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# CS-800CLX OPERATION GUIDE

## DESCRIPTION

The Skjonberg CS-800CLX is an 8 way, manual chain hoist controller intended to run up to eight, 1 horse-power chain hoists in an indoor environment. The CS-800CLX provides both power distribution and relay control for the hoists in one compact unit. Manual control of the hoists is provided through a remote control unit. The CS-800CLX is supplied with either a 25 foot cable attached to the remote control or a detachable remote with various lengths of cable (up to 300 feet). As an option, the CS-800CLX may be controlled by a Skjonberg Chain Hoist Computer or several CS-800CLX units may be linked together with a custom remote control unit.

## WARNING TO ALL USERS AND POTENTIAL USERS

This operation guide is provided to familiarize the operator with the features, installation, and use of the CS-800CLX manual chain hoist controller only. This guide is in no way intended to instruct the user in the safe use of rigging equipment or rigging practices. A practical, working knowledge of safe rigging practices is required for any operator of this equipment.

The CS-800CLX will allow an operator to run improperly wired chain hoists in a manner that will override the chain hoist internal safety limit switches. It is **mandatory** that all of the chain hoists controlled with this control system be in proper operating condition and be wired to conform with the specifications of this controller. Failure to do so can result in serious damage to the controller, chain hoists, equipment being lifted, and the possibility of serious injury to personnel or loss of life.

***"ANYONE WHO DOESN'T HAVE A DEEP AND SERIOUS FEAR OF OVERHEAD EQUIPMENT FALLING SHOULD NOT BE ALLOWED TO OPERATE THIS CONTROLLER!"***

DO NOT OPEN THE CS-800CLX CONTROLLER! Hazardous voltages are present inside the controller! Opening of the controller by anyone other than a qualified service technician can result in serious injury or death!

THE USER MUST NEVER REWIRE OR IN ANY WAY MODIFY THE CS-800CLX CONTROLLER! Doing so will not only void the warranty but may allow improper operation that can cause damage to equipment and/or serious personal injury.

## **LOCATION AND DESCRIPTION OF CONTROLS**

On the front panel of the CS-800CLX there are 8 multi-pin connectors for the power and control of the hoists, 2 or 4 circuit breakers, 1 power input plug, 3 "PHASE" lamps, 1 "PHASE SWITCH" key switch, and 1 multi-pin connector for the hand held remote.

The combined power and control connector with the same number will be referred to as "the Power and Control" for that hoist.

The four, 3 pole, 15 Amp circuit breakers are the circuit overload protection devices on this system. The circuit breakers are numbered for the hoists that they protect. Turning these breakers OFF will remove power from the respective plugs and in turn effectively disable the hoists.

Power is supplied to the CS-800CLX via the male 30 Amp Pin and Sleeve connector. The input power must be in the range of 208 to 240 VAC, 3 phase with ground, and up to 30 Amps per leg (the minimum current required by the controller is determined by the size and number of the chain hoists being run). The "PHASE" lamps near the input plug will illuminate when power is applied to the plug to indicate that there is power on each phase of the input power.

The "PHASE SWITCH" is a three position key switch that allows the user to control an internal 50 amp "reversing" contactor. This contactor serves two purposes. First and foremost, it controls whether there is any power applied to the "POWER" plugs on the front panel. This mode is selected when the "PHASE SWITCH" is in the "OFF" position, the hand held remote is disconnected, or the "LOCK" switch is turned off on the hand held remote. This function is provided as a means of disconnecting the power to the hoists in the event of an emergency and to restrict usage of the controller. The second function of the contactor is to "REVERSE" the order of the input power phases. In some instances the chain hoists will not run in the proper direction when the system is initially powered on. The reversing contactor allows the phases to be reversed therefore reversing the direction that the hoists travel.

The multi-pin "CONTROL" plug provides the connection to the hand held remote which is referred to as the "Pendant". The Pendant allows the user to apply and remove the power to the hoists and command the hoists to run Up, Down, or not at all. On the pendant there are 8 "Up/Off/Down" toggle switches, 8 red and 8 green LED indicators located next to the Up/Off/Down switches, a "LOCK" toggle switch, 1 red LED indicator next to the "LOCK" switch, and a Momentary push-button labeled "RUN".

## **INSTALLATION AND OPERATION OF THE CS-800CLX**

The CS-800CLX is intended for INDOOR use only.

Prior to plugging anything in, VERIFY THAT THE POWER SUPPLY IS OF THE CORRECT VOLTAGE AND PROPER CURRENT FOR THE APPLIED MOTOR LOAD!! FAILURE TO DO SO WILL RESULT IN DAMAGE TO THE CONTROLLER AND POSSIBLE DAMAGE TO THE CHAIN HOISTS.

Once the power supply has been verified:

- 1) Turn the circuit breakers off.
- 2) Place the "PHASE SWITCH" to the "OFF" position.
- 3) Connect the pendant into the CS-800CLX.
- 4) Turn the "LOCK" switch on the pendant OFF.

Plug the "Power and Control" plug for each hoist into the CS-800CLX and note the physical location of each hoist as it is plugged in.

Plug the Input Power plug into the CS-800CLX and verify that all three line lamps come on. If any of the line lamps fail to illuminate disconnect the power plug and verify the power connections at the power source and verify the connections inside the power plug (on the power cable). If all of the power connections check out and the line lamps still fail to illuminate, consult the factory immediately for further troubleshooting information and assistance. Do not proceed to run the controller! DO NOT OPEN THE CS-800CLX CONTROLLER! Hazardous voltages are present inside the controller! Opening of the controller by anyone other than a qualified service technician can result in serious injury or death!

Turn the "PHASE SWITCH" key switch to the "ABC" position to turn the contactor on.

Turn the Circuit Breakers on to apply power to the hoists.

Take the Pendant in hand and turn all of the "Up/Off/Down" switches to the center (Off) position.

Verify that all of the hoists are clear to run.

Turn the "LOCK" switch on. The red LED next to the "LOCK" switch should illuminate indicating that the controller is active and that power has been applied to the hoists.

Set the "Up/Off/Down" toggle switches for the desired function for each hoist. When any switch is in the "Up" position and the control power is on the Red LED next to that switch will illuminate indicating that the hoist will run Up. UP is defined as pulling the hook at the end of

the chain toward the hoist itself. Likewise, when any switch is in the "Down" position and the control power is on the Green LED next to that switch will illuminate indicating that the hoist will run Down. DOWN is defined as the hook at the end of the chain traveling away from the hoist itself. When any switch is in the center or "Off" position both of the corresponding LED indicators will be off and that hoist will not move.

Again, verify that all of the hoists are clear to run.

PUSH and HOLD the "RUN" push-button. This action will cause the hoists to run in the direction set by the Up/Off/Down switches on the pendant. When the "RUN" push-button is released the hoists will stop.

If all of the hoists run in the direction opposite to those set on the pendant STOP IMMEDIATELY! The phase sequence of the power supplied to the hoists must be reversed. To reverse the phase sequence turn the "LOCK" switch off, turn the "PHASE SWITCH" key switch from the "ABC" position to the "CBA" position and run the hoists again. The direction of hoist travel should now be the same as the direction set on the pendant. THE HOISTS MUST RUN IN THE DIRECTION SET ON THE PENDANT. CHAIN HOISTS UTILIZE INTERNAL SAFETY LIMIT SWITCHES THAT PREVENT THE HOIST FROM RUNNING PAST PRESET POINTS OF TRAVEL. IN ORDER FOR THESE SAFETY LIMIT SWITCHES TO OPERATE PROPERLY THE HOIST MUST IN FACT RUN "UP" WHEN COMMANDED TO RUN "UP"; UP is defined as pulling the hook at the end of the chain toward the hoist. OPERATION OF THE CHAIN HOIST IN A "REVERSED" STATE (hoist runs DOWN when instructed to run UP and vice-versa) WILL CAUSE THE INTERNAL SAFETY LIMIT SWITCHES TO BE BYPASSED AND ALLOW SERIOUS DAMAGE THE CHAIN HOISTS, THE EQUIPMENT BEING LIFTED, AND THE POSSIBLE LOSS OF LIFE. If any one chain hoist runs "REVERSED" compared to the other hoists in the system the user MUST rewire the "POWER" connector on the hoist to conform to the controller specifications. THE USER MUST NEVER MODIFY THE CS-800CLX CONTROLLER IN ANY WAY!

Once the hoists have been run to the desired positions the power should be turned off and the key removed from the "PHASE SWITCH" to prevent unauthorized use of the controller.

## **MAINTENANCE AND SERVICE**

There are no user serviceable parts inside of the CS-800CLX.

**CS-800CLX SPECIFICATIONS**

Input voltage: .....  
Input current: .....

208 to 240 VAC, 3 Phase  
30 Amps MAXIMUM  
The Minimum current required is determined by the number of hoists and current requirements of the hoists controlled by the CS-800CLX.

Plug pinouts: .....

See attached page: "Plug Pinouts"

Dimensions: .....

21" H x 16.75" W x 7.125" D (Standard)  
21" H x 19" W x 6.5" D (Rack Mount)

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**Controller Plug Pinouts for 3 Phase CS-800CLX**

**Custom Pinouts for: Christie Lites**

**MOTOR "POWER & CONTROL" PLUG**

PANEL mount: Socapex (7 Pin Female)  
CORD mount: Socapex (7 Pin Male)  
CORD Type: 14 AWG SO (14-7 SO)

<u>Socapex Pin</u>	<u>Function</u>	<u>Circuit</u>	<u>Skjonberg Colors</u> (Inside of Controller)
1	Phase A	Motor Power	Brown(14 AWG)
2	Phase B	Motor Power	Black (14 AWG)
3	Phase C	Motor Power	Blue (14 AWG)
4	Earth	Earth	Green (14 AWG)
5	Up	Control	Yellow (18 AWG)
6	Common	Control	Gray(18 AWG)
7	Down	Control	Violet (18 AWG)

**POWER INPUT PLUG**

PANEL mount: Walther 635509 (Male 32A 120/208 vac, 3Ph Y, Blue)  
CORD mount: Walther 330509 (Female)  
Cord Type: 6/5 SO or 6/4 SO

<u>Hubbell Pin</u>	<u>Function</u>	<u>Skjonberg Colors</u> (Inside of Controller)	<u>Input Cable Colors</u>
L1	Phase A	Brown	Black
L2	Phase B	Black	Red
L3	Phase C	Blue	Blue
N	N/C	N/C	White
Green	Ground	Green	Green