WT3000-P
WT3000-IR

Weight Indicator.

REV.20180705

Thank you for choosing Weightech!

Now, in addition to acquiring an equipment of excellent quality, you will have an agile, dynamic and differentiated support team to solve any problems.

Before using your Weighing Indicator WT3000-P for the first time, read this manual carefully. You can also get additional information on this and all other WEIGHTECH USA products at www.weightechusa.com

INDEX

1 SPECIFICATIONS

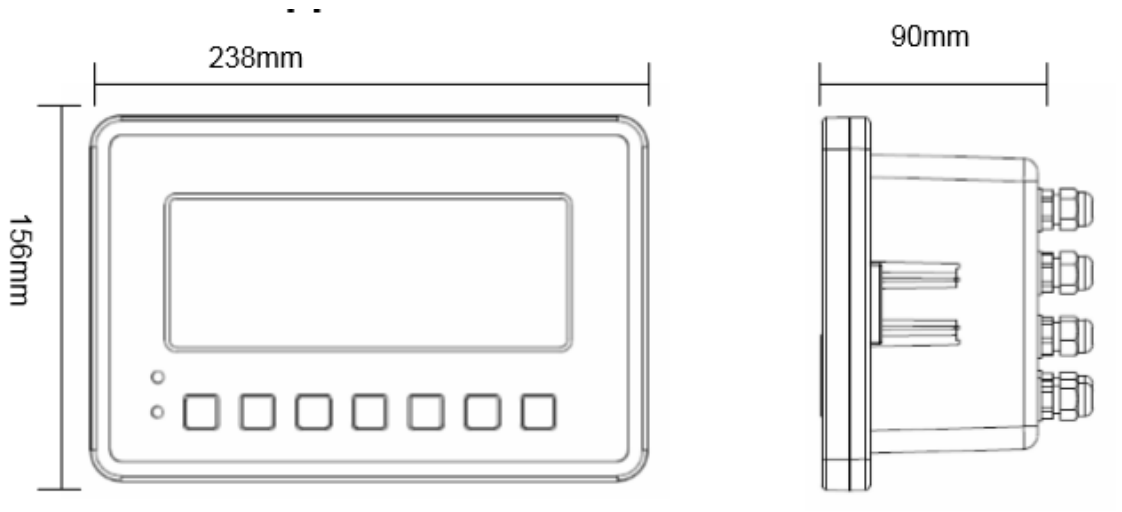
Table 1

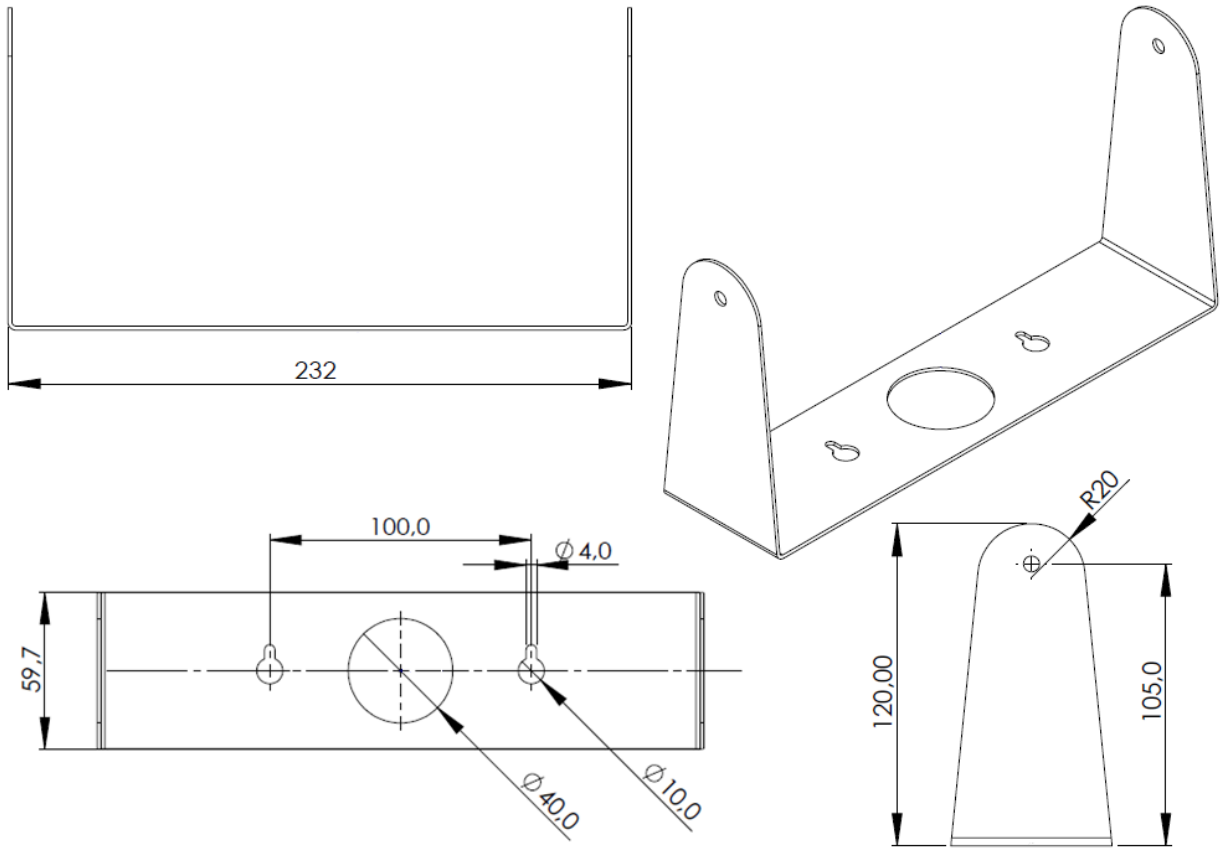
Input sensitivity	µV/d	0,3
Input signal range	mV/V	From -1 up to +14
Input zero range		From -1 up to +5
Units		kg, g and lb
Internal resolution		1 / 500.000
Non-linearity		0,01% FS
Load cell drive capacity		Up to 8 x 350Ω
Load cell excitation	VDC	5
Load cell connection type		6 wires
Power supply	VAC	AC 110 or 220V 50/60HZ - Battery internal rechargeable 6V/4,5Ah
Power consumption	mA	150
Operation temperature	°C	From 0 to +40
Display		6 digits LCD with backlight
Display height		2.15” OR 55mm
Display label		Zero, Battery Level, Stable, Gross, High and Low.
Communication interfaces		RS232
Degree of protection		IP-68

2 SAFETY REMINDER

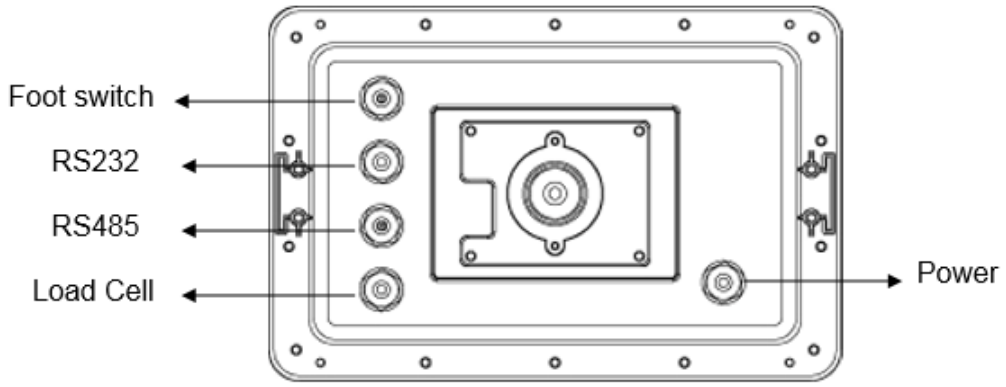
- The indicator should not be directly exposed to intense sunlight.
- The indicator should be used in a flat and leveled surface.
- The AC power supply must be grounded.
- This equipment may not be used in hazardous areas.
- Do not use corrosive products to clean the indicator.
- Power off the indicator before connecting to any other devices, including the load cell.
- If the indicator will not be used for prolonged periods of time, is recommended that the battery installed inside the equipment needs to be recharged every 3 months in order to prevent damage.

3 EXTERNAL APPEARANCE

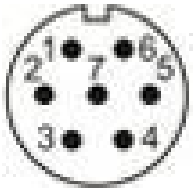

238mm
156mm
90mm


232
100,0
Ø4,0
59,7
Ø40,0
Ø10,0
R20
120,00
105,0

4 CONNECTIONS



Connector Pin-out



1	- SEN	SENSE -
2	+ SIG	SIGNAL +
3	- SIG	SIGNAL -
4	- EXC	EXCITATION -
5	+ EXC	EXCITATION +
6	+ SEN	SENSE +
7	GND	GROUND

5 KEYPAD FUNCTION

	Switch the power on/off.
	Function key specified by the parameter FnC 12.
	Toggle the display of gross and net weight values.
	Switches the operation of the indicator between weighing and piece counting
	Zero balance function.
	Tare function.
	Performs the accumulation of weight value show on the display and sends the weight value through the serial port.

6 OPERATION

- To turn on the indicator, press the key . The display performs the self-test indicating "999999" to "000000". Then goes into weighing mode.
- To turn off the display press and hold the button for about 2 seconds.

6.1 CHARGING THE INDICATOR

To charge the internal battery, connect it to the power source, the supply voltage is (110V or 220V).

The battery charging time is about 8 hours and the battery life is up to 15 hours.

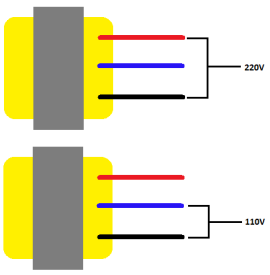
- **Caution:** Before connecting the indicator to power supply check the selected voltage transformer located inside the indicator housing.

6.2 POWER SUPPLY

- **Caution:** Before connecting the indicator to power supply check the selected voltage transformer located inside the indicator housing.

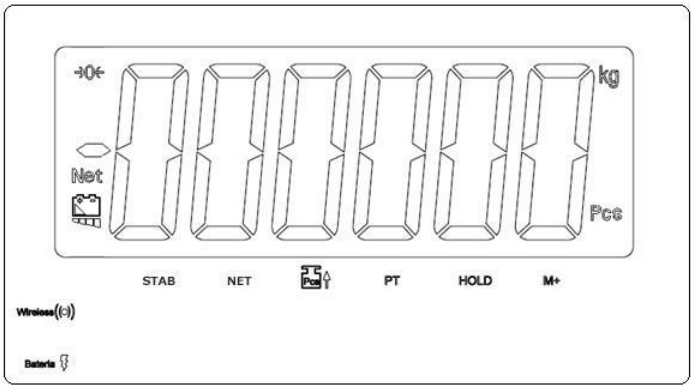
To select the voltage for the power supply, use the wires connected to the transformer located inside the equipment.

Wire colors	Voltage selected
red and black	220V
blue and black	110V



- **Important:** Latest version of this device have a automatic voltage selection on power supply.

6.3 DISPLAY



	Zero indication.
“STAB”	Stability indication.
“NET”	Net weight indication
	Insufficient sample indication.
“PT”	Pre-tare function indication.
“Pcs”	Pieces counting indication.
“M+”	Indication of cumulative weighing in memory.
	Battery charge level indication.
Bateria	Connected to AC power source indication.
Wireless	Bluetooth transmission indication.

6.4 MANUAL ZERO

Press 

to reset the zero balance of the indicator.

6.5 TARE FUNCTION

The tare function is used to discount the weight of containers.

Press 

, the indicator will discount the weight value shown on the display.

The tare operation is cumulative, or may be performed more than once. To activate the TARE, the indicator has to be indicating positive and stable weight.

To cancel the tare just push the button 

with the platform without weight applied.

6.6 PRE TARE FUNCTION

The tare function is used to discount the weight of containers generally allowing the user to type the amount of weight that will be discounted.

By pressing 

, when there is no weight applied on the platform, the indicator toggle the pre-tare function active showing the message “pt__” on the display. Type the pre-tare value using the keys 

.

After entering the pre-tare value, just press the key 

to confirm.

To clear the value of pre-tare, press Tare ⋗ with the empty platform, or insert a null value pressing tare Tare ⋗ with the platform without weight applied.

The pre-tare is very useful to discount the weight of containers whose tare value is already known, with no need to weigh the empty container.

- *The pre-tare value typed cancels previously existing tare values.*

6.7 Gross and net weight indication

To switch between gross weight and net weight indication, press the Gross Net ⋖ .

When the net weight is displayed, indicating the net weight will be displayed.

6.8 Piece counting

To activate the piece counting function or change the sample press Unit ∀ .

Select the number of pieces in the pressing the Gross Net ⋖ , then apply the amount of selected pieces on the platform and press the Unit ∀ , the indicator will show the number of pieces on the platform, to switch between piece counting and weighing press Unit ∀ .

- **Important:** The caption  shows that the applied weight is insufficient to piece counting function, the average weight of each piece cannot be less than 0.2 d.

7 CONFIGURATION

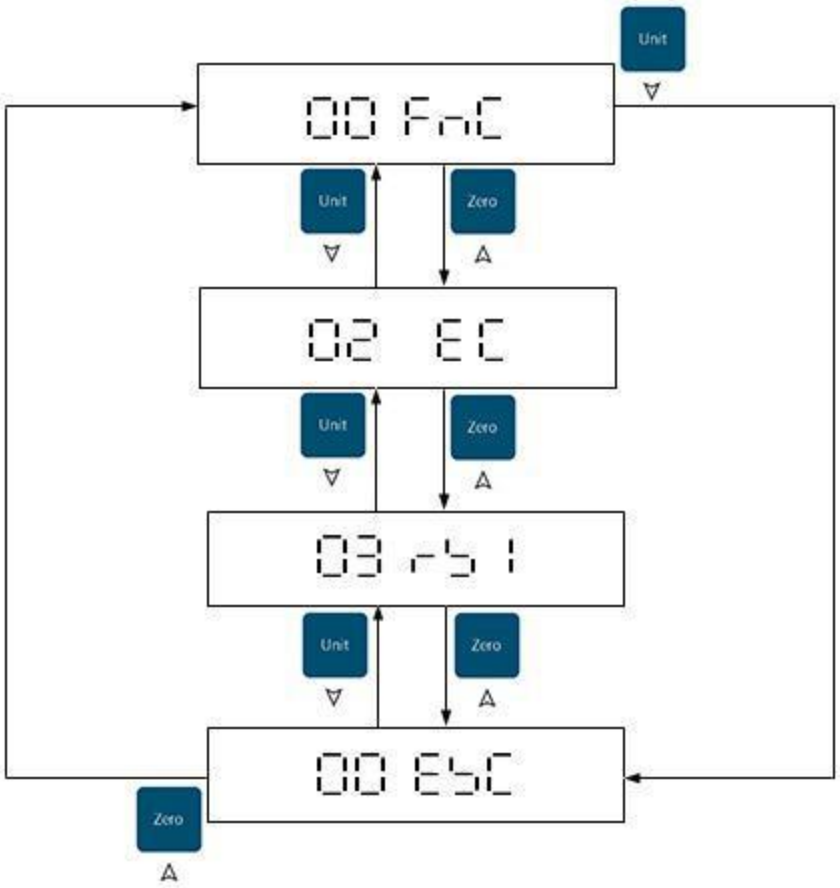
To access the user configuration menus press Gross/Net ◁ and Zero △ at the same time.

01 FnC - User configuration.

02 EC - Unused parameter.

03 rS1 - Serial comm port configuration.

00 EsC - Exit the user configuration menus.



- **Important:** *To access the configuration menu, the indicator must be working in weighing mode.*

7.1 User Configuration

Once inside the 01 FnC menu press Tare ➢ and select the parameters FnC-00 to FnC-13, press Tare ➢ to confirm. Perform the desired alteration and press Tare ➢ to save and return to the parameter selection menu.

Use the keys Tare ➢ , Zero ∧ , Unit ∨ and Gross Net ≺ to navigate through the menu screens.

Parameter	Function	Code	Description	Factory default
FnC-00	Returns to the previous menu	FnC-00	Returns to the previous menu	---.---
FnC-01	Backlight	bL OFF	Backlight off	bL OFF
		bL On	Backlight on	
		• If the **"bl On"** option is selected, the backlight will turn on automatically and when the weight applied is greater than 10d and it will turn off automatically after 10 seconds without variation in the weight applied.		
FnC-02	Auto power off	A oFF 0	Disabled	A oFF 0
		A oFF 1	Auto power off after 1 minute	
		A oFF 2	Auto power off after 2 minutes	
		A oFF 3	Auto power off after 3 minutes	
		A oFF 4	Auto power off after 4 minutes	
		A oFF 5	Auto power off after 5 minutes	
		A oFF 6	Auto power off after 6 minutes	
		A oFF 7	Auto power off after 7 minutes	
		A oFF 8	Auto power off after 8 minutes	
		A oFF 9	Auto power off after 9 minutes	

<table>
<tr><td rowspan="4">FnC-03</td><td rowspan="4">Check weight configuration</td><td>000.00h</td><td>Upper weight limit</td><td>000.00h</td></tr>
<tr><td>000.00L</td><td>Lower weight limit</td><td>000.00L</td></tr>
<tr><td>000.00b</td><td colspan="2">$1_a1_b1_c.00b$
<table><tr><td rowspan="2">a</td><td>1 → Beep on</td></tr><tr><td>0 → Beep off</td></tr><tr><td rowspan="2">b</td><td>1 → Beep sounds when weight is stable.</td></tr><tr><td>0 → Beep sounds when weight is unstable.</td></tr><tr><td rowspan="2">c</td><td>1 → Beep sounds when the weight applied is between upper and lower limits.</td></tr><tr><td>0 → Beep sounds when the weight applied is 10d or more over the upper limit and 10d under the lower limit.</td></tr></table></td><td>000.00b</td></tr>
<tr><td>FnC-04</td><td>Unused parameter.</td><td>---.---</td><td>Unused parameter.</td><td>---.---</td></tr>
<tr><td rowspan="3">Fnc-05</td><td rowspan="3">Filters</td><td>ZEro 0</td><td>After reaching 1/3 of the maximum load, the indicator will forces the return to zero when the weight applied is removed.</td><td>ZEro 0</td></tr>
<tr><td>FiL 0</td><td>Stability filter from 0 to 9
Higher the value, more stable the weight show.</td><td>FiL 0</td></tr>
<tr><td>3db 5</td><td>Digital filter from 0 to 9
Higher the value, faster is the response of the indicator</td><td>3db 5</td></tr>
<tr><td rowspan="5">Fnc-06</td><td rowspan="5">Hold function</td><td>hoLd 0</td><td>Hold function disabled</td><td rowspan="5">hoLd 0</td></tr>
<tr><td>hoLd 1</td><td>Peak detection.
To reset the function remove the weight applied and press any key.</td></tr>
<tr><td>hoLd 2</td><td>Freezes the weight show on the display when stable.
To reset the function remove the weight applied and press any key.</td></tr>
<tr><td>hoLd 3</td><td>Freezes the weight show on the display when stable.
The function will resets when the weight applied is less than 10d.</td></tr>
<tr><td>hoLd 4</td><td>Animal weighing mode.
At zero the indicator shows "---. ---" When a load is applied, the indicator immediately starts the calculation of the applied load, returning to indicate "---. ---" When the measured load is less than 10d.
After activate the animal weighing is necessary to set the parameters for calculating the weight.<table><tr><th>Code</th><th>Description</th><th>Factory default</th></tr><tr><td>010%</td><td>Range of error in measurement.
Range 1% to 100%</td><td>010%</td></tr></table></td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>
<table>
<tr><td>8</td><td>Number of samples used to calculate the weight.
Range 1, 2, 4, 8, 16, 32 or 64 samples.</td><td>8</td></tr>
</table>
</td><td></td></tr>
<tr><td></td><td></td><td>hoLd 5</td><td>Animal weighing mode 2
When a load is applied the indicator immediately starts to measure the weight value, after determine the weight value applied, the indicator shows the result on the display with the caption "HOLD".

After activate the animal weighing function, the user must set the parameters for weighing calculation as the table below shows.</td><td></td></tr>
<tr><td></td><td></td><td>hoLd 6</td><td>Tare operation for hospital care

This function allows the user top ut or remove weight from the scale without change the NET weight value.
Top ut or remove any weight in the scale without
Tare
change the NET weight value press ➢
<table>
<tr><td>Code</td><td>Description</td></tr>
<tr><td>003.000</td><td>Weight variation range to initiate new weight calculation
0-Máx Capacity</td></tr>
</table>
, put or remove any load from the scale and then
Tare
press ➢ again.
After activate this function the user must set a weight variation range to activate the bed abandonment alarm.</td><td></td></tr>
<tr><td>FnC-07</td><td>Average weight</td><td>AvErG0</td><td>Average weight on</td><td>AvErG0</td></tr>
<tr><td></td><td></td><td>AvErG1</td><td>Average weight off</td><td></td></tr>
<tr><td>FnC-08</td><td>Unused parameter.</td><td>---.---</td><td>Unused parameter.</td><td>---.---</td></tr>
<tr><td>FnC-09</td><td>Unused parameter.</td><td>---.---</td><td>Unused parameter.</td><td>---.---</td></tr>
<tr><td>FnC-10</td><td>Inicial zero memory</td><td>Z oFF</td><td>Zero memory off</td><td>Z oFF</td></tr>
<tr><td></td><td></td><td>Z on</td><td>Zero memory on</td><td></td></tr>
<tr><td></td><td></td><td colspan="2">Important: This function is not available if the parameter CFn 02 = 4</td><td></td></tr>
<tr><td>FnC-11</td><td>Foot switch function</td><td>ZEro</td><td>The foot switch acts like the “Zero” key.</td><td>ZEro</td></tr>
<tr><td></td><td></td><td>tArE</td><td>The foot switch acts like the “Tare” key.</td><td></td></tr>
<tr><td></td><td></td><td>Print</td><td>Performs the accumulation of the weight value show on the display and sends the information through the serial port.</td><td></td></tr>
</table>

FnC-12	F key function	mC	Erase the records of accumulations performed.	hr
		hr	For 5 seconds the weight is displayed with one more decimal place.	
		t-tP	Enters the pre-tare function	
		t-b	Activates the alarm for bed abandonment function (FnC 06 – hold 6).	
		r-HOLD	Starts a new weight calculation during live animal weighing function.	

7.2 SERIAL COMMUNICATION

Attention: The settings in this menu are assigned to onboard serial port and any other accessories that will send data from the indicator.

Once inside the 03rS1 menu press 

➢

Code	Description
003.000	weight variation range to activate the bed abandonment alarm. 0% - 100%. Máx.

and select the parameters rS1-00 to rS1-12, press 

➢ to confirm. Perform the desired alteration and press 

➢ to save and return to the parameter selection menu.

Use the keys 

➢ , 

∧ , 

∨ and 

➢ to navigate through the menu screens.

Parameter	Function	Code	Description	Factory default
rS1-00	Returns to the previous menu	rS1-00	Returns to the previous menu	---.---
rS1-01	Baud rate configuration	b 600 b 1200 b 2400 b 4800 b 9600	Baud rate configuration. • Important: The Bluetooth interface can only operate with 9600 Baud rate.	b 9600

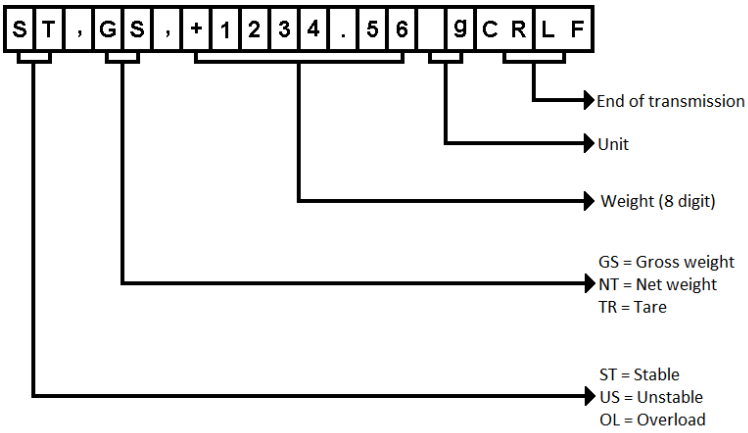
rS1-02	Parity, databits and stop bit configuration	n81	none, 8 data and 1 stop bit	n81
		E71	Even, 7 data and 1 stop bit	
		O71	Odd, 7 data and 1 stop bit	

rS1-03	Transmission format configuration	F-m 0	Display value transmission	F-m 0
		F-m 1	Gross weight transmission	
		F-m 2	Net weight transmission	
		F-m 3	Display value (simple format)	
		F-m 4	Gross weight transmission (simple format)	
		F-m 5	Net weight transmission (simple format)	
		F-m 6	Hi, Lo or OK Status and Display value (simple format)	
		F-m 7	Hi, Lo or OK Status and Gross weight transmission (simple format)	
		F-m 8	Hi, Lo or OK Status and Net weight transmission (simple format)	
		F-m 9	Tare value transmission	
		F-m 10	Number of accumulations, date, time, gross weight, tare, net weight **(The total accumulated weight is sent only when the memory is erased)** also compatible with Epson TM-U295 and TM-U220.	
		F-m 11	Date, time, gross weight, tare, net weight **(The total accumulated weight is sent only when the memory is erased)** also compatible with Epson TM-U295 and TM-U220.	
		F-m 12	Big score format (only for use with DR-WT 75, 125 and 200)	
		F-m 13	Printer format (only for Zebra CG420 and Elgin L42)	
		F-m 14	Stability status gross weight, tare, net weight and unit	
		F-m 15	Live animal weighing format. (for use with tag reader and printer)	
rS1-04	Transmission mode configuration	ComAnd	Parameter	ComAnd
		StrEAn	Continuous transmission	
		Auto	Auto transmission	
		rS-oFF	Disable serial transmission	
		n_PLuS	Accumulation mode	
rS1-05	Transmission rate setting	rPS 1	1 transmission per second	rPS 4
		rPS 2	2 transmissions per second	
		rPS 4	4 transmissions per second	
		rPS 8	8 transmissions per second	

		rPS 16	16 transmissions per second	
		mAx	Maximum transmission rate	
rS1-06	Minimum weight for automatic transmission	Zb – 00 to Zb - 99	Set the minimum number of divisions for auto transmission of a weight value. • **Important:** when this value is equal to 0 the automatic transmission will be disabled.	Zb – 05
rS1-07	Auto transmission reset	V-b 00 to V-b 99	Set the minimum number of divisions to reset the auto transmission of a weight value. • **Important:** when this value is equal to 0 the automatic transmission will be disabled.	V-b 00
rS1-08	Output condition	ALL-P	All status transmission	StP-P
		StP-P	Transmission only while stable weight applied	
		StoL-P	Transmission only while stable weight applied or OL status	
rS1-09	Configuration of the weight data size	Six	6 digits	Six
		SEvEn	7 digits	
rS1-10	RTC configuration	yy/mm/dd	Date setting	---.---
		hh/mm/ss	Time setting	
rS1-11	Date format configuration	y_m_d	Year/Month/Day	y_m_d
		d_m_y	Day/Month/Year	
rS1-12	Address setting	Id 00	Indicator address • Only for RS-485	Id 00
rS1-13	Empty spaces at the end of transmission setting	n 00	Configuration of “LF” asc characters sent after the transmission. • Only for RS1-03 = Fm10 or Fm11	n 00

8 TRANSMISSION FORMATS DESCRIPTION

Example showing each part of the transmission format:



Examples of the transmission formats with 7 bytes of weight values:

(F-m 0, F-m 1, F-m 2 and F-m 9):

Gross	S	T	,	G	S	,	+	SP	SP	3	0	0	.	0	0	SP	SP	k	g	CR	LF
Net	S	T	,	N	T	,	+	SP	SP	2	0	0	.	0	0	SP	SP	k	g		
Tare	S	T	,	T	R	,	+	SP	SP	1	0	0	.	0	0	SP	SP	k	g		
Overload	O	L	,	G	S	,	+	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP		
Negative overload	O	L	,	G	S	,	-	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP		

Examples of the transmission formats with 6 bytes of weight values:

(F-m 0, F-m 1, F-m 2 and F-m 9):

Gross	S	T	,	G	S	,	+	SP	3	0	0	.	0	0	SP	SP	k	g	CR	LF
Net	S	T	,	N	T	,	+	SP	2	0	0	.	0	0	SP	SP	k	g		
Tare	S	T	,	T	R	,	+	SP	1	0	0	.	0	0	SP	SP	k	g		

Overload	O	L	,	G	S	,	+	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP		
Negative overload	O	L	,	G	S	,	-	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP		

Examples of transmission with 7 bytes of weight value (simple format):

(F-m 0, F-m 1, F-m 2 and F-m 9):

Gross	+	SP	SP	3	0	0	.	0	0	CR	LF
Net	+	SP	SP	2	0	0	.	0	0		
Tare	+	SP	SP	1	0	0	.	0	0		
Overload	+	SP	SP	SP	SP	SP	SP	SP	SP		
Negative overload	-	SP	SP	SP	SP	SP	SP	SP	SP		

Examples of transmission with 6 bytes of weight value (simple format):

(F-m 0, F-m 1, F-m 2 and F-m 9):

Gross	+	SP	3	0	0	.	0	0	CR	LF
Net	+	SP	2	0	0	.	0	0		
Tare	+	SP	1	0	0	.	0	0		
Overload	+	SP	SP	SP	SP	SP	SP	SP		
Negative overload	-	SP	SP	SP	SP	SP	SP	SP		

Examples of transmission formats with check weight status and weight values:

(F-m 6, F-m 7 and F-m 8):

Hi status	1	0	0	+	.	2	3	.	4	5	6	CR	LF
OK status	0	1	0	+	.	2	3	.	4	5	6	CR	LF
Lo status	0	0	1	+	.	2	3	.	4	5	6	CR	LF

Example of weight accumulation format:

(F-m 10)

T	I	C	K	E	T	SP	SP	N	O	.	0	0	0	1	CR	LF
D	A	T	E	:	2	0	1	3	/	1	1	/	0	1	CR	LF
T	I	M	E	:	SP	SP	1	2	:	3	3	:	4	5	CR	LF
G	SP	+	SP	SP	SP	SP	SP	3	3	.	0	0	k	g	CR	LF
T	SP	+	SP	SP	SP	SP	SP	1	1	.	0	0	k	g	CR	LF
N	SP	+	SP	SP	SP	SP	SP	2	2	.	0	0	k	g	CR	LF

Example of weight accumulation format with total accumulated weight (sent only when the accumulation data is erased)

T	O	T	A	L	SP	N	U	M	B	E	R	CR	LF			
O	F	SP	T	I	C	K	E	T	S	SP	0	0	0	0	CR	LF
D	A	T	E	:	2	0	1	3	/	1	1	/	0	1	CR	LF
T	I	M	E	:	SP	SP	1	2	:	3	3	:	4	5	CR	LF
G	SP	+	SP	SP	SP	SP	SP	3	3	.	0	0	k	g	CR	LF
T	SP	+	SP	SP	SP	SP	SP	1	1	.	0	0	k	g	CR	LF
N	SP	+	SP	SP	SP	SP	SP	2	2	.	0	0	k	g	CR	LF
CR	LF															
T	O	T	A	L	SP	N	E	T	CR	LF						
SP	SP	+	SP	SP	SP	2	2	2	2	.	0	0	k	g	CR	LF

Examples of the transmission of date, time, gross weight, tare, net weight:

(F-m 11)

D	A	T	E	:	2	0	1	3	/	1	1	/	0	1	CR	LF
T	I	M	E	:	SP	SP	1	2	:	3	3	:	4	5	CR	LF
G	SP	+	SP	SP	SP	SP	SP	3	3	.	0	0	k	g	CR	LF
T	SP	+	SP	SP	SP	SP	SP	1	1	.	0	0	k	g	CR	LF
N	SP	+	SP	SP	SP	SP	SP	2	2	.	0	0	k	g	CR	LF

Example of weight accumulation format with total accumulated weight (sent only when the accumulation data is erased):

T	O	T	A	L	SP	N	U	M	B	E	R	CR	LF			
O	F	SP	T	I	C	K	E	T	S	SP	0	0	0	0	CR	LF
D	A	T	E	:	2	0	1	3	/	1	1	/	0	1	CR	LF
T	I	M	E	:	SP	SP	1	2	:	3	3	:	4	5	CR	LF
G	SP	+	SP	SP	SP	SP	SP	3	3	.	0	0	k	g	CR	LF
T	SP	+	SP	SP	SP	SP	SP	1	1	.	0	0	k	g	CR	LF
N	SP	+	SP	SP	SP	SP	SP	2	2	.	0	0	k	g	CR	LF
CR	LF															
T	O	T	A	L	SP	W	E	I	G	H	T	CR	LF			
SP	SP	+	SP	SP	SP	2	2	2	2	.	0	0	k	g	CR	LF

Example of the transmission with stability status gross weight, tare, net weight and unit:

F-m 14

S	,	B	B	B	.	B	B	B	,	T	T	T	.	T	T	T	,	L	L	L	.	L	L	L	CR	LF
				S:	Stability indication: 0: Stable weight; 1: Unstable weight.																					

				B:	7 bytes (gross weight with decimal point);			
				T:	7 bytes (tare weight with decimal point);			
				L:	7 bytes (net weigh with decimal point);			
				CR	Carriage return (0X0D)			
				LF	Line feed (0x0A)			

8.1 SERIAL COMMANDS

COMMAND			Action performed
Capital letters		Lower letter	
M	**Z**		Manual zero function
M	**T**		Tare function
C	**T**		Clear the tare value
M	**G**		Toggle gross weight value on the display
M	**N**		Toggle net weight value on the display
S	**C**		Start continuous transmission
S	**A**		Start auto transmission
S	**O**		Enable command mode
%			Stop continuous transmission and enters the command mode
R	**W**		Send the current weight value show on the display
R	**G**		Send the current gross weight value
R	**N**		Send the current net weight value
R	**T**		Send the current tare weight
R	**B**		Send the current weight value show on the display (simple format)
R	**H**		Send the current gross weight value (simple format)
R	**I**		Send the current net weight value (simple format)
R	**J**		Send the current tare weight (simple format)
R	**K**		Send check weight status and the gross weight value
R	**L**		Send check weight status and the net weight value

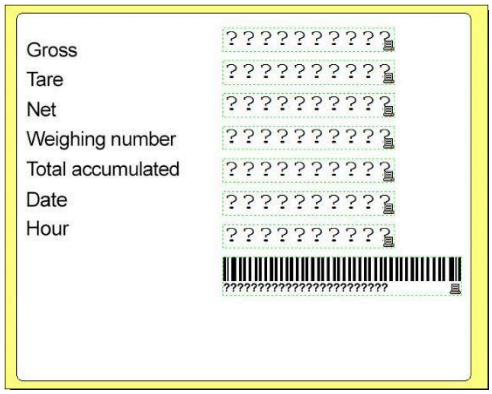
Remarks:

- Commands must be accompanied by terminating characters CR (0DH) and LF (0AH).
- When a command is not accepted or is not correct, an error indication is sent in the format: E: (Submitted character)
- To use the command with address set RS1-12 and put the @ character in front of each command as an example:

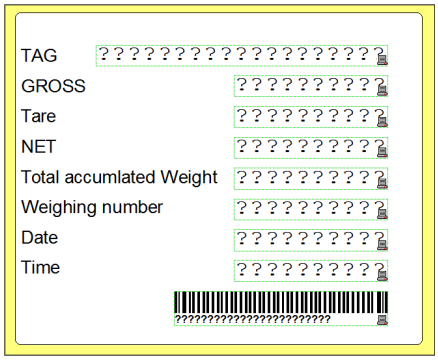
@	0	1	M	Z	C	R	L	F

For use with printers the Zebra CG420 and Elgin L42 do the following setting:

Example of the transmission format for printers (Fm 13):

Transmission example	**Ticket form example**
FR" *IRWT3000*"	
?	
0000500	
0000200	
0000300	
0000012	
0005000	
19/07/09	
15:37:45	
00000120008,750**190709**153745	
P1,1	

Example of the transmission format for printers (Fm 15):

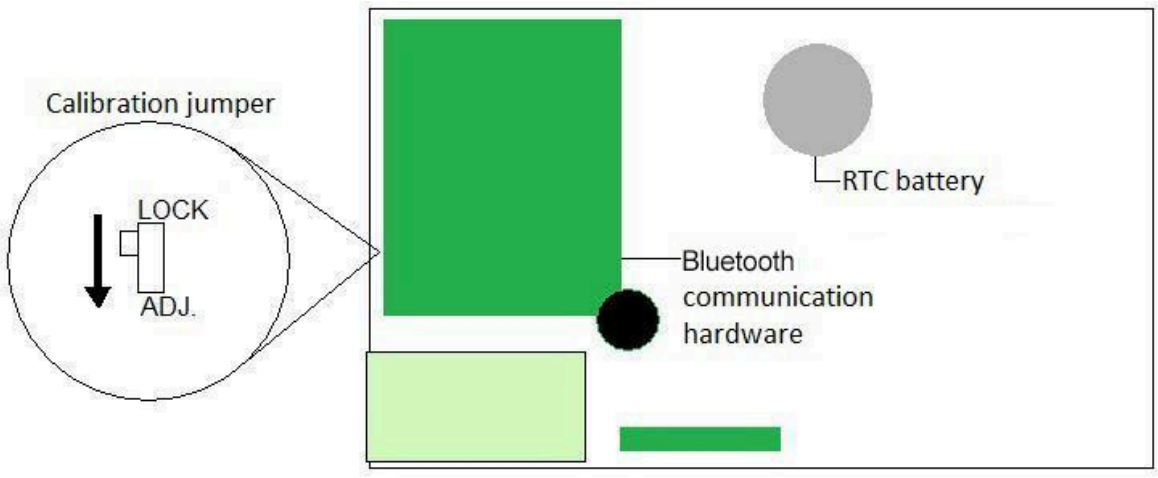
Transmission example	**Ticket form example**
FR" *CATTLE*"	
?	
00002000457897845852023578 5	
0000500	
0000200	
0000300	
0000012	
0005000	
19/07/09	
15:37:45	
00000120008,750**190709**153745	
P1,1	

9 CALIBRATION PARAMETERS

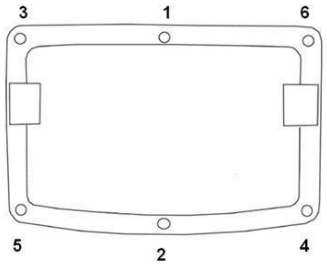
- **Note:** The access to these functions is blocked through a jumper located on the main board of the indicator.

9.1 ACCESS TO THE CALIBRATION JUMPER

- Turn off the indicator;
- Open up the indicator to access the main board;
- Change the position of the jumper, from “LOCK” to “ADJ.”;
- Close the indicator;
- Turn on the indicator.



- When the configuration procedures and calibration are finished, close the indicator noting the bolt tightening sequence described below to ensure smooth operation of the indicator.



9.2 CALIBRATION AND SETUP MENU

- Once the indicator is turned on with the calibration key position "ADJ." the indicator displays the message "CSP 01".

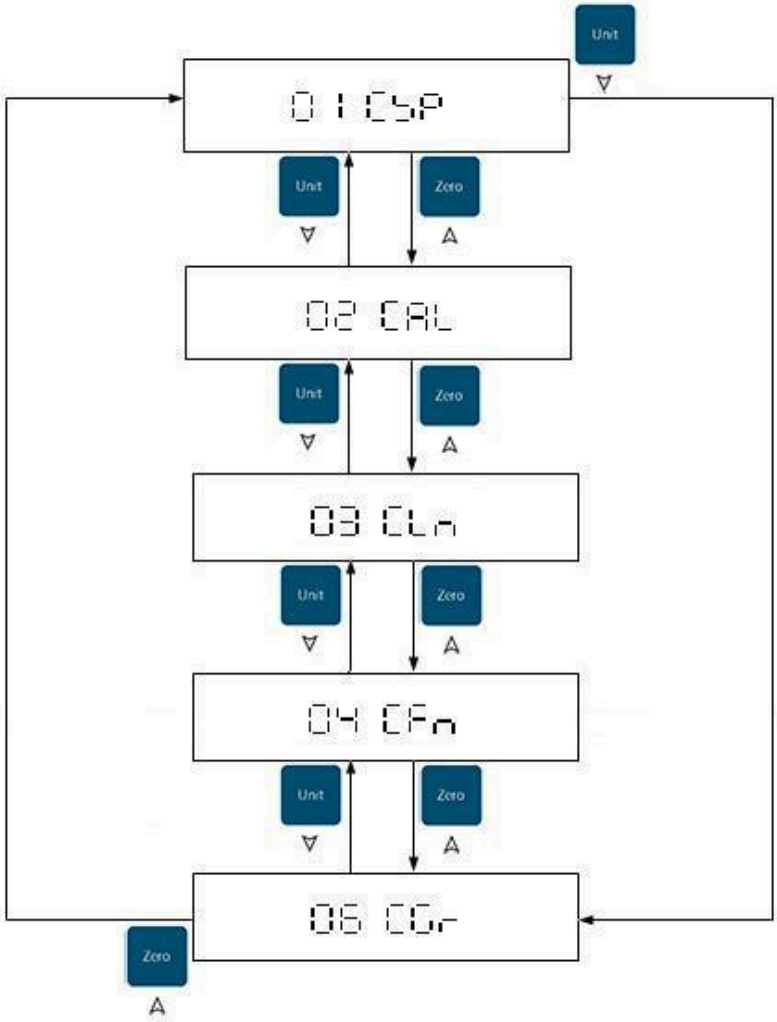
01 CSP - Menu for setting capacity and division.

02 CAL - Calibration Menu.

03 CLn - Unused parameter.

04 CFn - Function setting of filters and auto zero.

06 CGr - Unused parameter.



9.3 CAPACITY AND DIVISION SETTING

Once inside the 01 CSP menu press Tare ➢ and select the parameters CSP-00 to CSP-03, press Tare ➢ to confirm. Perform the desired alteration and press Tare ➢ to save and return to the parameter selection menu.

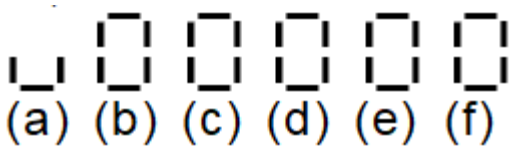
Use the keys Tare ➢ , Zero △ , Unit ▽ and Gross Net ◁ to navigate through the menu screens.

Parameter	Function	Code	Description	Factory default
CSP-00	Returns to the previous menu	CSP-00	Returns to the previous menu	---.---
CSP-01	Unit	u00000	100001 indication in grams (g) 000001 indication in kilograms (kg) 200001 unit in (lb) 200002 unit in (kg) and (lb) **Example**: choose “kg” and “lb” (2 units).	u00000
	Capacity	C00000	Type the capacity of the scale without the comma.	C00000
	Division and decimal point	d00000	$\mathbf{d_a0_b0_c0_d0_e0_f}$ ● The digit **“a”**, indicates the division (1,2 or 5); ● The digit **“b”**, indicates the position of the comma (0 to 5); ● The digit **“c”**, indicates the amount of ranges of the scale (0 and 1 for full segment range or 2 for 2 segment range divided at ½ of the full scale) ● The digit **“e”**, indicates the division multiplied by 10 (10, 20 ou 50); ● The digits **“d”** and **“f”** must always be “0”. ●	d00000
CSP-02	Unused parameter.	---.---	Unused parameter.	---.---
CSP-03	Unused parameter.	---.---	Unused parameter.	---.---

Note 1: If you choose 2/5 divisions, and the comma position >1, please consider it when using the calibration weight. For Example, if the Division and comma are set for 2 (0000.00), and a 100LB weight will be used to calibrate, when typing its value during the calibration process, use 010000, instead 000100, as it would result in 1.00lb instead 100.00lb weight.

9.3.1 UNITS

The users can set up the different weight units in various orders according to their preference, and the amount of the chosen weight units can be up to 5



- (a) ⇒ The first weight unit (only “kg”, “g”, or “lb” are available to choose from. Please select one of the parameters 0, 1, or 2)
- (b) ⇒ The second weight unit (select one of the parameters described below)
- (c) ⇒ The third weight unit (select one of the parameters described below)
- (d) ⇒ The fourth weight unit (select one of the parameters described below)
- (e) ⇒ The fifth weight unit (select one of the parameters described below)
- (f) ⇒ The amount of the weight units selected (select one of parameters 1 ~ 5)

The description of the Units

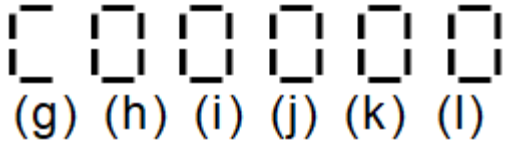
0	kg (Decimal system)	**5**	oz (Decimal system)
1	g (Decimal system)	**6**	GN (Decimal system)
2	lb (Decimal system)	**7**	dwt (Decimal system)
4	lb, oz (hexadecimal)	**8**	ct (Decimal system)

For example:

Choose “kg” & “lb” (two weight units). NOTE the scale is calibrated using “kg” weights and key in 020002

9.3.2 CAPACITY

Enter the maximum capacity of the scale, total 6 digits (not including 9d)

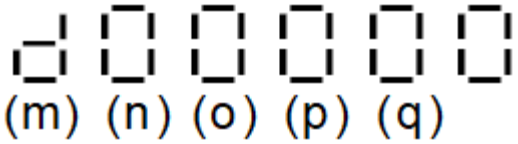


For example:

- 15.000 kg key in 015000
- 1500.0 g key in 015000
- 6.000 lb key in 006000

9.3.3 DIVISION

Set the minimum division and decimal point position to determine the display resolution



Division = m * 10-n*q, m = base value, n = numbers of decimal point, q = multiplication factor

(m) ⇒ Division base value, select 1, 2, or 5

(n) ⇒ The number of decimal places (0 ~ 5)

For example:

15.000 kg ⇒ enter 3
1500.0 g ⇒ enter 1
6.000 lb ⇒ enter 3

(o) ⇒ range setting (select one of parameters 0, 1, 2, or 3)

For example: 0, 1 ⇒ full segment range, 2 ⇒ 2 segment range (divided at 1/2 of the full scale),

3 ⇒ 3 segment range (divided at 1/6 of the full scale & 2/3 of the full scale)

(p) ⇒ 0 : multi-interval 1 : multi-range

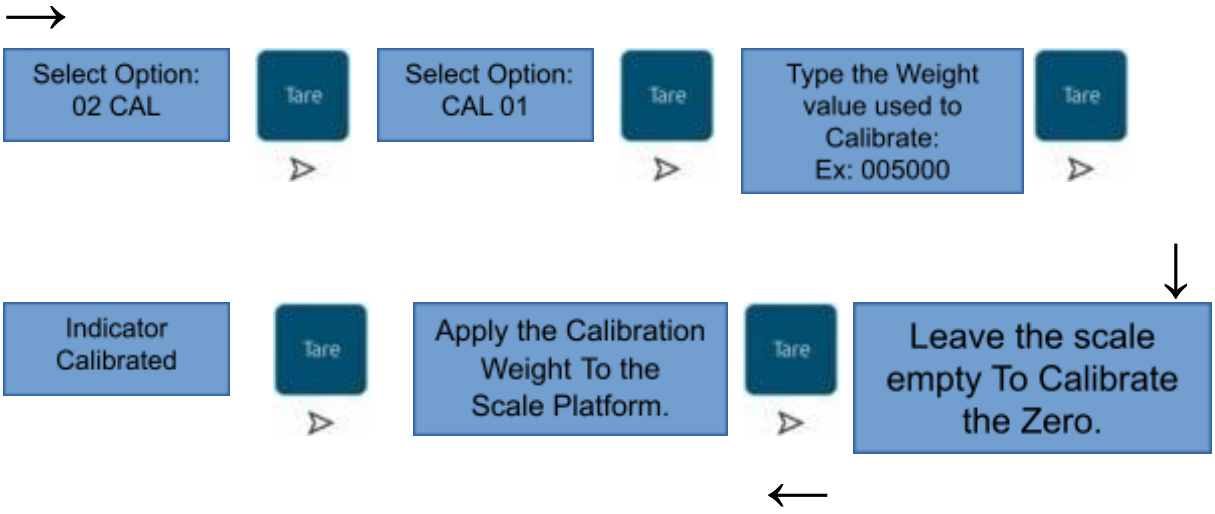
9.4 CALIBRATION

Once inside the 02 CAL menu press Tare ▷ and select the parameters CAL-00 to CAL-02, press Tare ▷ to confirm. Perform the desired alteration and press Tare ▷ to save and return to the parameter selection menu.

Use the keys Tare ▷ , Zero ◁ , Unit ▽ and Gross/Net ◁ to navigate through the menu screens.

Parameter	Function	Code	Description	Factory default
CAL-00	Returns to the previous menu	CSP-00	Returns to the previous menu	---.---
CAL-01	Calibration weight	000.000	Type the calibration weight using Tare ▷ , Zero △ , Unit ▽ and Gross/Net ◁	000.000
	Zero calibration	------	After insert the calibration weight value, ensure that the scale platform is empty and then press Tare ▷ .	------
	Span calibration	000.000	The indicator shows the calibration weight blinking. Apply the calibration weight on the scale platform and then press Tare ▷ After the end of the calibration process the indicator shows“02 CAL”	000.000
CAL-02	Unused parameter	---.---	Unused parameter.	---.---

Steps to Calibrate the Indicator:



9.5 FILTER AND AUTO ZERO CONFIGURATION

Once inside the 04 CFn menu press and select the parameters CFn-00 to CFn-06, press Tare ➢ to confirm. Perform the desired alteration and press Tare ➢ to save and return to the parameter selection menu.

Use the keys Tare ➢ , Zero ∧ , Unit ∨ and Gross Net ◁ to navigate through the menu screens.

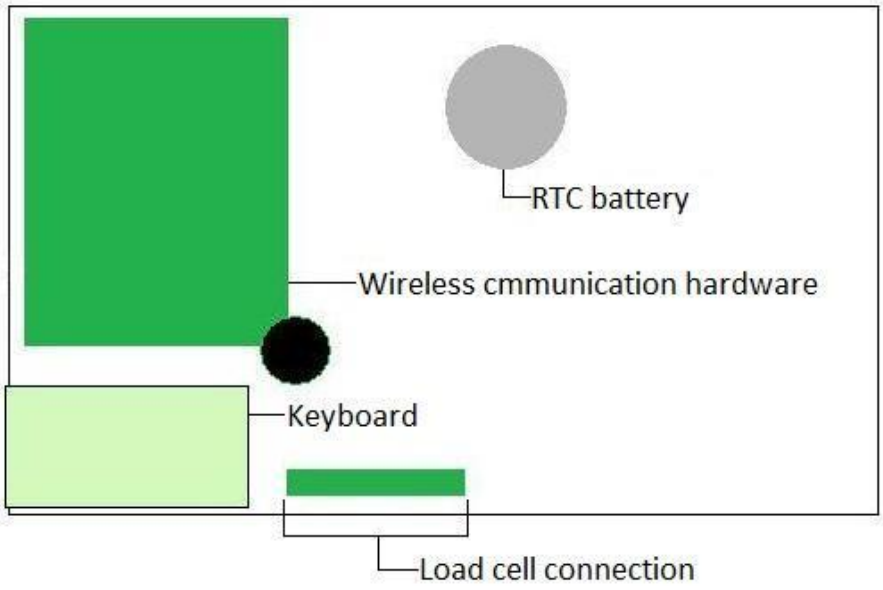
Parameter	Function	Code	Description	Factory default
CFn-00	Returns to the previous menu	CFn-00	Returns to the previous menu	---.---
CFn-01	Filters	ZEro 0	After reach 1/3 of the maximum load the indicator will forces the return to zero when the weight applied is removed.	ZEro 0
		FiL 0	Stability filter from 0 to 9 Higher the value, more stable the weight show.	FiL 0
		3db 5	Digital filter from 0 to 9 Higher the value, faster is the response of the indicator	3db 5
CFn-02	Approval of models	ProvE 0	Non approved models (allows external calibration)	ProvE 4
		ProvE 1	Approved models (OIML and NTEP)	
		ProvE 2	Approved models for Sri Lanka (Zero up to ±3%)	
		ProvE 3	Approved models for Sri Lanka (Zero up to ±3%)	
		ProvE 4	Approved models for Brazil	
		ProvE 5	With tare activated by pressing the "Net / Gross" button, the gross weight is show for 5 seconds and then back to the net weight.	
CFn-03	Unused parameter.	---.---	Unused parameter.	---.---
CFn-04	Unused parameter.	---.---	Unused parameter.	---.---
CFn-05	Function hold	hoLd 0	Hold function disabled	hoLd 0
		hoLd 1	Peak detection. To reset the function remove the weight applied and press any key.	

<table>
<tr><td rowspan="3"></td><td rowspan="3"></td><td>hoLd 2</td><td>Freezes the weight show on the display when stable.
To reset the function remove the weight applied and press any key.</td><td rowspan="3"></td></tr>
<tr><td>hoLd 3</td><td>Freezes the weight show on the display when stable.
The function will resets when the weight applied is less than 10d.</td></tr>
<tr><td>hoLd 4</td><td>Animal weighing mode.
At zero the indicator shows "---. ---" When a load is applied, the indicator immediately starts the calculation of the applied load, returning to indicate "---. ---" When the measured load is less than 10d.
After activate the animal weighing is necessary to set the parameters for calculating the weight.
<table>
<tr><th>Code</th><th>Description</th><th>Factory default</th></tr>
<tr><td>010%</td><td>Range of error in measurement.
Range 1% to 100%</td><td>010%</td></tr>
<tr><td>8</td><td>Number of samples used to calculate the weight.
Range 1, 2, 4, 8, 16, 32 or 64 samples.</td><td>8</td></tr>
</table></td></tr>
<tr><td></td><td></td><td>hoLd 5</td><td>Animal weighing mode 2
When a load is applied the indicator immediately starts to measure the weight value, after determine the weight value applied, the indicator shows the result on the display with the caption "HOLD".

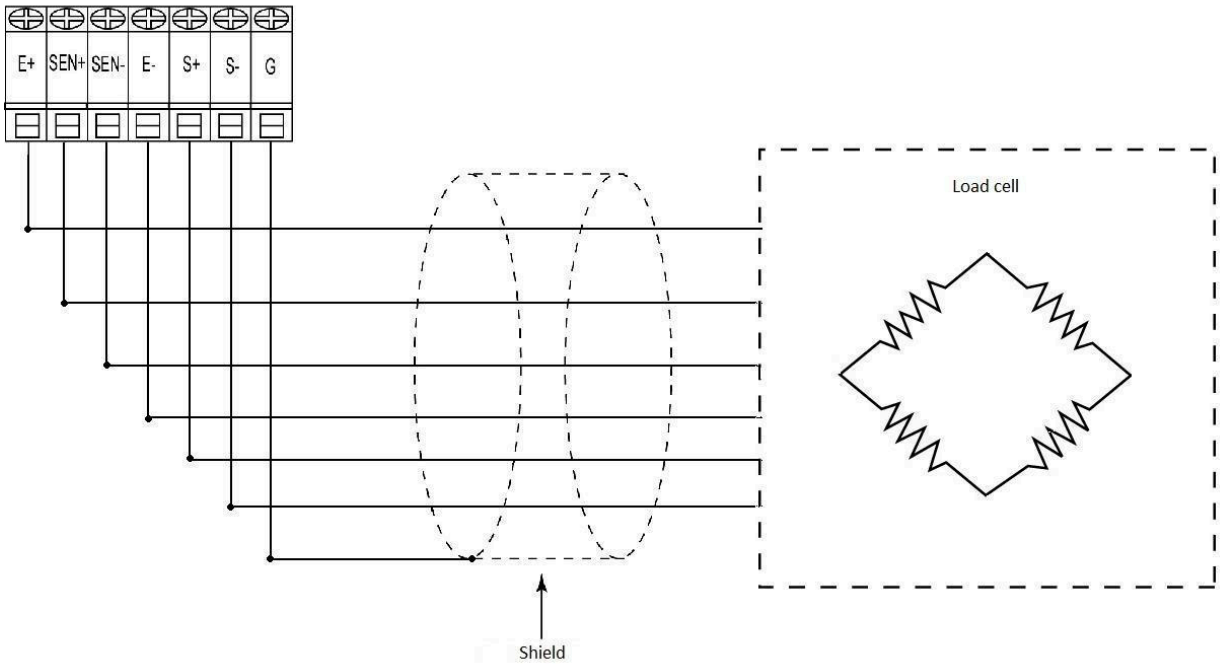
After activate the animal weighing function, the user must set the parameters for weighing calculation as the table below shows.</td><td></td></tr>
<tr><td rowspan="2">CFn-06</td><td rowspan="2">Auto zero</td><td>Z-tc 0</td><td>Disable auto zero</td><td rowspan="2">Z-tc 0</td></tr>
<tr><td>Z-tc 1</td><td>Enable auto zero</td></tr>
</table>

10 DETAILED CONNECTIONS

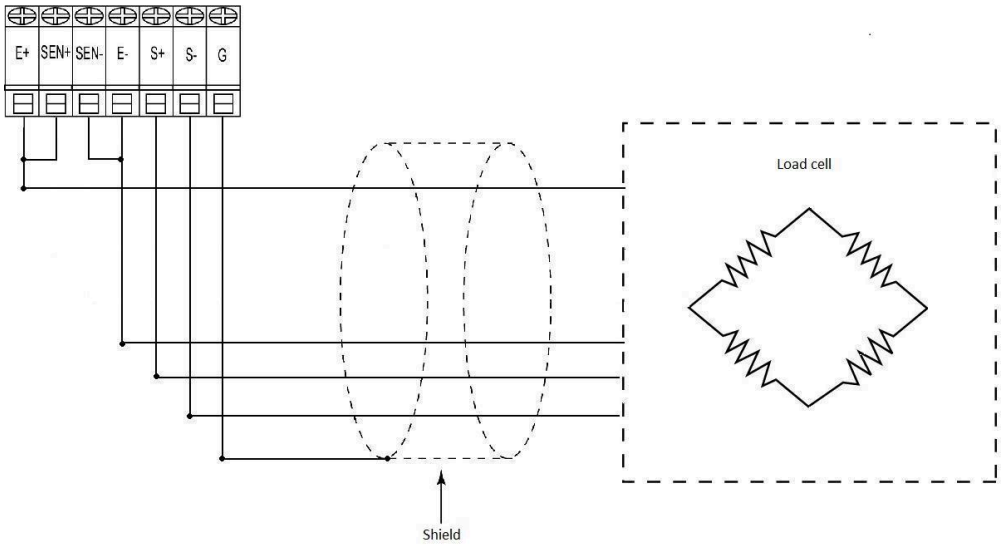
10.1 LOAD CELL CONNECTION



Wiring diagram for 6-wire load cells:



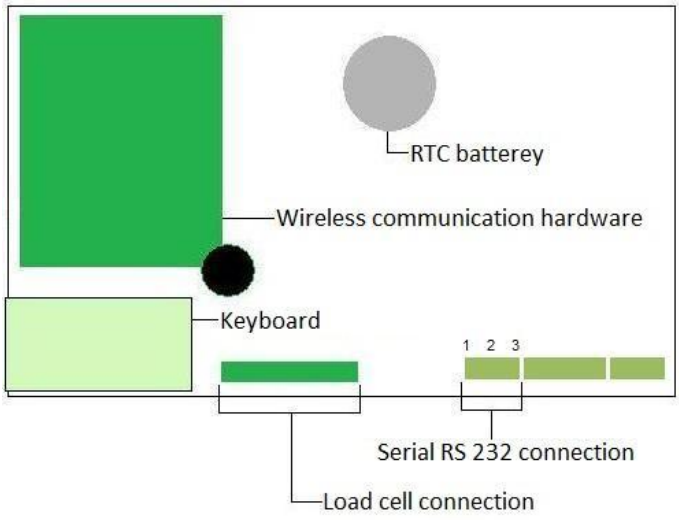
Wiring diagram for 4-wire load cells:



10.2 SERIAL OUTPUT CONNECTION

The serial output is connected via terminals located on the main board of the indicator in accordance with the table and figure below:

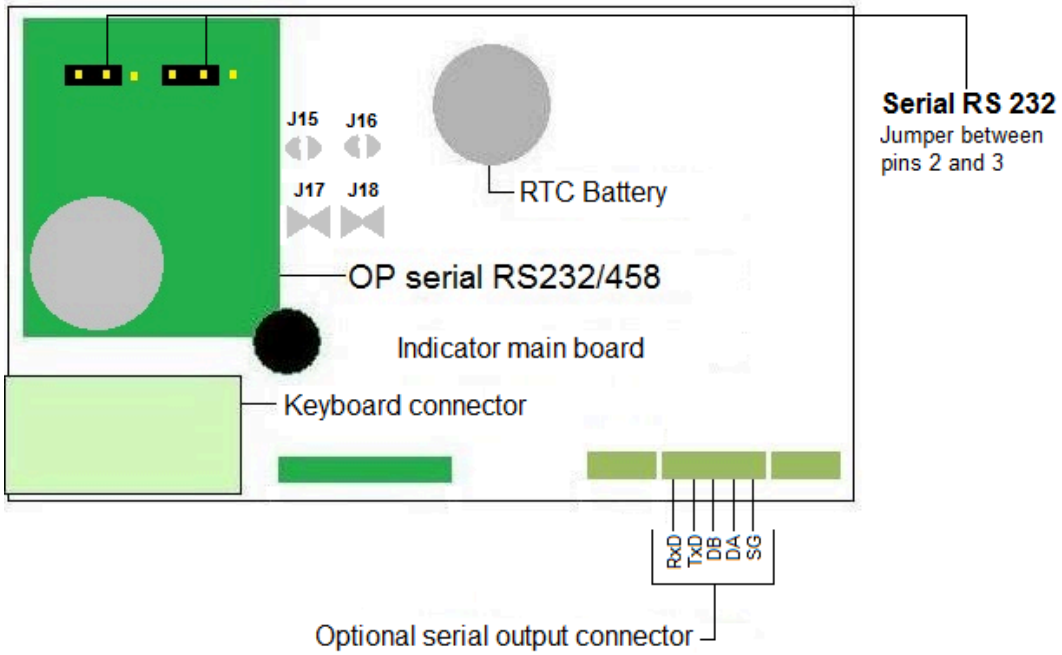
Indicator	PC
Borne 1 (RxD)	Pin 3
Borne 2 (TxD)	Pin 2
Borne 3 (GND)	Pin 5



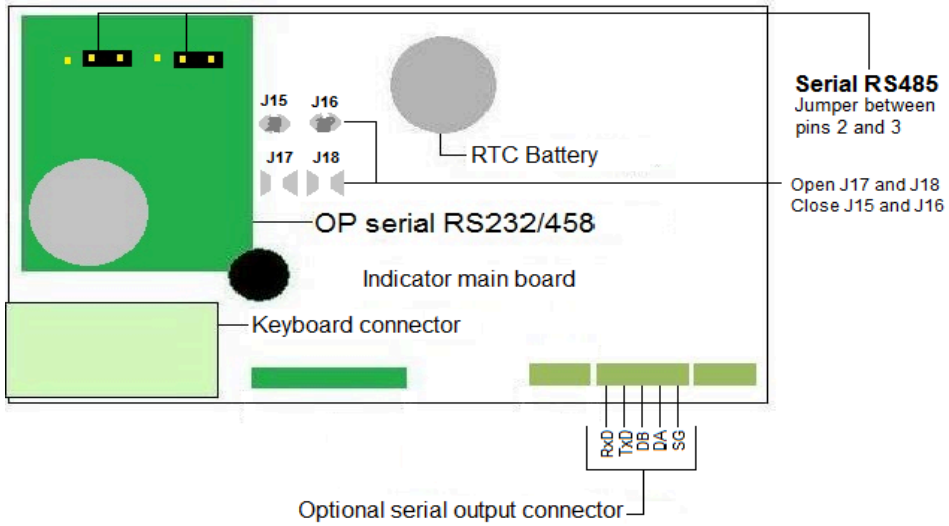
10.3 Connection of Serial Output RS232 or RS485

- Note: the optional serial output is sold separately and cannot be used in conjunction with optional output bluetooth.
- Note: the optional serial outputs will only assume the same set up made for the onboard serial output and send same serial format of 03RS1 menu.

Connection diagram of the optional serial output operating in RS-232



Connection diagram of the optional serial output operating in RS-485



10.4 Connection with Printer Zebra TLP2844

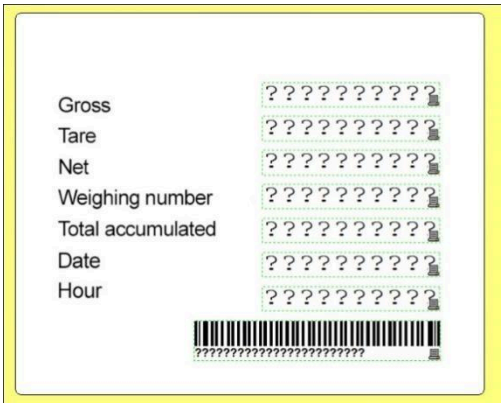
The printer Zebra TLP2844 enables printing of gross weight, tare weight, net weight, date, time, number of weighings, cumulative weight and barcode. The print format is fully customizable and even allows the insertion of the company logo.

10.4.1 Printer setup

The printer configuration is done through the "Zebra Designer" software that can be acquired free of charge, for download directly from the Zebra website. In ZebraDesigner program, open the "IRWT3000.LBL" file. And then export to the printer through the menu "File"> "Export to printer". "*IRWT3000.lbl*".

- *Additionally, download the label model WT3000.lbl*

Ticket example:



10.4.2 Setting the indicator

To establish communication with the printer, the indicator must be configured according to the list below:

- CFn - 02= 4;
- rS1 – 01 = b 9600;
- rS1 – 02 = p n81;

- rS1 – 03 = F-M 13;
- rS1 – 04 = M-PLuS;
- rS1 – 05 = rPS 4;
- rS1 – 08 = Stb-P;
- rS1 – 09 = SEvEn;

10.4.3 PRINT BUTTON

Printing is done by key 

or using the footswitch if FnC 11 = Print.

10.4.4 CONNECTION WITH ZEBRA PRINTER

The serial output is connected through the terminal located on the main board of the indicator in accordance with the table below:

Indicator	DB-9 male connector (Zebra printer)
GND	Pin 5
TX	Pin 3

10.5 REMOTE DISPLAYS DR-WT75DR-WT125 E DR-WT200

The remote display has the function to repeat the weight value that appears on the indicator.

10.5.1 SETTING THE INDICATOR

- CFn - 02= 4;
- rS1 – 01 = b 1200;
- rS1 – 02 = p n81;
- rS1 – 03 = F-M 12;
- rS1 – 04 = StrEAn;
- rS1 – 05 = rPS 4;
- rS1 – 08 = ALL-P;
- rS1 – 09 = SEvEn.

10.5.2 CONNECTIONS WITH REMOTE DISPLAY DR-WT7 5DR-WT125 AND DR-WT200

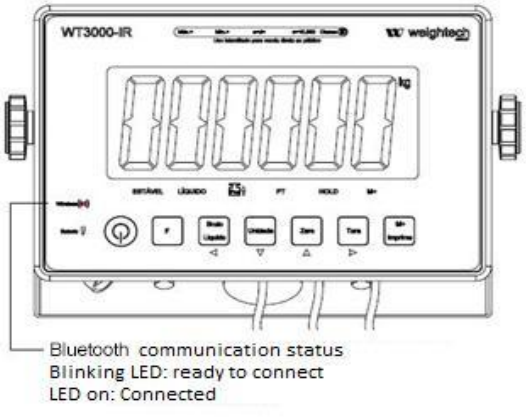
The serial output is connected via terminal located on the main board of the indicator in accordance with the table below:

Indicator	Circular connector (Display)
GND	Pin 5
TX	Pin 3
* Eliminate the jumper that comes standard between pins 1 and 4 in the display connector	

10.6 BLUETOOTH CONNECTION INTERFACE (OPTIONAL)

- The Bluetooth communication shares its configuration parameters with the RS-232 port in the indicator, the changes in 03 RS1 are used in communication via serial port and.
- The password to connect to the device is “111111”.

- The Bluetooth communication port is active and ready to accept connections as soon as the indicator enters in weighing mode.



11 SELF-TEST MODE

To access the self-test menu press and hold 

then turn on the indicator by pressing  .

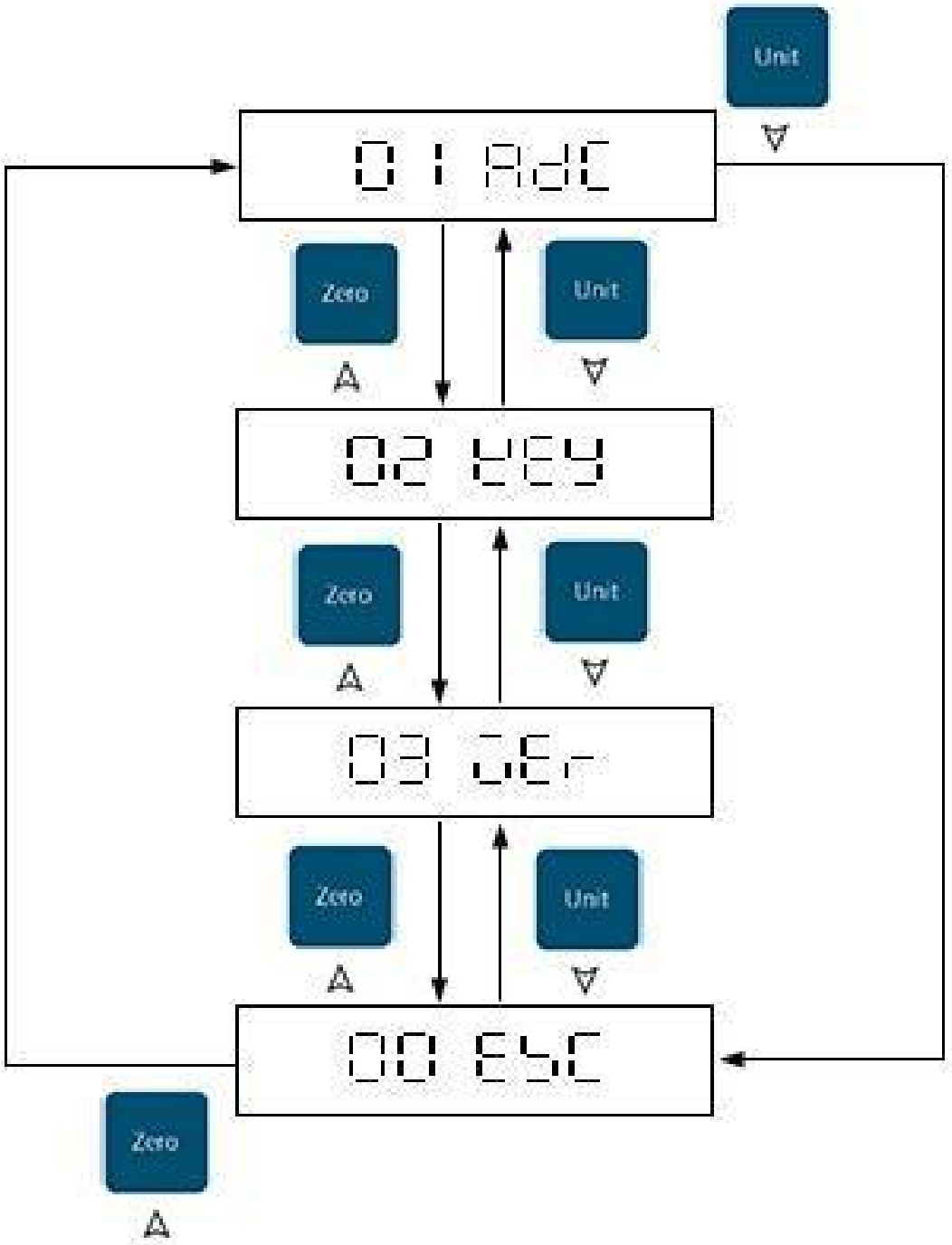
The display will show the following menu:

01 AdC A/D testing;

02 KEY Keyboard testing;

03 VEr Firmware version number;

00 ESC Exit self-test mode.


Unit
01 AdC
Zero
Unit
02 KEY
Zero
Unit
03 CAL
Zero
Unit
00 ESC
Zero

12 ERROR MESSAGES

E0	The EEPROM It's not working properly, it has not been programmed or the main board is damaged.
E1	The zero weight value is above the zero range.
E2	The zero weight value is under the zero range.
E4	A/D converter unstable. (Internal value oscillating)
oL	A/D circuit damaged. Load cell misconnection Weight overload.
-oL	A/D circuit damaged. Load cell misconnection Weight negative overload.
oF	The value of the A/D converter is above the operating range.

13 APPENDIX

Characters of the 7 segments display

Digito	Display	Alfabeto	Display	Alfabeto	Display
0		A		N	
1		B		O	
2		C		P	
3		D		Q	
4		E		R	
5		F		S	
6		G		T	
7		H		U	
8		I		V	
9		J		W	
		K		X	
		L		Y	
		M		Z	

14 WEIGHTECH LOCATIONS:

ADMINISTRATION – FLORIANÓPOLIS (SC) BRAZIL

Rod. Virgílio Várzea, 3110 - Costa Norte Center - Sala 01
CEP 88032-001 – Florianópolis – SC
E-mail: weightech@weightech.com.br
Tel: 55 48 3331 3200
Fax: 55 48 3331 3201

SALES – SÃO PAULO (SP) BRAZIL

Av. General Mac Arthur, 96
CEP 05338-000 – São Paulo – SP
E-mail: vendas@weightech.com.br
Tel/Fax: 55 11 3763 5013

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10384 W STATE ROAD 84 #6
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Tel: +1 954-666-0877
Fax:+1 954-666-0878