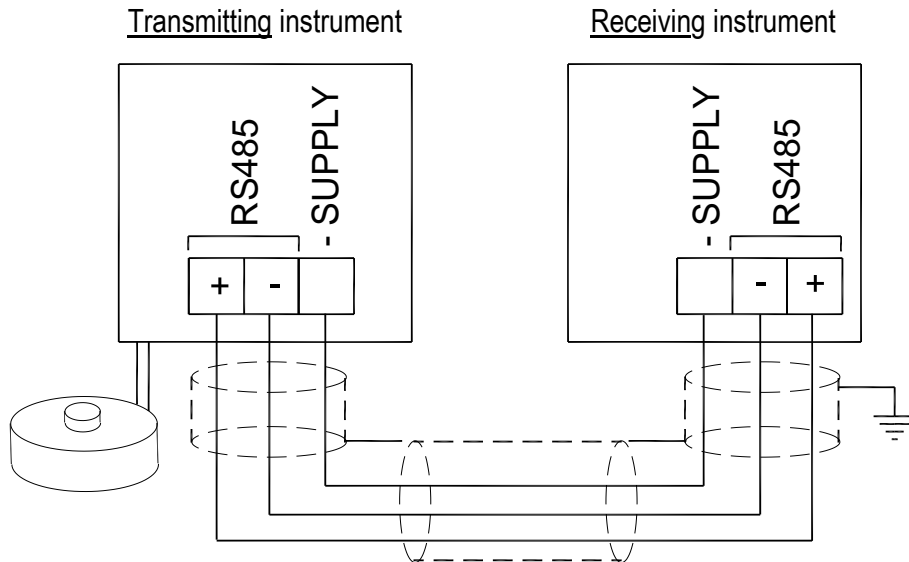
INSTRUMENT	Connector	Pin	Signal
W200￼W200BOX	TERMINAL	17	RS485: -
		18	RS485: +
		2	RS485: SHIELD, GND

If the RS485 network exceeds 100 metres in length or baud-rate is higher than 9600, two terminating resistors are needed at the ends of the network. Two 120 ohm resistors are to be connected, between the "+" and "–" terminals of the line on terminal strip of the instrument furthest away in the network. If should be there different instruments or converters, refer to the specific manuals to determine whether it is necessary to connect the above-mentioned resistors.

RS232 CONNECTION

Transmitting instrument   Receiving instrument
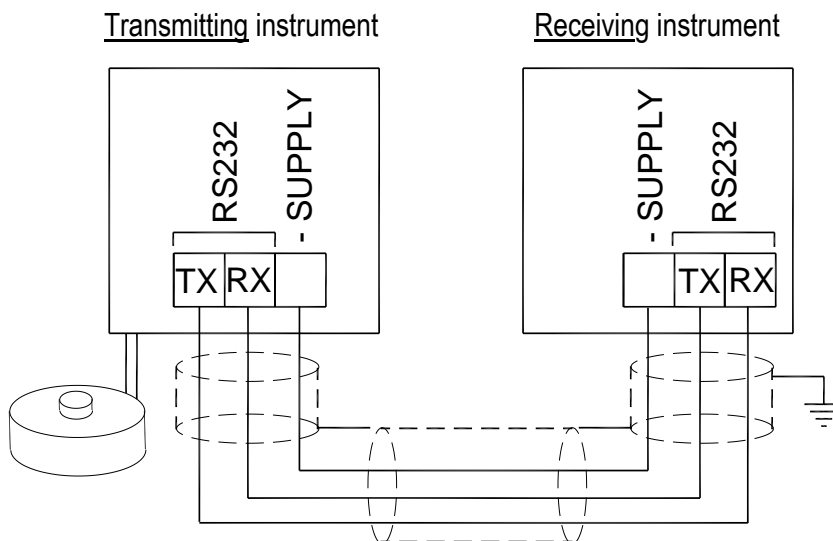
INSTRUMENT	Connector	Pin	Signal
W200￼W200BOX	TERMINAL	3	RS232: TXD
		4	RS232: RXD
		2	RS232: SHIELD, GND

ALARM RELAY CLOSURE

$\boxed{000000}$ $\boxed{\substack{\text{MENU} \\ \text{ENTER}}}$ + $\boxed{\substack{\to 0 \gets \\ \text{ESC}}}$ $\boxed{\text{CALI b}}$ ◄ ▲ $\boxed{\text{ALArN}}$

The ALARM relay closing can be enabled or disabled for each of the following alarms: approval contact (COnSP);formula not programmed (ENPtY); maximum weight exceeded (NASFOr); minimum weight (tArE); no increase in weight (LOAd); no decrease in weight (UnLOAd); fall (FALL); the PC did not read the batching data (SLAuE).
YES: in presence of alarm, the relay is closed (default)
nO: the relay is not closed even in the presence of alarm

TEST

$\boxed{000000}$ $\boxed{\substack{\text{MENU} \\ \text{ENTER}}}$ + $\boxed{\substack{\to 0 \gets \\ \text{ESC}}}$ $\boxed{\text{CALI b}}$ ◄ ▲ $\boxed{\text{tESt}}$

- **Input Test:**
    I n: ensure that for each open input O is displayed, I is displayed when the input is closed.
- **Output Test:**
    Out: setting O ensure that the corresponding output opens. Setting I ensure that the corresponding output closes.
- **E/EC Option Test:**
    EC: It shows the formula selected by the E/EC option, if the option is not present or is not active, the message EC-Er is displayed.
- **Analog Output Option Test:**
    AnALOG: It allows the analog signal to range between the minimum and the maximum values starting from the minimum.
    NA: current output test.
    uOLt: voltage output test.
- **Millivolt Test:**
    NU-CEL: displays the load cell response signal in mV with four decimals.

DATE AND TIME SETTING

$\boxed{000000}$ $\boxed{\substack{\text{MENU} \\ \text{ENTER}}}$ + $\boxed{\substack{\to 0 \gets \\ \text{ESC}}}$ $\boxed{\text{CALI b}}$ ◄ ▲ $\boxed{\text{dAtE}}$

Selecting the dAtE item in the main menu, access is obtained to the date and time display menu.
Pressing ENTER several times scrolls through days - months – years and hours – minutes; pressing ◄ selects the figure to modify; pressing ▲ the figure increases; pressing ENTER you can confirm and go to the next menu item.

`000000` `MENU/ENTER` + `→0←/ESC` `CALI b` ◄ ▲ `SEttI n`

`nEHt P`**:** Select the switch conditions from the SET opening to the CYCLE END closing.
- `tI ME` (default: `YES`): time set in constants (`tI MEAt`).
- `COMAnd` (default: `nO`): START input closure or ENTER key pressure.
- `StAbLE` (default: `nO`): stable weight.

`PSS` (default: `2`): Select the operating mode of SET and PRESET contacts.
- `PSS = 1`: at the batching start, only the PRESET contact is closed; once reached the preset set value, the related contact is opened and the SET contact is closed; reached the final value of set, the related contact is opened.
- `PSS = 2`: at the batching start, the SET and PRESET contacts are closed simultaneously; once reached the preset value, the related contact is opened (beginning of the slow phase); once reached the set value, also the related contact is opened. For single-speed batching, program `PSS = 2` and use only the SET contact.
- `PSS = 3`: at the batching start, only the PRESET contact is closed; once reached the preset value, also the SET contact is closed; once reached the final value of set, both are reopened.

`EndnEt` (default: `nO`)**:** Select the display type of net / gross weight during the CYCLE END phase (unloading of the scale at the end of batching).
- `YES`: during the cycle end, the net weight is displayed. After the CYCLE END opening, the gross weight is displayed.
- `nO`: during the cycle end, the gross weight is displayed.

`bLACH` (default: `MAn`)**:** Select the batching resume mode after a power failure.
- `AUt`: (Automatic) at the power restore, `bLACH` appears for 3 seconds, after which the batching resumes from the point of interruption.
- `MAn`: (Manual) at the power restore `bLACH` appears, press ENTER to resume the batching or press ESC to stop it.

INFO MENU

`000000` `MENU/ENTER` + `→0←/ESC` `CALI b` ◄ ▲ `I nFO`

`GEnrI C`: the identification data of the instrument are displayed.
- `I nStrM`: instrument model
- `SU COd`: software code
- `PrOGrM`: program type
- `FU UEr`: software version
- `SEr nu`: serial number

`OP2`: active options are displayed.

PROGRAMMING OF BATCHING CONSTANTS

From weight display press MENU, then press ▲ several times until `COnSt` is displayed and confirm.

MENU/ENTER: to enter a menu/confirm the data entry.
▲:   to modify the displayed figure or menu item.
◀:   to select a new figure or modify the displayed menu item.
ESC: to cancel and return to the previous menu.

MINIMUM WEIGHT

`MIn` (from 0 to full scale; default: 10): minimum weight, value at which the scale is considered empty. Batching start is only allowed if the weight is lower than this value, during the unloading phase the CYCLE END contact will be opened when the weight reaches this value and after the safe emptying time is over.

MAXIMUM WEIGHT

`MASS` (from 0 to full scale; default: 0): settable and displayable maximum weight. If the displayed weight exceeds the maximum weight by 9 divisions, the ¯¯¯¯¯¯ message is displayed; if in the formulas programming the weight value set is greater than this value, the `Error` message is displayed and the value will not be stored.
By setting 0, the function is disabled.

SAFE EMPTYING TIME

`tSIC` (from 0.0 to 999.9 seconds; default 5.0): time that is necessary for a perfect emptying of the scale. The instrument waits for this time during the unloading phase (CYCLE END closed), after reaching the minimum weight and before opening the CYCLE END contact to obtain a perfect emptying of the scale.

WAITING TIME

`tIMEAt` (from 0.0 to 999.9 seconds; default 5.0): time elapsing between the SET end batching and the CYCLE END closing to allow the weight to get steady. This waiting time is only required if the automatic fall is programmed and/or consumption is enabled and/or printing is enabled and/or a tolerance value has been programmed and/or confirmation from PC is enabled and/or USB option is present and/or DATIPC option is present.

NO COMPARISON TIME

ᴛɴᴄᴏᴍᴘ (from 0.0 to 999.9 seconds; default: 0.0): this is the instrument waiting time during batching, after the opening of PRESET, before comparing the weight with the programmed SET value.

NO PRODUCT LOAD TIME

ᴛɴʟᴏᴀᴅ (from 0.0 to 999.9 seconds; default: 0.0): this parameter allows the product control during batching. if there is <u>no product load</u>, the instrument waits for a set duration of time before activating the alarm *ʟᴏᴀᴅ*.

NO PRODUCT UNLOAD TIME

ᴛɴᴜɴʟᴏ (from 0.0 to 999.9 seconds; default: 0.0): this parameter allows the product control <u>during the unloading phase</u> (cycle end). If there is <u>no product extraction</u>, the instrument waits for a set duration of time before activating the alarm *ᴜɴʟᴏᴀᴅ*.
WARNING: The control is only actuated after unloading of the product has started (the weight must decrease by at least 10 divisions).

FALL

By FALL it means the correction of the product amount in fall after the batching STOP. This amount is in addition to the product already batched causing inaccuracy. The instrument is able to anticipate the batching STOP, to reduce this uncertainty, with two possible ways:
- AUTOMATIC fall: the instrument automatically calculates the fall;
- MANUAL fall: the instrument applies the fall set by the operator;

WARNING: Setting a value of **WAITING TIME** (*ᴛɪᴍᴇᴀᴛ*) such that the weight is stable at the end of the batching, otherwise the update of the AUTOMATIC fall is not correct.

ᴍᴏᴅꜰᴀʟ

ᴍᴏᴅꜰᴀʟ (from 1 to 99; default: 0): it's possible to select the automatic or the manual fall.
- *ᴍᴏᴅꜰᴀʟ* = 0: MANUAL fall;
- *ᴍᴏᴅꜰᴀʟ* different from 0: AUTOMATIC fall (the set value shows how many batchings the fall value is updated).

Note: In the batching cycles in which the fall value is not updated, the **WAITING TIME** is not applied, unless there are no other functions that require the **WAITING TIME** (eg prints...). So, by setting a high value, it reduces the duration of batchings.
Example: If *ᴍᴏᴅꜰᴀʟ* = 3 the AUTOMATIC fall is calculated every three batching cycles.

FALdiu (only if ПOdFAL is different from 0)

FALdiu (from 0 to full scale; default: 0): this parameter indicates the limit within which the automatic fall is updated according to the parameter ПOdFAL. By setting a low value is obtained more accurately but the length of the batchings could increase, because, if necessary, the AUTOMATIC fall is updated every cycle regardless of ПOdFAL. By setting 0, the function is disabled.

Example: By setting ПOdFAL = 3, FALdiu = 5 and the weight equal to 100, the instrument updates the fall every batching, until the batched weight falls within the 95 to 105 range, and then it goes back to update the AUTOMATIC fall every 3 batchings.

FALL

FALL (from 0 to maximum weight; default: 0): in this parameter it is possible to set the fall value for each formula (only if ПOdFAL = 0) or to display and/or to modify the fall value calculated automatically by the instrument (only if ПOdFAL is different from 0).

TOLERANCE

---

tOL (from 0 to maximum weight; default: 0): Adjustable parameter for each formula that defines how much the batched weight value can deviate from the one set in formula. If the batched weight is higher or lower than the amount to be batched, for a value greater than the tolerance, the instrument closes the TOLERANCE contact. Press ENTER to continue the batching; the TOLERANCE contact remains closed until the weight reaches the minimum weight value and the safe emptying time has elapsed. Example: if a SET = 1000 value is set and a TOLERANCE = 100 value is set, the batched weight must not be lower than 900 or higher than 1100 to allow the instrument to continue the batching process. By setting 0, the function is disabled.

SLOW

SLOU (from 0 to maximum weight; default: 0): single valid value for all the formulas in place of the preset value. When the weight has reached the SET value minus the value set in this parameter, the slow batching phase starts by the PRESET contact. If the set value is greater than the weight to batch, the batching will be in slow phase. By setting 0, the function is disabled.

Example: If SET = 100 and SLOW = 15, the slow phase begins when the weight reaches 85.

TAPPING FUNCTION

In the event that the batching instrument is not equipped with the speed "slow" it is possible to use this function to slow down the product batching in the final phase (through opening and closing cycles of the SET contact) and to increase the accuracy. Set in 5LOU parameter the product amount you want to batch with the tapping function enabled.

SLOW ON
5LOUOn (from 0 to 9.9; default: 0): time in which the SET relay remains closed during the SLOW phase. By setting 0, the function is disabled.

SLOW OFF
5LOUOF (from 0 to 9.9; default: 0): time in which the SET relay remains open during the SLOW phase. By setting 0, the function is disabled.

AUTOTARE

AERrE (from 0 to 999; default: 0): autotare enabling (automatic tare at batching start); the autotare will be updated every as many cycles of a single batching sequence as are set in this parameter. By setting 0, the function is disabled.
This operation is possible only if the gross weight is lower than the minimum weight (Пl n), otherwise the tArE? alarm message is displayed.

AUTOTARE DELAY

tl ПЕtA (**only if** AERrE ≠ **0**, from 0 to 99.9; default: 0): the instrument waits for this time, after the starting of the formula, before performing the autotare and starting the batching.

STABLE TARE

5tAbtA (**only if** AERrE ≠ **0**, default: nO): autotare enabled at stable weight.
- YE5: if autotare enabled, zero-setting at batching start is done after a possible delay time and only when the weight is stable.
- nO: if autotare enabled, zero-setting is done right after the delay time.

CONSUMPTION FOR EACH FORMULA

tOtAL (default nO): enabling consumption memory (total batched quantity) for each formula.
- YE5: consumption enabled
- nO: consumption disabled.

PRINT AT CYCLE END

Print (default nO): function enabling to print batching data at cycle end.
- YES: print enabled
- nO: print disabled

NUMBER OF BATCHING PRINTOUTS

nCOPY (from 1 to 9; default: 1): number of copies of the batching printout.

CHECKING PC PRESENCE

PC (default: nO): check for a PC connected to the instrument.
- YES: PC presence check active; the instrument checks for a PC every 10 seconds. If no PC presence is detected, the instrument will display an alarm signal PC alternated with the weight value.
- nO: PC presence check not active.

WARNING: The check is active only if selected the Modbus protocol.

WAITING CONFIRMATION FROM PC (SLAVE)

SLAuE (default: nO): waiting for confirmation of record batching data from PC.
- YES: check enabled; the instrument waits for the PC to read the batching data, before starting another batching. In case of recording failure, the instrument displays an alarm SLAuE.
- nO: check disabled; at cycle end, the instrument will not wait for data recording on PC before performing another batching.

SWITCHING OF THE ALARM RELAY ON WEIGHT

rALArM (from 0 to full scale; default: 0): by setting a value different from zero, the ALARM contact does not switch over in case of alarm, but behaves as a SETPOINT contact; the relay closes when the weight reaches the value set in this parameter.

SWITCHING OF THE TOLERANCE RELAY ON WEIGHT

rtOLEr (from 0 to full scale; default: 0): by setting a value different from zero, the TOLERANCE contact does not switch on the basis of tolerance, but behaves as a SETPOINT contact; the relay closes when the weight reaches the value set in this parameter.
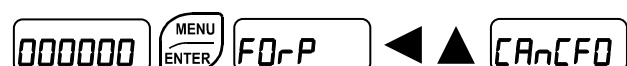
FORMULAS PROGRAMMING

Select the formula that you wish to program and set $PrESEt$ and SEt.
It is possible to set max 99 formulas.
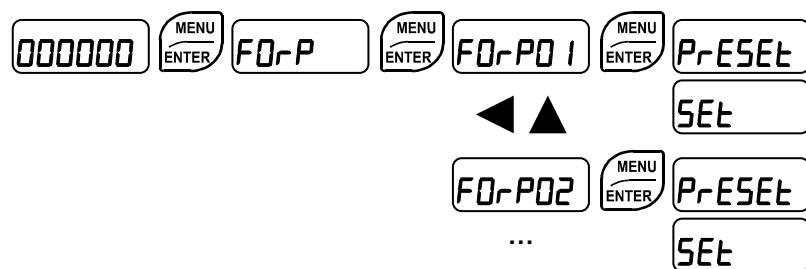
$PrESEt$ **is NOT displayed if a SLOW value has been set in the constants ($SLOU$).**

In case of attempt in $PrESEt$ or SEt to set a value higher than the maximum weight ($NASS$) set in the batching constants, the message $ErrOr$ is displayed.
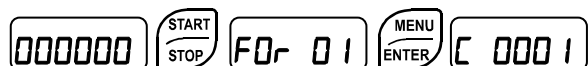
DELETING FORMULAS

Confirm with ENTER the $CRnCFO$ prompt, to delete one formula enter the formula number, to delete all formulas enter 00 ($FOrP00$), confirm with ENTER, you will be prompted to confirm ($SUrE$), to delete confirm again with ENTER otherwise press ESC to cancel the command.

Note: In case of alarm, the batching may be canceled by pressing the ESC button or by closing the STOP input.

$$\boxed{000000}\ \boxed{\substack{\text{START}\\\text{STOP}}}\ \boxed{F0r\ \ 0\ l}\ \boxed{\substack{\text{MENU}\\\text{ENTER}}}\ \boxed{C\ \ 000\ l}$$

After having selected the formula and set the desired number of batching cycles, the first batching cycle starts as follows:

1. The instrument will ensure that:
   - the formula has been programmed, otherwise it will display the alarm E∏PEY.
   - the amount set in the formula does not exceed the set maximum weight (∏A55), otherwise the message ∏A5F0r is displayed.
   - IN3 input (if it is set as Approval) is closed, otherwise the message C0n5? will be displayed; close the IN3 input to start the batching.
   - the gross weight is lower than the minimum weight (∏I n), otherwise the alarm EArE ? is displayed (however it is possible to force batching start by pressing ENTER).
   - Only if E0EAL = YE5:
     - If the consumed amount exceeds 999000, the E0EAL message appears for a second.
     - If the consumed amount exceeds 999999, it is automatically set to zero.
2. Once the above listed conditions are met, the batching is started and the SET and PRESET contacts switch depending on the P55 parameter (see section **OPERATION SETTINGS**). From now on, we assume the parameter P55 = 2 (default); so that, SET and PRESET are closed.
3. If during the batching, after setting the time EnL0Ad, the product is not loaded by at least 20 divisions within this interval of time, the L0Ad? alarm message will be displayed.
4. The PRESET contact will be opened, as soon as one of the following conditions is reached:
   - Only if 5L0U is set: once reached the set value minus the slow value;
   - Once reached the preset value set in formula;
5. If a tapping value has been set, the SET contact will be opened and closed according to the 5L0U0n and 5L0U0F times;
6. Only if EnC0∏P is set: the instrument does not verify the reaching of Set value until the **COMPARISON TIME** has elapsed.
7. As soon as the SET value in the formula minus the possible fall value is reached, the SET contact will be opened and the product flow will be interrupted;
8. After the opening of the SET contact, the system shows the weight preceded by the letter A and waits:
   - Only if EI ∏E = YE5: the waiting time has elapsed (EI ∏EAE).
   - Only if C0∏And = YE5: the START input has been closed or the ENTER key has been pressed.
   - Only if 5EAbLE = YE5: the weight is stable.
9. If the tolerance (E0L) is set and the batched quantity is lower than the set quantity minus this value, is made only one attempt of finishing re-start, in order to improve the batching precision. In such a case, the SET contact is closed and returns to step 7, otherwise the E0L alarm appears. If instead, the batched quantity is greater than the set amount plus this value, the E0L alarm appears. Press ENTER to cancel the alarm and go on with the batching.

10. The system enters the cycle end phase:
    - The CYCLE END contact is closed;
    - The display shows the weight preceded by the letter E;
    - <u>Only if $PrInt = YES$</u>: batching data (with date and time) are printed.
    - <u>Only if $tOtAL = YES$</u>: consumption is stored.
11. At the beginning of the product extraction, if the $tnUnLO$ time is set and the product <u>is not extracted</u> by at least 20 divisions within this interval of time, the $UnLOAd$ alarm message will be displayed.
12. The system ends the batching (opening of the CYCLE END contact) only after verifying that:
    - The weight is lower than the minimum weight (NIn);
    - The safe emptying time has elapsed ($tSIC$);
13. <u>Only if $SLAvE = YES$</u>: the instrument waits for data recording on PC, before being available for a new batching.

If several batching cycles have been set the instrument starts a new cycle.

BATCHING START FROM EXTERNAL CONTACT

It is possible to select the required formula via an external selector switch. After selecting the formula, close the START external contact for at least 0.5 seconds and, verified the conditions indicated in section **BATCHING**, the instrument will perform the selected formula batching.

If there is no the formula selection switch (E/EC options), the latest formula entered via the keypad will be batched, or it's possible to set the required formula in the following menu: press the MENU key for 3 seconds, $FEStOO$ will be displayed, set the required formula number using the arrow keys and confirm with ENTER. At batching start, the set formula will be performed. If 00 is set, the latest formula set via keypad will be recalled.

If at the end of the batching, the START contact is closed, the same batching sequence is repeated.

DISPLAYING DURING BATCHING

During the batching the display shows the weight preceded by the letter b.
By pressing ▲ the <u>formula</u> number is displayed, by pressing it again the number of running <u>cycle</u> is displayed.

BATCHING STOP

- Open the START contact and close the STOP contact to stop the batching. If the START contact is closed, the $StArt?$ alarm is displayed.

- To pause the batching at any time, press ⬛STOP⬛, the *PAUSE* prompt is displayed. Press ⬛ENTER⬛ to resume the batching or press again ⬛STOP⬛ to cancel it definitely.
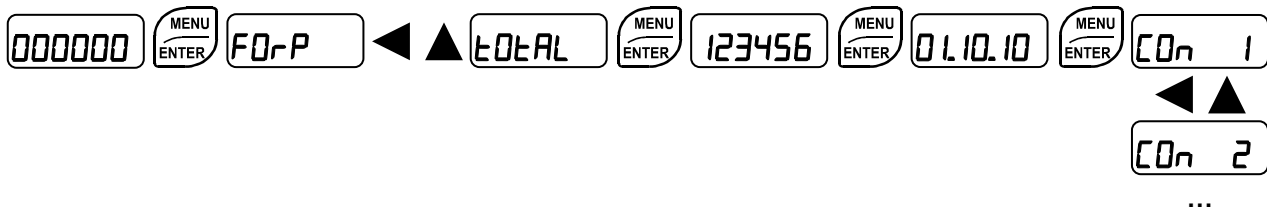
RESUME BATCHING AFTER A POWER CUT

If a blackout occurs during the batching (unloading phase included), when power comes back *bLACH* appears: press ⬛ENTER⬛ to resume batching from the point of interruption, press ⬛ESC⬛ to cancel the batching and return to the weight displaying.

✋ If in constants *bLACH = AUt*, when power comes back *bLACH* appears and after 3 seconds the batching is automatically resumed.
Power failures do not cause any deletion of cycles still to be performed.

CONSUMPTION

If in constants consumption is enabled (*tOt = YES*), the quantities batched for each formula are stored.

| 000000 | (MENU ENTER) | FOrP | ◀ ▲ | tOtAL | (MENU ENTER) | 123456 | (MENU ENTER) | 01.10.10 | (MENU ENTER) | COn 1 |

◀ ▲

| COn 2 |

...

Selecting *tOtAL* the following information is displayed:
- total quantity consumed for all formulas (divided by 100);
- deletion data;
- quantity consumed for each formula.

The quantities will be printed out in full.

CONSUMPTION DELETION

| 000000 | (MENU ENTER) | FOrP | ◀ ▲ | CAnCtO | (MENU ENTER) | SUrE |

To delete consumption confirm *CAnCtO*, the *SUrE* deletion confirmation is requested; confirm again with ⬛ENTER⬛ or press ⬛ESC⬛ to cancel the command.
If the printer is enabled (see section **SERIAL COMMUNICATION SETTING**) an operation receipt is printed.

tArEP: it is displayed if, at batching start, the weight on the scale is higher than the minimum set in constants (ΠI n). Press ESC to return to the weight displaying, press ENTER to cancel the alarm and continue with the batching. If the weight comes back below to the minimum set, the batching starts.

COnSP: it is displayed when at the batching start the APPROVAL input is open (if the input 3 is set as approval; In 3 = COnS). Close the input to enable batching or cancel it by pressing ESC.

tOL: it is displayed if at batching end the weight is different from the value set in formula by a value higher than tolerance. Press ENTER to cancel the alarm and continue with the batching.

FALL: it is displayed if at batching start the fall value is higher than the product quantity to be batched. Press ESC to cancel the alarm and the batching.

EΠPtY: it is displayed if, at batching start, the formula recalled for running is not programmed. Press the key ESC to quit.

ΠASFOr: it is displayed if, at batching start, the formula recalled for running exceeds the maximum weight. Press the key ESC to quit.

PAUSE: it means that during batching the STOP key has been pressed, temporarily interrupting the cycle; press the ENTER key to start it again, or STOP to terminate completely the batching.

bLACH: it indicates that a power failure occurred during batching: press ESC to cancel the batching or press ENTER to resume batching again from the point of interruption.

LOAd: during the batching it indicates that the product is not loaded. It is automatically cancelled if the product increases. Press STOP twice to cancel the batching.

UnLOAd: during the unload (Cycle End contact closed) it indicates that the product is not extracted. It is automatically cancelled if the product decreases. Press STOP twice to cancel the unload.

StArtP: it is displayed for 3 seconds if you try to stop the batching (by pressing twice STOP or closing the related input) when the START input is closed. Open the START input to cancel the alarm.

PArSEr: batching is cancelled. Press ESC to quit. If the alarm persists, contact technical assistance.

ErUEI G: it is displayed when there is a weight alarm and it cancels the current batching. Press ESC to go back to the weight display and check the alarm.

ErCEL: the load cell is not connected or is incorrectly connected; the load cell signal exceeds 39 mV; the conversion electronics (AD converter) is malfunctioning; the load cell is a 4−wire and there are no jumpers between EX- and REF- and between EX+ and REF+.

nO COΠ: communication problems between transmitter and receiver; check electrical connections and instruments configuration.

Er OL: the weight display exceeds 110% of the full scale.

EErOL: weight display on transmitting instrument exceeds 110% of full scale.

Er Ad: internal instrument converter failure; check load cell connections, if necessary contact technical assistance.

‾‾‾‾‾‾: the weight exceeds the maximum weight by 9 divisions.

Er OF: maximum displayable value exceeded (value higher than 999999 or lower than -999999).

EErOF: maximum displayable value exceeded on transmitting instrument (value higher than 999999 or lower than -999999).

t‾‾‾‾‾: weight too high: zero setting not possible.

ПАН-PU: this message appears in the sample weight setting, in real calibration, after the eighth sample weight value has been entered.

Error: the value set for the parameter is beyond the permitted values; press ESC to quit the setting mode leaving the previous value unchanged. Examples: a number of decimals is selected for full scale which exceeds the instrument's display potential; value above the maximum setting value; the weight value set in sample weight verification does not match the detected mV increase; the analog output correction goes beyond the permitted limits.

bLOC: lock active on menu item, keypad or display.

nOdI SP: It's not possible to display properly the number because is greater than 999999 or less than -999999.

bAtrtC: buffer battery low, loss of date and time of Real-Time Clock. Confirm with ENTER to continue; leave the instrument on for at least 12 hours to charge the battery, if the alarm persists contact technical assistance.

dAtE?: an incorrect date has been detected: go into the related menu to check and correct it.

CONAnd: waiting for START closure or ENTER key pressure to continue the batching.

PC: PC is not connected.

SLAuE: PC has not read batching data.

In2ErO: gross weight equal to zero: the semi-automatic tare operation cannot be performed.

Serial protocol alarms:

	ErCEL	Er OL	Er Ad	‾‾‾‾‾‾	Er OF	t‾‾‾‾‾
MODE						
Bit LSB	76543210	76543210	76543210	76543210	76543210	The instrument's
Status Register MODBUS RTU	**xxxxxxx1**	**xxxx1xxx**	**xxxxxx1x**	**xxxxx1xx**	On gross: **xxx1xxxx** On net: **xx1xxxxx**	response to the zero command is a 'value not valid' error (error code 3)
RIP *	_O-F_	_O-L_	_O-F_	_O-L_	_O-F_	__O-F_
HDRIP-N	_ERCEL	_ER_OL	_ER_AD	######	_ER_OF	O__SET

* For RIP remote displays, if the message exceeds 5 digits the display reads ‾‾‾‾‾‾.

With an alarm the relays open and the analog outputs go to the lowest possible value according to the following table:

RANGE	0÷20 mA	4÷20 mA	0÷5 V	0÷10 V	±10 V	±5 V
Output value	-0.2 mA	3.5 mA	-0.5 V	-0.5 V	0 V	0 V

If the printer has been set (see section **SERIAL COMMUNICATION SETTING**), from the weight display press the PRINT key:

- UEI GHL: prints the displayed weight;
- COnSt: prints the constants (minimum weight, maximum weight, etc.);
- FOrP: prints one or all of the formulas; press ENTER to display FOrP01, set the formula number to be printed or "00" to print them all;
- tOtAL: prints consumption (only if tOtAL = YES, see **CONSUMPTION FOR EACH FORMULA**).

BATCHING PRINTOUT

Batching without tare (AtArE = 0)
```
::::::::::::::::::::::
W200    LOAD      Addr:01
FORMULA:          01
CYCLE:        1/       1
DATE: 01/10/11 08:30:01


INIT.WEIGHT      10 kg
GROSS   1005:  1000 kg
```

Batching with tare each cycle (AtArE = 1)
```
::::::::::::::::::::::
W200    LOAD      Addr:01
FORMULA:          01
CYCLE:        1/       1
DATE: 01/10/11 08:30:01


TARE             34 kg
NET     1005:  1000 kg
```

Batching with reset every X cycles (AtArE = X)
```
::::::::::::::::::::::
W200    LOAD      Addr:01
FORMULA:          01
CYCLE:        2/       2
DATE: 01/10/11 08:30:01


INIT.WEIGHT       1 kg
GROSS   1070:  1000 kg


::::::::::::::::::::::
W200    LOAD      Addr:01
FORMULA:          01
CYCLE:        1/       2
DATE: 01/10/11 08:30:01


ZERO WEIGHT      12 kg
GROSS   1026:  1000 kg
```

CONSTANTS PRINTOUT

```
:::::::::::::::::::::::
W200    LOAD      Addr:01
DATE: 01/10/11 08:30:01
          CONSTANTS
MIN                    10
MASS                    0
TIME SIC              5.0
TIME WAIT             5.0
TIME NCOMP            0.0
TIME NLOAD            0.0
TIME NUNLOAD         0.0
FALL               MANUAL
SLOW                    0
TIME SLOWON          0.0
TIME SLOWOF          0.0
PSS                     2
AUTOTARE               NO
UNLOAD              GROSS
TOTAL                  NO
PRINT                  NO
PC                     NO
SLAVE                  NO
BLACKOUT           MANUAL
RELAY ALARM             0
RELAY TOL.              0


FOR.      FALL      TOLER
05           0        100
48         178          0
```

FORMULA PRINTOUT

Standard formula printout (5LOU = 0)

```
:::::::::::::::::::::::
W200    LOAD      Addr:01
DATE: 01/10/11 08:30:01
FORMULA:              02
SET             2000 kg
PSET             200 kg
```

Formula with slow active printout (5LOU = 100)

```
:::::::::::::::::::::::
W200    LOAD      Addr:01
DATE: 01/10/11 08:30:01
FORMULA:              02
SET             2000 kg
SLOW             100 kg
```

CONSUMPTION PRINTOUT

```
::::::::::::::::::::::
W200     LOAD     Addr:01
DATE: 01/10/11 08:30:38
        CONSUMPTION
F01              1148 kg
F03              1456 kg
TOTAL            2604 kg
FROM: 01/09/11 09:11:13
```

If consumption is set to zero, it will also be printed:
```
CONSUMPTION ERASED
```

WEIGHT PRINTOUT

```
::::::::::::::::::::::
W200     LOAD     Addr:01
DATE: 12/09/11 14:48:12

GROSS            1204 kg
NET               831 kg
TARE              373 kg
```
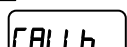
RESERVED FOR THE INSTALLER

MENU LOCKING

Through this procedure, it's possible to block the access to any menu on the instrument.
Select the menu that you wish to lock:

$\boxed{000000}$ $\boxed{\substack{\text{MENU}\\\text{ENTER}}}$ $\boxed{CALI\,b}$ press $\boxed{ESC}$ and $\boxed{\blacktriangleleft}$ simultaneously for 3 seconds, the display shows $\boxed{C.ALI\,b}$ (the left point on the text indicates that this menu item is now locked). If the operator tries to enter this menu, the access is denied and the display shows $\boxed{bLOC}$.

MENU UNLOCKING

$\boxed{000000}$ $\boxed{\substack{\text{MENU}\\\text{ENTER}}}$ $\boxed{C.ALI\,b}$ press $\boxed{ENTER}$ and $\boxed{\blacktriangle}$ simultaneously for 3 seconds, the unlock password is requested (if enabled) and the display shows $\boxed{CALI\,b}$ (the left point on the text is off to indicate that this menu item is unlocked).

TEMPORARY MENU UNLOCKING

$\boxed{000000}$ $\boxed{\substack{\text{MENU}\\\text{ENTER}}}$ $\boxed{C.ALI\,b}$ press $\boxed{\blacktriangle}$ and $\boxed{\blacktriangleleft}$ simultaneously for 3 seconds, the unlock password is requested (if enabled): it is now possible to enter and modify all menus including those which are locked. By returning to weight display, the menu lock is restored.

SETTING UNLOCK PASSWORD

$\boxed{000000}$ $\boxed{\substack{\text{MENU}\\\text{ENTER}}}$ + $\boxed{\substack{\text{→0←}\\\text{ESC}}}$ $\boxed{CALI\,b}$ $\boxed{\blacktriangleleft}$ $\boxed{\blacktriangle}$ $\boxed{PSUbLC}$

The password must contain 6 characters; in order to change a customized password, the current password is required.
By setting 000000 (default) the unlock password is disabled.

DATA DELETION AND PROGRAM SELECTION

WARNING: operations must only be performed after contacting technical assistance.
After each operation the display shows $d0nE$, press $\boxed{ENTER}$ to continue.
By pressing $\boxed{ESC}$ the procedure is cancelled and no changes are made.

Upon instrument power-on hold down the $\boxed{ESC}$ key until the display shows $Pr0G$, then proceed as follows:

CONSTANTS RESTORE (does not erase the calibration): confirm $Pr0G$, use arrow keys to select $PASSU$, set code 6935 and confirm.

PROGRAM SELECTION: confirm 𝑃𝑟𝒪𝐿 and use the arrow keys to select the desired program:

𝑏𝘈𝘚𝘌: basic program, setpoint management only.

𝑟 𝑖𝑃: weight remote display program with setpoint.

𝐿𝒪𝘈𝑑: monoproduct loading program.

𝑈𝑛𝐿𝒪𝘈𝑑: monoproduct unloading program.

𝟥𝑃𝑟𝒪𝑑: 3 products batching.

𝟨𝑃𝑟𝒪𝑑: 6 products batching.

 𝟣𝟦𝑃𝑟𝒪𝑑: 14 product batching.

𝑀𝑈𝐿𝑡𝑖 : no program.

- Set the weight reading mode (except for 𝑟 𝑖𝑃 program):

    - 𝐶𝘌𝐿𝐿: the weight is received either by load cells or intelligent junction boxes or transmitters connected to the instrument.
    - 𝟧𝘌𝑟𝑖 𝘈𝐿: the weight is received via serial port (**WEIMOD** or **WEIRIP** mode).

- Set the approval status (only if 𝑟 𝑖𝑃 have not been set)

    - 𝑛𝒪𝑡𝐿𝘌𝐿: not approved program;
    - 𝐿𝘌𝐿𝘈𝐿: approved program, single interval*;
    - 𝐿𝘌𝐿𝑀𝑖 : approved program, multi-interval*;
    - 𝐿𝘌𝐿𝑀𝑟: approved program, multiple range*;

    * *Contact technical assistance to request the proper manual and the correct procedures for approval, indicating mandatory hardware code and serial number (see section **INSTRUMENT COMMISSIONING**).*

- Set the active regulation on the instrument (only if 𝑛𝒪𝑡𝐿𝘌𝐿 have not been set):

    - 𝒪𝑖 𝑀𝐿: approved program according to EN45501:2015 and OIML R76:2006 for UE;
    - 𝑛𝑡𝘌𝑃: approved program according to NIST Handbook 44; NCWM PUB 14, for North America (NTEP).
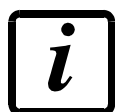
> *i* When a W series instrument is used in combination with an intelligent junction box or a weight transmitter, the approval status set on both devices must be the same.

- Configure the connection to the CLM serie intelligent junction box or to the weight transmitter (only if 𝟧𝘌𝑟𝑖 𝘈𝐿 or 𝑟 𝑖𝑃 have not been set):

    - 𝘌𝟧𝑡𝒴𝘌𝟧: intelligent junction box or transmitter connected to the instrument
    - 𝘌𝟧𝑡𝑛𝒪: no intelligent junction box or transmitter connected

By confirming, the instrument is restored to default and data is erased.

> **If you do not have a specific manual for the newly set program, you can request it to technical assistance.**

Press ESC immediately followed by ▲ hold them down for about 5 seconds (this operation is also possible via the MODBUS and ASCII protocols):

- *FrEE*: no lock.
- *HEY*: keypad lock: if active, when a key is pressed the message *bLOC* is displayed for 3 seconds.
- *dISP*: keypad and display lock: if active, the kaypad is locked and the display shows the instrument model (weight is not displayed); by pressing a key the display shows *bLOC* for 3 seconds.

DECLARATION OF CONFORMITY - EU

LAUMAS
Innovation in Weighing

SISTEMI DI PESATURA INDUSTRIALE - CELLE DI CARICO - BILANCE

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N. IT09060P00000982 - Registro A.E.E. N. IT08020000002494 - N. Mecc. PR 008385 - Cap. Sociale € 100.000 int. vers.

SISTEMA QUALITÀ CERTIFICATO UNI EN ISO 9001 - SISTEMA GESTIONE AMBIENTALE ISO 14001 - MODULO D: GARANZIA DELLA QUALITÀ DEL PROCESSO DI PRODUZIONE

I	Dichiarazione di conformità	Dichiariamo che il prodotto al quale la presente dichiarazione si riferisce è conforme alle norme di seguito citate.
GB	Declaration of conformity	We hereby declare that the product to which this declaration refers conforms with the following standards.
E	Declaración de conformidad	Manifestamos en la presente que el producto al que se refiere esta declaración está de acuerdo con las siguientes normas
D	Konformitäts-erklärung	Wir erklären hiermit, dass das Produkt, auf das sich diese Erklärung bezieht, mit den nachstehenden Normen übereinstimmt.
F	Déclaration de conformité	Nous déclarons avec cela responsabilité que le produit, auquel se rapporte la présente déclaration, est conforme aux normes citées ci-après.
CZ	Prohlášení o shode	Tímto prohlašujeme, že výrobek, kterého se toto prohlášení týká, je v souladu s níže uvedenými normami.
NL	Conformiteit-verklaring	Wij verklaren hiermede dat het product, waarop deze verklaring betrekking heeft, met de hierna vermelde normen overeenstemt.
P	Declaração de conformidade	Declaramos por meio da presente que o produto no qual se refere esta declaração, corresponde às normas seguintes.
PL	Deklaracja zgodności	Niniejszym oświadczamy, że produkt, którego niniejsze oświadczenie dotyczy, jest zgodny z poniższymi normami.
RUS	Заявление о соответствии	Мы заявляем, что продукт, к которому относится данная декларация, соответствует перечисленным ниже нормам.

Models: W200, W200BOX, W200BOXEC

Mark Applied	EU Directive	Standards
CE	**2014/35/EU** Low Voltage Directive	*Not Applicable (N/A)* for VDC type EN 61010-1:2010+A1:2019 for 230/115 VAC type
CE	**2014/30/EU** EMC Directive	EN 55011:2016+A1+A11:2020 EN 61000-6-2:2019 EN 61000-6-4:2019 EN 61000-4-2:2009 EN 61000-4-3:2006+A2:2010 EN 61000-4-4:2012 EN 61000-4-5:2014+A1:2017 EN 61000-4-6:2014
CE M (only if "M" mark is applied)	**2014/31/EU** NAWI Directive	EN 45501:2015 OIML R76-1:2006

Montechiarugolo (PR), 21/11/2022

LAUMAS Elettronica s.r.l.
M. Consonni
(*Legal Representative*)

DECLARATION OF CONFORMITY - UKCA

LAUMAS

Innovation in Weighing

SISTEMI DI PESATURA INDUSTRIALE - CELLE DI CARICO - BILANCE

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NL	Conformiteit-verklaring	Wij verklaren hiermede dat het product, waarop deze verklaring betrekking heeft, met de hierna vermelde normen overeenstemt.
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RUS	Заявление о соответствии	Мы заявляем, что продукт, к которому относится данная декларация, соответствует перечисленным ниже нормам.

Models: W200, W200BOX, W200BOXEC

Mark Applied	UK legislation	Standards
UK CA	**Electrical Equipment (Safety) Regulations 2016**	*Not Applicable (N/A)* for VDC type BS EN 61010-1:2010+A1:2019 for 230/115 VAC type
UK CA	**Electromagnetic Compatibility Regulations 2016**	BS EN 55011:2016+A1+A11:2020 BS EN 61000-6-2:2019 BS EN 61000-6-4:2019 BS EN 61000-4-2:2009 BS EN 61000-4-3:2006+A2:2010 BS EN 61000-4-4:2012 BS EN 61000-4-5:2014+A1:2017 BS EN 61000-4-6:2014
UK CA M (only if "M" mark is applied)	**Non-automatic Weighing Instruments Regulations 2016**	BS EN 45501:2015

Montechiarugolo (PR), 21/11/2022

LAUMAS Elettronica s.r.l.
M. Consonni
(*Legal Representative*)

On our website www.laumas.com there are videos on the guidelines for correct installation of weighing systems and video tutorials on configuring our transmitters and weight indicators.

All Laumas product manuals are available online. You can download the manuals in PDF format from www.laumas.com by consulting the Products section or the Download Area.
Registration is required.

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