

Configuration Backup & Restore

There is a USB key slot on the front of the CEM3. This is for saving the rack configuration to a USB drive for safe keeping, & for reloading the configuration if needed.

To Save a Configuration

1. Press **[Setup]**.
2. Scroll to **{Media/Backup}**.
3. Press **[Check]**.
4. Scroll to **{Save Cfg to USB}**.
5. Press **[Check]**.

The configuration will be saved with a name based on the date & time.

To Load a Configuration

The configuration must be in the root directory of the USB device.

1. Press **[Setup]**.
2. Scroll to **{Media/Backup}**.
3. Press **[Check]**.
4. Scroll to **{Load Cfg to USB}**.
5. Press **[Check]**.

Service and Troubleshooting

General Maintenance

- Make regular backups of your configuration to an USB drive or over the network as detailed in the Configuration Backup & Restore section of this document.
- Your rack has filters fitted into the door. Every 6 months or as needed, remove and clean the filters with a vacuum cleaner.
- Do NOT use water or chemical cleaners in your rack or modules.

Troubleshooting

Display of the CEM3 is not lit up

- Check that power is connected to the rack. If an installed rack, check that the power disconnect is turned on. If a portable pack, check that power is connected and turned on.
- Check that the CEM3 is fully seated in the rack. The black latches on either side of the CEM3 should be pushed up and the CEM3 should be flush with the front of the rack.

Dimmers not turning on

- Check that there is power to the CEM3 as described above.
- Check that your control source (Network or DMX) connections are ok.
- There may be an error message on the CEM3 display.
Common error messages that might prevent dimmers from turning on include:

- Fan Fail - check that the fan is running & clear of obstructions.
- CPU Overtemp - check the temperature in the dimmer room.
- Voltage Too High / Too Low - check the incoming power supply to the rack.
- Dimmer Overtemp - check that the specified dimmer is not overloaded and check cooling.

Controller Replacement

The configuration for the CEM3 is automatically stored in two places: the backplane of the rack & in the CEM3.

If you have to replace the CEM3, you can simply pull out the CEM3 & insert the new one.

If you have to replace the backplane as well, you can reload the configuration from an USB drive as detailed in the Configuration Backup & Restore section of this document.

Panic

(Setup>Panic)

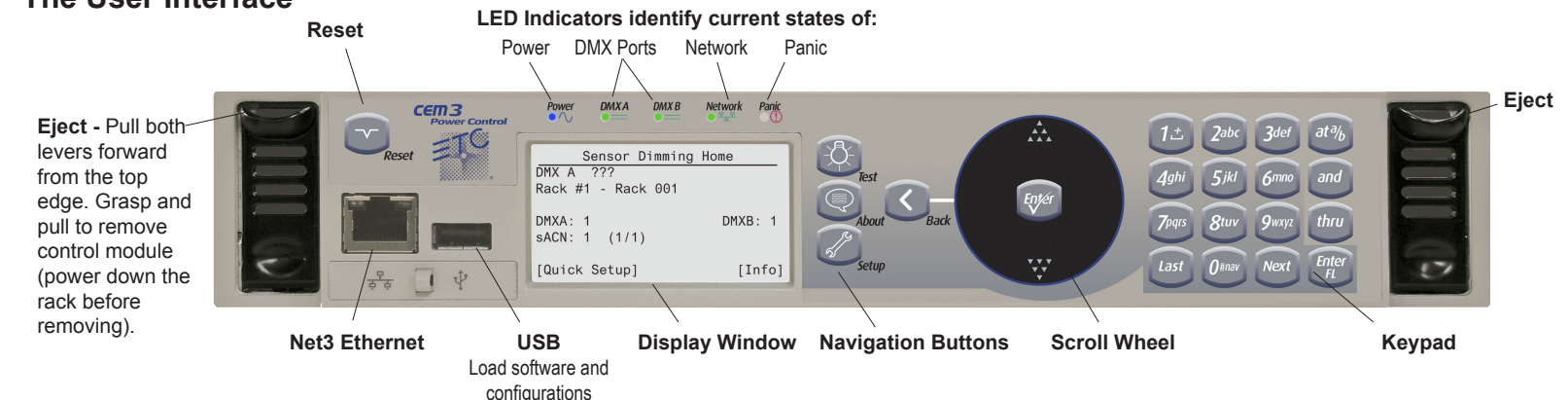
Panic allows dimmers to be turned on via a contact closure. Typically this is used to connect to a fire alarm system, or a simple switch system to turn on houselights. Panic is generally configured at installation. If you need to change the dimmers in their panic preset, please contact ETC Technical Services at the office nearest to you. A list of ETC offices is given at the bottom of this page.

When panic is active, the red panic LED on the front of the CEM3 will be lit and 'Panic Active' will be displayed.



For advanced setup options and additional information, please see the CEM3 wiki at www.etcconnect.com/Sensor3help.

The User Interface



Rack Setup

First Time Setup

CEM3 backplanes include a dipswitch field, which is set in the factory during the manufacturing process of the Sensor3 rack. There is a dipswitch map located on the underside of the CEM3 processor for easy reference.

Several items are determined by the dipswitch settings on the backplane:

- System Voltage: 120v or 230/240v
- Rack Size: 6,12,24,36, or 48 (based on the number of dimmer modules)
- Advanced Features

Quick Setup

In quick setup, you can set the rack number, first dimmer number, & straight or phase based numbering. This will result in a rack filled with a default module type.

| Quick Setup | SR48 |
|----------------|------------|
| Rack Number: | [1] |
| First Dimmer: | [1] |
| Numbering: | [Straight] |
| Dimmer Double: | [No] |
| [Cancel] | [Go] |

Set rack#, first dimmer, define if rack should be balanced.
Press **[Go]** to save.

Navigation Shortcut Buttons

Press navigation button, navigate to desired item, press **[Enter]** to select.



Test (Live Control)

Allows you to

- Set Levels
- Dimmer Check
- Activate Presets



About

Access information on

- Dimmers
- Rack
- Control Sources
- Errors



Setup

Commonly used features include

- Change dimmer, rack, and network settings
- Enable control ports
- Change Operating Mode
- Upgrade/Backup (Media)
- Change Curve and Firing Mode

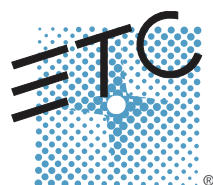
Navigation

Use the scroll wheel and up/down arrows to move the selection cursor on any menu screen until the desired item is highlighted. Press **[Enter]** to select the highlighted item.

Use keypad to enter values and select dimmers or ranges of dimmers.

Press **[< Back]** to return to the previous screen on any menu.

Press menu buttons (*Test, About, Setup*) to access features within that menu type - see above.



Dimmer Setup

(Setup > Dimmer)

A default module type is created at the initial rack setup based on rack type & voltage. A single module or a range of multiple modules can be modified in dimmer setup. Dimmer setup will appear as a scrollable window.

Navigating Dimmer Setup

The top three lines of dimmer setup provide the physical rack location of the circuit and user defined number (UDN) assigned to the location. Often the UDN matches a label placed at the outlet(s) in installed systems. This information will remain at the top of the screen as you scroll.

To select a dimmer or range of dimmers:

- Scroll through dimmers to find the appropriate dimmer number & press **[Enter]**.
- Or-
- Use the number pad to select the dimmer & press **[Enter]**.
- Press **[And]** or **[Thru]** to choose a range of dimmers, if needed. Press **[Enter]**.

Setting Module Type

For many installed and touring systems, all dimmer modules are of the same type. However, if your rack has a mixture of module types, you will need to configure them on a one by one basis.

To set module type:

- Press **[Setup]**.
- Select **{Circuit Assignment}**.
- Select **{Edit Circuit Table}**.
- Use the wheel to select and edit the module types based on their position in the rack.

```
Setup Dim:      [32101]
Rck:002        Lvl:100%
Slot: 48        Lug:[95]
Module Type:   [D20AF]
Firing:        [Normal]
Control:       [Dimmable]
Curve:         [Linear]
Threshold%:    [001]
```

Setting Control Mode

The control mode of a circuit defines how it controls input. The most common modes are Dimmable (circuit will act as a regular dimmer) and Switched (suitable for connecting switched loads to moving lights. When in dimmable mode, curve settings also become available.

To set the control mode:

- Scroll down to **{Control Mode}**.
- Press **[Enter]**.
- Use the wheel to select the mode you want.
- Press **[Enter]**.

Note: *Firing and Control modes available will be limited by the module type.*

For a list of definitions for the various modes and advanced setup options, please see the CEM3 wiki at www.etconnect.com/Sensor3help.

Patch

There are two way to patch dimmers in CEM3, through the dimmer setup display or with the patch wizard.

Dimmer Setup

Addresses are available for each input port in the dimmer setup display. Patching a dimmer in this display limits you to the assignment of data addresses one dimmer at a time.

```
Setup Dim:      [32101]
Rck:002        Lvl:100%
Slot: 48        Lug:[95]
Patch:
DMXA:          [456]
DMXB:          [321]
sACN:          [20001]
               (39/33)
```

Patch Wizard

(Setup > Patching - for DMX or sACN Addresses)

Patching allows you to assign input sources and addresses to dimmers (referred to as a UDN).

Patch can be changed dimmer-by-dimmer using the *Edit Patch Table* or using one of three Patch Wizards listed below.

- *Simple* - This mode patches dimmers to addresses sequentially based on a start address. When using this mode, addresses for each dimmer patch to DMX A, DMX B and sACN all with the same address. Setting Dimmer Doubling to “Yes” shortens the universe to 256 and B-side dimmers are automatically offset 256 from A.
- *Split* - This mode is typically used in racks where DMX universes end mid-rack. DMX A is patched through the end of the universe with DMX B unpatched until DMX A runs out. When sACN runs to the end of a universe, the rack automatically patches the next dimmer to address 1 of the next available universe. **Note:** *Setting Dimmer Doubling to “Yes” shortens the universe length for DMX A to 256.*
- *Independent* - Allows a port-by-port assignment of start address for DMX A, DMX B, and sACN. In addition, dimmer doubled start addresses can also be assigned per port.

Network Setup

(Setup > Network)

Basic Setup

There are three options for network setup:

- Link Local - is the default mode. An address is obtained locally to allow communication between the racks with no user setup. Choose link local if you’re working in a touring system where equipment moves around frequently.
- DHCP - acquires an IP address from a DHCP server on the network. If the rack is unable to get an address from DHCP, it will get an address from Link Local. Choose DHCP if you’re working in a system with a DHCP server, for example, an Eos console.
- Custom - allows a user to manually enter the IP, Subnet, and Gateway addresses. ETC’s Net3 default for manual setup has an IP address of 10.101.xxx.yyy, where x varies by product line and y increments.

```
Rack:          1
Type:          [Custom]
IP:            [010.101.101.101]
SN:           [255.255.000.000]
GW:           [010.101.101.101]
[ABORT]       [Commit]
```

Dimmer Set / Overrides

This screen allows for the setting of levels for dimmers, dimmer check, and access to the preset function.

```
Dimmer Set/Override
[Set Levels]
[Dimmer Check]
[Release Set Lvl]
[Presets]
```

Set Levels

Set levels allows you to set a dimmer or a range of dimmers to specified levels.

To set levels:

- Press **[Test]**.
- Select **{Set Levels}**.
- Press **[Enter]**.
- Select a dimmer by numeric enter or scrolling with the wheel.
 - To select a range of dimmers, use **[Thru]** and **[And]**.
- Press **[At]**.
- Use numeric entry or scroll to select a level. 0-100 is the valid range. 100 will display as “FL”.
- Press **[Enter]**.

```
Set Levels
1:  FL  2:  --
3:  --  4:  --
5:  --  6:  --
7:  --  8:  --
9:  -- 10:  --
11: -- 12:  --
13: -- 14:  --
```

Dimmer Check

Dimmer check allows you to step through the dimmers one by one.

This can be useful when testing out a system.

To use dimmer check:

- Press **[Test]**.
- Select **{Dimmer Check}**.
- Press **[Enter]**.
- Select a dimmer by numeric enter or scrolling with the wheel.
- Press **[Enter]**.
- Use numeric entry or scroll to select a level.
- Press **[Enter]**.
- Use **{Prev}** or **{Next}** to step through the dimmers.
- Dimmer check levels will be released when you exit the display.

```
Dimmer Check
Dimmer No.:   [10]
Level (%):    [100]
<<< Prev]    [Next >>>
```

Release Set Lvl

This display will release any set levels. The screen will display for a second and then will return to the main Dimmer Set/Override display.

Presets

This display handles the preset functions, which allow internally recorded looks (presets) to override input. Presets are assigned to a space, and will only activate dimmers that are assigned to the same space.

For more information on creating presets. please see the CEM3 wiki at www.etconnect.com/Sensor3help.