LOCOSC PRECISION TECHNOLOGY

LP7510

Weighing Indicator

USER MANUAL



NTEP | NIST Handbook 44 | Legal-for-Trade

Version: 7510EC260902

Safety Precautions

Read this section carefully before installing, operating, or servicing this equipment. Failure to observe these warnings may result in equipment damage, metrological inaccuracy, or personal injury.



WARNING — Qualified personnel only

Setup, calibration, inspection, and maintenance of the indicator must be carried out only by qualified, professionally trained personnel. Unauthorized servicing may affect metrological integrity and void the warranty.



WARNING — Protective earth (grounding)

Ensure the indicator and the complete scale system are properly grounded (earthed) during use. A reliable earth connection is essential for measurement accuracy and for protection against electric shock.



WARNING — Electrostatic-sensitive device (ESD)

The indicator contains electrostatic-sensitive components. Switch off and disconnect power before making any electrical connections. Do not touch internal components by hand, and observe appropriate anti-static precautions.

Metrological Sealing Instructions & Compliance Statement

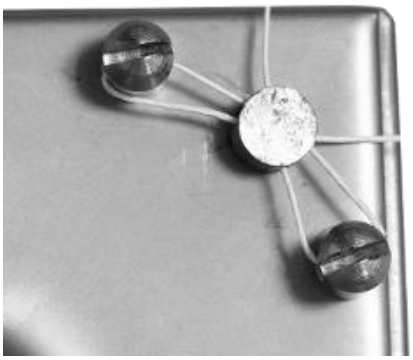
1. Legal-for-Trade Compliance Statement

This weighing indicator has been evaluated and complies with the requirements of NIST Handbook 44. It is approved for Legal-for-Trade applications when installed and configured in strict accordance with the Certificate of Conformance (CoC) #20-011.

2. Purpose & Warning

NOTICE: Calibration parameters (C01–C07) are critical for metrological integrity. To comply with local legal metrology regulations, these settings must be secured using either a physical lead-wire seal or an electronic security audit trail. Any unauthorized adjustment or modification to these parameters will immediately void the Legal-for-Trade certification and terminate the product warranty. Unauthorized personnel must not tamper with the seal.

3. Screw Sealing Procedure



- Threading the Wire: Thread the dedicated anti-corrosion sealing wire (or stainless steel wire) through the cross-drilled hole in the head of the designated sealing screw, and route it through the anchoring hole on the chassis.
- Applying the Seal: Pull both ends of the wire tight, insert them into the lead seal (or crimp seal), and compress it firmly using standard sealing pliers to create an irreversible stamp (e.g., metrological authority logo or factory code).

4. Seal Integrity Inspection

- Routine Check: Before each use, verify that the sealing wire is secure and intact, and the crimped stamp is clearly legible. If the screw seal is found to be damaged, stop using the device immediately and contact the local metrological authority for re-verification.

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1. Instruction

The weighing indicator is designed for bench scales, floor scales, and similar weighing systems. Basic weighing functions include: Total, Count, Print, and Unit switch.

Options: I/O, 4-20mA output.

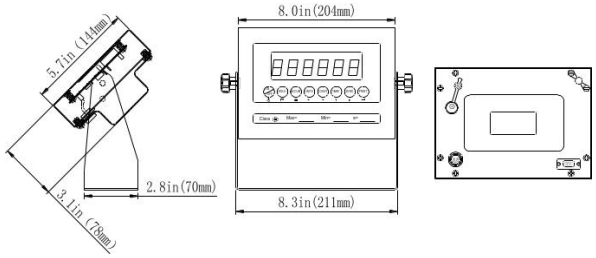
1.1 Main functions

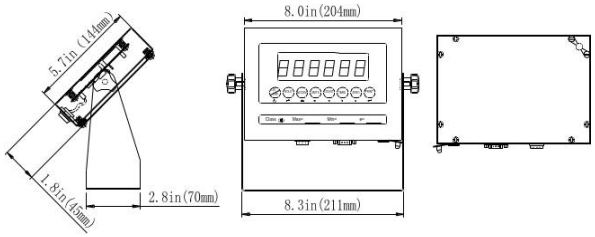
- Weighing Functions: Zero, Tare, Accumulation, Printing, Animal (Dynamic) Weighing, and Unit Switching.
- Overload Warning / Alert.
- Print Format: Date, Time, Net Weight, Tare Weight, Gross Weight.
- Hardware Options: Printer, RS232/RS485 Serial Interface, Remote Display, Digital I/O, 4-20mA Analog Output.

1.2 Technical parameter

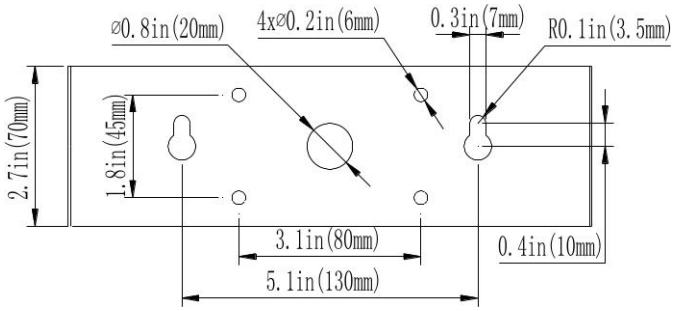
Item / Parameter	Specification
Accuracy Class	Class III
Max. Number of Scale Divisions (n)	n ≤ 10,000
Min. Input Voltage per Verification Scale Division	1 μV/e
Input Signal Range	−5 to 20 mV DC
Excitation Voltage	5 VDC, 4-wire connection (optional 6-wire connection)
Minimal Load Cell Impedance	87 Ω (supports up to 4 × 350 Ω load cells)
AC Power Supply	AC 100 to 240 V, 50/60 Hz
Battery Life	6 V/4 Ah lead-acid battery or 7.4 V/4 Ah Li-ion battery, up to 30 hours
Operating Temperature	14 °F to 104 °F (−10 °C ~ +40 °C)
Operating Humidity	≤85% RH (non-condensing)

1.3 Outline inch (mm)





Indicator dimensions



Mounting dimensions

1.4 Battery maintenance

- When using the internal battery for the first time, charge it for 10–12 hours to prevent low voltage caused by self-discharge.
- Battery status can be checked via the display indicator. When voltage is low, the battery icon flashes and “Lobat” appears on screen (or the red LED flashes); recharge immediately.
- A full charge requires 10–12 hours and provides approximately 30 hours of continuous operation.
- When the battery light turns green (LED models) or the battery icon is fully lit (LCD models), charging is complete.
- If the indicator will remain idle for an extended period, remove the battery to avoid damage from leakage.
- To maintain optimal battery performance, charge the battery at least once a quarter (every 3 months).
- Batteries are consumable items and are excluded from the product warranty.

2. Installation and connection

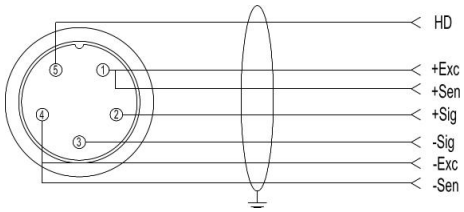
2.1 Power supply connection

The indicator is powered by a DC adapter. Plug the adapter directly into the “DC” port on the back cover to power on the indicator.

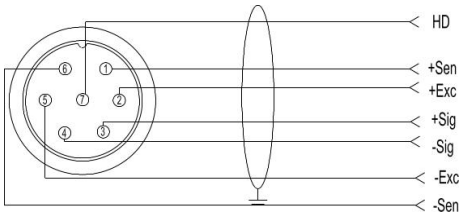
2.2 Connection of load cell and indicator

The indicator accepts up to six 350 Ω load cells, supporting both 4-wire and 6-wire (optional) load cells.

- Method A (Quick-Disconnect): Use the supplied quick-disconnect connector to mate with the load cell cable.

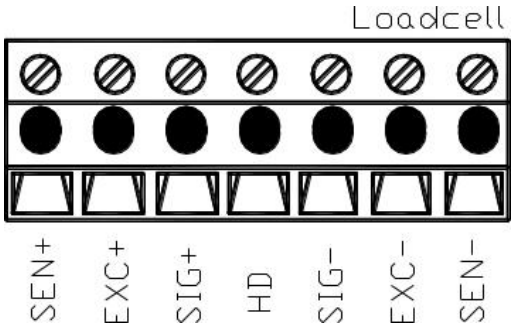


4-wire load cell connector



6-wire (option) load cell connector

- Method B (Terminal Block): Open the rear cover, insert wires into the terminal block, and tighten the screws.
  - For 4-wire: connect EXC+, SIG+, HD (Shield), SIG−, EXC−.
  - For 6-wire: remove jumpers RJ4 and RJ7 on the PCB first, then connect SEN+, EXC+, SIG+, HD, SIG−, EXC−, SEN−.

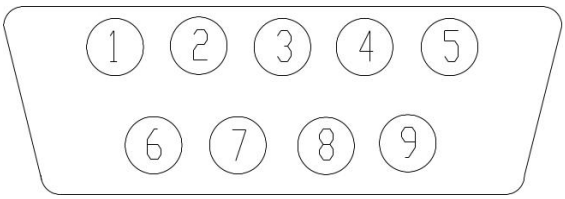


Terminal block wiring

2.3 Communication interface

RS232 pin assignments (DB9 or 3-pin).

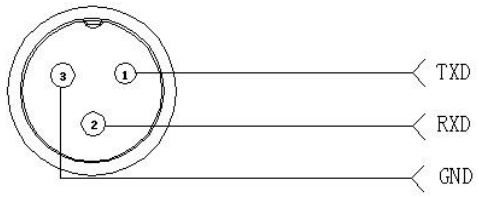
DB9 definition



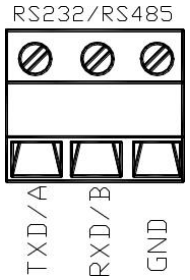
DB9 Pin – Definition	Function
2 – TXD	Transmit data
3 – RXD	Receive data
5 – GND	Ground interface

Note: For optional RS485, connect A and B to pins 2 and 3.

3-pin definition



Internal connection

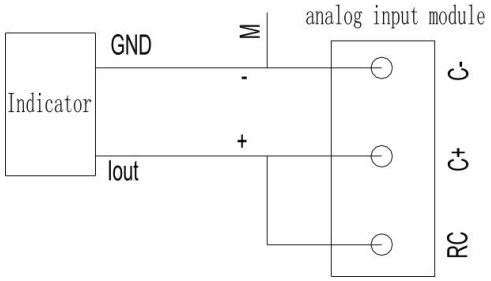


Pin	Function
RS232 – TXD	Transmit data
RS232 – RXD	Receiving data
RS232 – GND	Ground
RS485 (option) – A	RS485 output “A” port
RS485 (option) – B	RS485 output “B” port

2.4 4-20mA output (optional)

Technical parameters

- Resolution: 1/1000 | External load: 0–500 Ω
- Wiring: connect “+” terminal to DB9 Pin 1, and “–” terminal to DB9 Pin 6.



- Calibration: press [PRINT] and [HOLD] to enter C32 ([out-4] displays 4 mA; [out-20] displays 20 mA). Use [←]/[→] to fine-tune.
- Mode: C31=0 (0–20 mA output mode); C31=1 (4–20 mA output mode). Bridge a 250 Ω resistor across output pins for a 0–5 V signal output.

2.5 Relay output function (optional)

The indicator provides 4 digital outputs for automated control or alarms.

Parameter	Function	Definition
C33=0	No output signal	None
C33=1	Weight comparison	Hi, OK, Low, Zero
C33=2	Stable weight comparison	Hi, OK, Low, Zero
C33=3	Setpoint output	Setpoint 1, Setpoint 2

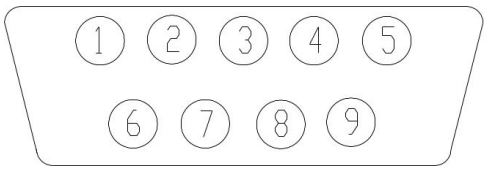
Parameter	Output port	Output condition	Definition
C33=1 / C33=2	OUT1	Weight ≥ C13	Hi (Over)
	OUT2	C13 ≥ Weight ≥ C14	OK (Accept)
	OUT3	Weight ≤ C14	Low (Under)
	OUT4	Weight ≤ 20d	Zero

Parameter	Output port	Output condition	Definition
C33=3	OUT1	Weight ≥ C14	Setpoint 1
	OUT2	Weight ≥ C13	Setpoint 2

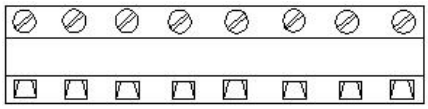
Application Example: Checkweighing Control

The indicator can be connected to a 3-color warning light and an external buzzer for automated weight verification:

- Yellow Light / Buzzer Alarm: triggered when the weight is over the high limit.
- Green Light: triggered when the weight is OK (accept).
- Red Light: triggered when the weight is under the low limit.



DB9 Pin	Port
1 / 6	Out1 (1st output signal pin)
2 / 7	Out2 (2nd output signal pin)
3 / 8	Out3 (3rd output signal pin)
4 / 9	Out4 (4th output signal pin)



Internal terminal block definitions

Relay contact rating: 3 A, 240 VAC / 24 VDC (resistive load).

3. Basic operation

3.1 Keypad

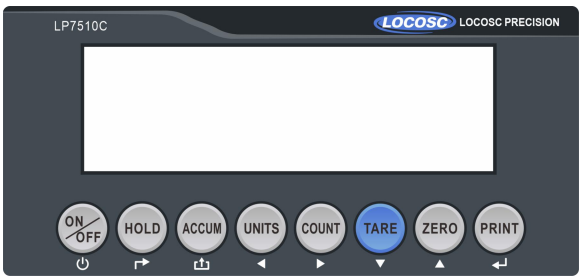
Normal version





Hold version





LED display instruction

LED	Description
	Weighing data
	Center of Zero
	Stable status
Gross	Gross weight mode
Net	Net weight mode
Tare	Tare status indicator
Total	Total weight status
Hold	Data hold status
pcs	Counting mode
lb	Pound unit indicator
kg	Kilogram unit indicator
。	Decimal point
Hi	Over (upper limit for checkweighing)
OK	Accept (target weight achieved)
Lo	Under (lower limit for checkweighing)

Keys function

Keys	Key name	Key function
	**Print**	Prints or transmits the current weight data to external devices.
	**Zero**	Sets the indicator to zero (within the allowed zero range).
	**Tare**	In Gross mode: tares the current weight. In Net mode: clears the active tare value and returns to Gross weight display.
	**Gross weight**	In Net mode: press to temporarily view the Gross weight. The display automatically returns to Net weight after 3 seconds.
	**Counting**	1. Enters piece counting mode. 2. Used in combination with the [PRINT] key to set the sample quantity.

Keys	Key name	Key function
	**Unit switch**	Switches between weight units (e.g., kg and lb). Note: toggles between kg/lb/oz or kg/g on LCD models.
	**Accumulation**	1. Accumulates the current weight data. 2. Used in combination with the [PRINT] key to perform accumulation functions and view saved results.
	**Power on/off**	Press and hold for 2 seconds to power the indicator ON or OFF.
	**Hold**	Holds the current weight reading on the display.

3.2 Power on & off

Press and hold [ON/OFF] for 2 seconds. The indicator displays “000000–999999” for a display segment check, then enters standard weighing mode.

3.3 Zero operation

- Initial Zero: automatically zeros the scale at power-on if the load is within the configured initial zero range.
- Manual Zero: when the reading is stable, press the [ZERO] key to clear minor weight deviations.

3.4 Tare operation

When the reading is stable, press [Tare] to store the current weight as tare. The display switches to Net weight (“Net” and “Tared” LEDs illuminate). Press [Tare] again with an empty scale to clear the tare and return to Gross mode.

3.5 Accumulation operation

- Perform Accumulation: load the scale. Once stable, press [Total] → screen shows “n 001” → unload weight to return to zero → load next item → press [Total] → screen shows “n 002” (max. 999 cycles).
- Check Accumulation: press and hold [ON/OFF], then press [Total] (press and hold [PRINT], then press [Total] for Hold version). The screen shows “n**” (total count), then alternates between the first 4 digits and last 4 digits of the total weight (e.g., “0012” then “34.56” = 1234.56).
- Clear Data & Exit: on the accumulation display, hold [Total] until “clr n” appears. Use [ZERO]/[TARE] to switch to “clr y” (confirm clear), then press [PRINT] to wipe memory and exit.

3.6 Printing

When the weight display is stable and a printer is connected, pressing the [PRINT] key will output and print the current weight data.

3.7 Display hold functions

There are distinct hold function capabilities between the Standard (Normal) version and the Advanced Hold version of

the indicator:

- Standard Version: supports the Automatic Hold function only.
- Advanced Hold Version: supports 5 distinct hold modes controlled via parameter C11.

Parameter Settings

- C11=0: Disable Hold Function
- C11=1: Peak Hold
- C11=2: Data Hold
- C11=3: Automatic Hold
- C11=4: Manual Animal (Livestock) Weighing
- C11=5: Automatic Animal (Livestock) Weighing

Detailed Functional Instructions

Peak Hold (C11=1): displays and holds the maximum (peak) weight or force value. This mode is primarily applied in materials testing applications, such as tension, compression, and pull force testing.

Data Hold (C11=2): freezes and maintains the current weight reading on the display. This mode is commonly used to log a specific weight value when a stable reading is achieved.

Automatic Hold (C11=3): when a stable load is detected on the platform, the indicator automatically locks and holds the weight reading on the display for 6 seconds.

Manual Animal Weighing (C11=4): press the [HOLD] key to initiate. The display will show “LOC” and calculate the average weight over a specific duration (configured in parameter C39). Once calculated, the locked average weight will be displayed. Press the [HOLD] key again to release the display and return to normal weighing mode.

Automatic Animal Weighing (C11=5): this mode operates automatically based on load changes on the scale. With an empty platform, once an animal steps onto the scale and a delay timer (configured in C40) expires, the display shows “LOC”. The indicator then averages the weight over a specified duration (configured in C39) and locks the calculated weight on the display. When the animal leaves the platform, the indicator automatically clears the locked reading and resets for the next weighing cycle.

3.8 COUNT

- Initial Sampling: place samples → press [COUNT] → screen shows “PCS 0” → press [ZERO] to enter the actual sample count → press [PRINT] to confirm. Add remaining goods to count. Press [COUNT] to exit.
- Resampling Different Goods: place new samples → press [COUNT] → hold [PRINT] then press [COUNT] → screen resets to “PCS 0” → press [ZERO] to input quantity → press [PRINT] to confirm.

Load Sample: in standard weighing mode, place a known quantity of sample items onto the scale platform.

4. Calibration and parameter setting

4.1 Entering the Setup Menu

When the indicator is powered on, there are two methods to enter the settings menu:

- when“MARK” switch is OFF, press the [Print] key and [Hold] key simultaneously to enter codes C08–C19 and C30–C49 to perform partial function settingsn.
- Remove the lead seal screw , and open the indicator housing, flip “MARK” switch to ON , then press the [Print] key and [Hold] key simultaneously to enter codes C01–C49, which cover all function settings, including calibration parameters

Key Navigation Functions in Setup Mode

When the indicator is in setup/configuration mode, the keys are redefined with the following navigation functions:

Key Symbol	Function Name	Description
	**ENTER**	Confirm the current selection or save data.
	**UP**	Increment a digit or move up to the previous menu item.
	**DOWN**	Decrement a digit or move down to the next menu item.
	**LEFT**	Shift the cursor to the left
	**RIGHT**	Shift the cursor to the right.
	**BACK**	Return to the previous menu.
	**EXIT CALIBRATION**	Save changes and exit the calibration mode.
	POWER	Turn the indicator ON or OFF.

4.2 Step of calibration operation

According to the second method used to enter the setting menu, configure parameters C01–C39 as follows:

Step	Operation	Display	Remark
1	—	[C01]	On entering calibration mode the display shows [C01].
2	[ENTER]	[C01 1]	Weight unit: 1 = kg, 2 = lb, 3 = g, 4 = oz (for LCD).
3	[ENTER] × 2, then [UP]/[DOWN]	[C02] → [C02 2]	Decimal places: select 0 / 1 / 2 / 3 / 4. Example: two decimals → [C2 2].
4	[ENTER] × 2, then [UP]/[DOWN]	[C03] → [C03 5]	Select the division (d): 1 / 2 / 5 / 10 / 20 / 50. Example: [C3 5].
5	[ENTER] × 2, then [UP]/[DOWN]/[LEFT]/[RIGHT]	[C04] → [0100.00]	Set the maximum capacity. Example: 100 kg → [0100.00].
6	[ENTER], [UP], [ENTER]	[C05] → [C05 0/1] → [CAL 9] … [0000.00]	Zero Calibration: 0 = no need for zero calibration, 1 = need zero calibration. Ensure the scale is empty and press [ENTER] to start the countdown, until it shows [0.00] (example for two decimal points).
7	[ENTER], [UP], [ENTER]	[C06] → [C06 0/1] → … → [CAL End]	Span Calibration: 0 = None, 1 = Execute. Place a known test weight (min. 10% of max capacity) on the scale, enter the value, and press [ENTER] to start the countdown until [CAL End] shows.
8	[ENTER], [UP]/[DOWN]	[C07] → [07 0] / [07 1]	Restore Parameters: 0 = keep settings, 1 = reset all settings to default.

Note

- [C05 2] System zero calibration
- [C06 2] Linearization calibration
- [C06 3] Sensitivity calibration

4.3 Application function parameters setting chart

Function	Setting Item	Parameter Setting & Instruction
Buzzer	**C08 – Buzzer**	0 = off 1 = on
Auto power-off	**C09 – Auto power-off**	0 = Disabled 10 / 30 / 60 minutes idle shutdown
Power saving setting	**C10 – Power saving setting**	LED version: 0 = off, 3 / 5 = display off after that many minutes idle LCD version: 0 = backlight off, 1 = backlight on key/weight change, 2 = constant backlight
Hold function	**C11 – Hold mode**	0 = disable hold function 1 = peak hold 2 = data hold 3 = automatic hold 4 = manual animal weighing 5 = automatic animal weighing
Unit conversion	**C12 – Unit conversion**	0 = disable unit conversion 1 = toggle between kg and lb 2 = toggle between kg, lb, and oz (LCD only) 3 = toggle between kg, lb, lb:oz, and oz (LCD only) 4 = toggle between kg and g (LCD only)
Upper/lower limit alarm	**C13 – Upper limit alarm value**	Set upper target weight, up to maximum capacity
	C14 – Lower limit alarm value	Set lower target weight, up to maximum capacity
Inner code display	**C15 – Check inner code**	Enter C15 to view the inner code
Date and time	**C16 – Date**	Set year / month / day (left to right)
	C17 – Time	Set hour / minute / second (left to right)
Communication setting	**C18 – Serial output method**	0 = off 1 = continuous (remote display) 2 = print 3 = command 4 = PC continuous 5 = PC/remote-display combined 6 = label printer LP7362R1 7 = label printer LP7362R6 8 = stable auto print
	C19 – Baud rate	0 = 1200 | 1 = 2400 | 2 = 4800 | 3 = 9600
Zero range	**C20 – Manual zero range**	0 = off | 1 = ±1% | 2 = ±2% of capacity

Function	Setting Item	Parameter Setting & Instruction
	C21 – Initial zero range	0 = off | 1 = ±1% | 2 = ±2% | 5 =±5% | 10=±10% of capacity
Zero tracking	**C22 – Automatic Zero Tracking (AZT) range**	0 = off 0.5 / 1.0 / 2.0 / 3.0 / 4.0 / 5.0 d (must not exceed the manual zero range)
	C23 – Automatic Zero Tracking (AZT) time	0 = off | 1 / 2 / 3 seconds
Overload range	**C24 – Overload range**	00 = off | 01–99 d above capacity
Negative display	**C25 – Negative display range**	0 = −20 d; 10 / 20 / 50 / 100 = that % of capacity
Stability time	**C26 – Stability time**	0 = fast | 1 = medium | 2 = slow
	C27 – Stability range	1 = 1d | 2 = 2d | 5 = 5d | 10 = 10d
Digital filter	**C28 – Dynamic filter**	0 = off 1–6 = filter strength (higher = more stable; use ≤ 3 for light shaking)
Noise filter	**C29 – Noise filter**	0 = off | 1 / 2 / 3 = filter strength
Date format	**C30 – Print date format**	0 = yy.mm.dd 1 = mm/dd/yyyy 2 = dd/mm/yyyy 3 = yyyy/mm/dd
Analog output setting	**C31 – Output type**	0 = 0–20 mA output | 1 = 4–20 mA output
4-20mA current calibrate	**C32 – Current calibrate**	See section 2.4
Relay output setting	**C33 – Relay output**	0 = off | 1 = Function 1 | 2 = Function 2 | 3 = Reserved option
Reserved menu	**C34**	—
Secondary COM port setting	**C35 – Serial output method**	0 = off 1 = continuous (remote display) 2 = print 3 = command 4 = PC continuous 5 = PC/remote-display combined
Gravity at calibration location	**C36 – Calibration-site gravity**	9.7000–9.9999
Gravity at destination	**C37 – Destination gravity**	9.7000–9.9999
Firmware version	**C38 – Firmware version**	Display only
Animal sample time	**C39**	0–9

Function	Setting Item	Parameter Setting & Instruction
Animal scale delay	**C40**	0–9
Print mode	**C41 – Print mode**	0 = auto mode | 1 = gross mode | 2 = tare mode (see section 5.4)
Print carriage return	**C42**	0–9
Space print	**C43**	0–9
Date print	**C44**	0 = no | 1 = yes
Time print	**C45**	0 = no | 1 = yes
ID number printing	**C46**	0 = do not print ID number | 1 = print ID number
Label print format	**C47**	0–99
Secondary COM baud rate	**C48**	0 = 1200 | 1 = 2400 | 2 = 4800 | 3 = 9600
Auto-print threshold value	**C49**	0–999999

NOTE

d = the configured scale division. The automatic zero-tracking range (C22) must not exceed the manual zero range (C20).

C36 and C37 apply a gravity correction between the calibration site and the place of use; set both to the correct local gravity value.

5. Output format

5.1 Remote-Display Continuous Format

The 18-byte continuous output frame is structured as follows:

STX	SWA	SWB	SWC	X	X	X	X	X	X	X	X	X	X	X	X	CR	CKS

State A – decimal point & division

Bit Pattern			Meaning
Bit 0,1,2			
Bit 2	**Bit** 1	**Bit 0**	Decimal point position
0	0	1	XXXXXX0
0	1	0	XXXXXXX
0	1	1	XXXXX.X
1	0	0	XXXX.XX
1	0	1	XXX.XXX
1	1	0	XX.XXXX
Bit 3,4			Division
4		**3**	Build code
0		1	X1
1		0	X2
1		1	X5
Bit 5			Constant 1
Bit 6			Constant 0

State B – weight status

Bit	Function
Bit 0	Gross = 0, Net = 1
Bit 1	Symbol: positive = 0, negative = 1
Bit 2	Overload (or under zero) = 1
Bit 3	Motion =1, stable =0
Bit 4	Unit: lb = 0, kg = 1
Bit 5	Constant 1
Bit 6	Constant 0

State C – unit & mode

Bit Pattern			Meaning
Bit 2	**Bit 1**	**Bit 0**	**Unit**
0	0	0	kg or lb
0	0	1	g
0	1	0	t
Bit 3		printing=1	
Bit 4		Extend display = 1	
Bit 5		Constant 1	
Bit6		Constant 0	

5.2 PC Continuous Output Format

Frame structure: S1 S2 S3 Data S4 CR LF

		,			,											CR	LF
S1			**S2**			**S3**					**Data**				**S4**		

- S1: weight status — ST = stable, US = unstable (in motion), OL = overload
- S2: weight mode — GS = gross, NT = net
- S3: sign — “+” or “–”
- S4: unit — “kg” or “lb”
- Data: weight value, including decimal point
- CR: carriage return
- LF: line feed

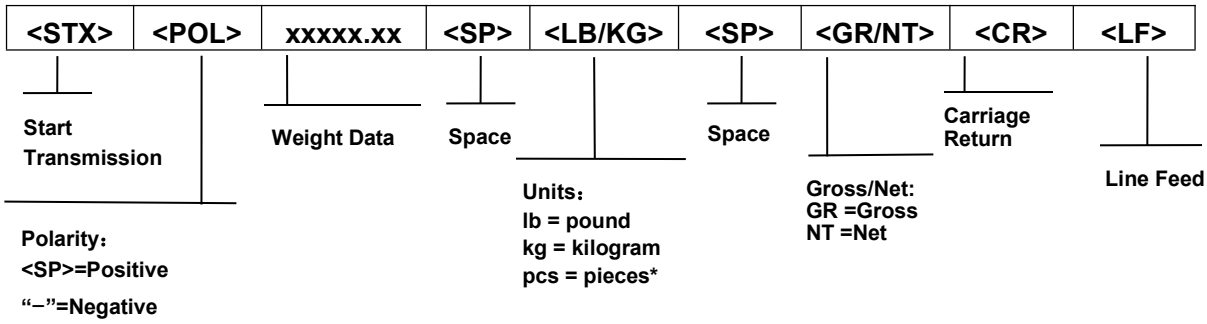
5.3 Serial Command Set

In command (request) mode, the serial interface accepts the following ASCII commands:

Command	Function
T – TARE	Perform tare or clear tare value.
Z – ZERO	Zero the gross weight.
P – PRINT	Output and print the current weight data.
R – READ WEIGH	Request and read the current weight (Gross or Net weight).
C – UNIT CONVERSION	Toggle/convert weight unit between kg and lb.
G – GROSS WEIGHT	Check the gross weight while in net weight mode.
N – Inner code	Request and read the inner code.

'R' Command Response Data Format

When the indicator receives the R command, it returns the current weight reading in the following structure:



'N' Command Response Data Format

When the indicator receives the N command, it returns the raw internal code (ADC counts) in the following fixed-width structure:

| STX | SP | SP | SP | XXXXXX | SP | IC | SP | IC | CR | LF |

- STX: start of text
- SP: space characters (padding)
- XXXXXX: inner code data
- IC: inner code identifier tokens
- CR / LF: message terminators

Print Key Data Output Format

When the [PRINT] key is manually pressed, the indicator outputs a single line data string through the serial port in the following structure:

| STX | SP | XXXXX.XX | SP | KG | SP | PT | CR | LF |

- STX: start of text
- SP: space segment separator
- XXXXX.XX: weight data payload
- kg / lb: current active unit
- PT: print trigger identifier
- CR / LF: message terminators

5.4 Print format

Tare mode

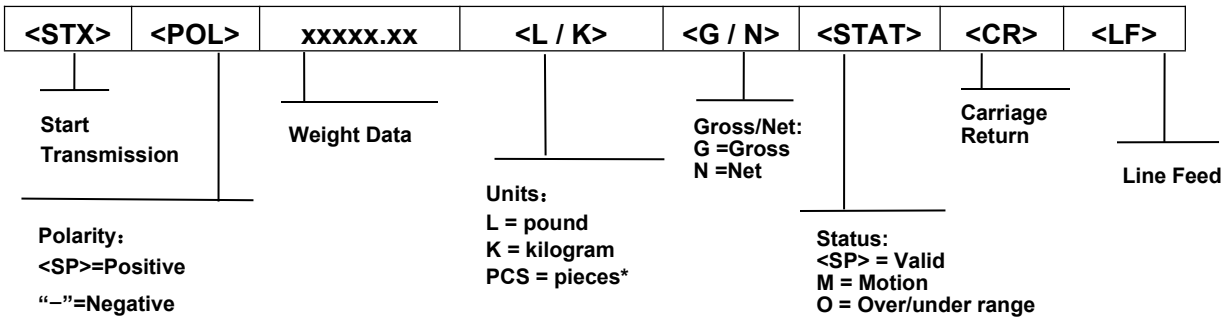
- Date: XX.XX.XX
- Time: XX:XXam
- Net XX.X kg
- Tare XX.X kg
- Gross XXX.X kg

Gross mode

- Date: XX.XX.XX
- Time: XX:XXam
- Gross XXX.X kg

5.5 PC or Remote Display Continuous Output Format

When the Secondary COM Port is configured for continuous mode, it transmits the serial data stream to a PC or secondary remote display in the following structure:



6. Maintenance and Troubleshooting

6.1 Error Messages

Display	Probable Cause	Corrective Action
UUUUUU	1. Overload. 2. Incorrect load-cell wiring. 3. A faulty load cell.	1. Reduce the load. 2. Check the load-cell connection. 3. Check the load cell by measuring its input and output resistance.
nnnnnnn	1. Faulty calibration. 2. Incorrect wiring. 3. A faulty load cell.	1. Check that the platform moves freely and the feet are level. 2. Check the connection and the load cell.
ERR1	During calibration, no test weight was added or the value exceeds maximum capacity.	Enter the correct test-weight value.
ERR2	During calibration, the test weight is below the minimum.	Use at least 10% of maximum capacity (recommended 60–80%).
ERR3	During calibration, the input signal is negative.	Check the wiring and that the load cell is undamaged.
ERR4	During calibration, the signal is unstable.	Allow the platform to stabilize, then restart calibration.
ERR5	EEPROM check error.	Replace the PCB.
ERR6	Zero is out of range.	Remove the load from the platform.

6.2 Routine Maintenance

- Sunlight Protection: protect the indicator from direct and intense sunlight to prolong its service life.
- Signal Integrity: ensure a secure and reliable connection between the load cell and the indicator. Keep the entire scale system away from strong electric and magnetic fields to prevent signal interference.
- Lightning Protection: always power off the indicator and disconnect the power supply during electrical storms or lightning activity.
- Hot-Plugging Warning: always turn off the indicator's power before plugging in or unplugging any cables (such as load cell, printer, or serial communication cables).

6.3 Restoring Factory Default Parameters

Enter Menu: enter calibration mode, and navigate to parameter C07. Modify Selection: change the value of C07 to 1 (C07 = 1). Save and Exit: press the [ENTER] key to confirm, then press the [EXIT CALIBRATION] key to save the settings and exit the menu. All parameters will automatically reset to their factory default values.

> **WARNING**
> Do NOT restore factory default parameters unless you are qualified and authorized to completely recalibrate the scale system. Restoring defaults will permanently erase all existing weight calibration data and custom application configurations.

Default parameters

Parameter	Instruction / Description	Default Value
C01	Weight unit	1
C02	Decimal places	0
C03	Scale interval / resolution	1
C04	Max. capacity	10000
C05	Zero calibration	0
C06	Span calibration	0
C07	Restore factory defaults	0
C08	Buzzer	1
C09	Auto power-off	0
C10	Power saving mode	0 (LED) / 1 (LCD)
C11	Hold function mode	2
C12	Unit conversion	1
C13	Upper limit alarm	000000
C14	Lower limit alarm	000000
C15	Inner code	—
C16	Date setting	—

Parameter	Instruction / Description	Default Value
C17	Time setting	—
C18	Primary COM output mode	0
C19	Primary COM baud rate	3 (9600)
C20	Manual zero range	2
C21	Initial zero range	10
C22	Auto zero-tracking range	0.5
C23	Auto zero-tracking time	1
C24	Overload warning range	9
C25	Negative display range	10
C26	Stability time	1
C27	Stability range	2
C28	Dynamic filter strength	0
C29	Noise filter strength	2
C30	Print date format	1
C31	Analog output type	1
C32	4–20 mA current calibration	4
C33	Relay output function	1
C34	Reserved menu	—
C35	Secondary COM output mode	1
C36	Calibration-site gravity	9.7936
C37	Destination gravity	9.7936
C38	Firmware version check	—
C39	Animal weighing sampling time	5
C40	Animal weighing display delay	5
C41	Print mode	0
C42	Print carriage return	1
C43	Print space lines	0
C44	Print date enable	1
C45	Print time enable	1
C46	ID number printing	0
C47	Label print format selector	0
C48	Secondary COM baud rate	3
C49	Auto-print threshold value	0

6.4 Packing list

S/N	Item	Name	Unit	Qty
1	Weighing indicator	LP7510E or LP7510C	PCS	1
2	Packaging Bag		PCS	1
3	Accessory Bag			
4	Adapter	US/DC9V (or other)	PCS	1
5	User manual		PCS	1
6	RS-232 connector	3 PIN or DB9	PCS	1
7	Load-cell plug	5 PIN quick disconnect	PCS	1
8	Signal cable	Φ5/3 core shield signal cable	PCS	1
9	Power cable	3 core Φ0.75mm	PCS	1
10	Bracket	Wall-mounted	PCS	1
11	Certificate		PCS	1
12	Packing list		PCS	1