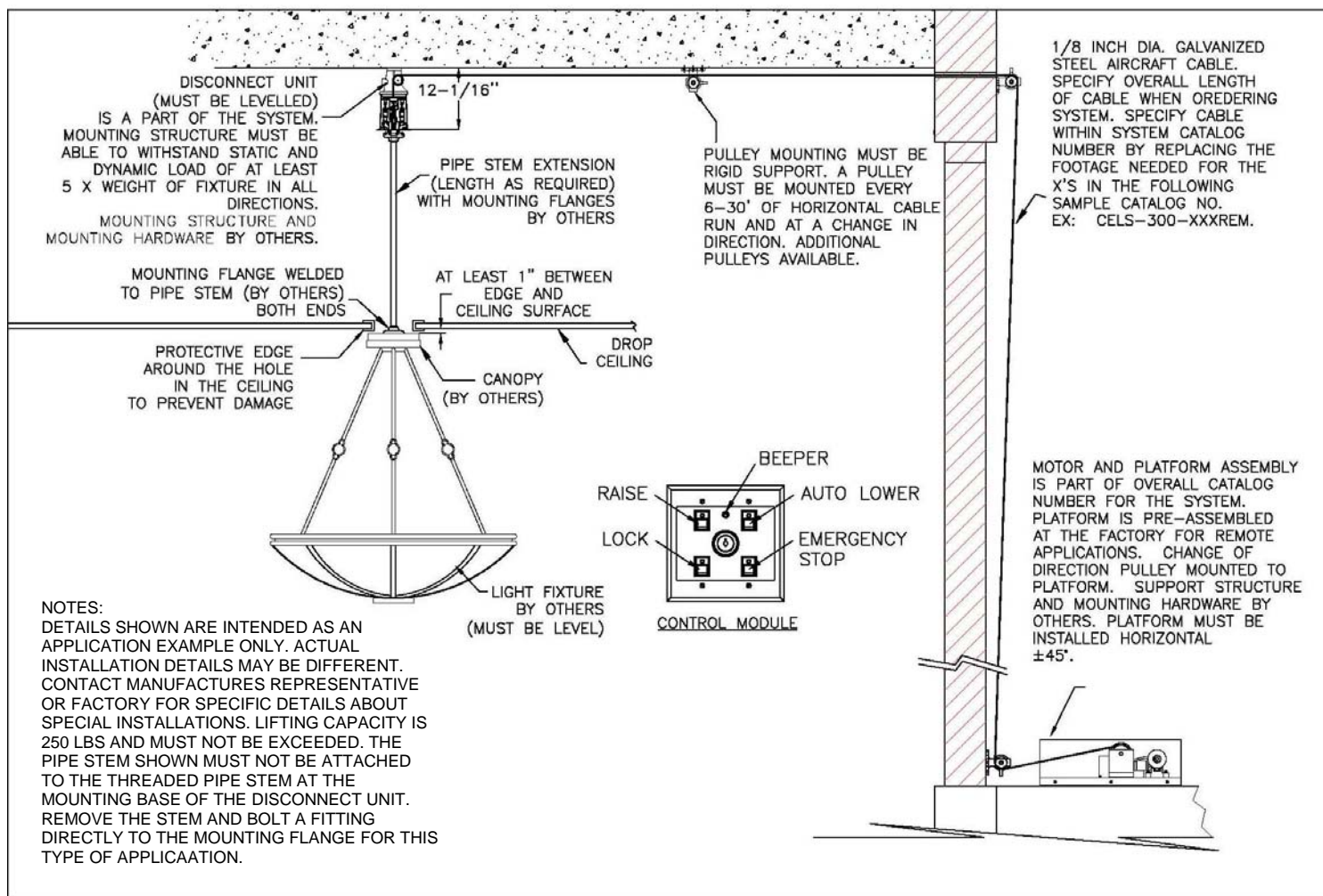


# CELS-300-REM COMMERCIAL MOTORIZED LOWERING SYSTEM

FOR FIXTURES WEIGHTING FROM 20 TO 250 LBS.

## DROP CEILING – SAMPLE LAYOUT





# CELS-300-45REM-4C

## BILL OF MATERIAL

BILL OF MATERIAL FOR MOTORIZED LOWERING SYSTEMS		
CELS-300-45REM-4C		
FIXTURE WEIGHT: Up to 250 lbs		
QTY	PART NUMBER	DESCRIPTION
1	MOTOR/WINCH	MOTOR, WINCH, AND PLATFORM ASSEMBLY
1	SCU-2A-MS-4C	ELECTRICAL DISCONNECT UNIT WITH LOCKING MECHANISM
1	CP-2	CONTROL PANEL WITH BEEPER ASSEMBLY
1	45 FT CABLE ASSY.	RAISING AND LOWERING CABLE ASSEMBLY (ADDITIONAL CABLE LENGTHS AVAILABLE)

OPTIONS	
SUFFIX	DESCRIPTION
-XX	ADDITIONAL CABLE LENGTH, STANDARD 45 FEET
-XC	X=NUMBER OF CONTACTS (up to 8) STANDARD 4 CONTACTS FOR 2 CIRCUITS PLUS ONE GROUND (EARTH).
-CL	CHAIN LINKS REQUIRED IF NOT PART OF FIXTURE
-CR	CORROSION RESISTANT (contact factory for details)
-38	WITH 3/8" CONDUIT INTERNAL THREAD (STANDARD 3/4" CONDUIT MALE THREAD)
-W	10 LBS of extra Weight (for lightweight fixtures)
OPTIONAL MATERIAL AS NEEDED	
3P-5	PULLEY
3P-6	PULLEY
3P-7	PULLEY

All fixtures MUST be hung by at least 4 Chain links or Quick links. Links must be rated for the size and weight of the fixture. They can be purchased thru Lighting & Lowering Systems.

**COMMENTS**

The disconnect unit must be mounted to a HORIZONTAL RIGID STRUCTURE. All mounting must be able to withstand static and dynamic loading for at least 5 X weight of the fixture in all directions. This structure must be approved by others. The winch or motor assembly must be placed 6-30' away from the first pulley or disconnect unit. A pulley must be used every 6-30' of horizontal straight run. Centerline of pulley groove must be aligned with cable path. Cable path must be free from interference. Please visit our website at [www.lightinglowering.com](http://www.lightinglowering.com) for specification-sheets if not provided with the quote. For large quantity, consider choosing manual systems with portable lowering tool for cost reduction. If the system is mounted under certain climatic conditions, please inform us. Please provide any other specifications, conditions or special requirements at this time.

Specifications are subject to change without notice.



# CELS-300-XXREM-XC

FOR FIXTURES WEIGHTING FROM 20 TO 250 LBS.

## Features and Benefits:

An electronically controlled, motorized lowering system designed to raise and lower chandeliers weighing from 20 pounds to 250 pounds. The system comes with either the motor platform remote from the disconnect unit or with the disconnect unit mounted on the motor platform.

### Self-Sustaining Gear Drive Unit

A self-sustaining worm gear drive arrangement prevents free falling of the chandelier while lowering, raising or servicing.

### Contact Suspension Unit

Automatically guides chandelier up and down through the maze tracking system. Supports chandelier and always returns to same position. Locking electrical disconnect switch provides power to the chandelier and mechanically locks the fixture in place, relieving all tension on cable, gears and motor.

### Electronic Control Module

Microchip technology provides capability to unlock chandelier from contact unit and lower it to pre-determined height with the push of a single button. Programmed sequencing allows operator to view raising and lowering of chandelier without having to continually push or twist a switch.

## Principal Components of this System:

- a) **Electrical Disconnect Unit Assembly:** It comes with two electrical contacts plus one ground as standard. (Additional contacts available) and includes fittings for surface mounting to a structure and a flange/stem 3/4" conduit male adapter (3/8" female available).
- b) **Motor Platform Assembly:** It consists of formed and painted steel platform, 1/4 HP motor, cable spool/gear box, one change of direction pulley, electrical connection box, and a formed and painted steel cover.
- c) **Cable:** 1/8" diameter, 7x19 stranded, galvanized steel aircraft cable assembly. Total cable length required = lowering distance + 5 ft + horizontal run + vertical run if required. (45ft standard). 40ft Maximum lowering distance.
- d) **Control Panel:** An electronic programmable control module. It includes the cover plate and connection box. The Electrical hook up wires and conduit are provided by others.
- e) **Motor:** 1/4 HP permanent split capacitor with thermal overload protection. Draws maximum 2.6 amps including control system at 115 VAC 60 HZ. Must be mounted in an accessible location.
- f) **Gearing:** Self-sustaining worm gear drive.
- g) **Mounting:** The motor platform fits 16" or 24" centers. The assembly is pre-wired ready to install for standard construction. The disconnect unit can be mounted on platform or mounted on a different structure in non-remote systems.
- h) **Load Capacity:** Minimum 20 pounds, maximum 250 lbs.
- i) **Maximum Lowering Distance:** 40 feet. Must have 5 extra feet of cable on the drum. Additional cable needed for horizontal distance from winch to the Disconnect Unit.
- j) **Voltage:** 95-135 VAC 60 HZ at 1/4 ampere plus motor current. Only 2.6 motor amps. Lighting fixture requirements must be on separate circuit. Consult Elect. Contractor.
- k) **Disconnect unit electrical requirements:** maximum 15 amps 277 volt or 20 amp 120 volt per circuit. Fixture load maximum is 2400 watts. For larger loads consult factory. Standard unit has four electrical contacts for two circuits. Contact factory for additional circuits.
- l) **System Speed:** 1-1/2 feet per minute average.
- m) **Chain-links:** Optional

**Specifications Guide**

❖ The EDU shall have a 3-way tracking guide and support. It shall be constructed of precision cast high strength aluminum alloy 356-T6. A permanently fixed position piece incorporating a special tracking guide system permits the moveable portion of the *Disconnect Unit* to align in the same position every time the system is operated, thereby eliminating the need to re-orientate the fixture. The Electrical Disconnect Unit shall have twin high strength stainless steel locking cams securing the load of the *Lower Contact Assembly* and fixture. All tension on the cable is relieved when the fixture is in the raised position.

❖ The MULTI-CONTACT Connector assembly shall be modular for easy installation and retrofit requirements. All **pin and socket contacts** shall be insertable and removable. The connector shall also have 4 size 12 contacts. Material of contacts shall be copper with nickel plating, and with gold plating over nickel per MIL-G-45204. Electrical contacts shall have a rating of 20 year mean time between failures. All hardware shall be corrosion resistant stainless steel. It shall have a self-aligning and self-adjusting mechanical system comprised of two principal assemblies:

*The UPPER CONTACT HALF* shall house the socket contacts. It shall incorporate spring assisted **polymer** contact body with precision-machined stainless steel guideposts. The socket contact body shall have integral guideposts for precise contact alignment.

*The LOWER CONTACT HALF* shall house the pin contacts comprised of spring assisted **polymer** contact body with precision-machined stainless steel guidepost receivers. The pin contact body aligns with guideposts of integral socket body guideposts.

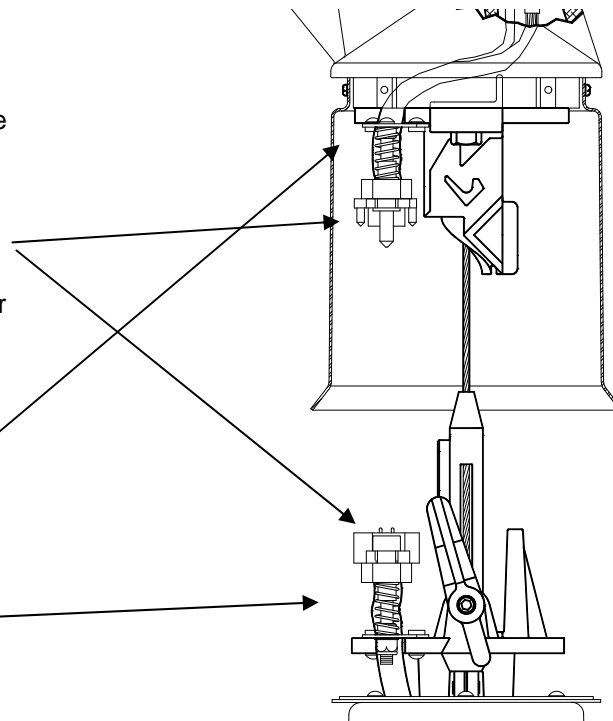
❖ The wire leads are potted in Superflex® Black RTV **Silicone**, an industrial grade sealant for bonding and sealing.

❖ The unit shall have a guidepost constructed of precision cast high strength stainless steel. It shall utilize a cast-in-place guide bar for precise alignment of *Lower Contact Assembly* with the fixed portion of the *EDU*.

❖ The **EDU shall have** twin (2) tracking support arms made of precision cast high strength stainless steel. When locked in the *3-Way Tracking Guide and Support* notches, the *Twin Tracking/Support Arms* shall hold the weight of the fixture and components and it shall remove all tension from the *Control Cable or Lowering Cable*.

❖ The lower contact assembly shall be constructed of precision cast high strength aluminum alloy. It shall feature a cast-in-place guide that mate with the fixed portion of the *Disconnect Unit* to aid in tracking and stability. All hardware used on the *Lower Contact Assembly* as well as the entire *Disconnect Unit* shall be made of corrosion resistant stainless steel.

❖ The disconnect unit shall have a **HOUSING SEAL** made up of a spun aluminum closure ring with a sealing gasket constructed of extra flexible polymer providing a weather-tight seal between *Lower Contact Assembly* and *Disconnect Unit Cover*. This provides a flexible environmental seal. Seal swipes and conforms to interior of cylinder housing during all operating stages of the disconnect unit.



**Electrical Contact Rating:**

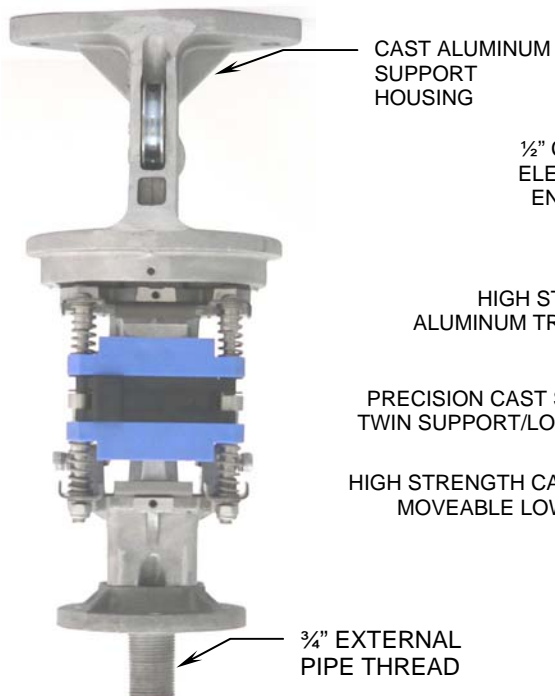
- 120V, 20 Amps per contact, (Multiple circuits)
- 240V/277V, 15 Amps per contact (Multiple circuits)
- 480V, 10 Amps (1 circuit max)
- 600V, 5 Amps (1 circuit max)

**Mechanical Rating:** 400 lbs with 6:1 safety factor  
**Weight:** 8.5 LBS

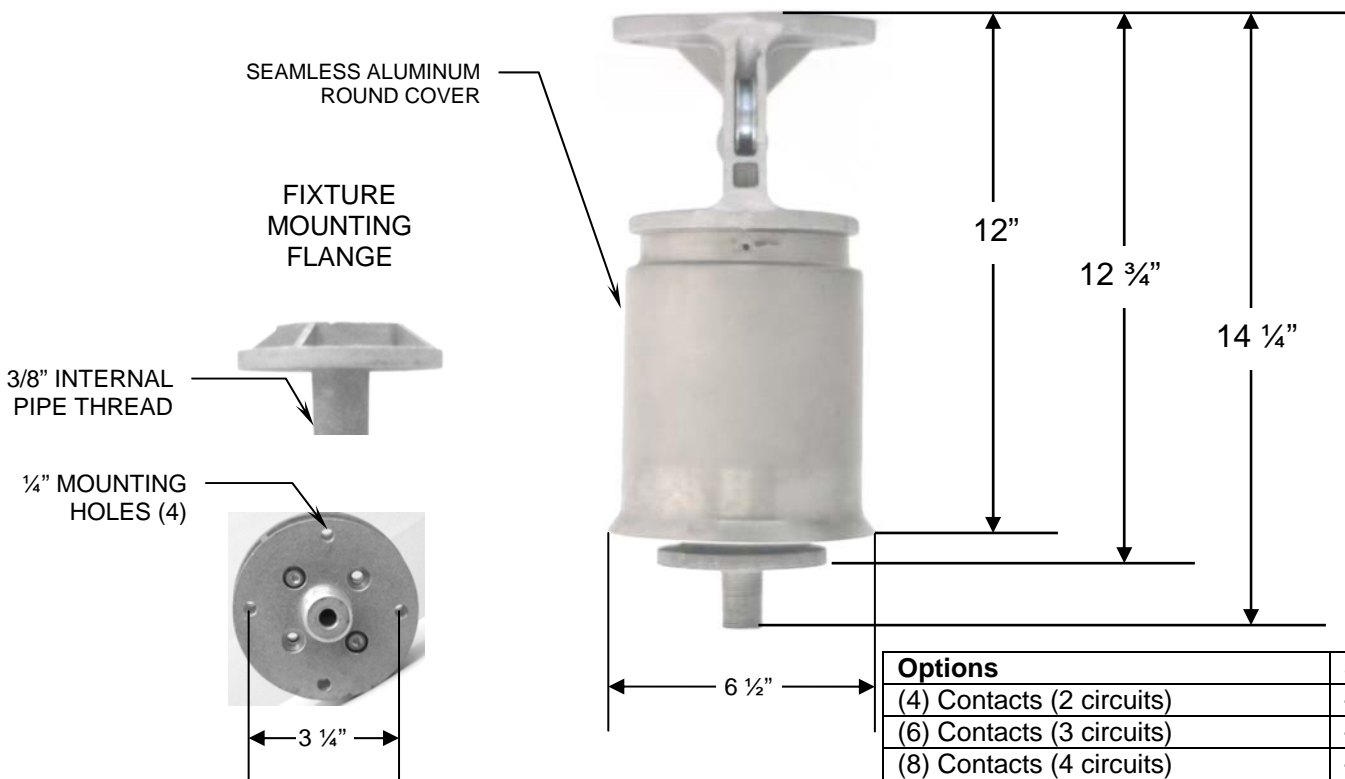
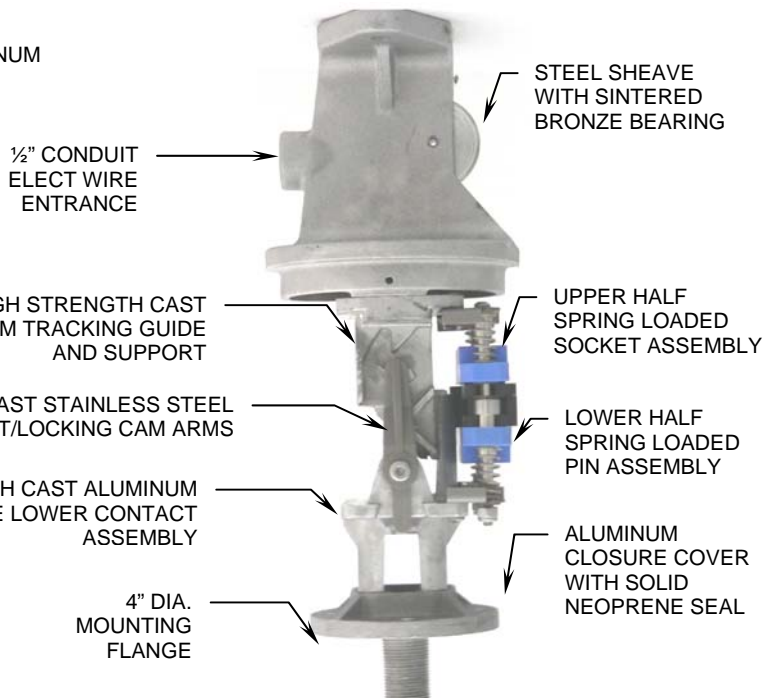
SYSTEM DESIGNED SPECIFICALLY FOR USE WITH LIGHT FIXTURES, CAMERAS, AND RELATED EQUIPMENT ONLY.  
**NOT FOR LIFTING PEOPLE OR THINGS OVER PEOPLE.**  
 SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

**Specifications Guide**

Frontal View

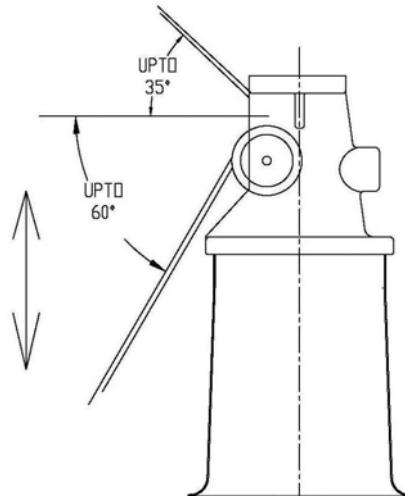


Side View



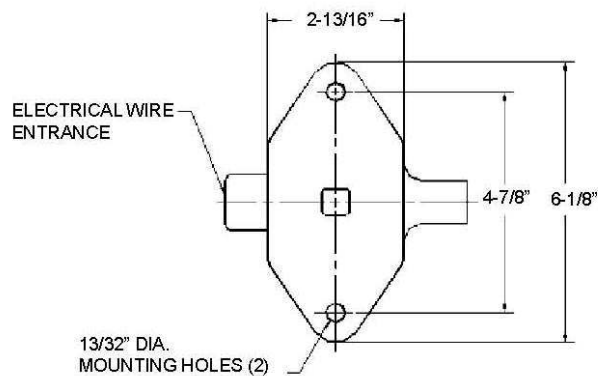
Options	Suffix
(4) Contacts (2 circuits)	-4C
(6) Contacts (3 circuits)	-6C
(8) Contacts (4 circuits)	-8C
3/8" Internal Pipe Thread Mounting	-38
Other mounting-consult factory	

### Cable Orientation Options:



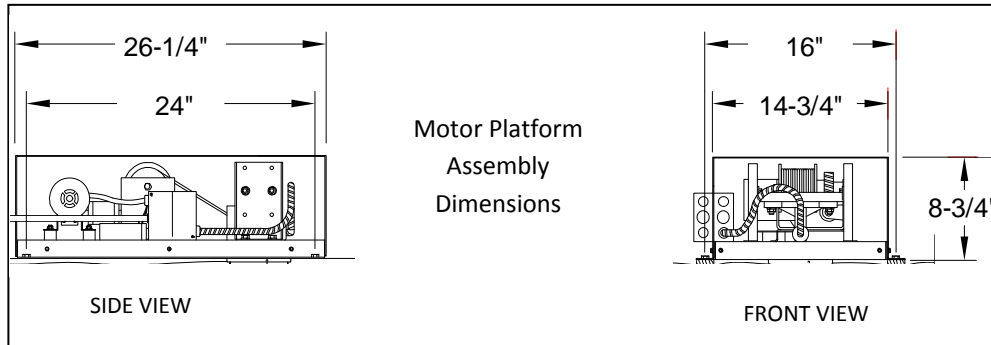
The disconnect unit allows the cable path orientation at an angle. The pulley installed in the upper casting attached to the disconnect unit guides the cable in the required orientation.

### Mounting Details:



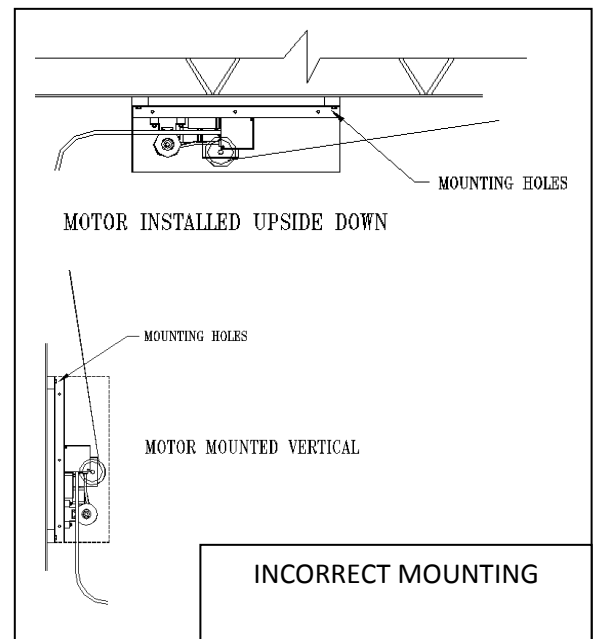
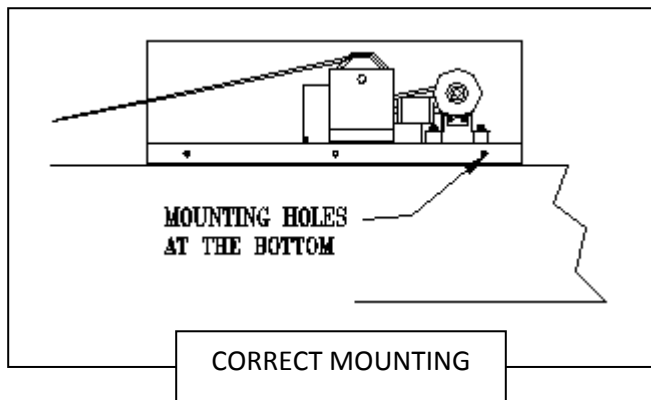
The disconnect unit must be mounted on rigid horizontal support. This support must be approved by others to be able to withstand static and dynamic loading of at least 5 X the weight of the fixture in all directions. Square center hole is optional. Please specify if required at the time of ordering.

MOTOR ASSEMBLY DIMENSIONS:



- ◆ **Motor:** 1/4 HP permanent split capacitor with thermal overload protection. Draws maximum 2.6 amps including control system at 115 VAC 60 HZ. Must be mounted in an accessible location.
- ◆ **Gearing:** Self-sustaining worm gear drive.
- ◆ **Mounting:** The motor platform fits 16" or 24" centers. The assembly is pre-wired ready to install for standard construction. The disconnect unit can be mounted on platform or mounted on a different structure in non-remote systems.
- ◆ **Load Capacity:** Minimum 20 pounds, maximum 250 lbs.
- ◆ **Cable:** 1/8" diameter 7x19 galvanized steel. 40 feet provided for 35ft lowering distance. For additional cable, contact factory.
- ◆ **Maximum Lowering Distance:** 40 feet. Must have 5 extra feet of cable on the drum.

- ◆ **Voltage:** 95 - 135 VAC 60 HZ at 1/4 ampere plus motor current. Only 2.6 motor amps. Lighting fixture requirements must be on separate circuit. Consult Elect. Contractor.
- ◆ **System Speed:** 2 feet per minute average.
- ◆ **Canopy:** By Others



*COMMENTS The disconnect unit must be mounted to a HORIZONTAL RIGID STRUCTURE. All mounting must be able to withstand static and dynamic loading of at least 5 X weight of the fixture in all directions. This structure must be approved by others. The winch or motor assembly must be placed 6-30' away from the first pulley or disconnect unit. A pulley must be used every 6-30' of horizontal straight run. Centerline of pulley groove must be aligned with cable path. Cable path must be free from interference. Please visit our website at [www.lightinglowering.com](http://www.lightinglowering.com) for specification-sheets if not provided with the quote. For large quantity, consider choosing manual systems with portable lowering tool for cost reduction. If the system is mounted under certain climatic conditions, please inform us. Please provide any other specifications, conditions or special requirements at this time.*

# MOTORIZED LOWERING SYSTEM COMPONENTS

For Fixtures Weighing up to 250 lbs.

## LOWERING CABLE SPECIFICATIONS

Comp. A-Carbon Steel Zinc Coated.

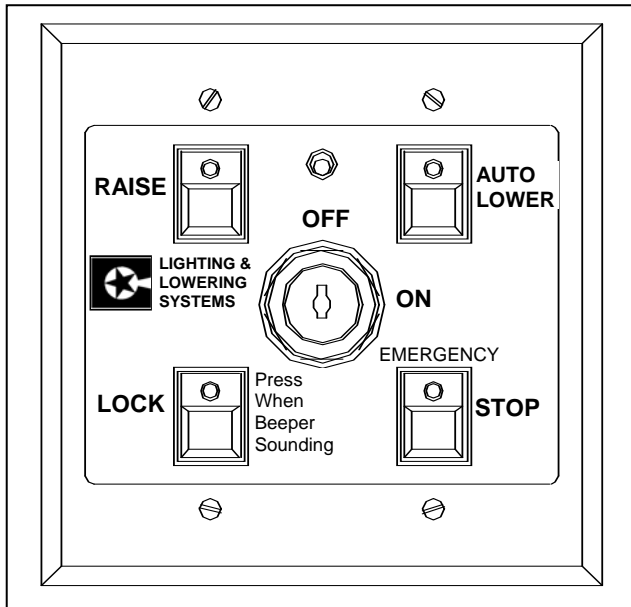
Comp. B-Corrosion Resistant Stainless Steel.

Nominal Diameter Of Wire Rope	Construction	Minimum Breaking Strength Comp. A	Minimum Breaking Strength Comp. B	Maximum Fixture Weight (lbs)	Cable Weight Per 1000 Feet (lbs.)
1/8"	7x19	2,000	1,760	250	29.0
5/32"	7x19	2,800	2,400	400	45.0
3/16"	7x19	4,200	3,700	600	65.0
1/4"	7x19	7,000	6,000	1100	110.0



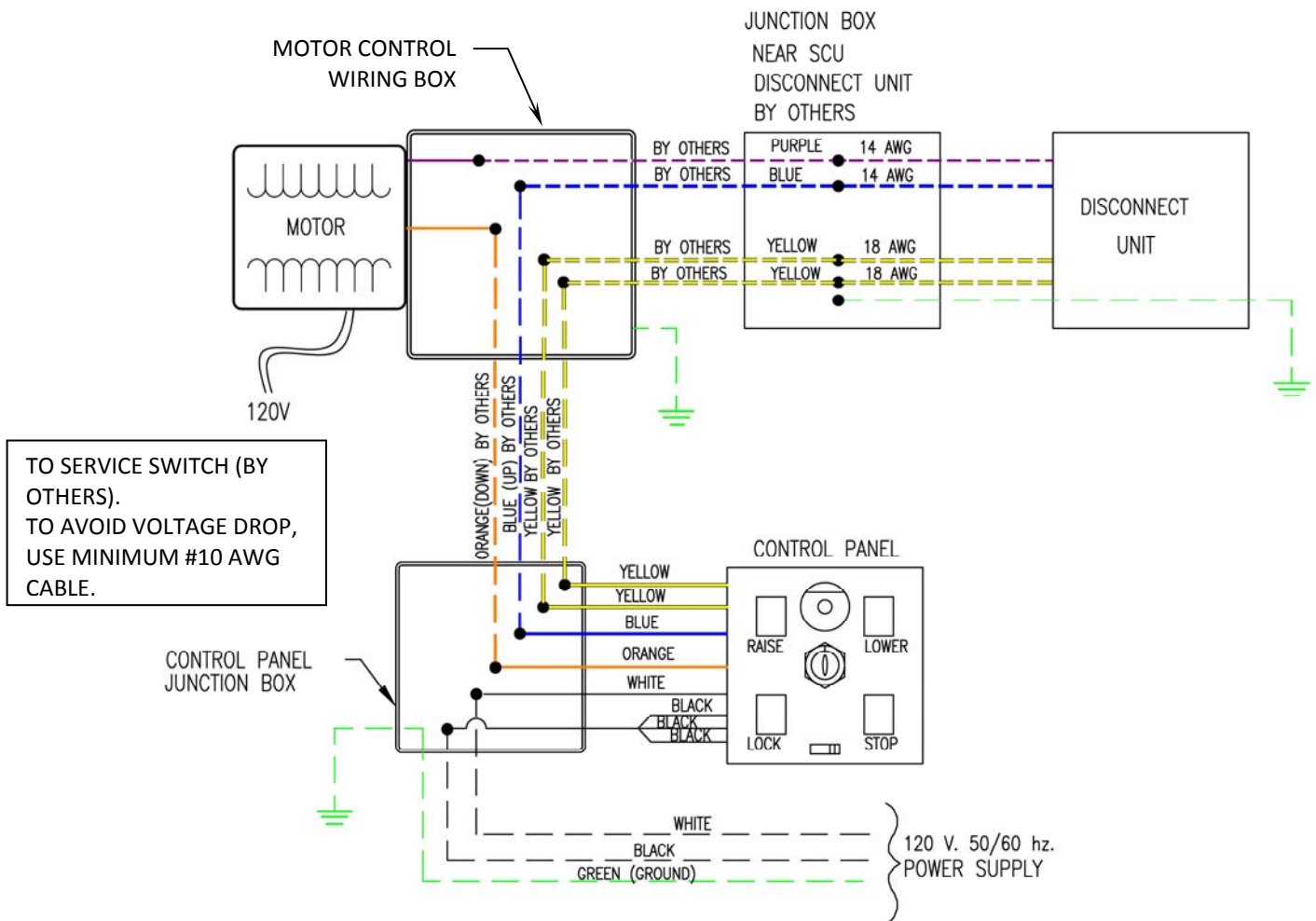
Cable is cut to size at the factory. Notify factory (or Sales Rep) of cable length before ordering.

## SPECIFICATIONS FOR CP-2 CONTROL PANEL



- ◆ Computerized panel. Programmable lowering distance .
- ◆ "TEACH" switch on front panel in back of wall plate allows for easy programming of Control Panel.
- ◆ Key lock power ON/OFF switch.
- ◆ Connection Box: 4" Square Double Deep (3 1/4 ") box provided.
- ◆ The Connection Box comes with 1/2" & 3/4" comb. knockouts.
- ◆ White Wall Plate Cover provided.
- ◆ Operating Voltage: 105V-135V AC 50/60 Hz @ 1/4 ampere plus motor current.
- ◆ Buttons: Momentary switches with LED lights.
- ◆ Equipped with Beeper to indicate when fixture has reached the top.
- ◆ "LOCK" button (feature) assures operator that system is mechanically locked. When locked, cable is slack and power to the motor is off.

\* All specifications subject to change without notice



Factory provides color coded insulated wire leads coming out of the control panel, the disconnect unit, and the motor control wiring box. All 14 AWG wire leads are for 120 V. power. Motor and CP-2 control panel operate off of 120 Volt unless otherwise noted. To avoid voltage drop, use proper size cable in between **disconnect unit, motor, and control panel.**

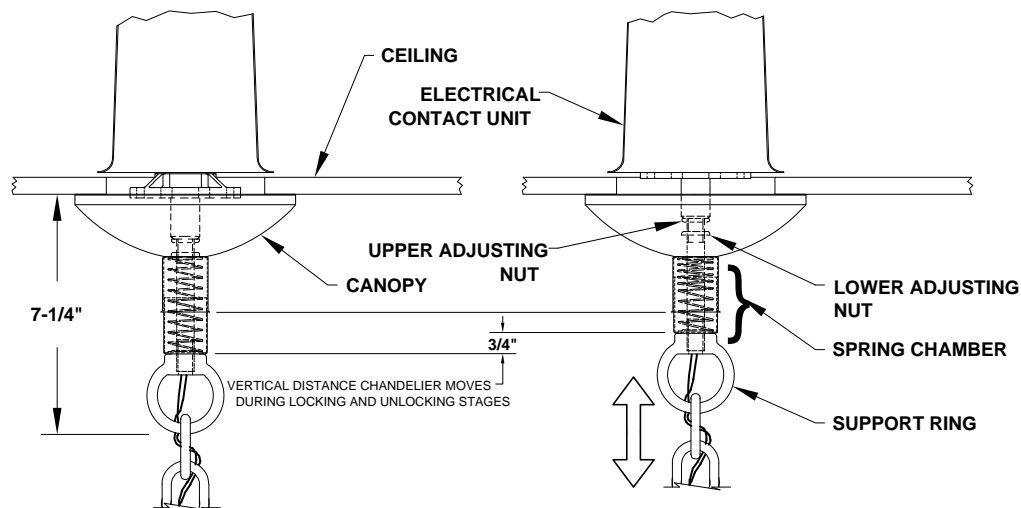
Electrical wire for the fixture is separate. Electrical circuit for the light fixture must be on a different circuit than for the motor. All electrical wires and conduits between the disconnect unit, motor, and the control panel, are provided by others.

**Contractor should maintain same color codes for ease of installation, maintenance, and continuity check.**

\* Specifications subject to change without notice. Details shown are intended as an application example only. Actual installation details may vary. Contact manufacturer's representative or factory for specific details about special installation application or other information.

### Specification Sheet for CAN-8-65 Canopy

#### CAN-8-65: Height-compensating canopy assembly



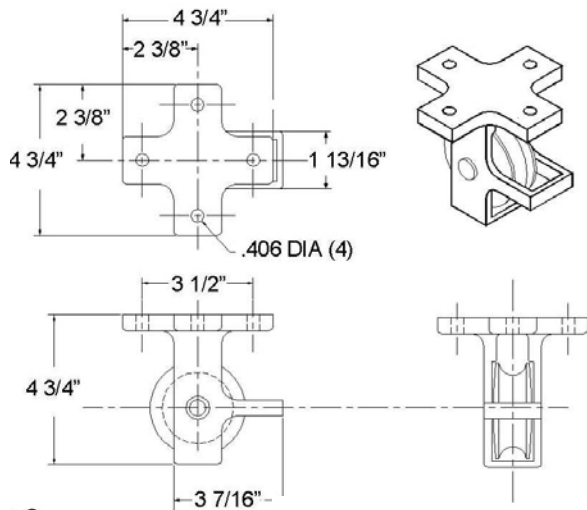
During the lowering or raising of the fixture, when the electrical contacts engage within the ceiling mounted locking device, there is approximately  $\frac{3}{4}$ " travel up and down to set the locking mechanism. The height compensating canopy will adjust to this condition to assure that the canopy will remain against the ceiling surface.

**CANOPY:** One piece 8" diameter and  $2\frac{1}{4}$ " deep heavy gauge spinning with standard polished brass finish.

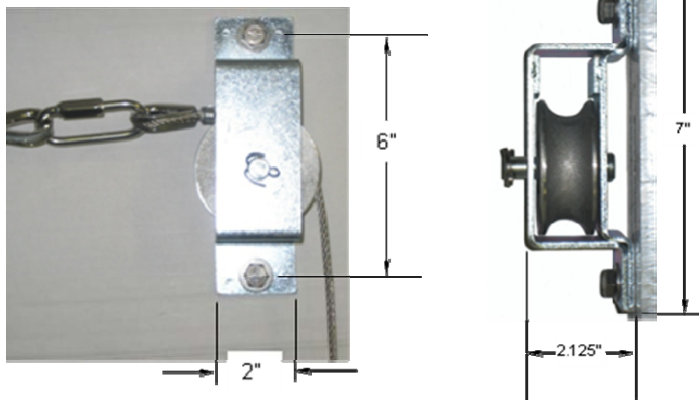
**SPRING CHAMBER:** Telescoping cups with bright brass finish enclose a  $\frac{3}{8}$ " pipe stem that connects the electrical contact unit with the chandelier support ring. A large diameter compression spring within the chamber provides a constant and even pressure to keep the canopy against ceiling.

**SUPPORTING RING:** A heavy duty solid brass ring is threaded onto the end of the  $\frac{3}{8}$ " stem and secured with a lock nut. Electrical wires are fed through a center hole in the ring.

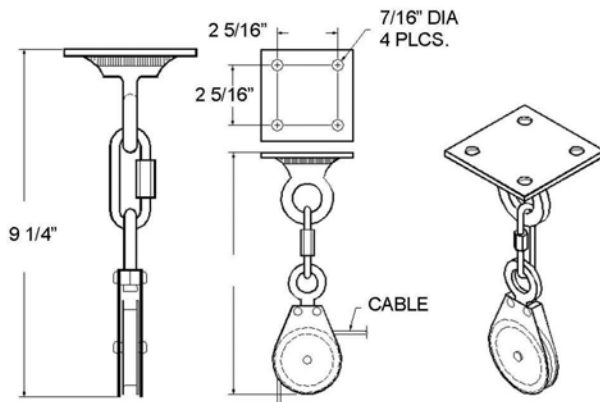
- \* Wiring from the locking contact mechanism to the chandelier support chains, connecting links, and chandeliers with related hardware are provided by others.
- \* All specifications subject to change without notice.



**3P-6**



**3P-7**



**3P-5**

Various types of pulleys are available and should be designed for exact load and gear box. All pulleys have oilite bronze bearings for maintenance free life. This also insures their use for dirty atmosphere applications. Painted pulleys are available for highly corrosive areas. Pulleys can be spaced 6-30' apart on horizontal runs. A pulley must be used at every 30' of horizontal straight runs. Pulleys are required when vertical or horizontal changes in direction occur. It is important that pulleys are properly aligned. The centerline of the pulley-sheave groove must coincide with the centerline of the cable path when installing. Always take pulley friction into consideration if loads are near limits of the gear box. Pulleys must be installed on rigid surfaces which are able to withstand at least 5 X load of the fixture in all directions. The installation must be approved by others.

### **3P-6**

Load capacity for a 3P-6 pulley is 20-400 lbs. A 3P-6 pulley can facilitate a change in direction of the cable from wall to ceiling i.e. from vertical to horizontal. 3P-6 pulleys should be spaced 6-30' apart on horizontal runs. Change in direction of cable to angles other than 90 degrees is possible. See page p3 for details. This pulley allows the twisted quick-link to pass through.

### **3P-7**

A 3P-7 pulley can facilitate a change in direction of the cable on the same plane i.e. on the ceiling or on the wall. The pulley allows the cable connecting link to pass through.

**Load capacity:** Up to 400 lb. fixtures.

**Frame Material:** Frame material of zinc plated 7gge. Steel.

**Frame Material Option:** Stainless steel frame. Contact factory.

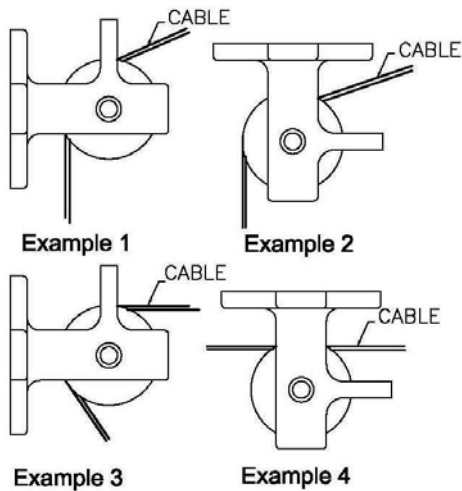
**Sheave Material:** Sheave of cast aluminum with oilite bronze bearing.

**Mounting:** Two mounting holes for 3/8" bolts. Hardware by others. Type of hardware depends on the type of structure that the pulley is mounted to. Structure must not move while the system is in operation.

### **3P-5**

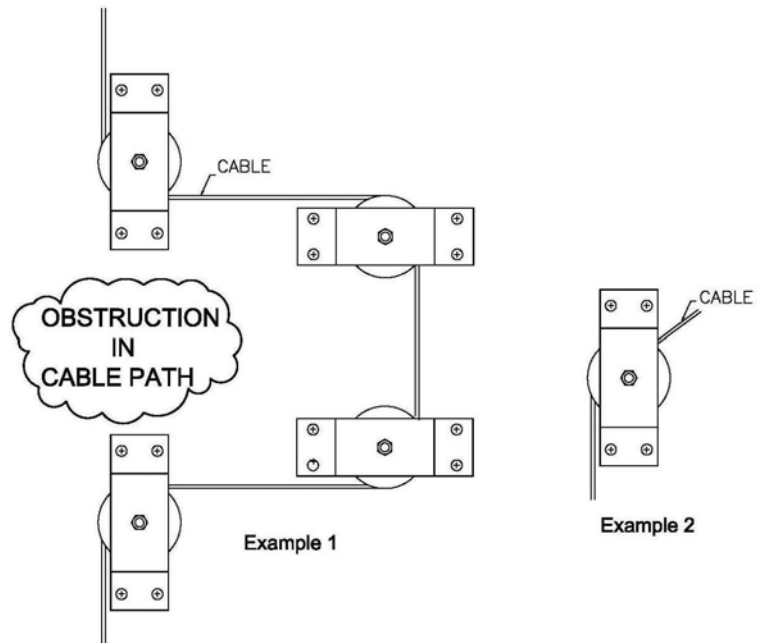
Load capacity for a 3P-5 pulley is 20-400 lbs. A 3P-5 pulley can facilitate a change in direction of the cable in different planes due to the swivel nature.

\*Specifications subject to change without notice.



### 3P-6 and 4P-4 Uses

3P-6 and 4P-4 pulleys (depending upon load) can facilitate a change in direction of the cable from wall to ceiling i.e. from vertical to horizontal. These pulleys should be spaced 6-30' apart on horizontal runs. The above examples show that change in direction of cable to angles other than 90 degrees is possible. These pulleys can be placed horizontally (examples 2 and 4), vertically (examples 1 and 3) and on inclined surfaces for maximum versatility as long as the cable path is aligned to the pulley sheave groove and as long as the cable path is not interfered by any obstacles.



### 3P-7 and 4P-3 Uses

3P-7 and 4P-3 pulleys (depending upon load) can facilitate a change in direction of the cable on the same plane. Example 1 is a simple way using 4 pulleys to go around an obstruction in the cable path.

\* Specifications subject to change without notice. Details shown are intended as an application example only. Actual installation details may vary. Contact manufacturer's representative or factory for specific details about special installation application or other information. Lifting capacity is 400 lbs and must not be exceeded.