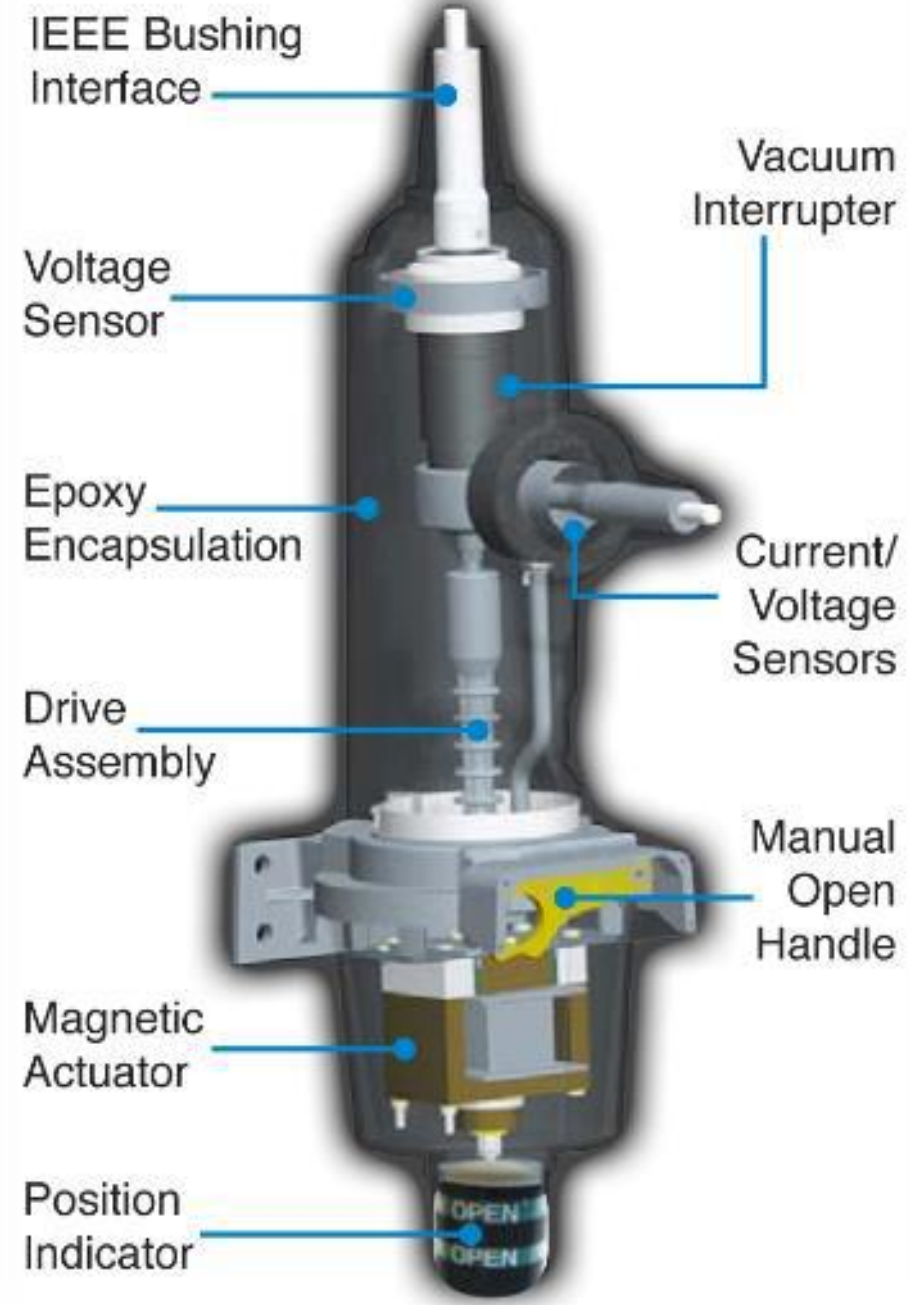




PSEG Long Island Mutual Aid Crew Distribution Device Guide



G&W ELECTRIC VIPER RECLOSER



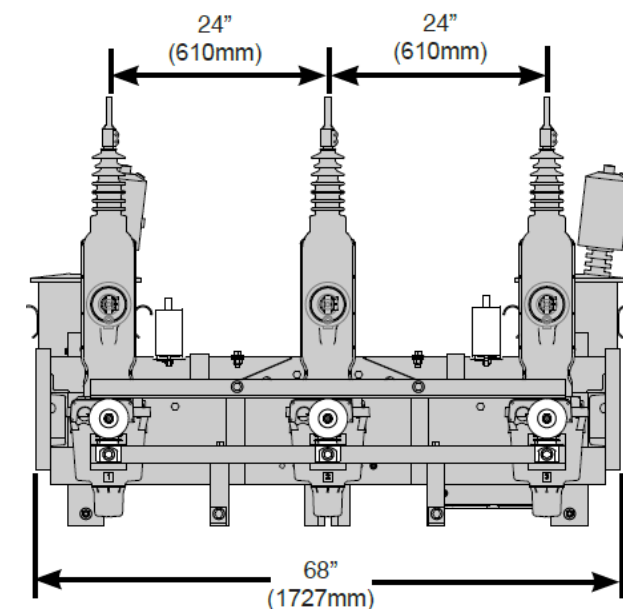
G&W VIPER RECLOSER DESCRIPTION



- The G&W VIPER-ST is an independent single-phase operable recloser.
- The G&W VIPER comes site-ready for installation with pre-wired insulators and primary & alternate potential transformers on a cross-arm pole mount configuration.
- The switch does not contain a visible open mechanism. Visible isolation from the line is achieved by LBDs installed with the switch.
- The VIPER-ST is rated for 15.5 kV, 800A continuous, 12.5kA short circuit interrupting capability.
- The interrupters contain line & load side voltage sensors isolated from the line, as well as internal CTs to measure current magnitude and direction.
- As per PSEGLI internal construction standard, the VIPER-ST is mounted with A-phase (designated as P1) oriented either North or East on the pole.
- A semaphore beneath each phase of the VIPER-ST indicates the vacuum interrupter position. (**GREEN = OPEN, RED = CLOSED**)
- The recloser can only be closed electronically through the controller interface or via remote DSCADA operation.
- The switch is operated using a SEL 651R2 controller.
- Downstream fault opens switch if programmed as sectionalizer, initiates reclosing scheme if programmed as recloser.

Manual Operation

- Manual OPEN & lockout is carried out by pulling on the yellow lockout handle on each individual phase of the VIPER using a hot stick.
- Once the trip handles are pulled to the locked out position, they must be placed back in the upright position to close the switch. CLOSE command is carried out electronically.



SEL 651R2 Controller Description

- The SEL 651R2 is used to electronically operate the G&W VIPER-ST.
- The control receives 120Vac power from the PTs on the recloser through the 8-pin 2-to-1 PT cable.
- Sensor monitoring and control is facilitated through the 32-pin amphenol connector that plugs into the junction box of the recloser.

Gang Operation

- Place SEL controller Local/Remote toggle switch to **LOCAL**.
- To **OPEN** the switch, press the green **TRIP** button on the SEL controller faceplate.
- To **CLOSE** the switch, press the red **CLOSE** button on SEL controller faceplate.
- The switch can also be operated remotely through DSCADA control when the SEL controller is in **REMOTE** and the Supervisory light **ON**.

Single Phase Operation

- Single phase operation of the G&W VIPER is only possible through remote DSCADA control.
- The SEL controller must be in **REMOTE** and the Supervisory light **ON**.

Automatic Operation

- The VIPER-ST can be toggled between sectionalizing mode and reclosing mode through remote commands from the DSCADA system.
- When the G&W VIPER is placed in sectionalize mode, the switch will trip open and lock out upon detection of downstream fault coupled with a 15-second sustained loss of voltage condition.
- When the G&W VIPER is placed in reclose mode, the recloser will trip open and attempt to reclose on downstream fault current based on the SEL's programmed settings, before locking out in the OPEN position.
- Automatic operations are disabled when the controller is in **LOCAL** mode.

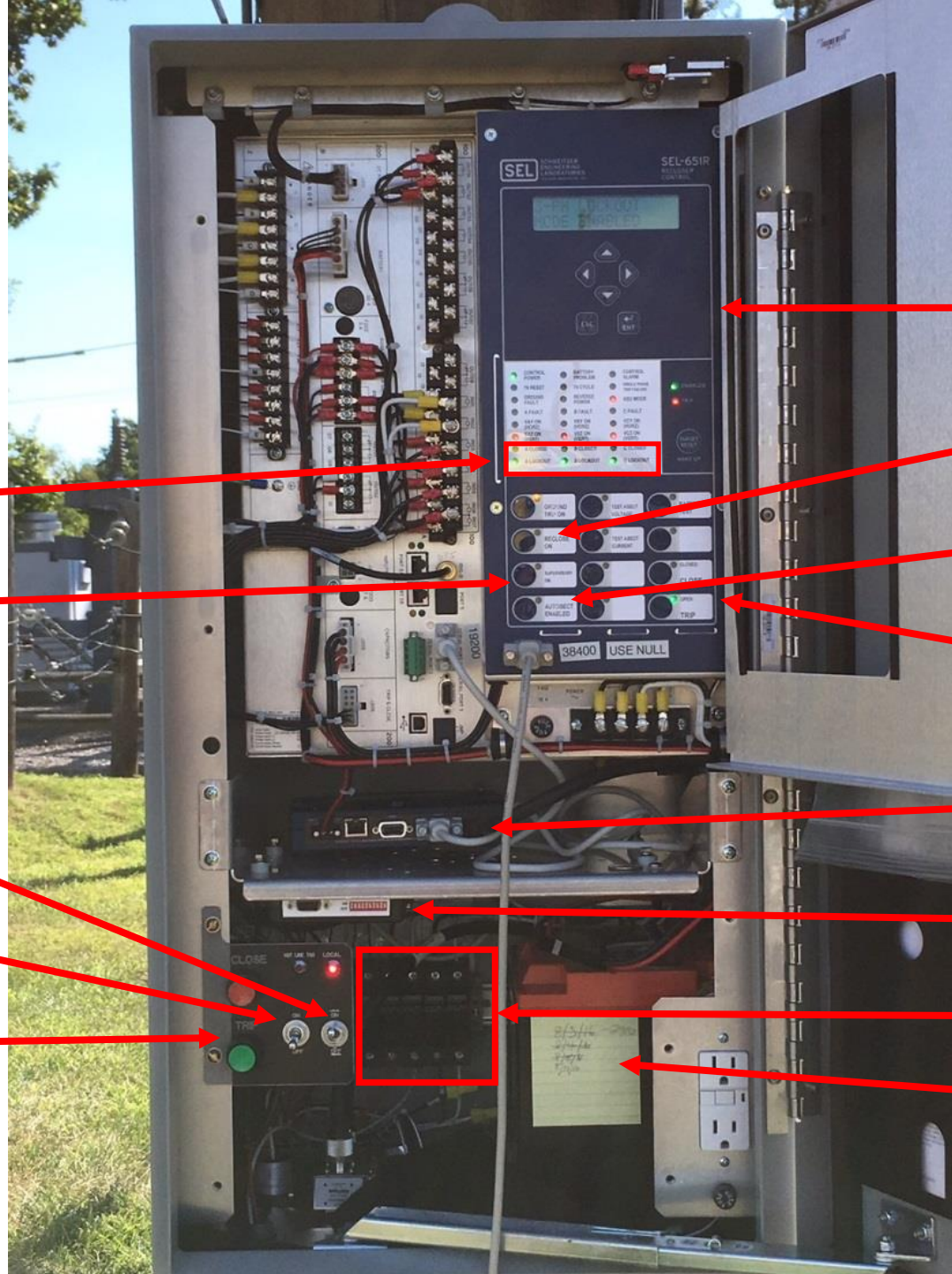
LOCAL/REMOTE Setting

- To place the SEL controller in **LOCAL**, flip the LOCAL/REMOTE toggle switch on the face plate and watch for the LED to illuminate.
- Placing the controller in **LOCAL** will block any remote controls from SCADA, as well as any automatic operation of the recloser due to sensing conditions (sectionalizing & reclosing).
- To return the VIPER to the remote operable position, place the LOCAL/REMOTE toggle switch back to the **REMOTE** position, **AND** press the **Supervisory** membrane button so that its LED is lit.
- The recloser can still operate automatically if **Supervisory** is turned off, but the LOCAL/REMOTE switch is in **REMOTE**.

HOT LINE TAG Setting

- Turning the hot line tag setting on in the SEL controller places the switch in One-Trip-to-Lockout mode for crews to perform live work downstream.
- It can only be turned on when the controller is in **REMOTE**.
- Hot line tag is turned on at the controller using the toggle switch on the faceplate. The LED will illuminate when on.
- Hot line tag could also be turned on remotely through SCADA operation. In this case, the LED will be lit even though the toggle switch is in the OFF position.
- If enabled in the field, Hot Line Tag could only be removed in the field. If enabled by SCADA, it can be turned off by SCADA, or by placing the SEL in **LOCAL** and back to **REMOTE**.
- Hot line tag disables automatic operation of the switch.

SEL 651 R2



Phase A, B, C
Position LEDs

Supervisory
Membrane button

Local/Remote
Toggle Switch

Hot Line Tag
Toggle
Switch

Trip/Close
Push
Button
Faceplate

Relay Front Panel with
Push Buttons, Indicator,
and LCD screen

Enable/Disable
Reclose

Enable/Disable
Autosect

Trip/Close
membrane
buttons

Radio Shelf
with Sliding
Plate Mount

GPS
Clock

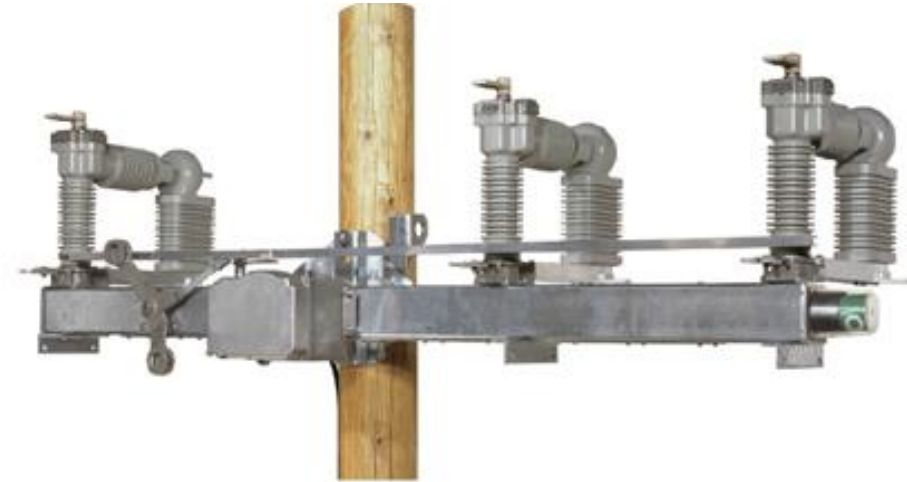
Lineside/Loadside/PT
fuse blocks

Battery

S&C Electric Scadamate Automatic Sectionalizing Unit



First Generation: Pre-2000



Second Generation: Post-2000



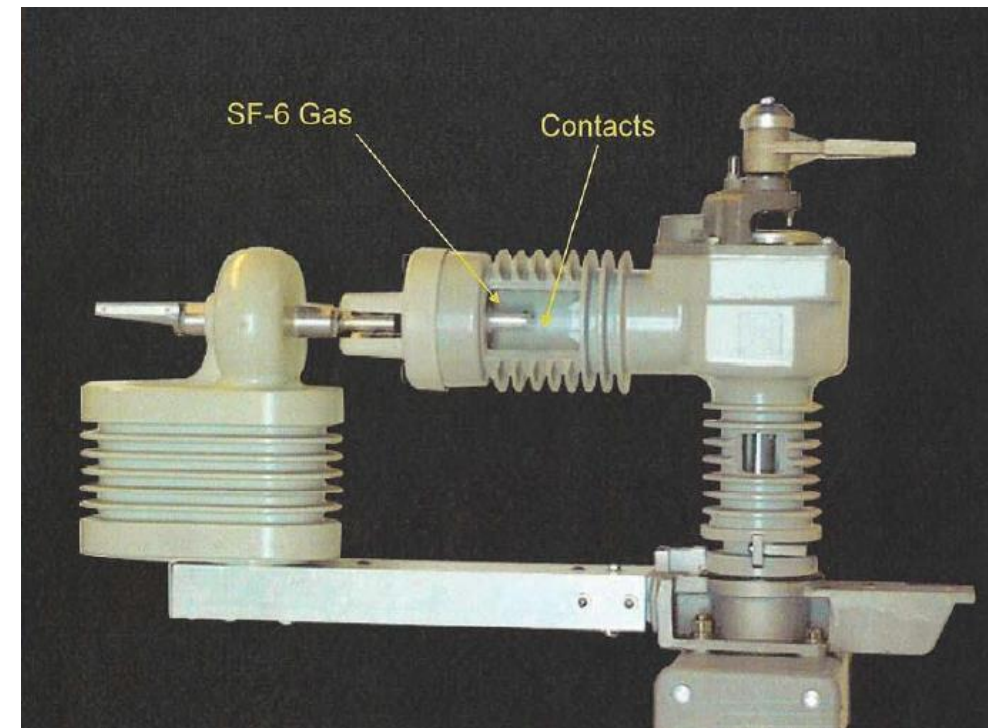
Yellow Open/Close Ring

Scadamate ASU Description

- The S&C Scadamate is a ganged sectionalizer switch.
- The switch contains integrated lightning arresters and wildlife protectors.
- The LIPA distribution system contains two generations of S&C Scadamate switch.
- All versions contain a manual disconnect lever to provide a visible open mechanism.
- Only the 2nd generation S&C Scadamate can be closed manually.
- The Scadamate is rated for 14.4 kV, 600A continuous and interrupting capability.
- The interrupters contain line side voltage sensors only to sense breaker operations.
- The S&C Scadamate is not capable of single phase operation.
- A single semaphore indicates the ganged switch position. (**GREEN with White "O" = OPEN, RED with White "C" = CLOSED**)
- The switch is normally operated using one of three controller types: S&C SCU, GE 850R Multilin, or S&C 6801 Automatic Switch Operator.
- Downstream fault exceeding fault current threshold causes the switch to sectionalize and lock out.

Manual Operation

- Manual OPEN & lockout can be carried out on both generations of S&C Scadamate by rotating the disconnect lever to swing the contacts on the switch open.
- **On the 2nd generation S&C Scadamate, crews can pump the yellow Open/Close ring until the interrupters open. Then, swing the disconnect lever to the open position to achieve a visual air gap.**
- Once the switch is manually opened and locked out, the contacts must be swung back to the latched position, before it can be closed electronically through the controller.
- **The 2nd generation S&C Scadamate can also be closed manually by pumping the Open/Close ring until the switch operates to the closed position.**



Controllers Used With S&C Scadamate



SCU Controller



850R Multilin Controller



6801 Controller

S&C SCU Controller Description

- The SCU is the most common controller used with the S&C Scadamate switch on the LIPA distribution system.
- The control receives 120Vac power from the secondary.
- Sensor monitoring and control is facilitated through the shielded control cable that plugs into a receptacle on the frame of the switch.
- Scadamate installations utilizing an SCU controller to operate the switch will also feature a DART RTU controller that facilitates the remote communications, sensor monitoring, and automatic operations.

Gang Operation

- Place SCU controller Local/Remote toggle switch to **Local**.
- To **OPEN** the switch, press the OPEN button on the switch control module.
- To **CLOSE** the switch, press the CLOSE button on the switch control module.
- The switch can also be operated remotely through SCADA control when the SCU controller and RTU controller are both in **Remote**.

LOCAL/REMOTE Setting

- To place the SCU controller in **Local**, flip the **Local/Remote** toggle switch on the switch control module.
- Placing the controller in **Local** will block any remote controls from SCADA, as well as any automatic operation of the sectionalizer due to sensed conditions.
- To return the switch to the remote operable position, place the Local/Remote toggle switch back to the **Remote** position. Remote and automatic operations will remain disabled if **Local** is still set in the RTU controller.

Automatic Operation

- The S&C Scadamate switch will trip open and lock out upon detection of downstream fault coupled with a 15-second sustained loss of voltage condition.
- Automatic operations are disabled when the controller is in Local mode.

Manual Operation

- To manually open the S&C Scadamate switch paired with an SCU, the switch contacts should be opened electronically through the controller first.
- Place the SCU controller **Local/Remote** switch in **Local**.
- Open the switch using the OPEN button in the controller.
- Using an operating rod or hook stick, rotate the lever on the switch down until the switch disconnects are fully swung open.
- The latched indicator light in the SCU will illuminate if the disconnects are fully latched. This must be lit before the switch could be closed electronically from the control.

Voltage Source Selector

- A voltage source selector switch in the SCU is used to choose the power source that feeds the battery charger.
- For the battery charger to charge the battery and enable the SCU controller to operate the switch, the source selector switch should be set to **External**.

S&C SCU Controller



Open & Close Buttons

Voltage Source Switch

Switch Control Module

Local/Remote Switch

Battery Charger Module



GE-850R Controller Description

- The GE-850R Multilin is used at a small number of S&C Scadamate locations to replace the SCU & RTU installations where either controller is beyond repair.
- It features a modern controller interface with large LCD screen mounted on a swing panel that enables easy access to the terminal blocks behind the relay.
- The control is powered from the switch using the same shielded control cable used with the SCU controller.
- The 850R Multilin incorporates the switch control, communication, and automation capabilities of the SCU & RTU controllers combined.

Gang Operation

- Place the 850R controller Local/Remote toggle switch to **Local**.
- To **OPEN** the switch, press the green **TRIP** button on the swing panel or on the relay front panel membrane selection.
- To **CLOSE** the switch, press the red **CLOSE** button on the swing panel on the relay front panel membrane selection.
- The switch can also be operated remotely through SCADA control when the **Local/Remote** switch is set to **Remote**.

LOCAL/REMOTE Setting

- To place the 850R controller in **Local**, flip the **Local/Remote** toggle switch on the controller swing panel.
- Placing the controller in **Local** will block any remote controls from SCADA, as well as any automatic operation of the sectionalizer due to sensed conditions.
- To return the switch to the remote operable position, place the Local/Remote toggle switch back to the **Remote** position.

Automatic Operation

- The S&C Scadamate switch will trip open and lock out upon detection of downstream fault coupled with two counts of loss of power.
- Automatic operations are disabled when the controller is in **Local** mode.

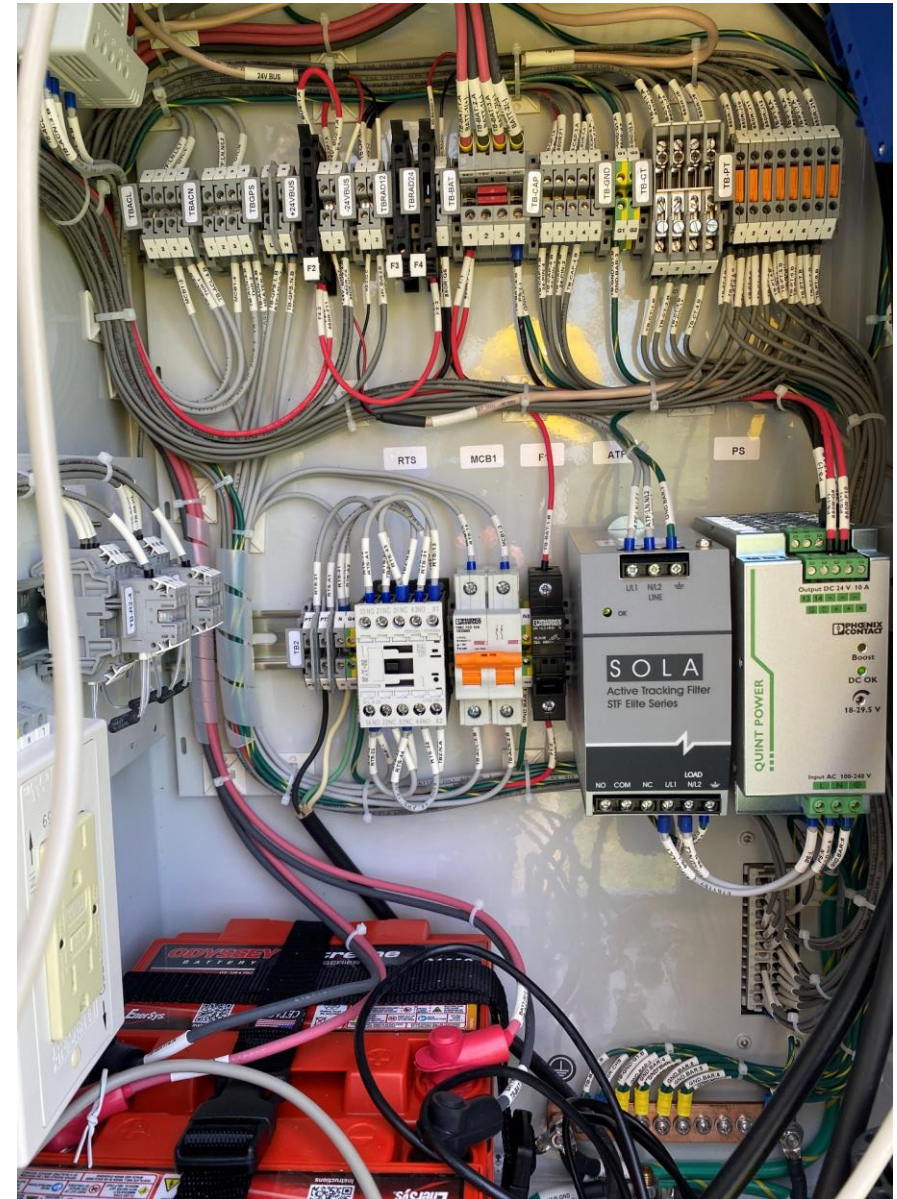
Current Sensing & Operations

- The 850R ships with a CT shorting strip inserted across the terminals of the CT terminal block (TB-CT).
- The shorting strip must be removed during installation to enable current sensing.
- The F1 fuse provides the connection from the batteries to the relay. This must be in place to operate the switch.
- The F2 fuse provides power to the Trip/Close buttons and the Local indicator light.
- The MCB1 circuit breaker must be closed to provide power to the GFCI receptacle and AC/DC power supply.

Event Recording

- The 850R relay has the capability to record events leading to automatic operation of the Scadamate switch.
- A sequence of events record and oscillography corresponding to the time of the event can be downloaded from the relay using the controller software in standard event viewing format.

GE-850R Multilin Controller



S&C 6801 Controller Description

- The S&C 6801 Automatic Switch Operator is the newest controller integrated for use with the Scadamate switch.
- It serves as another replacement for existing SCU & RTU installations in cases where the obsolete RTUs are beyond repair.
- The 6801 is powered by 120Vac from the Scadamate switch through the same shielded control cable used with the SCU & Multilin installations.

Gang Operation

- Place the **SCADA Control** selection on the front panel in **Local**.
- To **OPEN** the switch, press the **OPEN** button under the **Switch 1** header and observe the **OPEN** indicator light illuminate.
- To **CLOSE** the switch, press the **CLOSE** button under the **Switch 1** header and observe the **CLOSE** indicator light illuminate.
- If the 6801 **SCADA Control** indicator is set to **Remote**, remote controls can be sent from the distribution control room through the DSCADA system.

LOCAL/REMOTE Setting

- To place the 6801 controller in **Local**, press the **Change** button under the **SCADA Control** header so that the Local LED is illuminated.
- Placing the controller in **Local** will block any remote controls from SCADA, and disable any automatic operation of the sectionalizer due to sensed voltage & current conditions.
- To return the switch to the remote operable position, press the **Change** button again so that the **SCADA Control** Remote LED is lit.

Automatic Operation

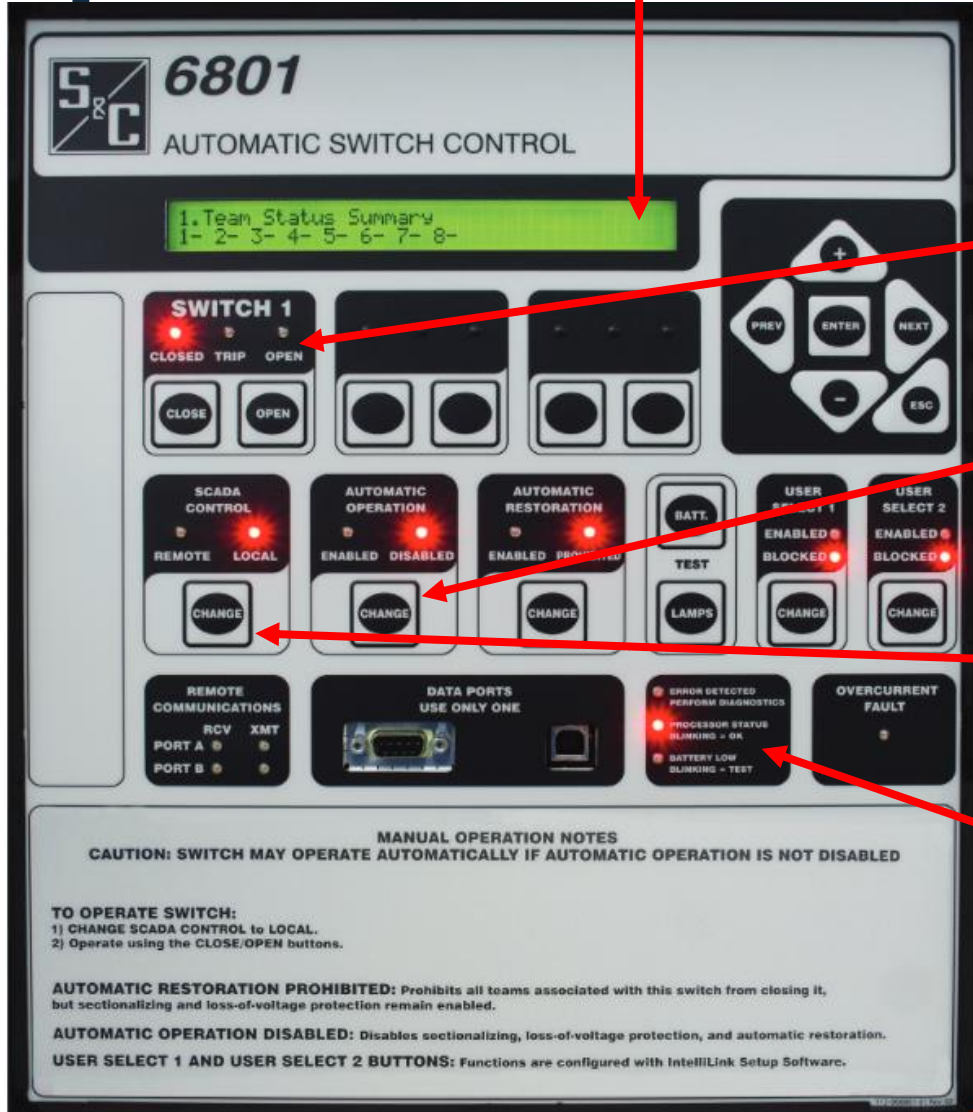
- The S&C Scadamate switch will trip open and lock out upon detection of downstream fault coupled with a 15-second sustained loss of voltage condition.
- If the controller senses fault current that meets the threshold, the **Overcurrent Fault** light will illuminate.
- Upon sectionalizing due to fault current, the **TRIP** LED on the faceplate will activate.
- This will reset once the **SCADA Control** mode change button is pressed.
- Automatic operations are disabled when the controller is in **Local** mode.
- Sectionalizing can also be disabled by pressing the **Change** button under **Automatic Operation** so that the Disabled LED is illuminated.

Front Panel Design

- The 6801 is designed to be a simplified membrane button front panel interface.
- The arrow keys on the front panel can be used to scroll through and view settings and metering data on the two-row LCD screen.
- The controller has 3 LED indicators on the front panel to convey relay health status.
- The relay is functioning normally when the **Processor Status Indicator** LED is blinking

S&C 6801 Automatic Switch Operator

LCD Display

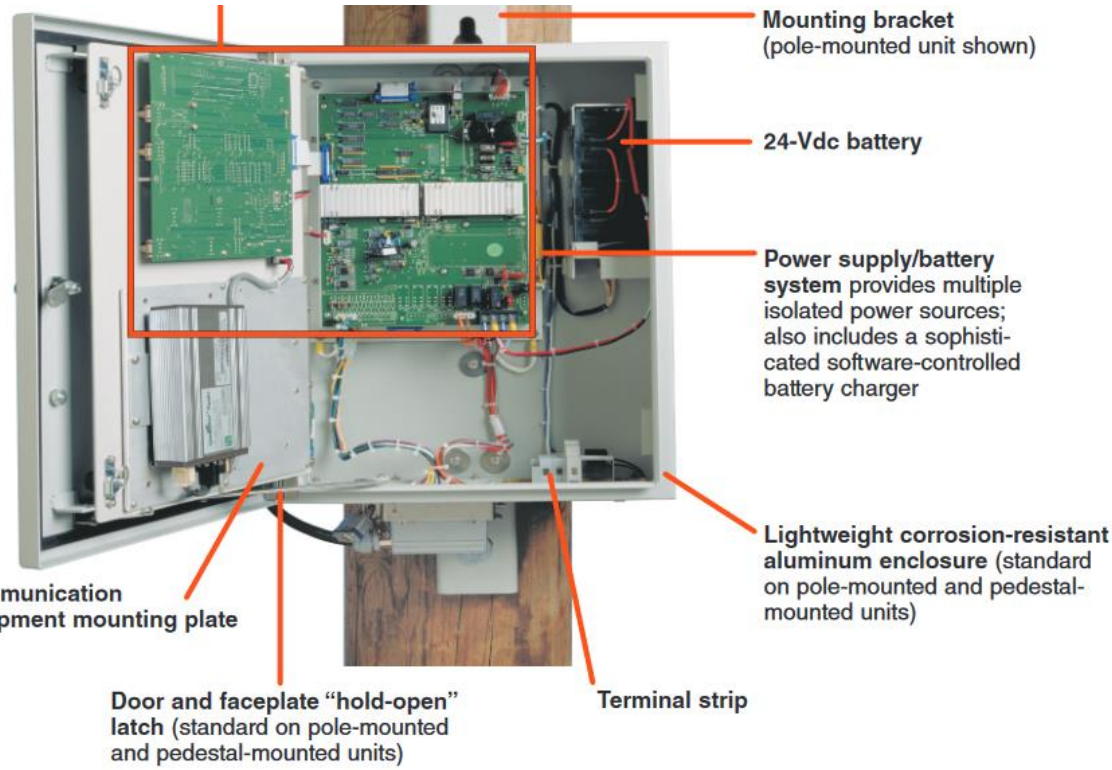


Trip & Close Buttons with LED indicator

Enable/Disable Sectionalize Toggle Button

Local/Remote Toggle Button

Relay health status indicator light



Mounting bracket (pole-mounted unit shown)

24-Vdc battery

Power supply/battery system provides multiple isolated power sources; also includes a sophisticated software-controlled battery charger

Lightweight corrosion-resistant aluminum enclosure (standard on pole-mounted and pedestal-mounted units)

Communication equipment mounting plate

Door and faceplate "hold-open" latch (standard on pole-mounted and pedestal-mounted units)

Terminal strip

DC NOVA Automatic Circuit Recloser



DC NOVA ACR Description

- The DC NOVA ACR is a vacuum interrupter automatic recloser used primarily at large distribution networks.
- There are two types of DC NOVA ACRs used on the system: ganged & triple-single.
- Both types are rated for 15.5 kV and 12.5kA short circuit interrupting capability.
- Each ACR is equipped with a controller programmed with unique trip settings.
- The ganged switch ACR uses a standard Cooper Kyle Form 5 or Form 6 controller.
- The Triple Single ACR uses a Form 6 Triple Single controller.
- The ganged switch ACR has a single window semaphore on the switch mechanism.
(**GREEN = OPEN, RED = CLOSED**)
- The Triple Single ACR has a window semaphore on each individual phase of the ACR.
- The recloser can only be closed electronically through the controller interface or via remote SCADA operation.
- The DC NOVA ACR can be placed in non-reclose mode through the relay front panel, or remotely through DSCDA control.

Manual Operation

- Manual OPEN & lockout is carried out by pulling on the yellow lockout handle on the switch mechanism of the ganged ACR.
- On the Triple Single ACR, the yellow lockout handle must be pulled for each individual phase.
- Once the trip handles are pulled to the locked out position, they must be placed back in the upright position to close the recloser.
- The recloser interrupters must be closed electronically through the controller interface.



Ganged DC NOVA ACR



Triple Single DC NOVA ACR

Controllers Used With DC NOVA ACRs



Cooper Form 5



Cooper Form 6



Cooper Form 6 TS

Cooper Kyle Form 5 & Form 6 Recloser Controllers

- The Cooper Kyle Form 5 and Form 6 standard recloser controllers are used with ganged DC NOVA ACRs.
- The Cooper Kyle Form 6 Triple Single Recloser control is used with the DC NOVA Triple Single ACRs.
- The Form 6 and Form 6 TS recloser controllers comes in 2 models: A Form 6 4.0.0 control and a Form 6 4.0.1 control.
- The controllers are powered by 120Vac power from the secondary.
- All three controllers connect to the recloser using a 19-pin amphenol cable.
- VTC ready ACR switches must be paired with VTC ready controllers.

Standard DC NOVA Recloser Operation

- To **OPEN** the ganged recloser, press the green **TRIP** button on the controller front panel.
- To **CLOSE** the ganged recloser, press the red **CLOSE** button on the controller front panel.
- The switch can also be operated remotely through SCADA control when **Supervisory** is enabled.

LOCAL/REMOTE Setting

- The Form 5 and Form 6 controllers do not have a **Local/Remote** toggle switch like most controllers used with PSEGLI's supervisory switches.
- Instead, there is a **Supervisory Off** membrane button that disables remote Trip & Close operations from the DSCADA system.
- To turn off Supervisory on the controller, press the **Change** button.
- Then press the **Supervisory Off** membrane button so that the LED is lit.
- Press the **Supervisory Off** button again to re-enable remote operations.

Automatic Operation

- The Standard DC NOVA recloser will automatically operate on all 3 phases based on the settings programmed in the controller.
- The Triple Single ACR will only operate on the phase(s) that sense(s) the conditions to reclose.
- Automatic reclosing operation is disabled when the controller is placed in **Non-Reclosing** mode.

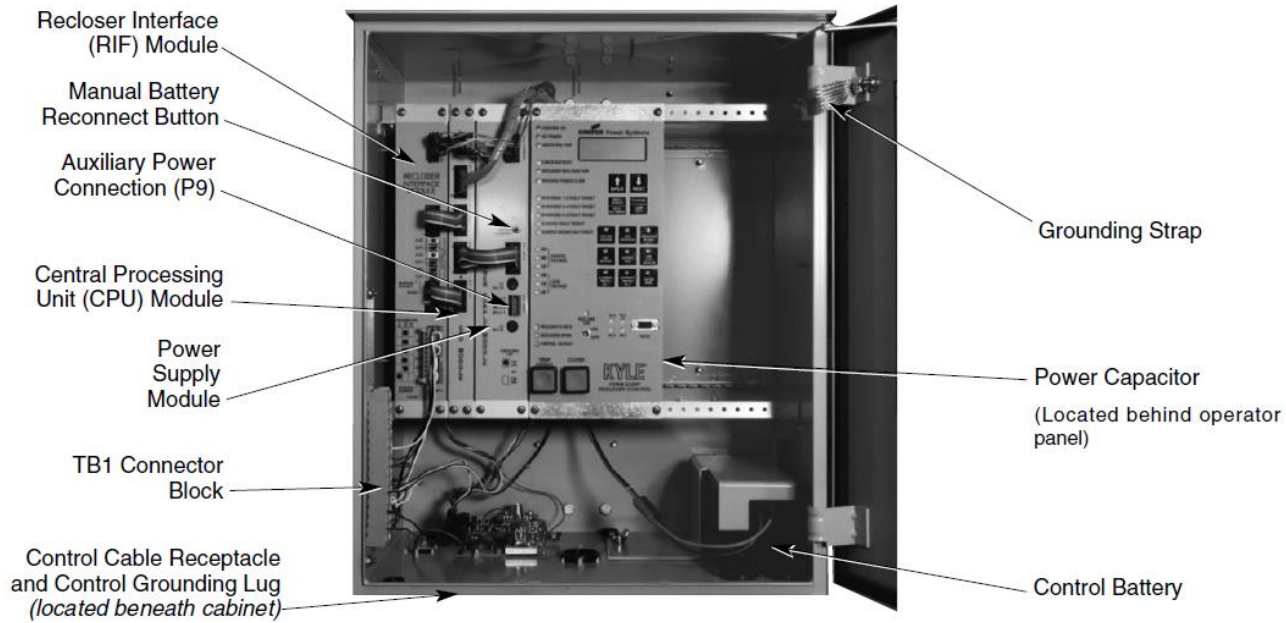
DC NOVA Triple Single Recloser Operation

- To operate the DC NOVA Triple Single Recloser, press the phase select buttons on the membrane to choose which individual phases to operate.
- Next, press the green **TRIP** or red **CLOSE** button.
- Only the selected phase(s) will operate.

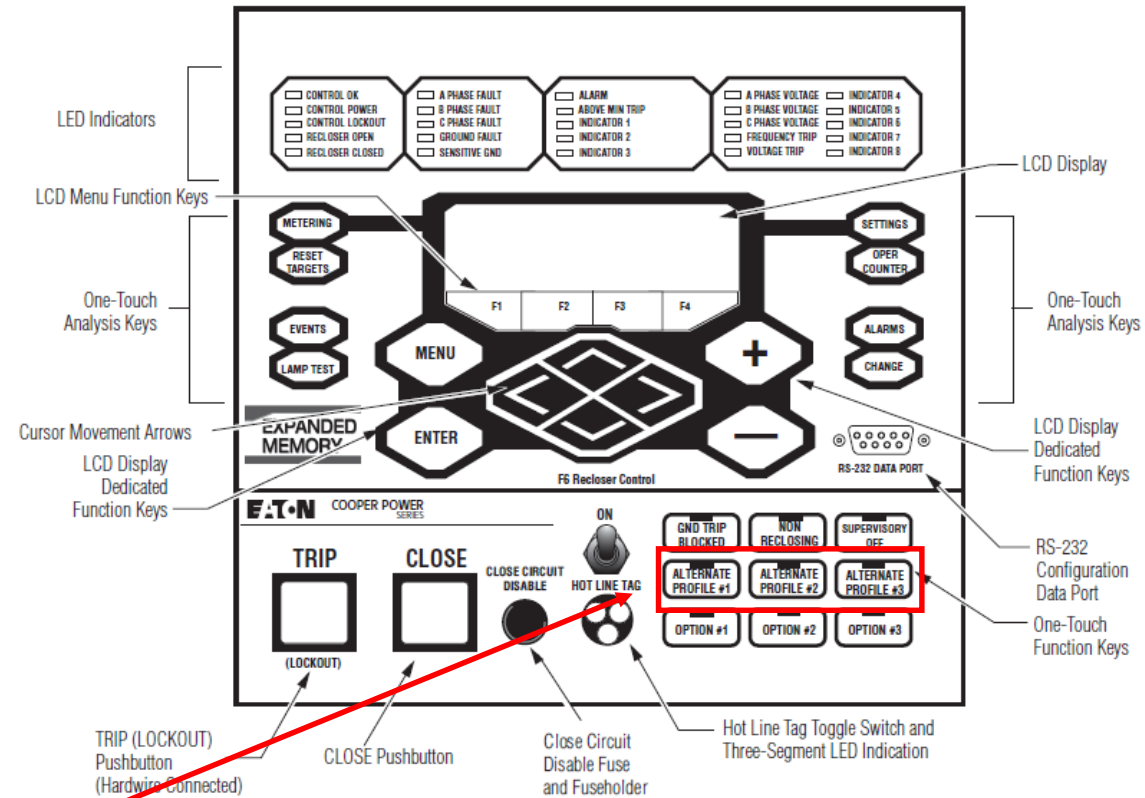
Hot Line Tag Setting

- The **Hot Line Tag** setting puts the recloser in **non-reclosing** mode, intended for live work downstream of the recloser.
- To turn on the setting, flip the Hot Line Tag switch so that the LED is illuminated.
- Hot Line Tag can also be enabled remotely through DSCADA.
- For safety purposes, Hot Line Tag can only be turned through the method used to enable the setting (controller front panel versus remote DSCADA operation).

Cooper Kyle Form 5 & Form 6 Standard Recloser Controllers

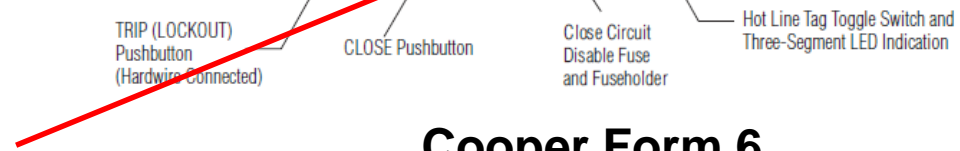


Cooper Form 5

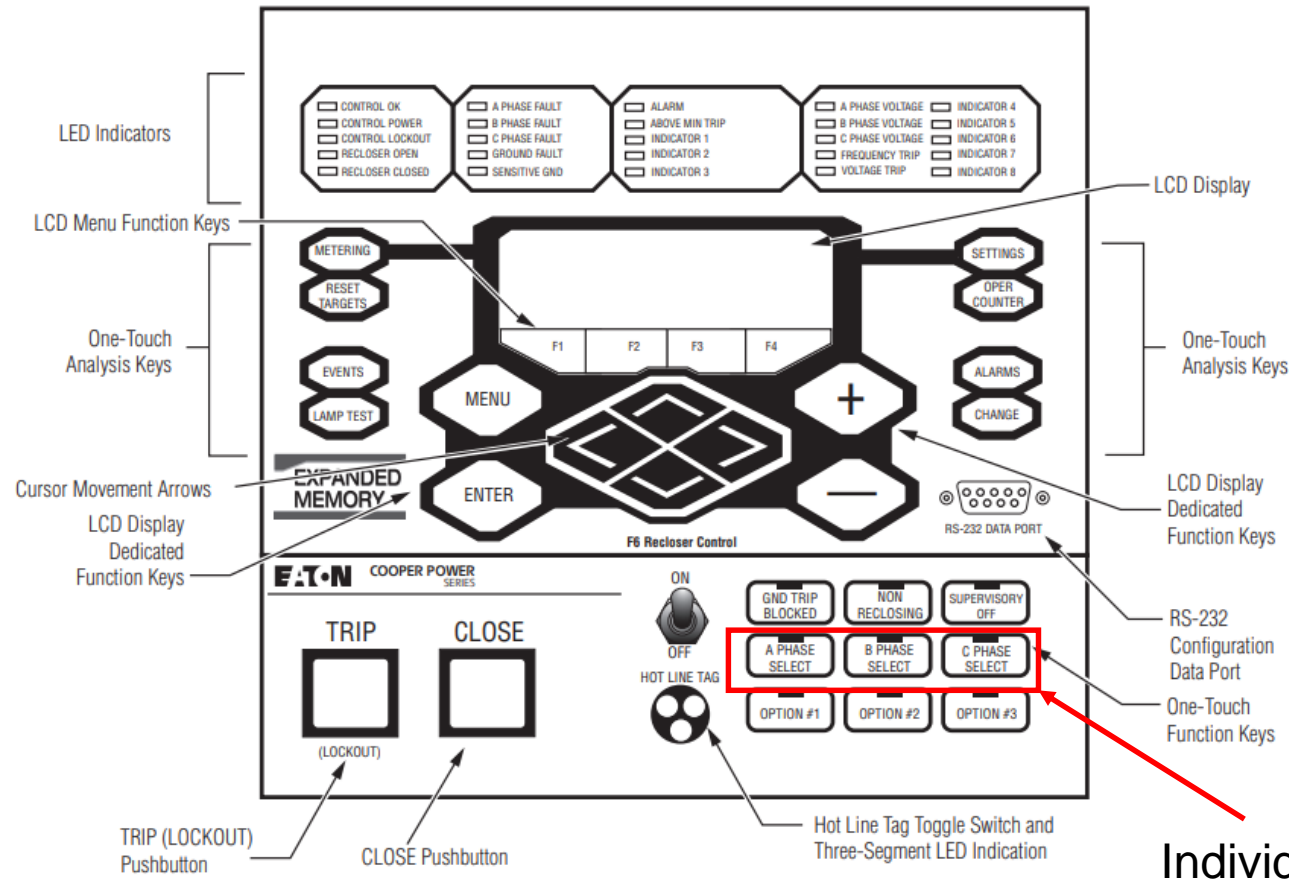


Cooper Form 6

Alternate Profile Selection Buttons



Cooper Kyle Form 6 Triple Single Controller



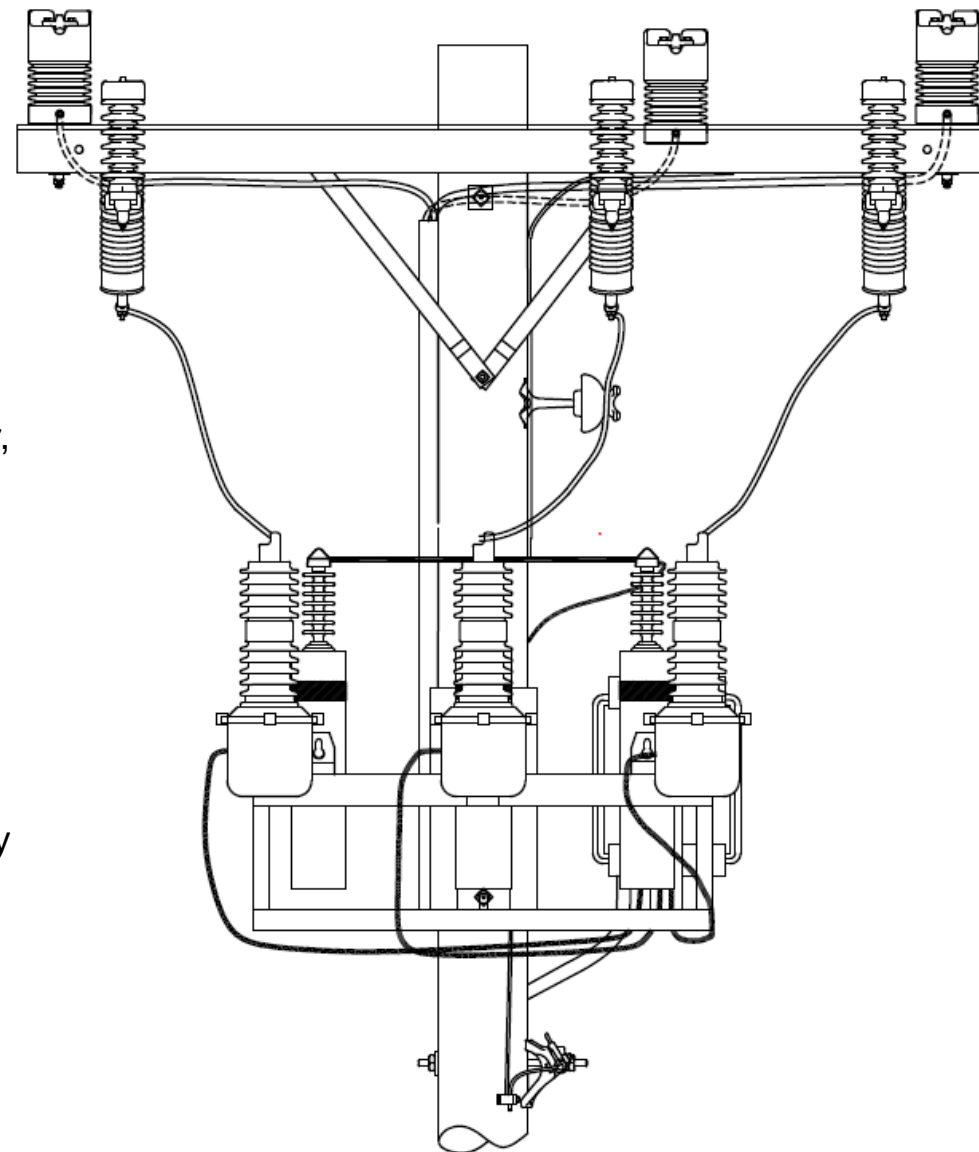
Cooper Form 6 Triple Single

GENERAL ELECTRIC CAPACITOR BANKS



SWITCHED CAPACITOR BANK DESCRIPTION

- There are 4 sizes of Cap Bank used on the LIPA distribution system: 300kVAR, 600kVar, 900kVAR, and 1200kVAR.
- 300kVAR and 600kVAR tanks are rated for 75kV BIL.
- 900kVAR and 1200kVAR tanks are rated for 95kV BIL.
- Vacuum switches are rated for 15.5 kV, 200A continuous & capacitive switching.
- Separate Lindsey multicore line post sensors are installed on the source side of the capacitor bank..
- A neutral current sensor is installed to detect phase unbalance due to blown fuses or stuck switches.
- Each vacuum switch is wired into a junction box for gang operation of the Cap Bank only
- A window semaphore exists on the bottom of each vacuum switch to indicate the switch position. (**GREEN = OPEN**, **RED = CLOSED**)
- 2-Way radio controlled Cap Banks are operated using a Cooper CBC8000 control.
- The Cap Bank can only be opened or closed electronically through the controller interface.
- Cap Banks are installed with fuse cutouts to easily take offline or place in service.
- Make safe to clear by jumping out the Cap Bank to perform work.



Eaton Cooper CBC8000 Controller Description

- The Cooper CBC8000 controller is used to operate switched Capacitor Banks.
- The control receives 120Vac power from the meter socket that connects to the junction box on the Cap Bank.
- Sensor monitoring and control is facilitated through the 8-pin amphenol connector that connects to the vacuum switches through the junction box.

Cap Bank Operation

- Place the CBC8000 controller in **Manual**.
- To **OPEN** the switch, press the green **TRIP** button on the front panel.
- To **CLOSE** the switch, press the red **CLOSE** button on the front panel.
- The Cap Bank can also be operated remotely through SCADA control when the controller is in **Remote**.

Smart Operation

- A majority of the 2-Way Cap Banks installed with the CBC8000 controller are “smart” and operate automatically based on voltage settings.
- Phase secondary voltage values are read by the controller from the line post sensors.
- Voltage controlled Cap Banks close when the voltage dips below a certain threshold value.
- The Cap Bank will open when the voltage exceeds a certain threshold.
- The controller must be left in **Remote** to operate based on voltage settings.
- The Cap Bank will also operate and lockout if the neutral current sensor reads fault current exceeding the threshold value.

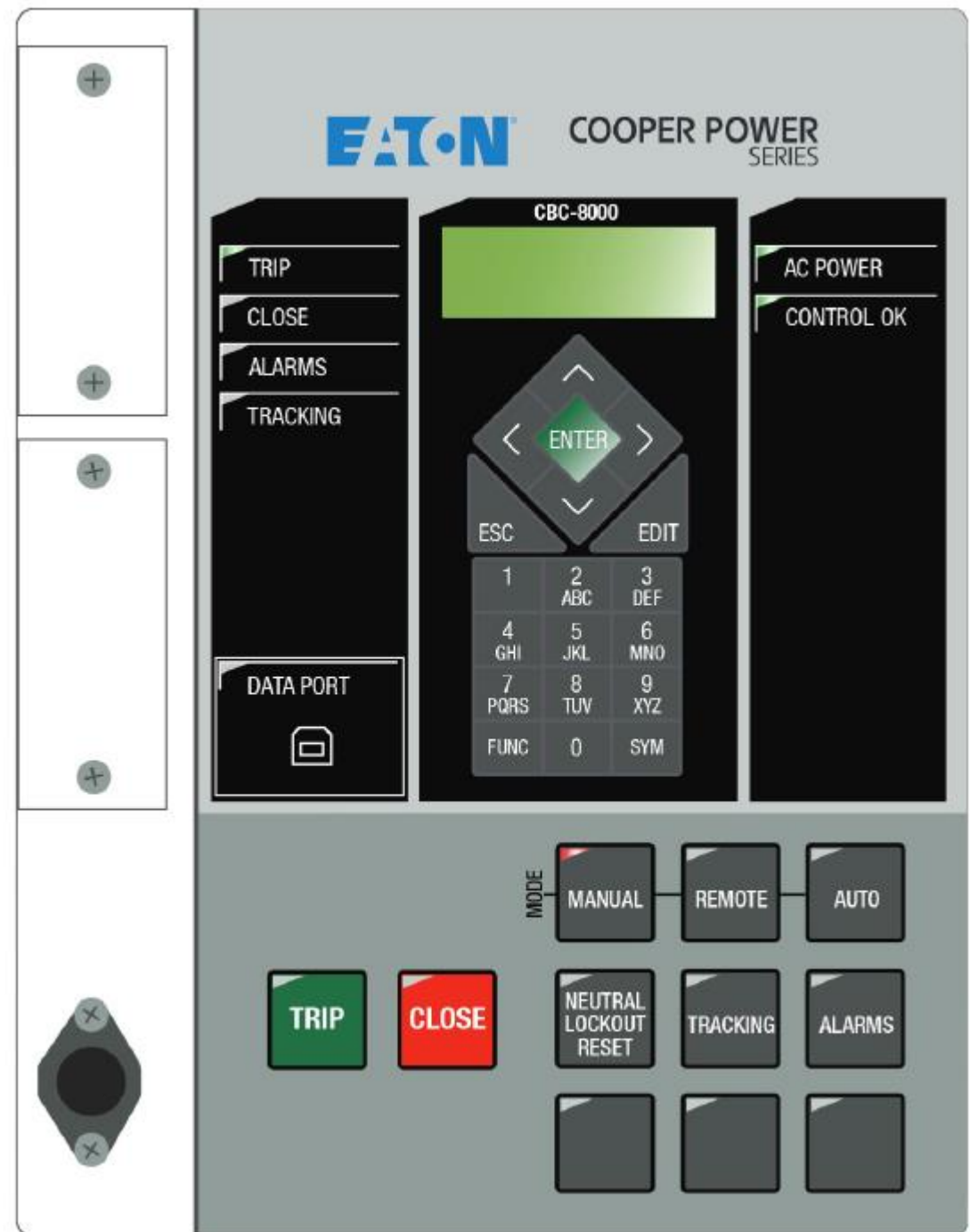
MANUAL/REMOTE Setting

- To enable local control at the CBC8000, press the **Manual** button and watch for the LED to illuminate.
- Placing the controller in Manual will block any remote controls from SCADA, as well as any automatic operation of the Cap Bank due to sensing conditions (voltage & neutral current).
- To return the Cap Bank to the remote operable position, press the Remote button and watch for the LED to illuminate.
- After switching the unit to remote, the control will wait at least two minutes before attempting any automatic operation of the Cap Bank.

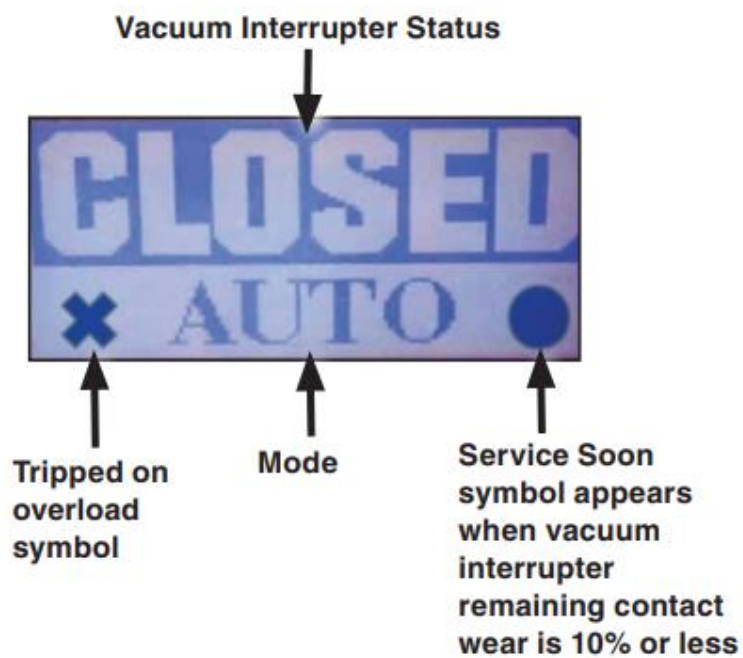
Neutral Lockout Operation

- The Cap Bank will operate automatically upon detection of a neutral fault exceeding 30A on the neutral line.
- A neutral fault condition that is tracked for more than 40 seconds will lock out the Cap Bank in the state opposite that which caused the neutral fault.
- The Cap Bank cannot be operated again locally at the controller or remotely through DSCADA until the **Neutral Lockout** alarm is reset.
- The neutral lockout condition can be reset by placing the controller in **Manual**.
- Then, press the **Neutral Lockout Reset** button on the control.
- If the unit is in **Remote**, the neutral lockout condition can be reset remotely through DSCADA.
- If the fault still exists, the neutral lockout alarm will remain on.

Eaton Cooper CBC8000 Controller



S&C TRIPSAVER II

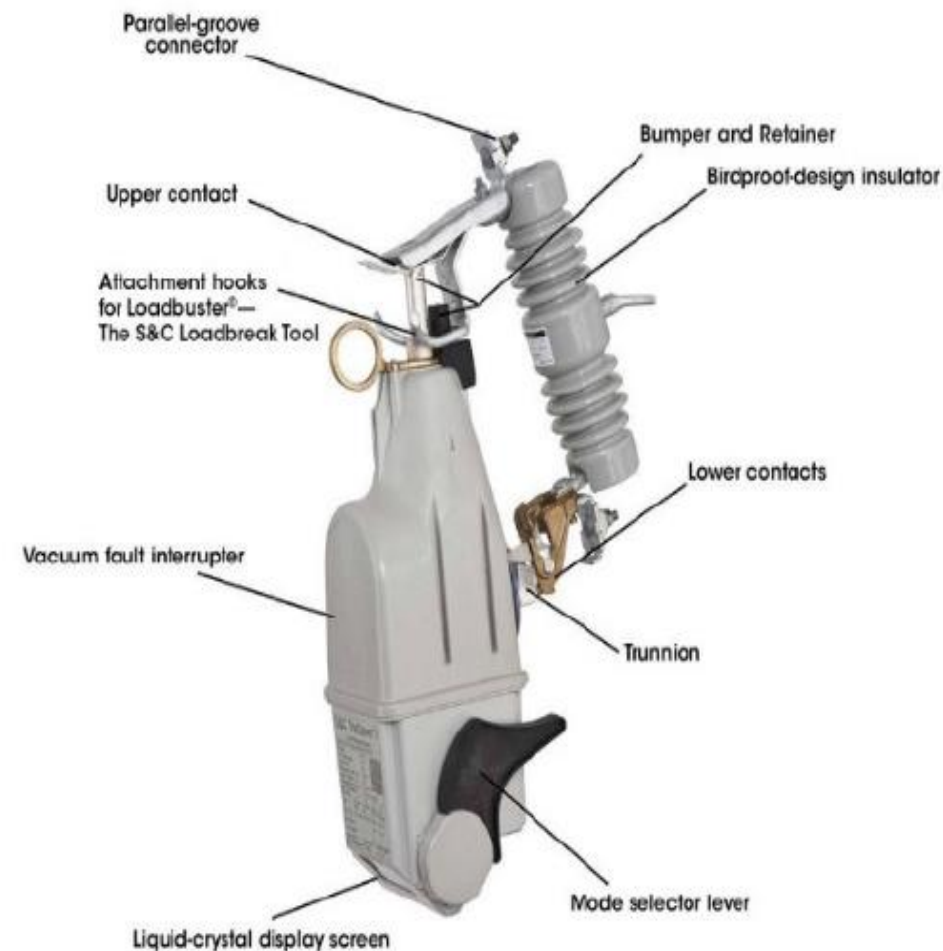


TRIPSAVER II DESCRIPTION

- The TripSaver II is a single-phase branch line recloser installed in a fuse cutout.
- The TripSaver II can be installed in 1, 2, or 3-phase configurations.
- The LIPA distribution system utilizes two TripSaver models: 65-T fuse and 100-T fuse.
- The recloser is rated for 29kV, 200A continuous, 6.3kA fault interrupting capability.
- The LCD on the bottom of the unit displays the interrupter position and operating mode.

Operation

- The unit requires 3A of current to operate.
- The device goes to sleep if line current drops below 1.5 amperes and requires 4 amperes load current to wake up the device.
- The interrupter inside the housing operates automatically on fault condition.
- Upon a permanent fault, the unit will drop open from the cutout.
- The interrupter will reset to closed immediately after drop open.
- The unit is energized immediately upon pushing the fuse back into cutout.
- Toggle the lever down to set in **Non-Reclose** mode.
- Toggle the lever up to set in **Auto** mode.
- Toggle the lever 6 times to activate **Local Manual Open (LMO)**.
- The TripSaver will allow 10 seconds to toggle the lever again to cancel, and will drop open after 20 more seconds (30 seconds total).
- **When in Auto mode:** The TripSaver II interrupter will trip open on fuse link characteristics or definite time element and attempt to reclose, before proceeding to drop open if the fault is still present.
- **When in Non-Reclose mode:** The TripSaver II will drop open on fuse link characteristics or instantaneous element and not reclose.
- The unit can be manually opened by pulling down on the yellow hook ring using a hot stick or load busting tool.

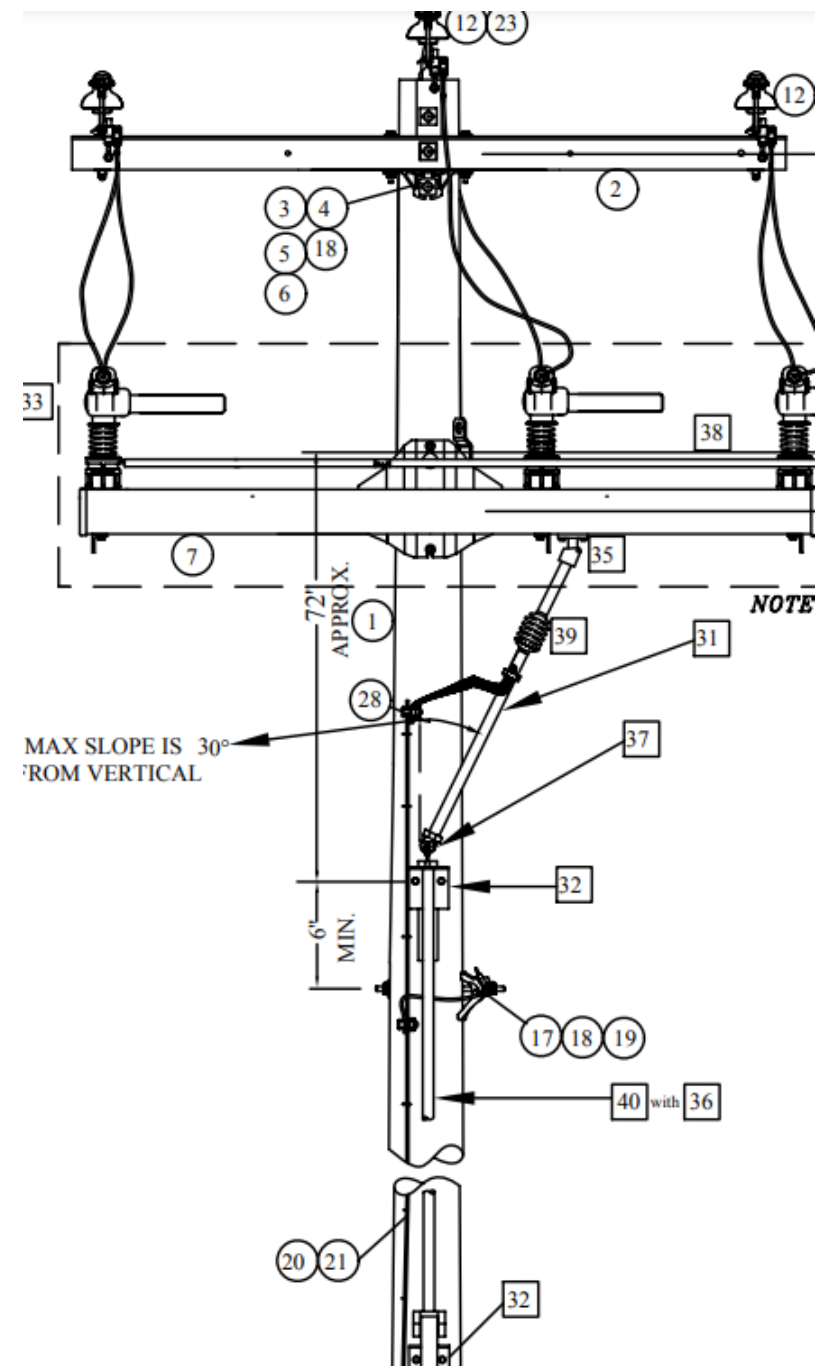


MOTORIZED LOAD BREAK SWITCH



Load Break Switch Description

- LBS devices are manually operated switches used across LIPA's distribution system.
- A small number of locations are equipped with a motor operator to enable remote open and close operations from DSCADA..
- These switches are rated for 15.5kV, 900A continuous current capability.
- The LBS devices installed on LIPA's distribution system are not used to interrupt faults.
- Switches equipped with controllers are not configured to operate automatically under any conditions.
- There are no sensors installed with the switch, regardless of whether the location features a controller that allows for remote DSCADA operation.
- The switch is attached to an operating rod that can be manually rotated by a crew or service personnel in the field.
- Installations that feature a controller use a pipe attached to the operating rod to open or close the switch from the controller.
- The switch is operated only by swinging the visible disconnects open or closed.



Cleveland Price Controller Description

- The Cleveland Price Automated Distribution Motor Operator controller is a pipe operator used with LBS switches..
- An external 1-1/2" pipe that is attached to the operating pole of the switch is inserted into a handle in the cabinet.
- Operation of the motor rotates the pipe up or down to swing the disconnects on the overhead switch.
- The controller has an automatic motor shut off feature that activates 1.5 seconds after an operation command is sent.
- This protects from further damage in the event the LBS becomes jammed due to ice or physical damage.



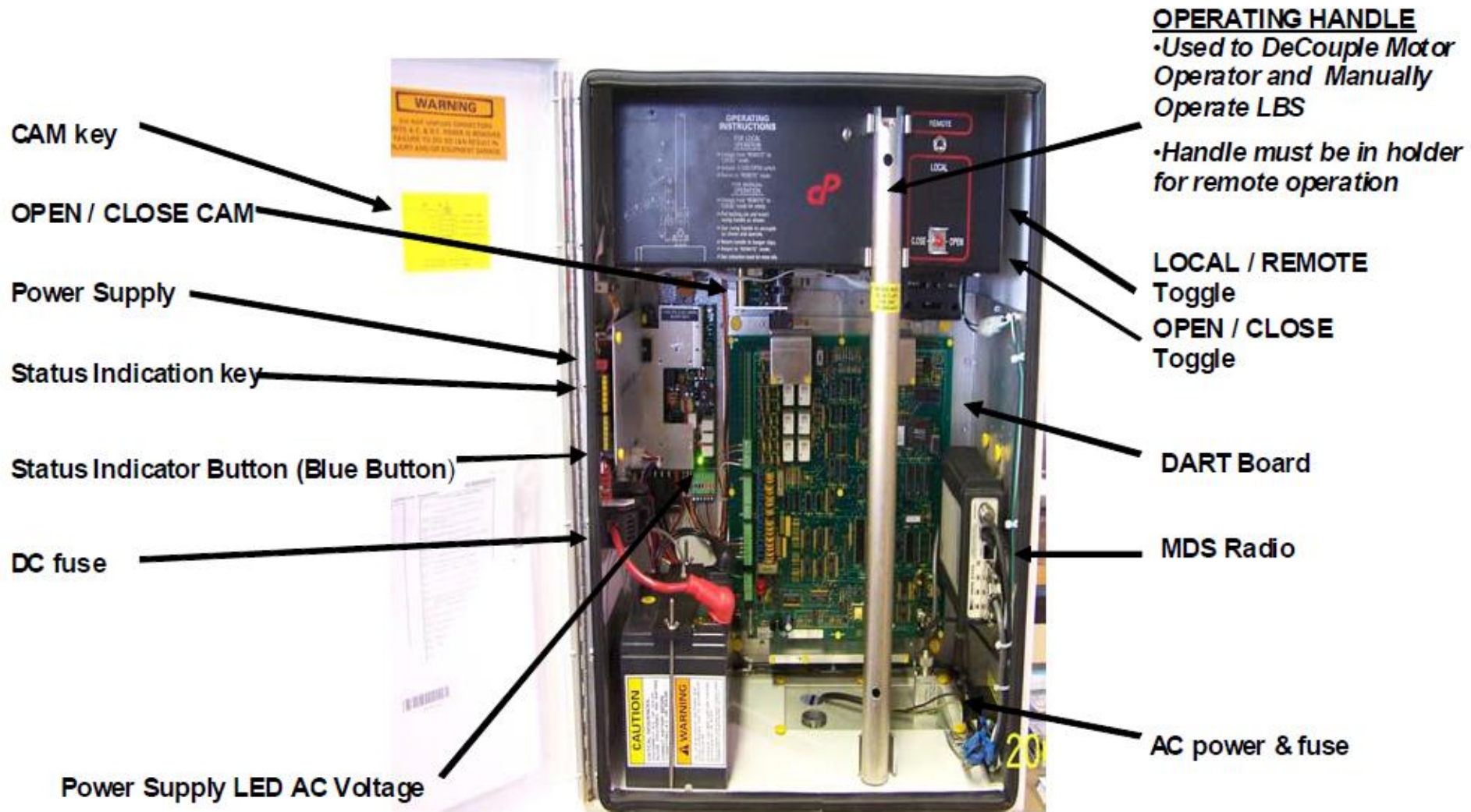
MLBS Operation

- To operate the LBS using the Cleveland Price controller, flip the **Local/Remote** toggle switch to the **Local** position.
- There is a single toggle button to operate the LBS.
- Pressing the button will operate the LBS to the opposite state that it is currently in.
- The current state is determined by visually inspecting the switch or observing the status indicator LED in the controller.
- If the unit is in remote, the MLBS can be operated remotely from the distribution control room through the DSCADA system.
- The unit cannot be operated remotely if the **Local/Remote** toggle switch is set to **Local**.

Manual Operation

- To be able to operate the LBS manually, without the use of the controller, the pipe must be decoupled from the motor operator..
- The pipe can then be removed from its clips.
- A crew or service personnel can then manually operate the LBS with the freed pipe.
- The decoupling mechanism in the controller is designed such that the motor operator can only be recoupled in the position corresponding to the correct switch position.

MLBS Controller



MOTOR OPERATOR

 Thank
you