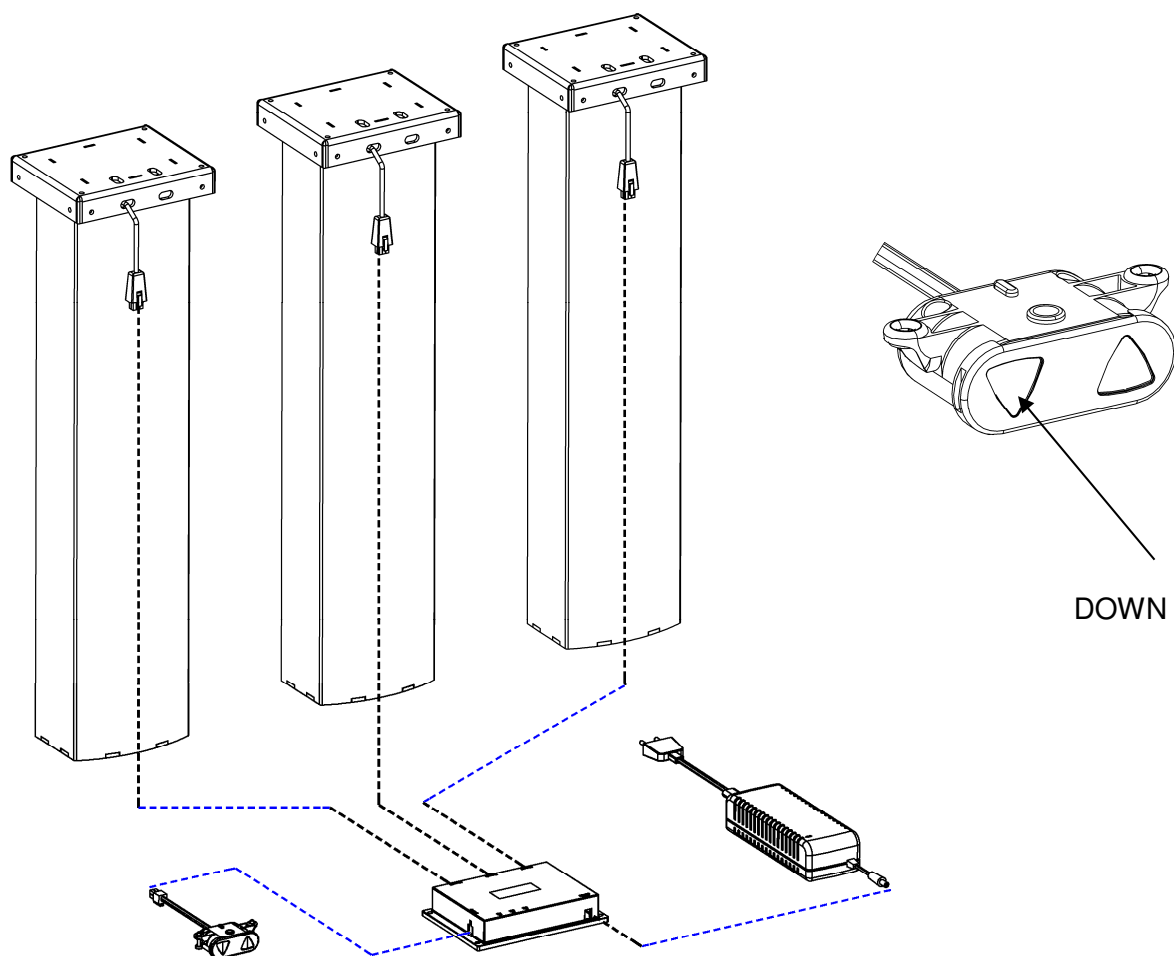


## ConSet® - TYPE 501-23 CONTROL SYSTEM

THIS INSTRUCTION REPLACE THE GUIDELINES REGARDING ELECTRIC CONNECTIONS IN THE FOLLOWING INSTRUCTIONS:

#315060 / #315070 / #315550 / #315560

### HOW TO CONNECT



- 1.) Connect synchronisation box to the columns (2 or 3 pcs)
- 2.) Connect control panel to the synchronisation box
- 3.) Connect power supply to the synchronisation box
- 4.) Hold down the DOWN button of the control panel for around 3s until the synchronisation box clicks (this will reset the system).

The system is ready now.

## **FEATURES**

- Automatically disable if end position has been reached
- Soft-start and soft-stop
- Constant speed operation
- High load mode (22% reduced speed, when going up)
- Maximum runtime: 35s
- Cycle time, 50% within 5min (software limited)

### **Soft-start and soft-stop**

A short soft-start sequence is built in where the columns are accelerating to its nominal speed. Additionally there is a soft-stop function that gets activated around 2.5 cm before a mechanical end position. The synchronisation box reduces the moving speed of the columns to generate a softer stop.

### **High load operation**

In case of high loads it could be that the synchronisation box reduces the speed about approximate 22% when moving upwards to not to overload the power supply.

### **Overload current protection**

The synchronisation box has overload protection built in. On excessive overload detection (more than 100kg load) the synchronisation box immediately disables all three channels. The LED of the overloaded column starts blinking with 10Hz for 10 seconds and all operation commands are getting ignored during this time.

The reason for the overload needs to be identified and removed before the system is used again. When the LED stops flashing, the synchronisation box is ready for normal operation.

## **SERVICE FAQ'S**

### **Asynchronous axis protection**

In case of that the synchronisation box detects larger pulse derivation among the connected columns, it will stop the movement immediately to prevent future asynchronous movement.

All three channel LEDs are blinking with 10Hz for 10 seconds indicating this situation. During these 10s, the system is blocked and no more operation is possible. The reason for the asynchronous movement needs to be identified and removed. It is advisable to try to get the system into the lowest position and to perform a resetting. This could be done by only connecting one column at the time and move it a little bit so that the system is moved approximately simultaneously into the lowest position in successive steps.

### **Cycle time protection**

The synchronisation box monitors the cycle time (active time in a given period of time) and disables operation in case of the maximum cycle time has been exceeded.

A maximum cycle time of 50% within a period of 5 minutes is specified for the synchronisation box (it may run 2.5min continuously within 5min). In case of exceeding this limit, the synchronisation box disables operation and first activates itself after 50% idle time (2.5min).

### **LED indicator**

<b>LED mode</b>	<b>Channels</b>	<b>Description</b>
OFF	1 - 3	Axis is disabled, no column connected
ON	1 - 3	Column detected and is just operating
BLINKING FAST	ALL	Asynchronous error detected
BLINKING FAST	1 - 3	Overcurrent detected for particular column
BLINKING SLOWLY	1 - 3	HALL sensor 1 or 2 is defect