

ENGLISH



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User Manual

version 1.02

COD



SYMBOLS

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



Pay particular attention to the following instructions.

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**

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

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INTRODUCTION

The digital load cells transmit the weight values via a serial interface. The integrated electronics take care of transforming the analog signal into a digital weight value.

The COD digital load cell is compatible with Laumas WINOX-BGE and WTAB-BGE instruments.

TECHNICAL SPECIFICATIONS

ACCURACY CLASS OIML R60/LEGAL DIVISIONS	C/5000
NOMINAL LOAD (E MAX)	25000 – 50000 kg
MINIMUM VERIFICATION INTERVAL (Vmin)	Emax/10000
COMBINED ERROR	±0.02%
PROTECTION RATING	IP69K
EFFECT OF TEMPERATURE ON ZERO	±0.0015% F.S. °C
EFFECT OF TEMPERATURE ON FULL SCALE	±0.0015% F.S. °C
THERMAL COMPENSATION	-10 °C +40 °C
WORKING TEMPERATURE	-30 °C +70 °C
MAXIMUM STATIC LOAD (% ON FULL SCALE)	150%
BREAKING LOAD (% ON FULL SCALE)	300%
CREEP AT NOMINAL LOAD AFTER 30 MINUTES	±0.02%
RECOMMENDED POWER SUPPLY VOLTAGE	9÷12 VDC
MAXIMUM TOLERATED POWER SUPPLY VOLTAGE	20 VDC
OUTPUT	RS485
COMMUNICATION SPEED	38400 bps
INTERNAL REFRESH RATE	10 loads/s
MAXIMUM TRANSMISSION DISTANCE	1200 m

ELECTRICAL CONNECTIONS

Signal	COD load cell cable color
SHIELD	
+POWER SUPPLY (9÷12 VDC)	BLUE
-POWER SUPPLY	BLACK
RS485+	WHITE
RS485-	RED

CONNECTION TO WINOX BGE/WTAB BGE



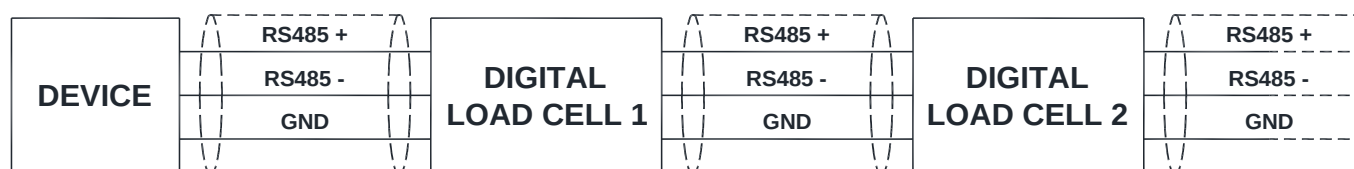
The connection is made through an RS485 port. If the RS485 network exceeds 100 metres in length or baud-rate over 9600 are used, two terminating resistors are needed at the ends of the network. Two 120 ohm resistors must be connected between the “+” and “-” terminals of the line.

Signal	WTAB-BGE/WINOX-BGE D5 connector pin	COD load cell cable color
+POWER SUPPLY*	1*	BLUE
RS485+	4	WHITE
RS485-	6	RED
-POWER SUPPLY/SHIELD	5	BLACK

Signal	WTAB-BGE/WINOX-BGE D7 connector pin	COD load cell cable color
+POWER SUPPLY*	1*	BLUE
RS485+	4	WHITE
RS485-	6	RED
-POWER SUPPLY/SHIELD	5	BLACK

WEIGHING SYSTEM WITH MULTIPLE DIGITAL LOAD CELLS

All the digital load cells used must be connected to the same serial port as the reading device used.



USE WITH BGE SERIES INSTRUMENTS



Before it can be used in combination with digital load cells, the weight indicator must be appropriately configured.

Instrument firmware revision	Procedure
<1.01	the functions described in this section are not available
1.01÷1.03	configure the weight indicator (see section DATA DELETION AND PROGRAM SELECTION in the instrument manual) and enable the communication with the digital load cells (see section ENABLING COMMUNICATION WITH THE LOAD CELLS)
≥1.04	enable the communication with the digital load cells (see section ENABLING COMMUNICATION WITH THE LOAD CELLS)

ENABLING COMMUNICATION WITH THE LOAD CELLS

In the case of an approved instrument, accessing the **DIGCEL** menu item and the serial port menu on which this mode is set requires qualified access (see the **ACCESS TO LEGALLY RELEVANT PARAMETERS** section in the instrument manual).

MENU INTERFACES **ENTER** SERIAL **ENTER** RS485 **ENTER** DIGCEL

MENU INTERFACES **ENTER** SERIAL **ENTER** RS485B **ENTER** DIGCEL

To enable communication with the digital load cells, select the **DIGCEL** protocol for the RS485 interface used.

The query cycle of the digital load cells connected to the instrument has a frequency of 10 loads/s.



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

ADDITIONAL MENU MAP



WARNING: the map shows only the additional menu items that are enabled when selecting DIGCEL as the serial interface communication protocol.

WEIGHING	
DIG. LOAD CELLS	
DIAGNOSTICS	AUTO 0
	0 ERROR THRESH.
	LOAD DISTRIB. 0
EQUALIZATION	EXECUTE
	MANUAL MOD.
	MOD. W/WEIGHT
	DELETE
TEST	
LOAD DISTRIBUT.	

REGISTERING LOAD CELLS

In the case of an approved instrument, to access this menu item, a qualified access is required (see section **ACCESS TO LEGALLY RELEVANT PARAMETERS** in the instrument manual).

MENU WEIGHING **ENTER** DIG. LOAD CELLS

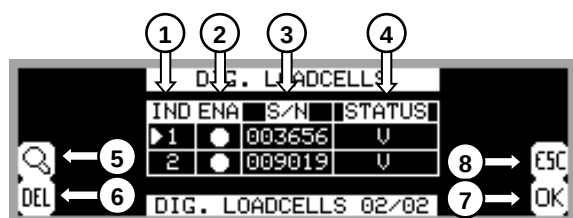
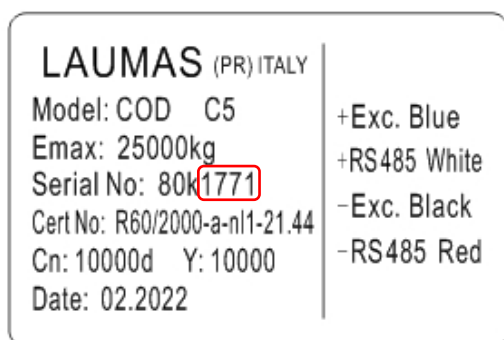


Only proceed with registration when the wiring is finished and the digital load cells are correctly powered.

Registration is required to provide the indicator with the following information:

- the number of load cells connected
- their serial number

The serial number is a 4-digit number on the label attached to the digital load cell or on the label attached to the package containing it. In the example image it is 1771.



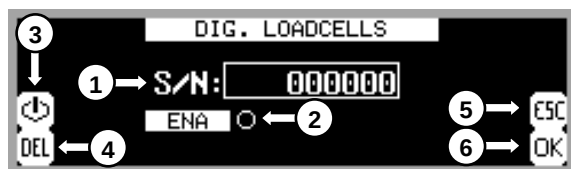
- 1) Numerical index assigned to the load cell
- 2) Load cell enable status
- 3) Load cell serial number
- 4) Load cell status
- 5) Search for active load cells
- 6) Delete all registered load cells
- 7) Edit the parameters of the selected load cell
- 8) Cancel

The STATUS column shows the operating status of the digital load cells:

- X: the load cell is not active
- V: the load cell correctly communicates with the instrument
- NO COM: the load cell does not communicate with the instrument
- P: the load cell is not configured correctly, factory maintenance is required

Registering a digital load cell:

- select the load cell with ▲ and ▼
- press **ENTER** to edit the load cell parameters



- 1) Load cell serial number
- 2) Load cell enable status
- 3) Change the load cell enable status
- 4) Reset the serial number
- 5) Cancel
- 6) Confirm

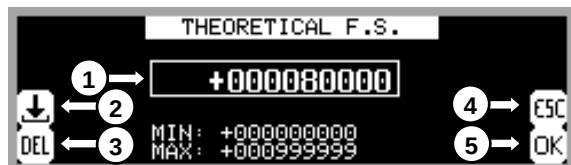
- enter the serial number of the load cell using the instrument keypad
- press **ENTER** to change the load cell enable status to ENA
- press **OK** to confirm the data and return to the list of load cells
- press **ESC** to cancel and return to the list of load cells

AUTOMATIC CALCULATION OF THEORETICAL FULL SCALE

In the case of an approved instrument, to access this menu item, a qualified access is required (see section ACCESS TO LEGALLY RELEVANT PARAMETERS in the instrument manual)

MENU WEIGHING **ENTER** CALIBRATION **ENTER** THEORETICAL F.S.

From the theoretical full scale setting screen, press the F1 key: a new value is calculated and applied, as the sum of the full scale values read by the single load cells connected to the instrument.



- 1) Theoretical full scale value
- 2) Calculate and apply the theoretical full scale
- 3) Reset the current value
- 4) Cancel
- 5) Confirm

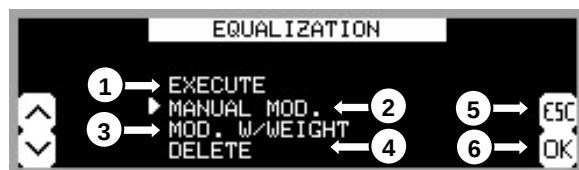
EQUALIZATION

In the case of an approved instrument, to access this menu item, a qualified access is required (see section **ACCESS TO LEGALLY RELEVANT PARAMETERS** in the instrument manual)

MENU WEIGHING **ENTER** CALIBRATION **ENTER** EQUALIZATION



At the end of equalization, it is necessary to **TARE WEIGHT ZERO SETTING** and if necessary perform the **REAL CALIBRATION**.



- 1) Perform actual equalization
- 2) Manual modification of the K equalization coefficients
- 3) Modification with sample weight of the equalization coefficients
- 4) Delete the equalization
- 5) Cancel
- 6) Confirm

REAL EQUALIZATION



Use a sample weight of **at least 50%** of the capacity of the single load cell.



- 1) Selected step
- 2) Current gross weight value
- 3) Stable weight indication
- 4) Confirm that the selected step has been performed
- 5) Cancel

On the equalization screen, select **EXECUTE** and confirm with **OK**, then carry out the indicated steps:

- **ZERO**: unload the scale, wait for stability and confirm with **OK**
- **CHANNEL 1**: place the sample weight at load cell 1, wait for stability and confirm with **OK**
- repeat for each connected load cell

If the equalization is successful, the display shows **VALID**, confirm with **OK** to exit; if an error occurs, the display shows **FAILED**, confirm with **OK** and repeat the procedure.

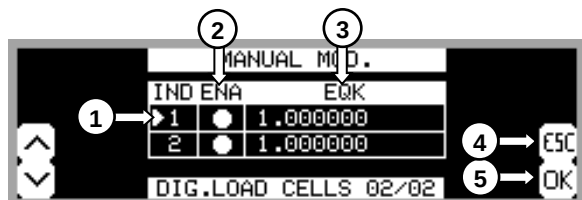
MANUAL MODIFICATION OF THE EQUALIZATION COEFFICIENTS



Function available starting from firmware revision 1.03

Use a sample weight of **at least 50%** of the capacity of the single load cell; if the weight used is not sufficient, the message `UNLOADED CELL` will be displayed and the instrument will automatically return to the previous screen.

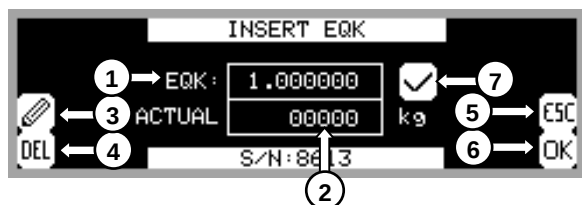
To change the equalization coefficient of a load cell, the cell must be enabled.



- 1) Selected load cell
- 2) Load cell enable status
- 3) Equalization coefficient
- 4) Cancel
- 5) Confirm

On the equalization screen, select `MANUAL MOD.` and confirm with `OK`, then carry out the indicated steps:

- place the sample weight in correspondence with the active load cell whose equalization coefficient you want to modify
- select the load cell on which the sample weight was placed and confirm with `OK` (if the correct load cell has been selected, ☒ will be displayed on the next screen)



- 1) Current value of the equalization coefficient
- 2) Current gross weight value
- 3) Change the equalization coefficient without saving
- 4) Undo the change to the equalization coefficient
- 5) Cancel
- 6) Confirm
- 7) Correspondence between the loaded and selected load cell

- change the EQK equalization coefficient by entering a value between 0.5 and 2
 - o press to apply the change
 - o if the value in the `ACTUAL` field is equal to the sample weight used, confirm with `OK`, otherwise repeat the change

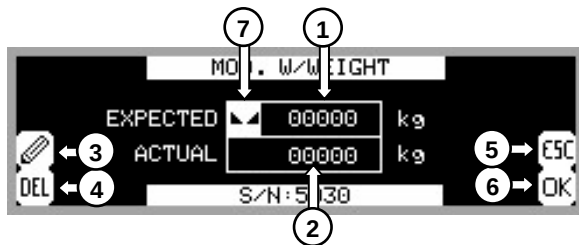
Repeat the procedure for each equalization coefficient to be modified.

MODIFICATION WITH SAMPLE WEIGHT OF THE EQUALIZATION COEFFICIENTS



Function available starting from firmware revision 1.03

Use a sample weight of **at least 50%** of the capacity of the single load cell; if the weight used is not sufficient, the message `UNLOADED CELL` will be displayed and the instrument will automatically return to the previous screen.



- 1) Sample weight used
- 2) Current gross weight value
- 3) Change the current weight without saving
- 4) Undo the change to the current weight
- 5) Cancel
- 6) Confirm
- 7) Stable weight indication

On the equalization screen, select `MOD. W/WEIGHT` and confirm with `OK`, then carry out the indicated steps:

- position the sample weight in correspondence with the load cell whose equalization coefficient you want to modify and confirm with `OK`: the instrument automatically detects the loaded load cell and displays its serial number
- enter the value of the sample weight used in the `EXPECTED` field
- wait for stability and press `edit` to apply the change: if the value in the `ACTUAL` field is equal to the sample weight used confirm with `OK`, otherwise or if an error message is displayed, repeat the change

Repeat the procedure for each equalization coefficient to be modified.

DELETING

On the equalization screen select `DELETE` and confirm with `OK`, confirmation is required (`SURE?`), press `OK` to delete the equalization, or press `ESC` to cancel.

AUTOMATIC DIAGNOSTICS OF LOAD DISTRIBUTION

MENU WEIGHING **ENTER** CALIBRATION **ENTER** DIAGNOSTICS

- **AUTO 0** (SI/NO; default: NO): enables diagnostics on zero.
- **0 ERROR THRESH.** (default: 5.0): difference between the current and stored percentages above which the **ERDIAG** alarm is triggered.
- **LOAD DISTRIB.** 0: displays the distribution of the load on the current zero and the previously stored distribution (weight, percentage of load on each channel).

When zero-setting is performed from the **CALIBRATION** menu, the instrument calculates the percentage of load on each load cell and saves the entire weight distribution following user confirmation; when the system is unloaded, the current weight distribution is compared with the stored weight distribution.

If the load percentage error is greater than the value set in the **0 ERROR THRESH.** parameter, the display shows the **ERDIAG** alarm alternating with the weight; the alarm remains active even when the instrument is switched off, press **ENTER** to cancel.



Diagnostics on zero are only carried out if the load distribution has been saved at least once (see section **TARE WEIGHT ZERO SETTING** in instrument manual).

Example of the current load distribution display: the top of the display shows the weight on the scale; the bottom shows the percentage of load on each load cell connected to the instrument.

5341 kg							
1	2	3	4	5	6	7	8
39.2	11.7	32.6	16.3	OFF	OFF	OFF	OFF

TEST – LOAD DISTRIBUTION

MENU TEST **ENTER** LOAD DISTRIBUT.

Displays the status of the registered digital load cells (load percentage, activation status, error condition).



- 1) Overall current gross weight value
- 2) Percentage of load on each active load cell
- 3) Switching from displaying load cells 1÷8 to load cells 9÷16
- 4) Selecting the type of distribution to display:
 - % of total load
 - % of load without the zero-setting component
- 5) ZERO message: the displayed load % are without the zero-setting component
- 6) Go back to the previous screen

ALARMS

- ERCEL 1*: load cell not connected or connected incorrectly;
- ERPSW 1*: the load cell is not configured correctly, factory maintenance is required;
- NOCEL: no load cell registered.

* the number indicates the index assigned to the load cell (see section **REGISTERING LOAD CELLS**)

DECLARATION OF CONFORMITY - UE

LAUMAS*Innovation in Weighing*

SISTEMI DI PESATURA INDUSTRIALE - CELLE DI CARICO - BILANCE

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Fabbricante metrico Prot. N. 7340 Parma - R.E.A. PR N. 169833 - Reg. Imprese PR N.19393 - Registro Nazionale Pile
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

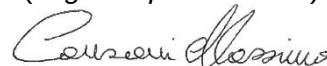
I	Dichiarazione di conformità	Dichiariamo che il prodotto al quale la presente dichiarazione si riferisce è conforme alle norme di seguito citate.
GB	Declaration of conformity	We hereby declare that the product to which this declaration refers conforms with the following standards.
E	Declaración de conformidad	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: COD

Mark Applied	EU Directive	Standards
CE	2014/30/EU EMC Directive	EN 61000-6-2: 2005 EN 61000-6-3: 2007 + A1: 2011

Montechiarugolo (PR), 26/06/2024

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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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

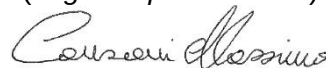
I	Dichiarazione di conformità	Dichiariamo che il prodotto al quale la presente dichiarazione si riferisce è conforme alle norme di seguito citate.
GB	Declaration of conformity	We hereby declare that the product to which this declaration refers conforms with the following standards.
E	Declaración de conformidad	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: COD

Mark Applied	UK legislation	Standards
UK CA	Electromagnetic Compatibility Regulations 2016	BS EN 61000-6-2: 2005 BS EN 61000-6-3: 2007 + A1: 2011

Montechiarugolo (PR), 26/06/2024

LAUMAS Elettronica s.r.l.
M. Consonni
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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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CERTIFICATION OF THE ENVIRONMENTAL MANAGEMENT SYSTEM
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Laumas contributes to environmental protection by saving on paper consumption.