WTDisplay

bicolor LED remote display for weight indication with built-in bar graph.

Technical Manual
wtdisplay_v20180730

Thank you for choosing Weightech!

Now, in addition to acquiring an excellent equipment, you will have a team of responsive support, dynamic and differentiated.

Before using your WTDisplay for the first time, please read this manual. You can also get additional information on this and all other products of our catalog on the website www.weightechUSA.com

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1 BEFORE USING THE WTDISPLAY

For a good operation of the equipment, read these instructions carefully.

1.1 SAFETY PRECAUTION

- installation services, connection and any kind of manipulation in electrical installations should be performed by qualified professionals and / or qualified and / or trained in the field of electricity.
- This equipment should not be used in hazardous areas.
- Turn off the power before making connections, install or disassemble.
- This equipment must be grounded.
- The ground impedance for proper performance of the device, must be less than 5Ω (Grounding should be viewed as a circuit that favors the current flow in the lowest possible impedance).
- A ground or earth terminal bus concentrated in specific point on the panel, provide adequate distribution to all elements.
- The ground conductors should not be branched, interconnection cable earth to this device must be individual, starting directly from the ground bus or ground terminal.
- The lack of grounding or improper ground can cause electrical shock and or damage to equipment.
- electromagnetic interference sources and equipment that generate arcs (communicators radios, cell phones, welding machines, ballasts for lamps, electric motors, generators, contactors, electrical and other fences) should be removed because it can cause malfunction and / or damage to this equipment. When this proximity is unavoidable, EMC filters EMC suppressors and electrical protection devices must be attached to all nearby devices and also the equipment.
- In areas subject to lightning and high voltage spikes, it is recommended the use of surge protectors.
- Personal protective element as circuit breaker or fuse terminal should be installed in power.
- One should avoid the branch of device power conductors, which are from the bus terminal or distribution, pass the filters and follow and protection devices directly to the indicator.
- Data cable shield must always be grounded.
- This equipment is parameterized via serial via remote commands, which can be sent making use of communication software such as Hyper Terminal, Hercules SETUP and others.

1.2 Features

- Encapsulation: Steel painted
- Degree of protection IP65
- Power supply: 100-240VAC, 50 / 60Hz.
- It offers one serial port on the standard for the exchange of data RS232 or RS485 built-in equipment.

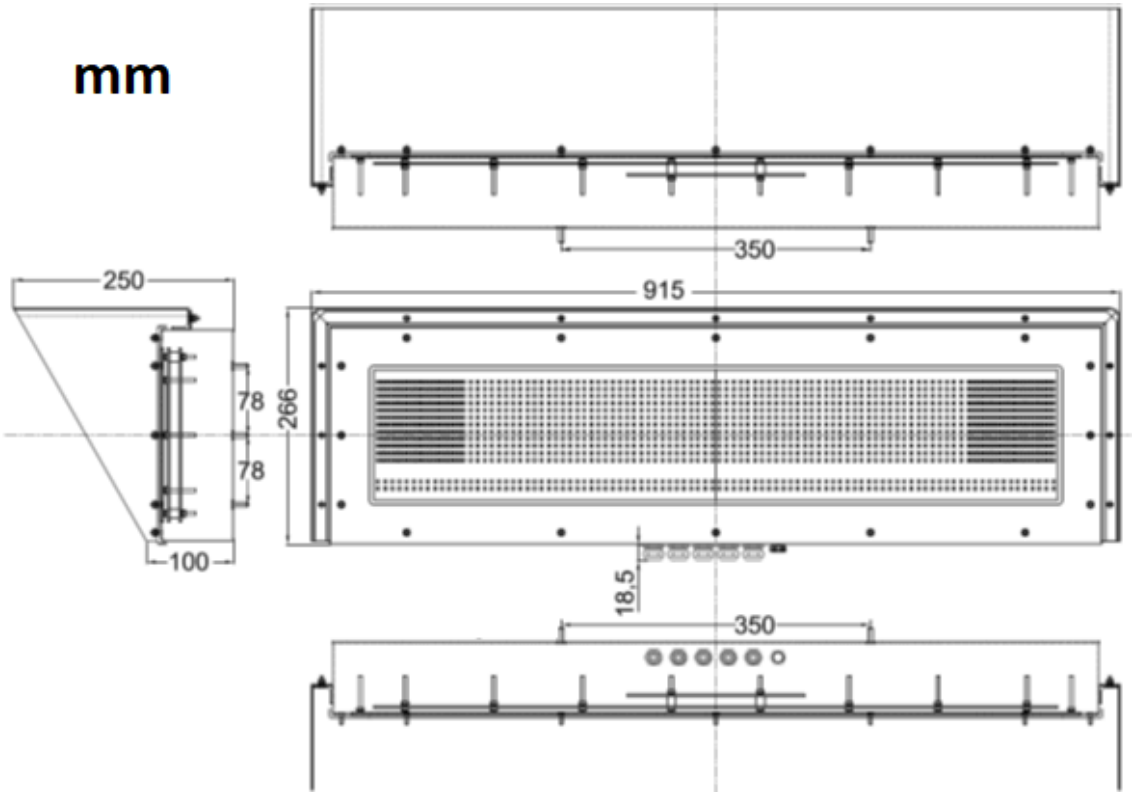
1.3 Specifications

1.3.1Power Supply

Voltage Range	100-240Vac
Current consumption (Typical)	2A / 1.2A 115VAC / 230VAC
Operating Temperature	-25 ~ + 70 ° C
Degree of protection	IP65
encapsulation material	Painted steel
Weight	31 lb - 14 kg
Type of mounting	6 Spindles M6 welded to the back of the equipment
Parameterization.	Through remote commands sent by serial

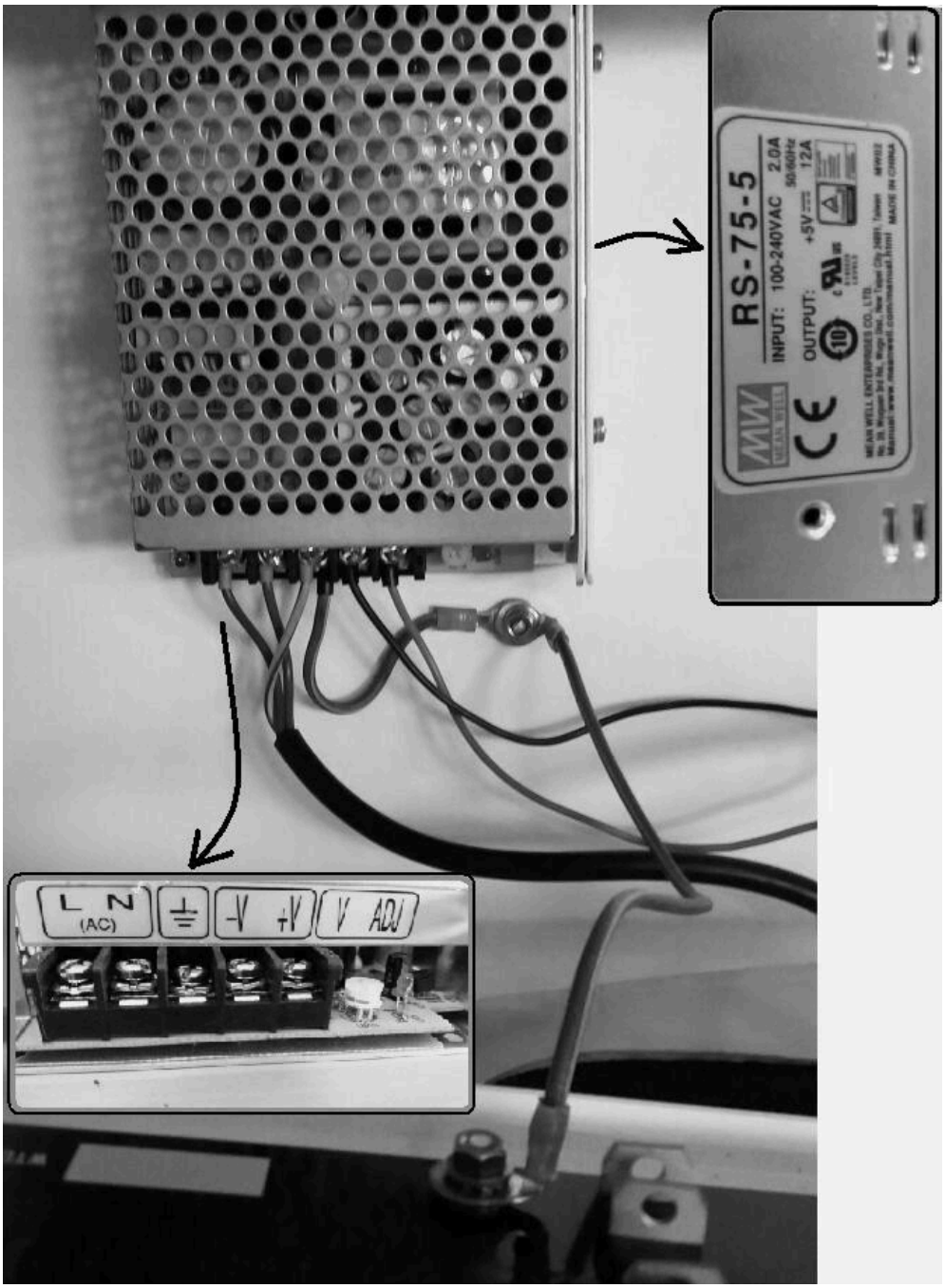
2 DIMENSIONS.

See Chapter 2 of this manual (mechanical details). Mechanical details.



3 CONNECTIONS.

3.1 POWER SUPPLY WITHIN THE 100-240VAC EQUIPMENT:



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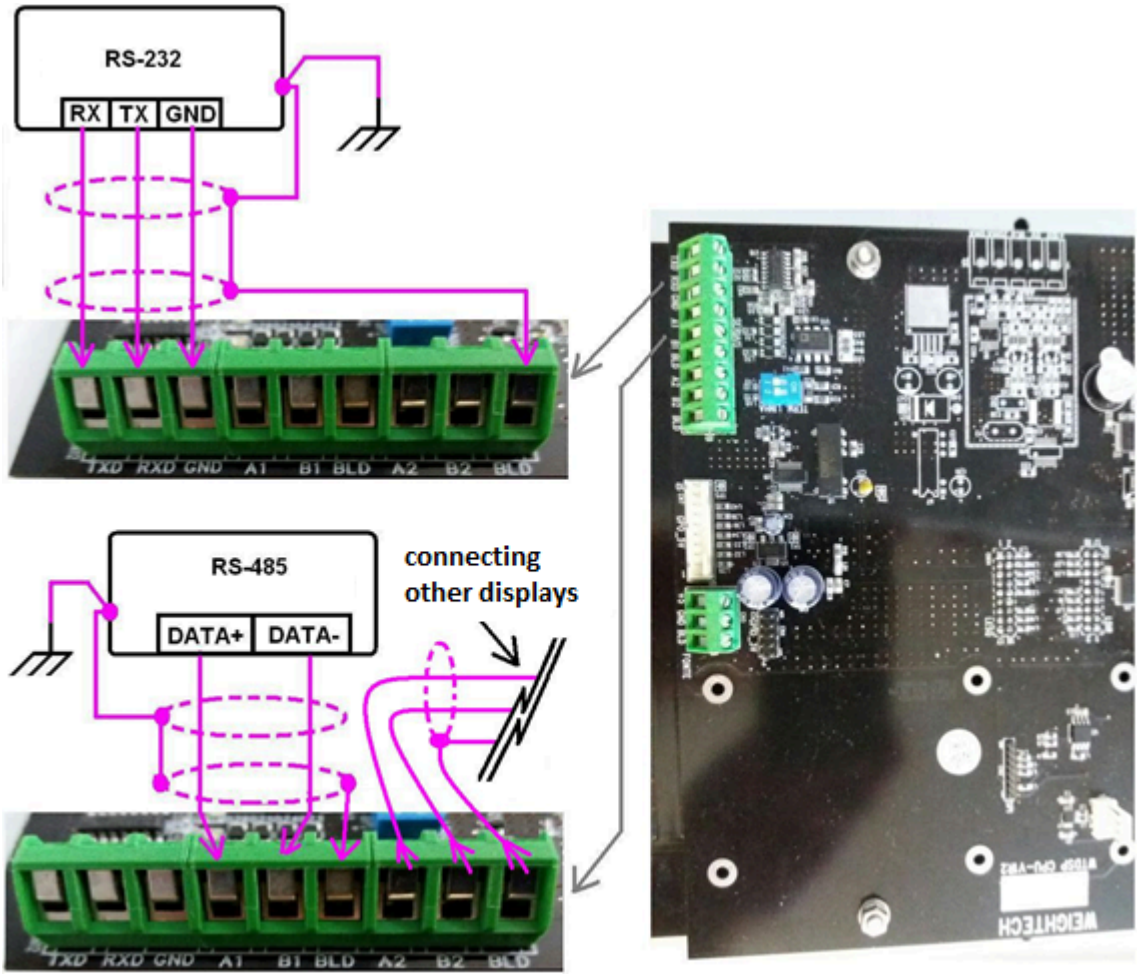
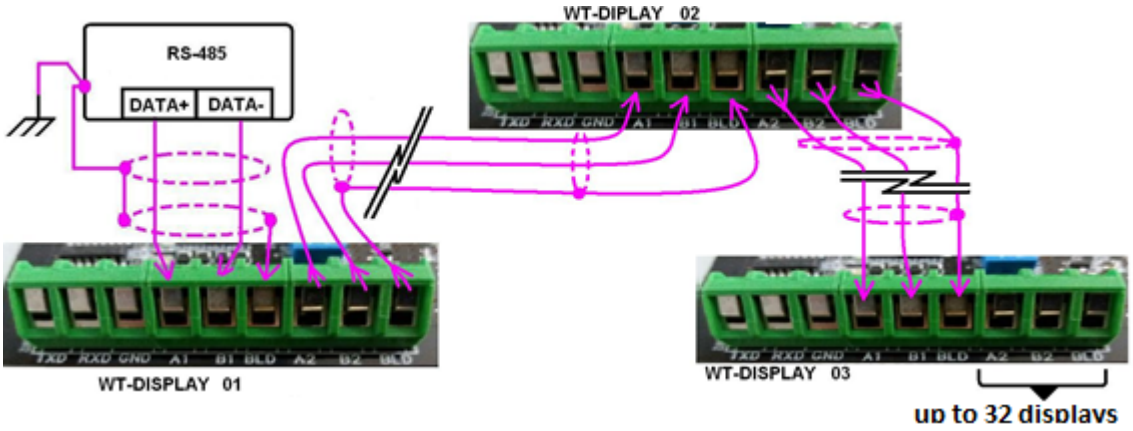
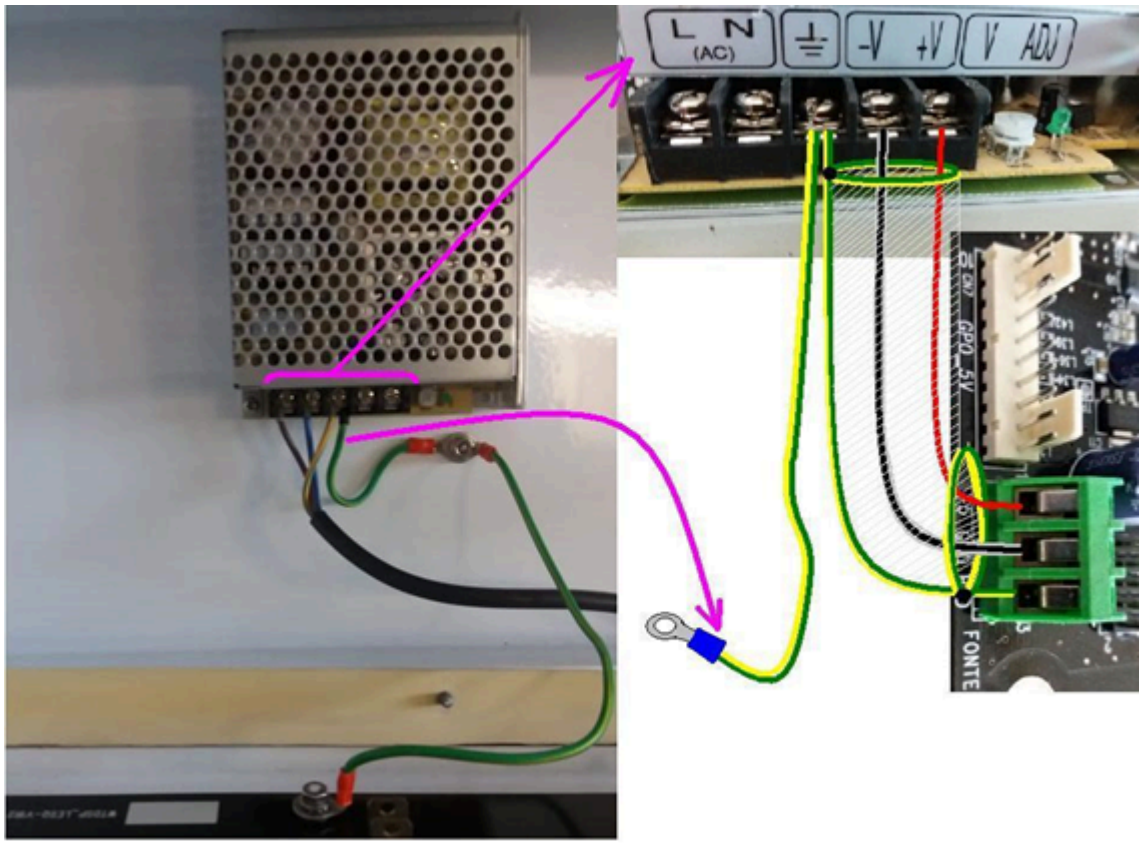
3.2 SERIAL PORT CONNECTIONS.



3.2.1INTERCONNECTING IN STANDARD RS-485.



3.3 Power connection 5Vdc inside.



4 WTDisplay Parameters.

The information in this chapter are intended to show the basic procedures to perform the settings of the WT-DISPLAY.

To perform the procedures described below, the following steps are being performed:

- Connected to a computer with RS232 serial port.
- Serial communication software such as Hyper Terminal, Hercules Setup or other resource should be available for sending serial commands.

4.1 Reading serial product parameters.

Power the equipment and observe the sequence of information displaying

4.1.1 Example firmware version display.

4.1.2 Example displaying the serial protocol in use.

See Annex II to the protocols list.

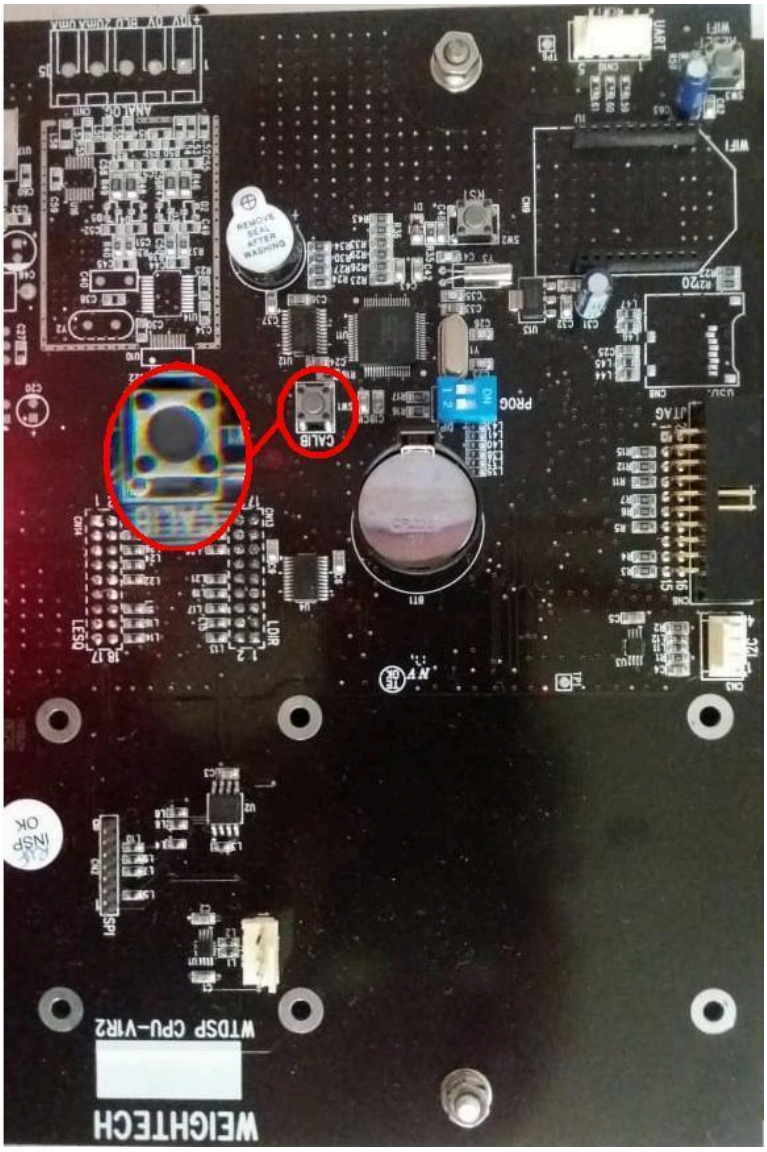
4.1.3Example display of speed, number of bits, parity bit and stop bit in use.

4.1.4Example display standard for data exchange in use.

- The parameters exemplified above, correspond to the product factory settings

4.2 Return to factory settings.

To return to factory settings, just press and hold the button located inside the display for 10 seconds.



- The default parameters are the same exemplified in Chapter 4.1 of this document.

4.3 Preparing to send commands.

Having knowledge of the serial parameter in use (see chapter 4.1) and if necessary from the factory settings Restore (see chapter 4.2), proceed with the connection of serial between the master device and the display in the standard for data exchange informed (see chapter 3.2) and then make use of the commands shown in chapter 4.4, according to the desired parameter.

! IMPORTANT !

- The parameter commands will only be accepted if the unit is in configuration mode, which is accessed by sending specific remote serial command (see chapter 4.4).

The display will show the following message when entering this mode:

- The new parameterization is valid only after sending specific serial command p / save the edits made (see section 4.4).

The display will show the following message when receiving the command p / save issues, leaving the then in configuration mode:

- The serial remote commands can be sent in uppercase, lowercase, or using a combination thereof, without causing any malfunction (see chapter 4.3.1 for more details on the dynamics of the commands).

4.3.1 Serial Commands.

All the commands can be sent using ASCII Characters, and must be terminated by <CR><LF>. To be able to change the display settings, you must enable the configuration settings as can be seen below:

4.3.2 Saving Configuration Settings

After any changes you perform, the command Save<CR><LF> must be sent to save them in the display memory.

4.3.3 Enabling Configuration Settings

Access product configuration mode

Config<CR><LF>

4.3.4 Defining an Initial Message

Sets the message after the Starting.. message, can be used to show the company's name

InitialMsg=xxxxxxxxxx<CR><LF>

4.3.5 Defining Lost Connection Message

Sets the message displayed if the continuous transmission is interrupted.

TimeOutMsg=xxxxxxxxxx<CR><LF>

4.3.6 Defining Invalid Message Format

Sets the message displayed when the continuous transmitted data packet is not recognized

InvalidMsg=xxxxxxxxxx<CR><LF>

4.3.7 Defining Overload Message

OverLoadMsg=xxxxxxxxxx<CR><LF>

Where x must be a 10 Character word, space and symbols can be used.

4.3.8 Changing Communication Protocol

Protocol=WXX<CR><LF>

Where WXX can be:

Protocol	description	Equipment	Configuration
W01	Item 6.1 of the WT1000-LED manual	WT1000-LCD	P5 = 5
		WT1000-LED	P5 = 5
		WT27-G	Protocol type = WT27-G
		WT27-R	WT27-Proto = R
		IR-WT3000	Rs1 = 14 ms
W02	Item 6.4.1 and 6.4.2 of the WT21-CS manual	WT21-CS	rS1-01 = 0
		WT21-I	rS1-01 = 0
		WT21-LCD	rS1-00 = 0
		WT21-Modbus	rS1-01 = 0
		WT21-P	rS1-01 = 0
W03	Item 5.2.1 - b of the WT3000-ABS manual.	WT3000-ABS	F5 = MP2
W04	item 3.2.1 WT3000-I manual.	I-WT3000	rS1-03 FM = 0; RS1-09 = Seven.
W05	Item 8 the WT-3000-IR Manual (Example 7-byte weight)	IR-WT3000	rS1-03 FM = 0; RS1-09 = Seven.
		ABS-IR-WT3000	rS1-03 FM = 0; RS1-09 = Seven.
W06	Native Protocol WT-75/125-WT / WT-200. Described in the document W06.docx Protocol.	WT1000-LED	P5 = 2
		WT1000-LCD	P5 = 2
		WT21-CS	RS-01 = 18
		IR-WT3000	rS1-03 FM = 14
		ABS-IR-WT3000	rS1-03 FM = 14
W12	streaming and control the following functions: **bar graph**, Traffic lights and predefined messages. See chapter 5		

4.3.9 Changing the Communication Port Settings

CommType=XXX<CR><LF>

Where XXX can be 232 or 485.

4.3.10 Changing the Serial Settings

SerialSettings=AAAAAA,b,c,e<CR><LF>

Where **AAAAAA** can be:

- SPSP1200
- SPSP2400
- SPSP4800
- SPSP9600
- SP38400
- SP56000
- SP57600
- 115200

**SP Represents space*

b can be:

- n - No Parity
- e - Even Parity
- o - Odd Parity

c can be: 7 or 8, representing the amount of bits.

e can be: 1 or 2, representing the stop bit

Example: SerialSettings= 1200,n,8,1<CR><LF>

5 W12 Protocol (Bar graph, Traffic Light)

The string to activate, show and use the traffic light is:

AM,BC,DEEEEEEEEFF,GHH<CR><LF>

Where:

A is the Control Message Language and accept the values:

0 - Portuguese, 1 - English, 2 - Spanish

M is the Message to be displayed:

0 - Current Weight, 1 - Stop, 2 - Wait, 3 - Go On

B Controls the left Traffic Light and C the right Traffic Light, both can have the same value as shown below:

*SP represents space

Symbol	Green Light | Blink Hex		Red Light | Blink		Yellow Light | Blink	
O	SP	0xA0	@	À	`	à
↑	!	0xA1	A	Á	a	á
→	“	0XA2	B	Â	b	â
↓	#	0XA3	C	Ã	c	ã
←	$	0XA4	D	Ä	d	ä
X	%	0XA5	E	Å	e	å

D is the weight symbol, can be + or -

E is the actual weight, must contain 8 digits, including space, 0 at the left, points and commas.

FF is the unit, can be oz, Kg, lb, g

G is the Bar graph starting position, 0 for left, 1 for right

HH is the value of the bar graph, from 00 to 96

Example:

11,EE,+00000000lb,148<CR><LF> *This command would show a Red X on both sides with the word STOP on the Display with the bar graph half filled.*

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