

User Manual



CCB for TSP: 2 Hoists 24V Control

**50 or 60Hz
3ph 380-415 V or 1ph 230V**

Central Control Box



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General

The Sky Climber CE Central Control Boxes (CCB's) are made of steel and have a protection degree IP65.

The rubber supply cable is provided with a normalized CEE connector plug.

The electrical protection of the control box shall be provided in the electrical power supply of the building with a use that is appropriate for the operation current of the hoist(s) that you use.

In Europe and many other countries, it is legally obliged to provide in this supply (or supply group), a residual current device of max. 30 mA. Follow all applicable Federal, State and Local codes and regulations pertaining to electrical safety.

Before using electric powered hoists, have a qualified person check the voltage while hoisting with your maximum allowable load. The voltage should vary with no more than 10 % of the nominal power supply voltage indicated on the electromotor data plate.

Make sure that the electrical power source is "earthed" to a point of sufficient low resistance. Use only approved connector plugs and power supply cords with strain relief, correctly assembled from hoist to power supply. Verify ground continuity, and use a ground fault interrupter (as required by code in your location). Consult local safety authorities for further information.

Ensure that all metal parts, outlets, junction boxes and other components that might come in contact with live conductors are properly earthed.

Always use a power cable cord with earth conductor when using electrically driven handtools on a suspended platform. Verify that the handtools are properly earthed. (or use handtools of the double insulated type)

The control boxes described in this manual, is characterized by:

- TSP applications (Temporary Suspended Platforms)
- The number of hoists to be controlled : 2
- The main power tension (230V monophasic or 400V triphasic)
- The CE conformity (24 V control)
- Optional additional functions (eg. outlet for single phase powered handtools, anti-tilting device)

Installation

The installation needs to be performed by a competent person that is experienced in access equipment.

- First check if the Control Box matches the needed power supply type of the hoist(s). A single phase hoist must be connected to a single phase Control Box and a three phase hoist with a three phase Control Box. The power supply tension must correspond as well. You 'll find the correct phase and tension on a yellow label on the control box and also on the hoist.
- Secure the Control Box to the stage handrail with the bolts provided.
- Push down the red emergency button on the right side of the Control Box.
- Connect the Control Box to the hoists by means of the 10 pin outlets. Make sure the right plug is on the right hoist (e.g. left plug to the left hoist, right plug to the right hoist) otherwise the button(s) will not control the right hoist.
- Open the door of the Control Box and switch the automatic fuse of the control circuit ON (red color on fuse is visible)
- Connect the power supply cable to the red connector of the Control Box.
- Switch OFF the emergency push button on top of the Control Box by rotating it (rotate red button to the right).
- Check that the general contactor is activated, if not the phase sequence is wrong: switch two phases in the power supply socket. Try again.
- Operate the platform in both directions. Make sure the platform goes UP while pushing the UP button, and vice versa.
- Test the emergency push button. Hit the emergency push button in each direction while operating the platform.
- Test the selector switch. The selector switch has 3 positions, they are meant for operating the first hoist (I), both hoists (I+II) or the second hoist (II). Try out each position and check the reaction.
- Test the anti-tilting device (if provided): manually tilt the Control Box by 7° to the right while operating both of the hoists UP: the left hoist should now stop moving up. Repeat this test for the opposite side and also in the DOWN mode.
- The Control Box is now ready for use.

Connections

Outlet for single phase
powered handtools
(optional)

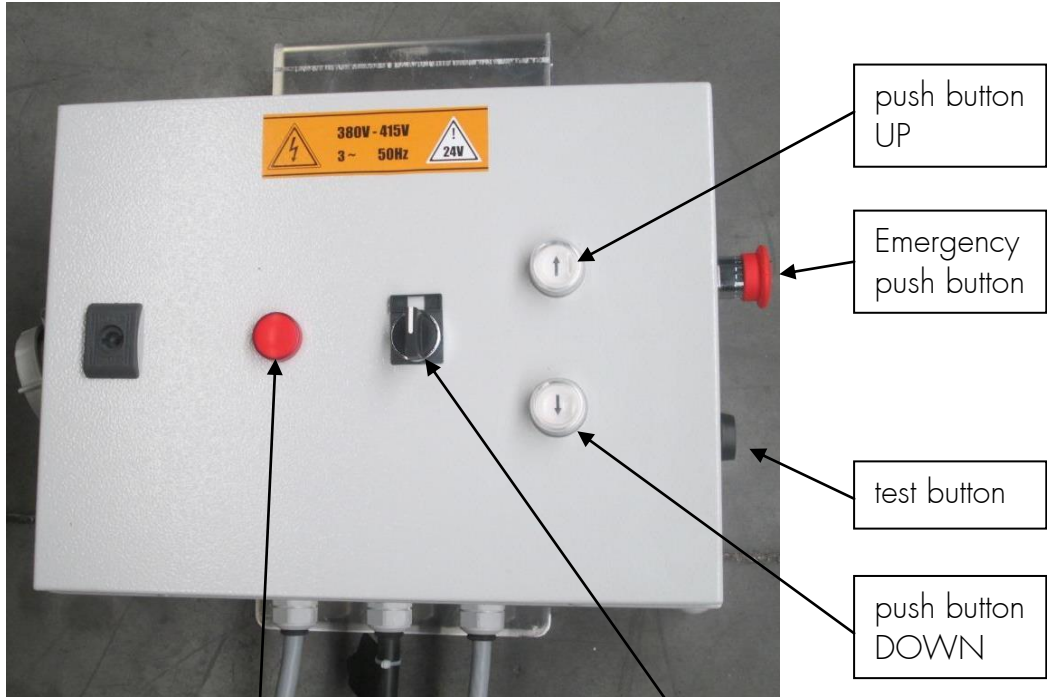


Plug to left hoist

Plug to right hoist

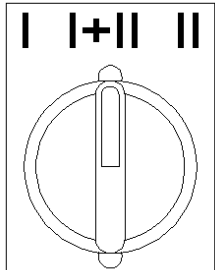
Power connection plug

Control elements



Alarm indication light

Hoist selector switch



Operation

After everything has been connected and tested correctly by a competent person, the Control Box must be used as follows.

Raising and lowering:

On the Control Box front panel, there are two push buttons: one to raise and one to lower the platform. For instance, to raise the platform, one has to push the down button until the platform reaches the required height. The buttons may never be blocked in an active (pushed inwards) position.

e.g. Control box 24V for 2 hoists : the Selector Switch has to point to the middle option : I + II. Both hoists will then be operated at the same time.

Emergency situation:

The emergency push button of the control box is useful to switch off the complete installation in case of an EMERGENCY. The emergency push button can be reset by turning it.

The alarm indication light

When the alarm indication lights up while power is connected, it means there is a problem with the control circuit, and operation is not possible. Possible causes are:

- Plugs to hoist(s) not properly connected
- Hoist is in overload or Ultimate Top Limit
- Plug X1 (Ultimate Top Limit) or X4 (overload) of hoist is not connected to the hoist

If the alarm indication light does NOT light up automatically, although operation is not possible, you can press the test button. If the indication lights up then, it means there is a wrong phase sequence or the emergency button has been pushed in.

Reeving and dereeving:

To reeve the steel wire rope into the hoist, switch the selector switch to the hoist being reeved and use the UP button to activate the reeving.

To dereeve the steel wire rope from the hoist, switch the selector switch to the hoist being reeved and use the DOWN button to activate the dereeving.

Tool outlet (optional):

The Control Box can be provided with a tool outlet socket where you can plug in electrical hand tools to work with.

Anti-tilting device (optional):

This optional device is located inside the central control box. The purpose of this device is to avoid the cradle going out of level. For instance when the cradle is being lowered and it tilts by more than 7 degrees, the lower hoist will stop automatically allowing the other to continue and return the cradle to its correct position.

When the cradle is being operated in the "up" direction and the platform goes out of level by more than 7 degrees, the upper hoist will stop automatically allowing the other to continue and return the cradle to its



correct position.

It is therefore important to have the Control Box mounted correctly on the cradle. If this has not been done right, the anti-tilting device will not work properly.

Maintenance & Periodic inspections

Only a competent person may carry out maintenance.

- Pull out the power supply plug before touching the wiring. The wiring up to the emergency button can still be under tension.
- The box: check for water penetration and possible corrosion on the contacts.
- The emergency push button: check if the screws connecting the emergency button on the box are still fixed.
- The labels: check if all labels are present and legible.
- The cables: check if there are no external damages on the outer jacket and/or isolation in order to avoid short-circuit.

Electric wiring diagram

- Each Central Control Box is provided with a wiring diagram in a transparent plastic bag, that can be found inside the box. Preserve this carefully in the Control Box, to avoid needless searching.
- A new wiring diagram can be requested at Sky Climber, but we will need an order reference or invoice number to track down the right wiring diagram reference and the right revision of it.
- The wiring diagram reference number of the most common CCB types are:

<u>CCB</u>	<u>Wiring diagram</u>	
53009211	53005542	CCB - 1 phase - 10 pin plug - 2 hoists - 24VC + AT
53009214	53005548	CCB - 1 phase - 10 pin plug - 2 hoists - 24VC + AT + TO
53009331	53005552	CCB - 3 phase - 10 pin plug - 2 hoists - 24VC + AT
53009334	53005558	CCB - 3 phase - 10 pin plug - 2 hoists - 24VC + AT + TO

