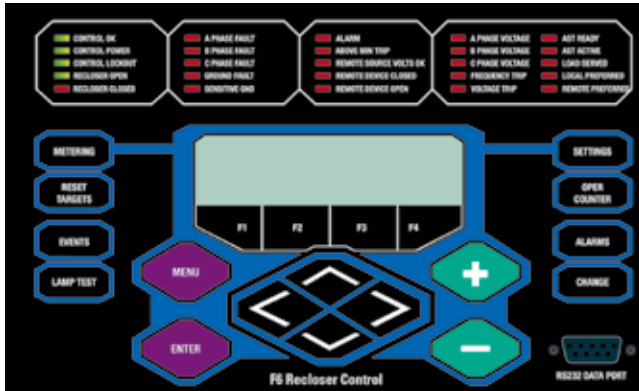


# Form 6 Triple-Single AST Control Reference



Read equipment manufacturer's manual and this material before using this product. Failure to do so can result in death, severe personal injury, and equipment damage. G164.0



**Note:** This reference card only applies to the standard, factory-default AST triple-single control.

Refer to the installation instructions included with this control for additional information.

## Triple-single control / recloser status

Status of the Triple-Single (TS) recloser and control are easily viewed via the operator panel. Press any key to wake the panel.

The default menu, Recloser Status, displays the active Triple-Single mode and the status of each phase.

- » In *Single-Phase Trip, Three-Phase Lockout and Single-Phase Trip, Single-Phase Lockout* modes, each phase operates independently with protection parameters the same for all three phases.
- » In *Single-Phase Trip, Three-Phase Lockout* mode, all three phases trip to lockout when one phase sequences to lockout.
- » In *Single-Phase Trip, Single-Phase Lockout* mode, each phase independently sequences to lockout.

**NOTE:** The AST transfer functionality is always a ganged three-phase transfer regardless of mode selected.

- **CONTROL OK:** Normally on. The CONTROL OK LED will extinguish if certain battery, RAM, ROM, AC, Power Supply, and/or RIF alarms are active.
- **CONTROL POWER:** An illuminated CONTROL POWER LED indicates there is adequate VTC voltage to successfully trip or close the mechanism. It does NOT indicate the presence of AC or battery power.
- **CONTROL LOCKOUT:** On only when the control is in a Locked-Out state. It does NOT indicate the recloser is open.

- **RECLOSER OPEN:** Steady On only when all three phases of the Recloser are in the Open position. Blinking whenever only one or two phases of the Recloser are in the Open position.
- **RECLOSER CLOSED:** Steady On only when all three phases of the Recloser are in the Closed position. Blinking whenever only one or two phases of the Recloser are in the Closed position.

## AST indicators

- **AST READY** indicates that the AST is in the normal configuration and is ready to transfer if required. This LED will blink when the AST is timing to begin a transfer.
- **AST ACTIVE** indicates that the AST has transferred to the alternate source. This LED will blink if the AST is timing to transfer back to the preferred source.
- **LOAD SERVED** indicates that all three phases of the critical load are being served by one of the two sources.
- **LOCAL PREFERRED** indicates that this recloser is connected to the preferred source for the load.
- **REMOTE PREFERRED** indicates that that the remote recloser is connected to the preferred source for the load.
- **REMOTE SOURCE VOLTS OK** indicates that the remote recloser has acceptable voltage on the source side.
- **REMOTE DEVICE CLOSED** indicates that the remote recloser is closed.
- **REMOTE DEVICE OPEN** indicates that the remote recloser is open.

## Navigating the LCD display

**NOTE:** The LCD display panel contrast is field-adjustable to allow for various mounting heights and applications. Press the MENU key and then press the (+) or (-) key to increase or decrease the contrast.

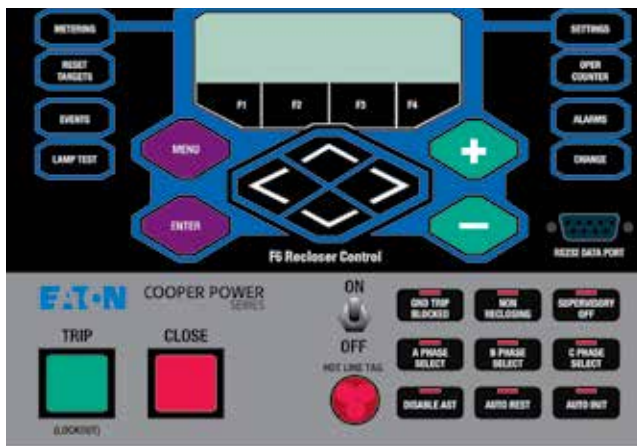
- **LCD FUNCTION KEYS (F1, F2, F3, F4):** The four LCD menu function keys activate specific menu commands. When a command appears in the LCD display directly above one of the four LCD menu function keys, press the key to accept/select the command.

**NOTE:** Function keys are not active in all menus.

- **MENU:** The MENU key displays the root menu. It also returns the display to the previous menu each time it is pressed.
- **ENTER:** The ENTER key is used for the following:
  - » Confirm a settings modification.
  - » Confirm a selection from within a MENU.
- **( + and - ) Keys:** are used to step through values when in the MODIFY / SETTINGS mode.
- **ARROW Keys:** Navigate vertically through the displayed MENU using the UP and DOWN arrow keys; arrow keys are located just below the display. In some menus, the cursor position can be moved horizontally using the LEFT and RIGHT arrow keys.
- **RESET ALARMS:** Press the ALARMS hotkey, move the cursor (>) to the left of the RESET ALARMS menu item, press the ENTER key, then the F4 function key.



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## Basic control operations

- **CHANGE:** The CHANGE key must be pressed prior to actuating any of the nine (9) Function Key Buttons.

*NOTE: The CHANGE key remains active for 10 seconds after which time the LCD display returns to the basic menu.*

- **LAMP TEST:** When the LAMP TEST feature is actuated, all front panel LEDs will illuminate for approximately five seconds.
- **TRIP:** Pressing the TRIP pushbutton trips the recloser to the "RECLOSER OPEN" position and places the control in "CONTROL LOCKOUT" mode (automatic reclosing is inhibited).
- **CLOSE:** Pressing the CLOSE pushbutton closes the recloser. The control is now ready to follow OCP programming.

*IMPORTANT: Verify the phase or phases you want activated are selected prior to pressing the TRIP or CLOSE button.*

## Hot Line Tag

Provided for live-line work applications.

- Does not cause recloser to trip open. It only prevents the recloser from closing.
- Prevents all closing attempts from the control and shifts protection to one trip-to-lockout on the composite curve of the Hot Line Tag definite time and the TCC1 curve (whichever is faster). Takes precedence over Cold Load Pickup, Non-Reclosing, and Fast Trips Disabled.
- Hot Line Tag is activated from either the operator front panel toggle switch, local or remote communications, or configurable logic.
- Can only be reset by the source which initiates it.
- When hot line tag is enabled from either device, the AST is DISABLED and the AST system will not transfer automatically.

## AST function key buttons

- **DISABLE AST** button is used to manually disable the AST function. A red LED indicates the AST is disabled. Possible alternate causes are Hot Line Tag, Overcurrent Trip, or Communications Failure.
- **AUTO REST** will put the AST into "automatic restoration" mode. When activated without AUTO INIT, this mode will wait for the operator to initiate the restoration by operating one of the devices. The system will automatically perform the alternative action on the remote device.

*NOTE: This mode will only work if the control is in a three phase*

*lockout mode. If the control is put into a single phase lockout mode, manual mode or automatic restoration with automatic initiation mode must be used.*

- **AUTO INIT** will put the AST in "automatic restoration with automatic initiation" mode. When activated this mode will automatically return the system to the preferred configuration given the voltage on the preferred source is within acceptable limits and the user-definable time has expired.

*NOTE: AUTO REST must be active to use AUTO INIT.*

*NOTE: If the AST is in neither the AUTO REST nor the AUTO INIT modes then the AST system is in a completely manual restoration mode. Operations on each control need to be initiated separately to bring the system back to the AST READY state.*

- The **SWAP PREFERRED** button has been moved to the menu structure of the TS Form 6 control. The SWAP PREFERRED button can be accessed by pressing the MENU button. Then Navigating to WORKBENCH>WORKBENCH SWITCHES>SWAP PREFERRED.
- **SWAP PREFERRED**, when activated, will swap which device is the preferred source for the critical load.

*IMPORTANT: If SWAP PREFERRED is pressed while the system is AST READY and AUTOMATIC RESTORATION mode is enabled, the devices will open and close respectively to keep the system in AST READY state.*

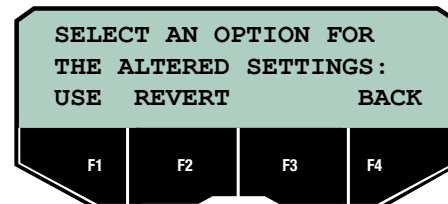
## View / change settings

1. Press the SETTINGS hotkey, the LCD will display: "Mod/View Settings."
2. Press the ENTER key, the LCD will display « Enter Password ». The default password is «0» - therefore, if a password has not been assigned just press the ENTER key again, otherwise, enter your password and then press ENTER.

*HINT: Use the + and - keys to enter a password. Press-and-hold the key to skip through the values faster.*

## Accept / cancel settings change

Following a settings change press the ENTER key and then the MENU key – the screen shot shown below will be displayed.



If you made a change to one or more settings either:

- Accept and USE a changed setting – press the F1 function key.
- REVERT to the previously saved setting – press the F2 function key.
- Step BACK to the previous dialog – press the F4 function key.

For assistance, contact the  
Switchgear Support Group at  
**1-800-497-5953. 24/7**  
emergency support also available.