

The bed moves vertically in a specific structure developed to this purpose and its stroke is limited by two ends:

- on the upper side, the stroke is limited by an end-of-stroke sensor;
- on the lower side, the limit is represented by the lowest position set;

This is the reason why it is necessary to set at least one stop position. If no stop position has been set, the controller will activate a flashing red warning light.

The bed can be lifted or lowered by pressing the arrow-shaped switches on the front panel. When pressing the UP (arrow up) switch the bed will be lifted and it will go down when pressing the DOWN switch.

Two green LED-lights are located on the controller panel and they will simultaneously switch on. Durante il movimento del letto sarà acceso solo il led corrispondente al senso di marcia.

The bed will be moving until you keep pressing the switch and it will stop when:

The switch is released;

A pre-set stop position is reached;

The bed is being lifted and the end-of-stroke position is reached.

The bed will move by pressing one of the switches again, unless one of the following conditions is detected:

The bed is in the end-of-stroke position and the UP switch is kept pressed;

The bed is in the lower programmed position and the DOWN switch is kept pressed.

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In these two situations the bed will not move because the pre-set end-of-stroke positions for operation are reached and it is not possible to overcome them.

NOTE: Events might occur while regularly operating the system that may reset the board memory. The most common cause is using the system when the battery is flat. When the memory is reset while operating the system, the controller will lose data related to the current bed position. In order to restore normal functions, it is necessary to bring the bed to the end-of-stroke position after solving the problem that caused resetting (e.g. after recharging the battery).

#### 5.2.4.1 Low power absorption mode

When the controller is activated the two arrow LED-lights on the panel will simultaneously switch on.

In order to reduce battery power absorption the controller is programmed to automatically switch to the low power absorption mode 20 seconds after pressing a switch.

When the system switches to the low power absorption mode the two LED-lights on the panel will switch off.

It is possible to switch back to the normal mode by pressing the UP switch. Then it is necessary to keep the switch pressed in order to unlock the safety device described in the following paragraph.

When the vehicle is parked, the bed lifting system mechanism can be controlled by the user via the control unit panel. The system will start operating when activated and by keeping the DOWN switch pressed down (a LED-light shows the operating direction as well) and goes down to the first stored position. In order to reach a possible second stored position, it is necessary to release the switch and press it down again until the bed lifting system stops. This is possible up to a maximum of 5 positions, if stored. PROGRAMMING CAN ONLY BE CARRIED OUT AT A SERVICE CENTRE. In order to lift the system back to the upper position, just follow the aforementioned instructions by pressing the UP switch. The bed lifting system will come to a final stop when the end-of-stroke position is reached.



#### WARNING!

**Be very careful when operating the bed lifting system  
and make sure children are not standing in the bed lifting system operation area**

#### 5.2.4.2 SECURITY DEVICES

##### 5.2.4.2.1 Protection against unauthorized access

The controller is equipped with a safety device to protect the system against unauthorized access, which also works when the system is not operated and when it is operated in the low power absorption mode.

In order to unlock the safety device and activate normal functions described in the previous chapters, it is necessary to keep the UP switch pressed for about 6 seconds.

Access to normal functions is indicated by the two arrow-shaped LED-lights on the panel switching on.

The safety device will be activated again when switching to the low power absorption mode or when switching off the controller.

##### 5.2.4.2.2 Resetting the system after warning status

The controller can switch to the warning status for mainly two reasons (the warning status is indicated by a flashing red warning light and it prevents the motor to receive any commands):

The causes can be the following:

- a command is sent to the motor but there is no feedback signal from the step counter;
- a command is sent to the motor, there is a feedback signal from the step counter, but the limit switch sensor is pressed.

The warning status can be reset by switching off and on the controller. If you do that without eliminating the cause of the trouble, the warning status will be activated when operating the bed for the first time again.

If the operator can detect and solve the problem, the warning status will automatically be reset.

##### 5.2.4.2.3 Warning for step counter signal - no signal

This specific warning status is indicated by a the red warning light flashing with a higher frequency (flashing frequency is half a second on and half a second off).

The causes can be the following:

- The step counter connection cable is damaged;
- A contact in one of the connectors is loose;
- The connector was not plugged in properly;
- A trouble/failure in the motor;

In order to reset this warning status it is possible to reboot the controller once the cause of the trouble has been eliminated or manually run the motor with the specific socket head screw located on the motor. In the second situation, the warning status will be reset when the controller detects the motor running and the controller will be enabled again.

In the versions of production lot "06-11/1011" which are easily recognizable due the presence of a small hole with a key symbol on the front control panel set close to the green LED-light, it is possible to reset the electronic central unit by pressing the reset button in the above mentioned hole located on the control front panel.

##### 5.2.4.2.4 Warning status for limit switch activated

This specific warning status is indicated by a the red warning light flashing with a lower frequency (flashing frequency is two seconds on and two seconds off).

The causes can be the following:

- The limit switch sensor is kept pressed;
- Safety belts activated;
- The limit switch connection cable is damaged;
- A contact in one of the connectors is loose;
- The connector was not plugged in properly.

This warning status will automatically be reset once the cause of the trouble has been eliminated. If, for instance, the sensor was kept pressed, the warning status will be reset as soon as the sensor is released. Or, alternatively, if the problem was caused by a damaged cable, the warning status will automatically be reset once the cable has been replaced or repaired.

##### 5.2.4.2.5 Warning status for safety lock

While the vehicle is running the bed can be secured with specific belts in order to ensure safety conditions. The safety belts have an internal closed contact that can be used to differentiate between the status "safety belt fastened" and "safety belt not fastened". Picture 3 shows how to connect the belts, identified by the description "safety belts".

ATTENTION! Always block the bed on the highest limit before inserting the safety belt. The non observance of the rule could modify the lowest stop position

The different models have been designed and manufactured keeping in mind all the main standards of safety, to reduce and / or cancel any element of risk connected with the operation. In particular, it is important to point out the existence of the following safety devices:

**IT IS FORBIDDEN TO USE THE BED WHILE THE VEHICLE IS RUNNING, AS THE BED SHALL BE LOCKED WITH SAFETY BELTS.**