



CONTROL UNIT OMEGA 800-R

User manual



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1. DESCRIPTION AND MAIN FEATURES

Dinacell OMEGA 800-R is a system to measure the weight of the elevator car (CWT) or counterweight (CTWT) as well as to monitor the tension of each elevator rope individually.

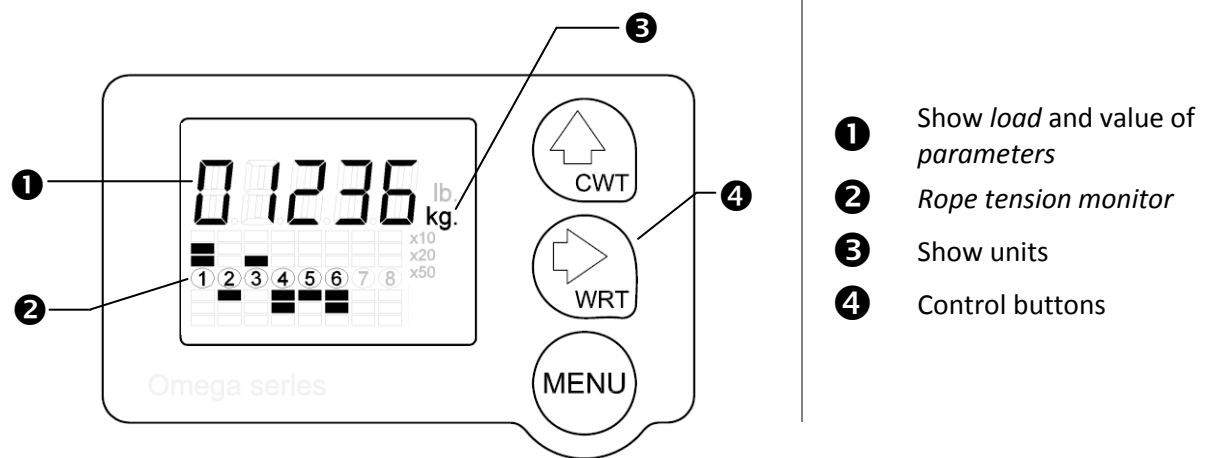
This system consists of inputs for up to eight *sensors*.



Materials of the kit:



2. DISPLAY AND CONTROL BUTTONS



Functions of control buttons:



- Enter/exit of the menu and navigate through parameters.
- Accept and save modified values.

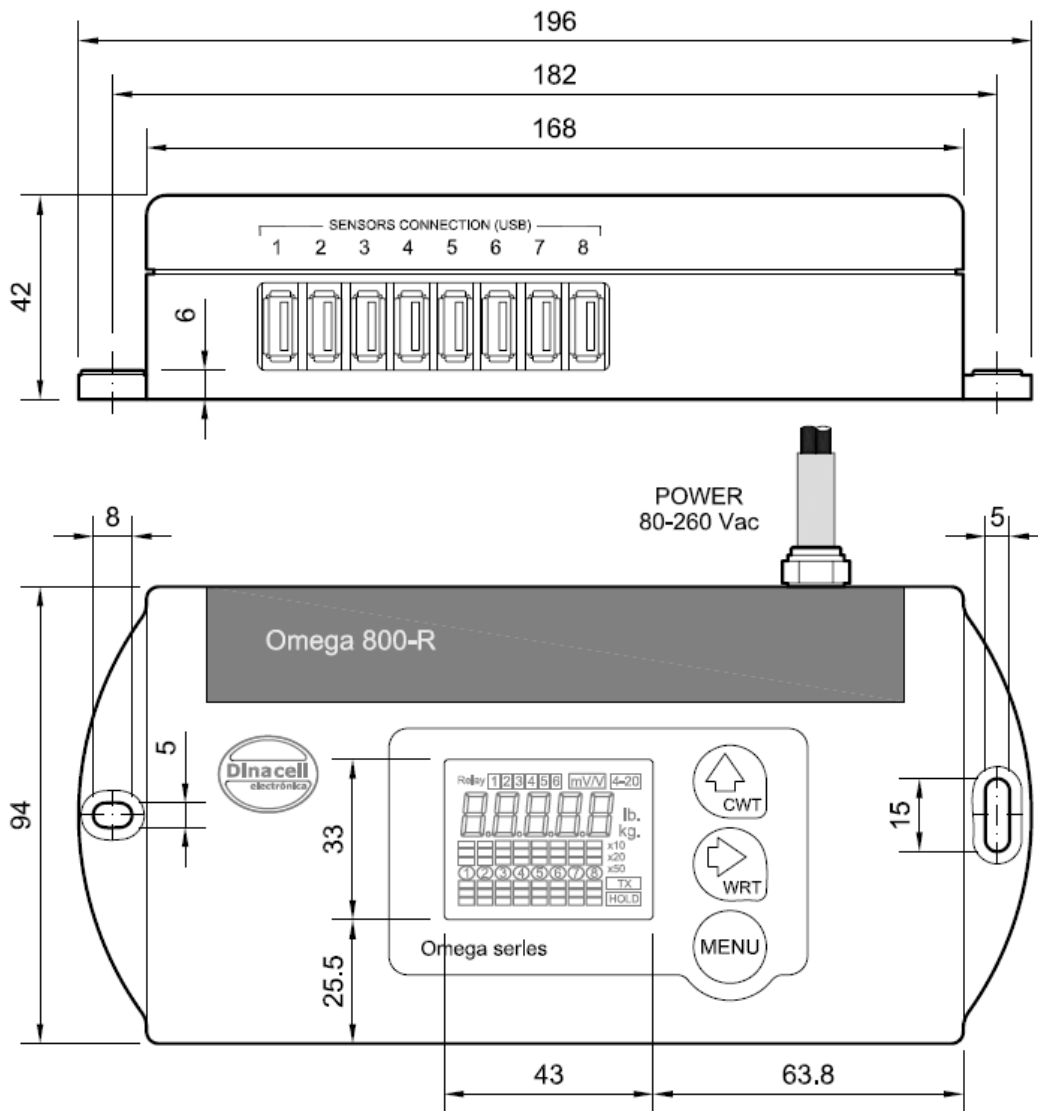


- When load is shown: Enter in the *rope tension monitor* function (WRT)
- During menu navigation: Enter to modify a parameter.
- While modifying a parameter: Chose digit to change.

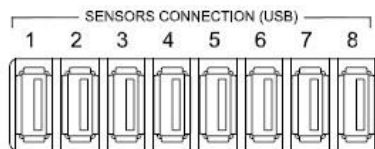


- When load is shown: while it is keeping pressed it will show the weight of the car (CWT) or counterweight (CTWT) depending on where the sensors have been installed.
- During menu navigation: Show the stored value of the selected parameter.
- While modifying a parameter: Change the blinking digit incrementally from 0 to 9.

3. INSTALLATION AND CONNECTIONS



Sensors input




USB sockets for load cells.

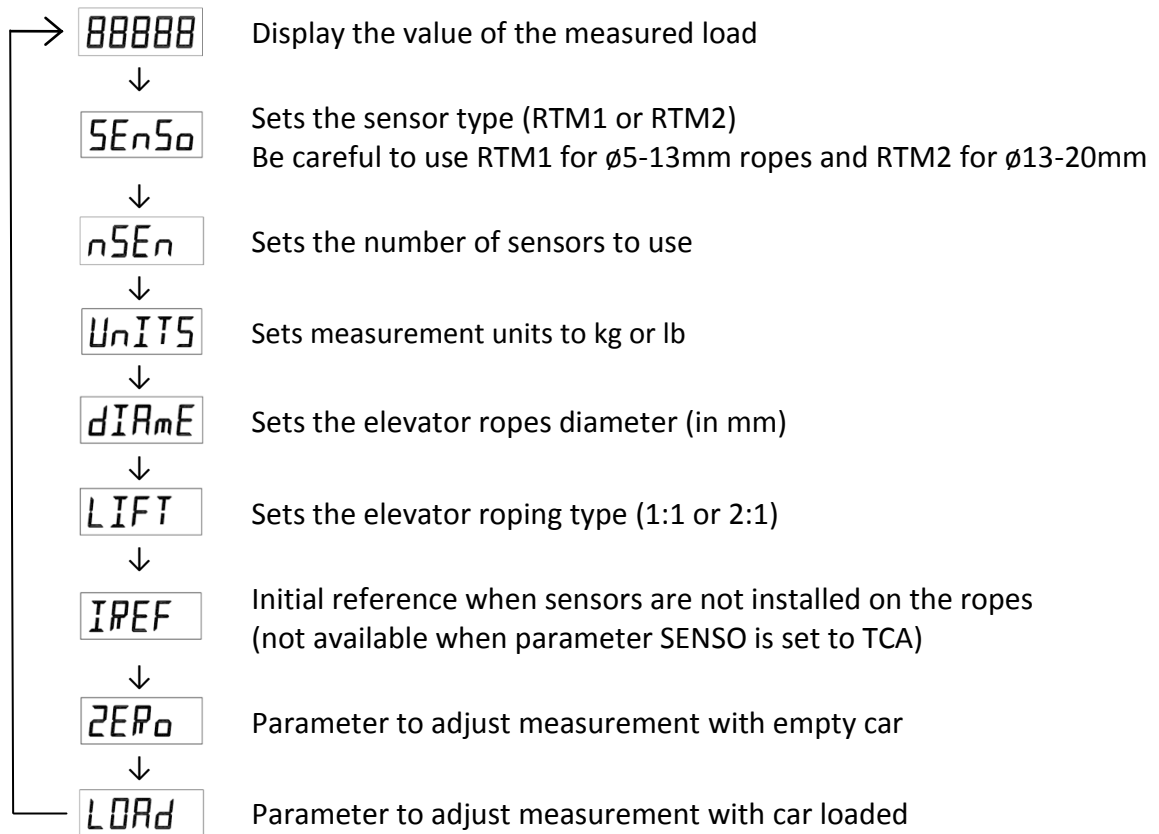
Power supply cord

Earthed **80-260V** ac power supply

4. MENU STRUCTURE







The menu has the cyclic structure shown in the following figure.

Press  button for 2 seconds to enter, then press it repeatedly to move from a parameter to another. Press it for 2 seconds to exit.




5. HOW TO CHECK OR MODIFY PARAMETERS

Once inside menu and display showing the parameter to be viewed or changed:

- Press  to check the current value.
- Press  to enter to modify the value:
 - Press  to chose the digit to change (blinking) and  to change it.
(if there's no digit blinking, change the value with  button directly).
 - Press  twice to save the value.



If  button is not pressed the second time before display blink ends, the changes will not be stored.

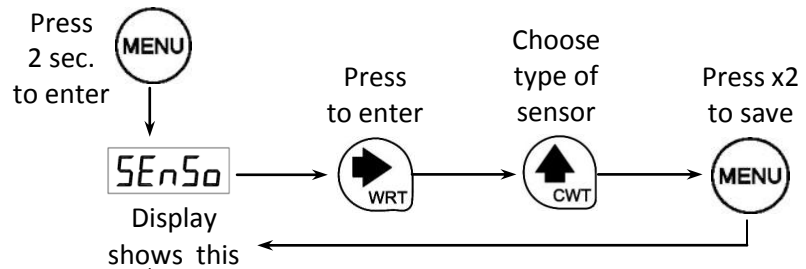
After any of these operations, the display shows the current parameter.

6. SYSTEM CONFIGURATION

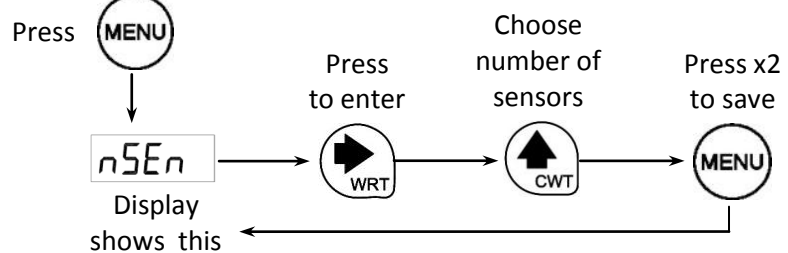
Make sure that the sensors are NOT installed on the ropes

1. Install the control unit with the information of the *INSTALL AND CONNECTIONS* chapter.
2. Connect sensors to the unit Omega.
3. Power up the unit with the correct voltage (see the *SPECIFICATIONS* chapter).

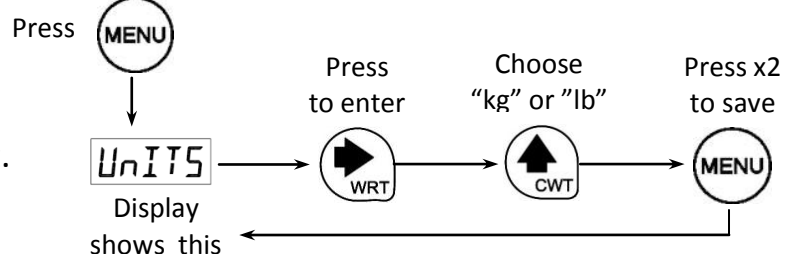
4. Set parameter `SEnSa` according with the sensors type that it is going to use .



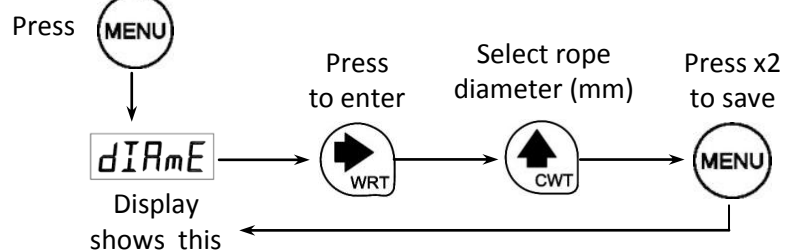
5. Set parameter `nSEn` according with the number of sensors that it is going to be connected.



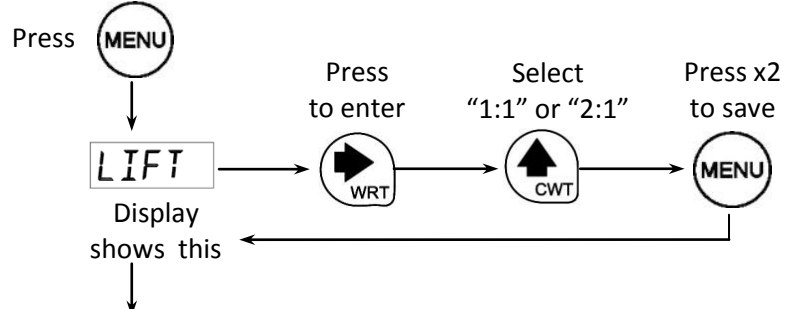
6. Set units of measurement.



7. Set diameter of ropes.

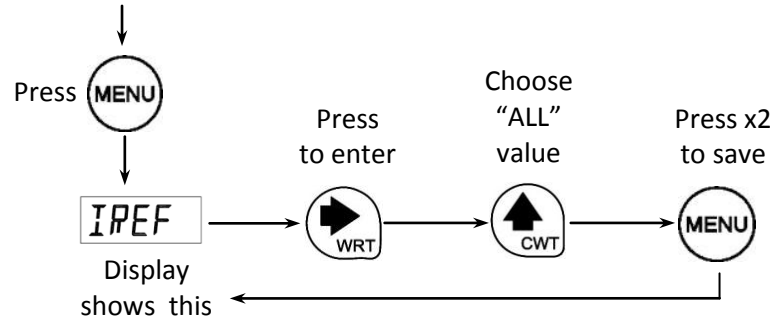


8. Set roping type of elevator.



The **IPEF** operation sets the zero when sensors are not installed on the ropes. After this, the ropes tension can be measured and adjusted individually as well as the car and counter weight load can be measured.

9. Set **IPEF** with the value "ALL".



7. OPERATION DEPENDING ON THE APPLICATION

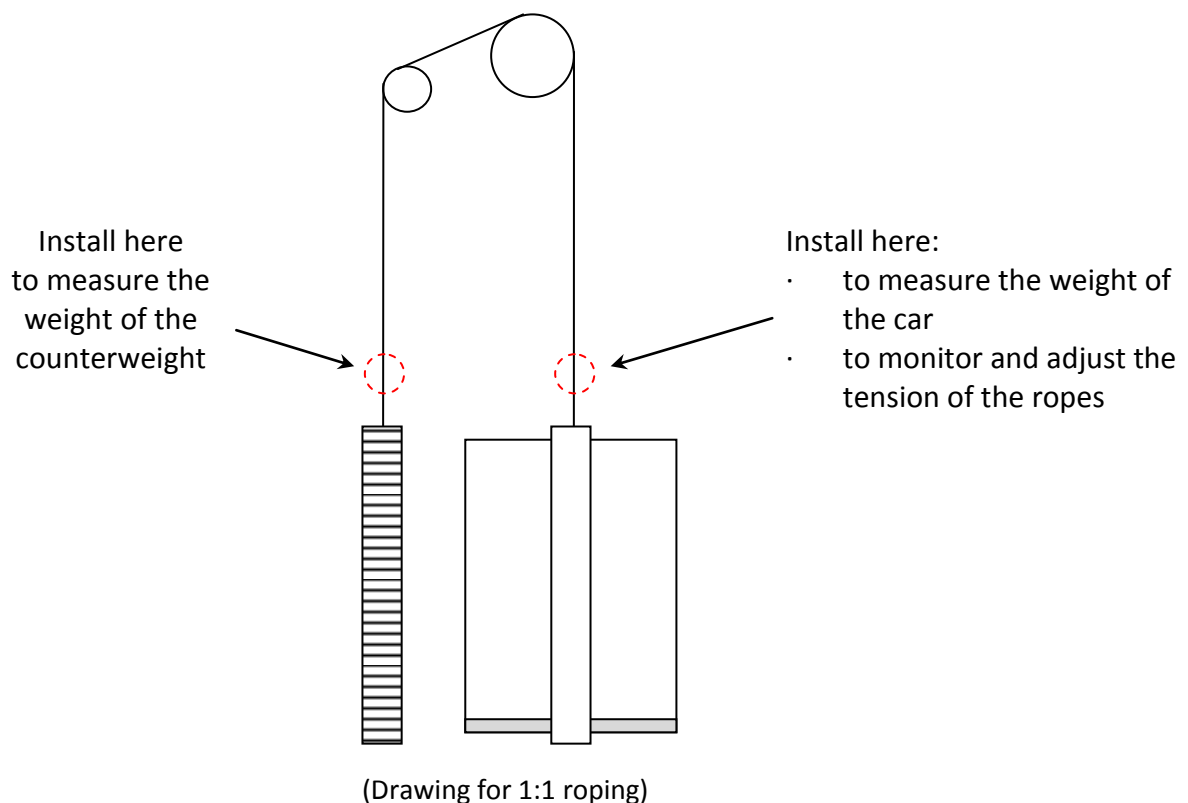
This system has two modes of working:

- a) can be used to adjust ropes tension (WRT) (see chapter 7.1)
- b) can be used to measure the weight of the car (CWT) or of the counterweight (CTWT). (see chapter 7.2)




Now install sensors on the ropes

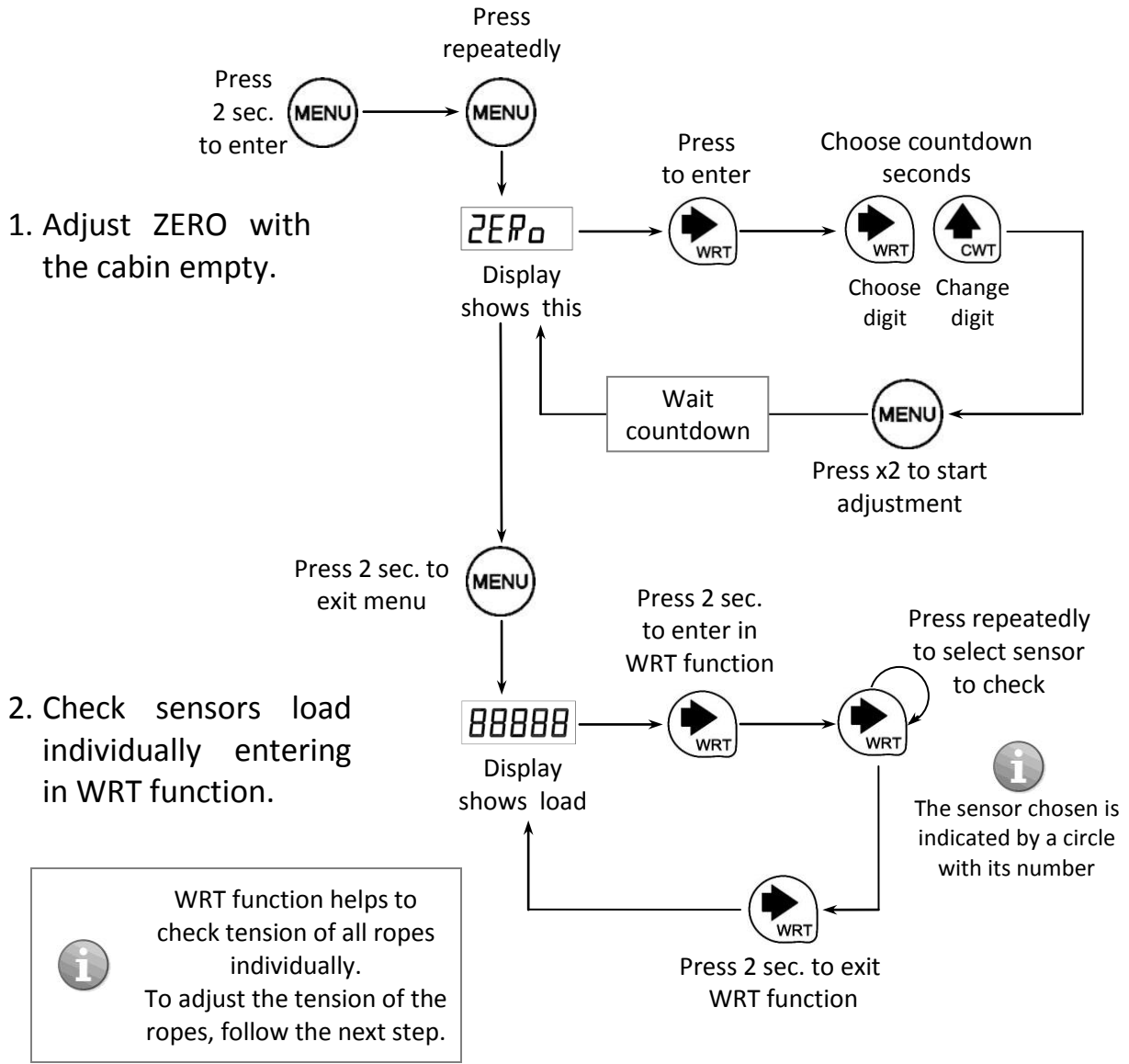
Install the sensors according with the next drawing depending on the application:



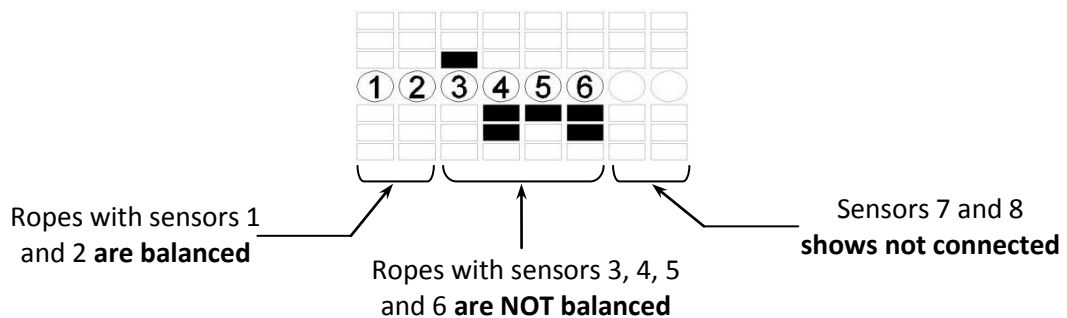
7.1. SYSTEM USED AS A ROPE TENSION MONITOR (WRT)




- Make sure the sensors are installed on the ropes.
- Make sure the cabin is empty and there's no weight on the car roof.



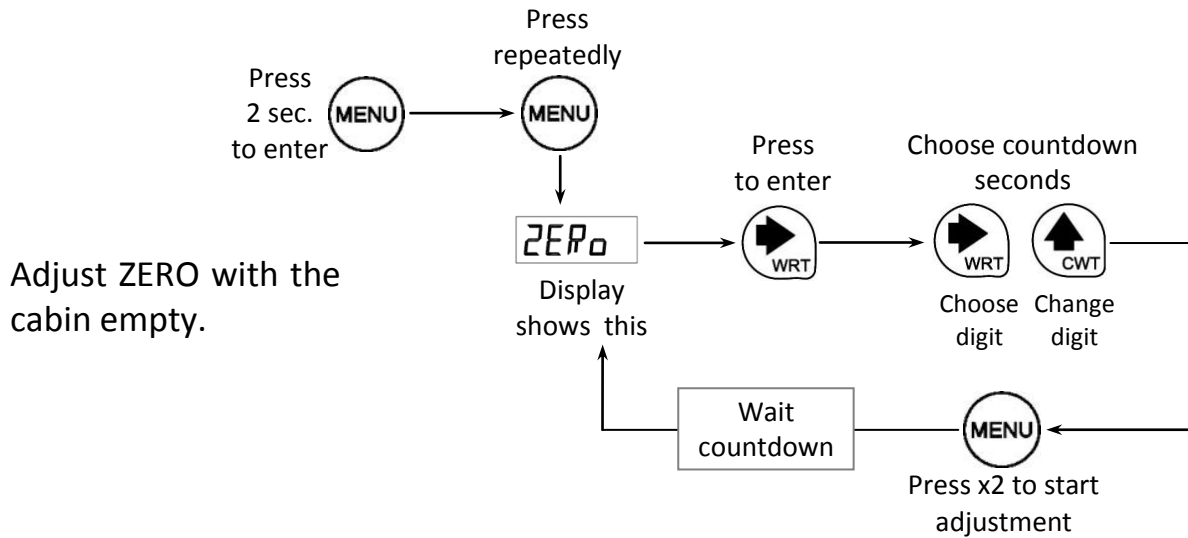
3. Adjust tension of ropes with the help of *rope tension monitor (WRT)* in display, as it is explained with the next figure.





7.2. SYSTEM USED TO WEIGH THE CAR (CWT) OR COUNTERWEIGHT (CTWT)




- Make sure the sensors are installed on the ropes.
- Make sure the cabin is empty and there's no weight on the car roof.

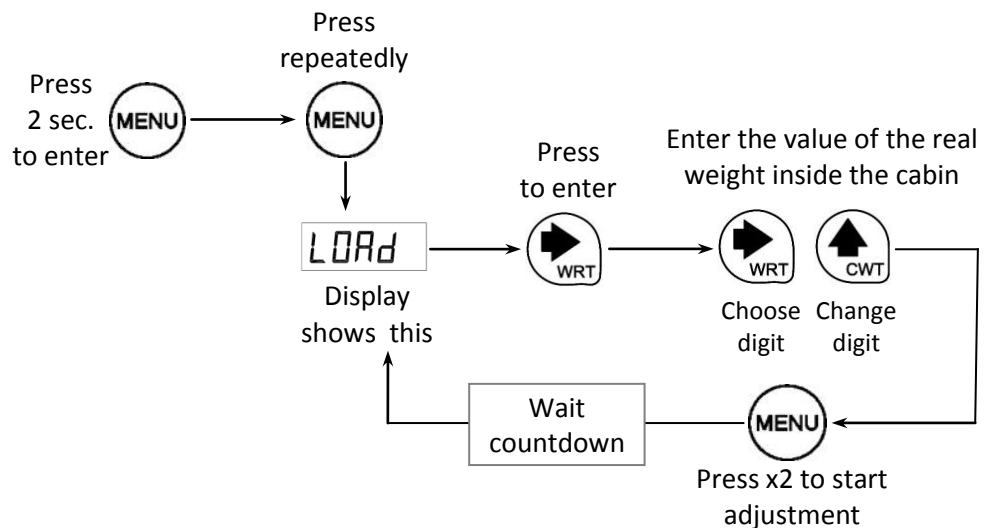


Now, after ZERO setting, the measured value of the Car Weight (CWT) or Counterweight (CTWT) can be checked (depending on where the sensors were installed). **Keep pressed the  button** during 2 seconds and the weight will be shown in display. This value remains stored despite the sensors are uninstalled from the ropes.

 *The system is factory calibrated, nevertheless, if it is considered that there is a high friction on the guides of the elevator, in order to optimize results on the measurement, an additional operation could be done using a well known weight inside the cabin.*









- Make sure that zero adjustment is already done
- Introduce inside the cabin a well known weight (minimum 50% of the elevator full load).

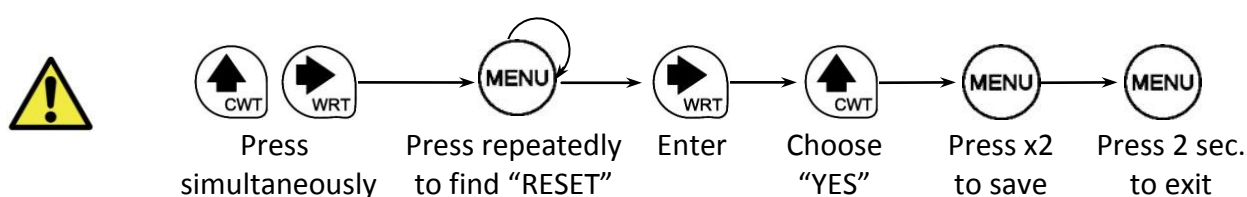


8. ERROR CODES AND TROUBLESHOOTING

When the unit detects some anomaly it will show an error codes of the following:

	Error description	Action
	Load cell is not properly connected, it or its cable is damaged.	Check the load cells connection.
	Negative overflow. The load cell is giving a negative signal too high.	Check the load cell connection because it should be no negative charge.
	Positive overflow. Load cell is holding a higher load than its nominal value.	load cell by another with higher nominal load.
	Polarity error. This happens when the unit adjusts the weight with the wrong load cell polarity, or the weight is not in the cabin during the adjustment.	Check the load cells connection. Adjust the zero and weight again.
	Loss of data in memory. Notice: When this error appears, every relay will remain in OFF state.	The unit must be configured again with the properly values.
	Load cell with very low sensibility. Usually the unit is wrong adjusted.	Adjust the zero and weight again.

RESTORING THE FACTORY SETTINGS (Only in case of configuration problems)

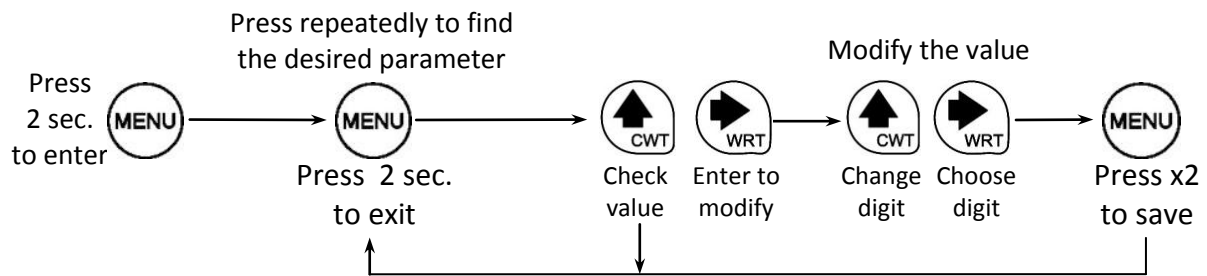


9. SPECIFICATIONS

Power supply characteristics	Short-circuitable. It is not necessary to replace any fuse.
Nominal voltage	80-260V ac
Maximum current	130mA
Nominal frequency	50-60 Hz
Box	IP-50 V0 fireproof plastic.

10. QUICK CONFIGURATION GUIDE

▪ Parameters checking or modification





▪ System configuration


1. Make the necessary connections.
2. Make sure that the sensors are not installed on the ropes.
3. Set parameter **SEnSa** according with the sensors type.
4. Set parameter **nSEn** according with the number of sensors.
5. Set **UnITS** of measurement (“kg” or “lb”).
6. Set **dIARmE** according with the type of ropes of the elevator.
7. Set **LIFT** according with the roping type of the elevator.
8. Set **IPEF** with the value “ALL”.
9. NOW, install sensors on the ropes as shown in drawing of the chapter 7 depending on the application
10. Adjust ZERO with the cabin empty.

▪ Follow next operations a) or b) depending on the application:

a) When system is working as a rope tension monitor (WRT)

1. Check sensors load individually pressing  button during 2 seconds and then exit pressing  button during 2 seconds.
2. Adjust tension of ropes with the help of *rope tension monitor (WRT)* in display.

b) When system is working to measure the weight of the car (CWT) or the counterweight (CTWT)

1. Keep pressed the  button during 2 seconds and the weight of the car or the counterweight will be shown in display. Depending on where the sensors were installed.