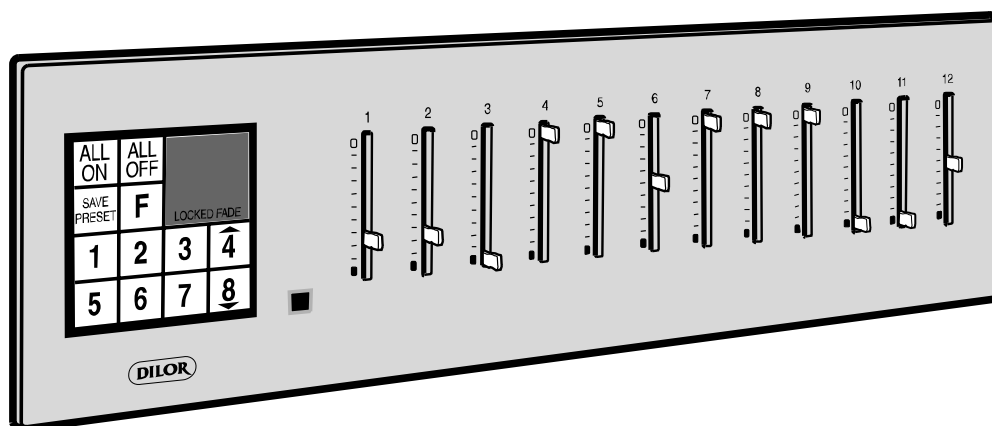


ALC3 Control Station

Architectural Dimming Controls



Instruction Manual

Contents

Parts & Controls: ALC3 Control Panel	1
Installation: ALC3 Control Panels	2
Slider Operation	3
ALL ON / ALL OFF	3
Presets	4
Extended Presets	4
Fade Rates	5
Proportional Master	6
Lock & Protect	7
2-Digit Display (Display Pane)	8
System Configuration & Programming	9
Dimmer Control Module	10
Ballast Control Module	11
Relay Control Module	12
Assigning Zones	13
Setting Control Station IDs	13
Programming Sliders to Outputs (Patch Mode)	14
Programming Outputs as Non-Dim	15
Programming Preset Station with a Portable ALC3 Master Station	16
Control Station Schedule (blank)	17
Notes	18
Notes	19

Display Pane

- During normal operation, shows last button selected:
All ON (A//)
All OFF (- -)
Preset (1, 2, 3, 4, 5, 6, 7, or 8).

- During programming mode, shows prompts.

ALL OFF Button

- Pressing once fades lights (using currently selected fade rate) to OFF.
- Pressing twice turns lights OFF immediately.

ALL ON Button

- Pressing once brings lights to ON (full bright) immediately.

SAVE PRESET Button

- Pressing once saves current slider settings as a Preset.
- To save a Preset,
 - 1 Set the sliders so all channels are at desired brightness
 - 2 Press the SAVE PRESET button
 - 3 Press a number button (1 to 8).

FUNCTION (F) Button

- Pressing once places Control Station in Programming mode.
- Programming modes include setting fade rate, setting proportional master, setting lock/protect, extended Presets and patch mode (assigning sliders to lighting outputs).

PRESET SELECT Buttons (1-8)

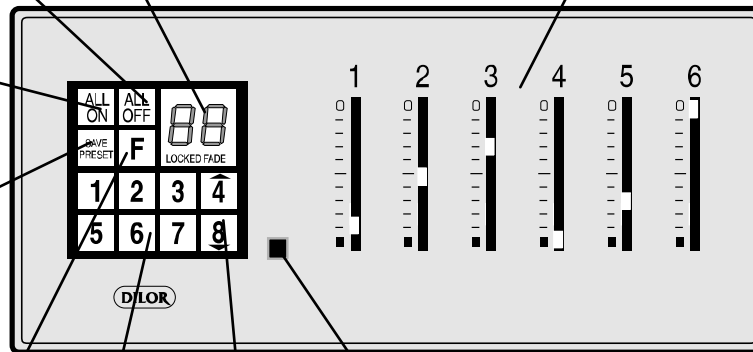
- Pressing any button brings all the lights to the last saved Preset's slider levels.
- Pressing a button once brings the lights to the saved Preset slider levels slowly, at the active fade rate. Pressing a button twice brings the lights to the saved Preset slider levels immediately.

PROPORTIONAL MASTER Buttons (1 & 8)

- Pressing the 'F' button, then pressing one of these buttons will raise or lower the intensity of all the lights by the same percentage.
- Pressing the 'F' button, then pressing the 4 button increases the intensity of all light by about a 1% increment. Holding the 4 button down after pressing the 'F' button will increase the intensities more rapidly.
- Pressing the 'F' button, then pressing the 8 button decreases the intensity of all light by about a 1% increment. Holding the 8 button down after pressing the 'F' button will decrease the intensities more rapidly.

Sliders

- Each slider controls a group of specific lighting outputs (the 'Channel') assigned to it.
- Moving the slider up increases the lighting intensity. Moving the slider down decreases the lighting intensity.
- Upon power up, the lighting intensity of the outputs under each slider's control is that of the last active Preset.
- When any slider is touched, the intensity of the lights under its control will increase or decrease as the slider is moved up or down. Those lights will remain at the intensity set by moving the slider until a Preset is selected.
- In non-dim mode, lights turn OFF when their slider is moved down below 10% and turn ON when their slider is moved up above 10%.
- When setting a Preset, the intensity of each channel is determined by the slider setting.
- An ALC3 Control Station can have 0-16 sliders. Two ALC3 Control Stations can be stacked (mounted adjacently) to provide up to 24 sliders.



CONTROL PANEL (example)

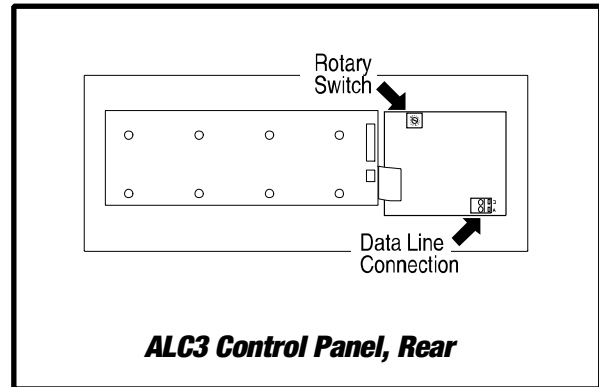
INFRARED RECEIVER

- Allows control of the ALC3 station by a handheld remote control unit.
- Remote control must within 50' of receiver and within its line of sight.

Installation: ALC3 Control Panel

Setting the Panel Address

- Each ALC3 Control Panel to be connected to the an ALD Dimmer Panel must have an address (Station ID) assigned prior to connection. (In most cases, the address is previously set at the factory).
- Assign an address to an ALC3 Control Panel by turning the rotary switch (shown in illustration at top right) on the back of the panel with a flat screwdriver.
- Technically, the order in which you assign addresses to the control panels does not matter, as long as they each have a different address if they are controlling a different zone. It is recommended, however, that you assign a Control Panel the same ID number as the zone number it will be controlling.
- Any ALC3 Control Panels operating the same zone must have the same address. They will then operate in parallel.
- See page 13 of this manual for more details on determining zones and setting Station ID's.



Wire Connections

- Interconnect Control Panels to ALD Dimmer Panel with a 2-wire cable. Use 16AWG, twisted pair, unshielded cable, stranded or solid conductor.
- Data signal can be wired with branches and tees. Total of wire lengths should not exceed 1600' (500m).
- Connect to terminals A & B at back of Control Panel, as shown in the illustration at top right. Connections are not polarity sensitive.

Mounting in Wall

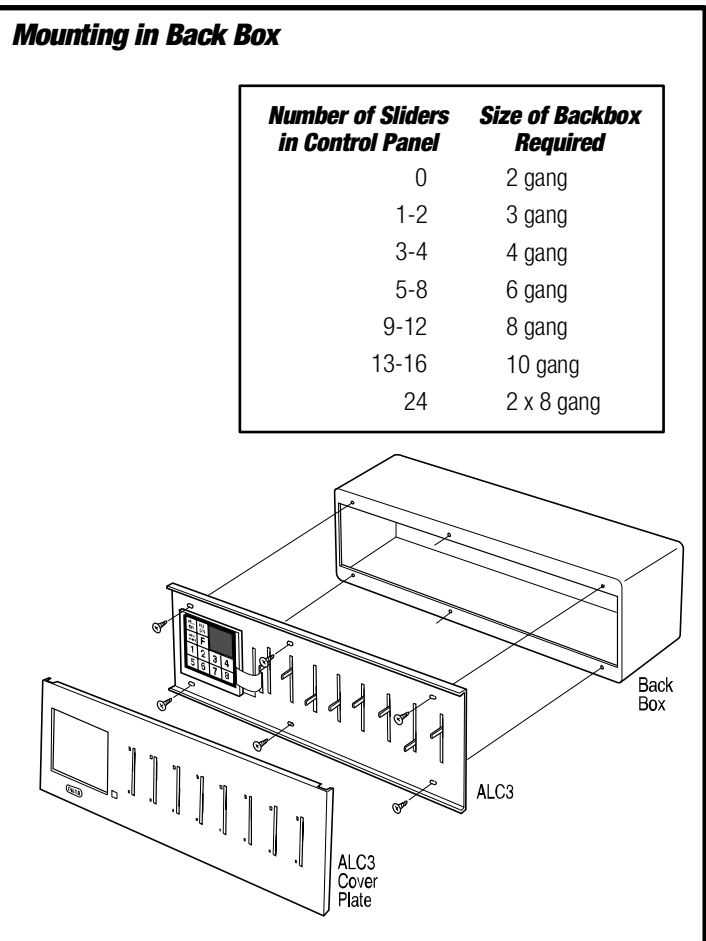
- Mount the ALC3 Control Panel in a standard back box, as shown in the illustration at the bottom right.
- Back box sizes required for each size of ALC3 Control Panel are listed above the illustration.

Programming

- Once the ALC3 Control Station is connected and installed, use the buttons on its face to program it and any auxiliary stations it may control. Programming can include setting preset controls, fade rates, proportional controls and lock/protect.
- Programming is not lost in the event of power outage.
- Step-by-step programming and operational instructions are contained on the following pages of this manual.

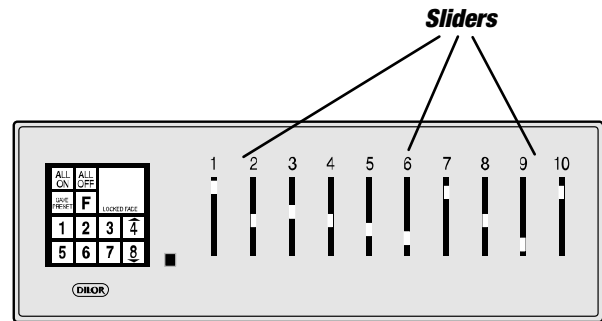
Environment

- Indoors, stationary, non-vibrating, non-corrosive atmosphere and non-condensing humidity.
- Ambient operating temperature:
-15° F to +120° F (-25° to +50° C).



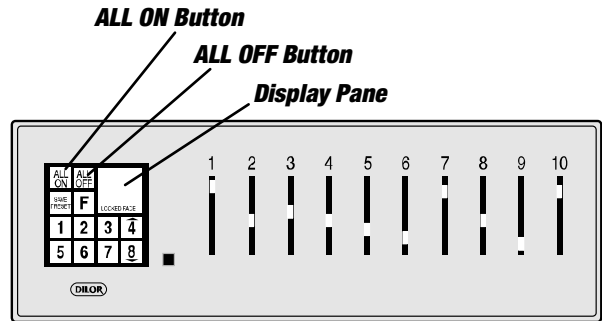
Slider Operation

- A Control Channel is a group of lighting loads operated or controlled by 1 slider. Control channels are assigned by programming the electronic control modules within the ALD Dimmer Panel and are generally set at the factory when the ALD panel is assembled.
- Initially, the dimming levels of all channels are at the levels of the last activated preset.
- When a slider is touched, it changes the dimming intensity of its control channel from the level of the active Preset.
- Moving the slider up increases the channel's lighting intensity.
- Moving the slider down decreases the channel's lighting intensity.
- The channel's lighting intensity remains at the level last set by moving the slider until a Preset is selected by pressing one of buttons 1-8.
- Sliders allow manual control of a room's lighting scene: for any channels, simply adjust sliders to desired dimming levels. The channels will remain at those levels until a Preset is selected, when they change to the dimming levels specified by the Preset.



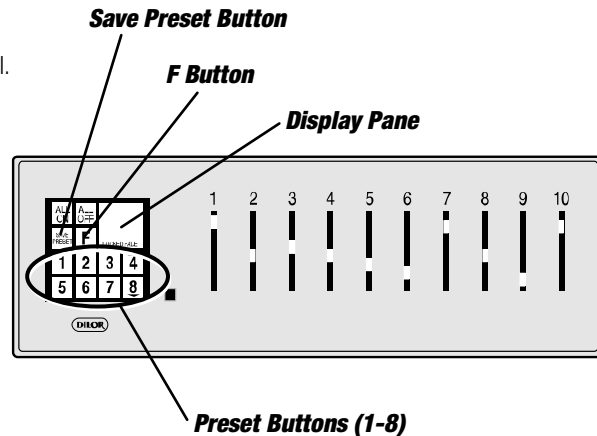
All ON & All OFF

- Pressing the *ALL ON* button brings all lights controlled by the ALC3 Panel to full bright immediately. When this is done, the Display Pane will show 'All'.
- Pressing the *ALL OFF* button fades all lights controlled by the ALC3 Panel to full dark at the currently selected fade rate. When this is done, the Display Pane will show '--'.
- Pressing the *ALL OFF* button twice brings all lights controlled by the ALC3 Panel to full dark immediately. When this is done, the Display Pane will show '---'.



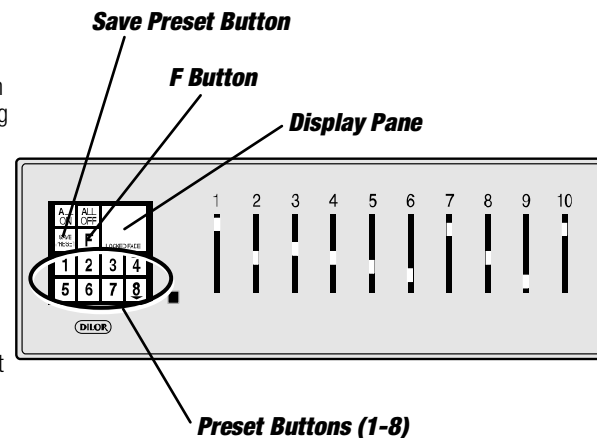
Presets

- A Preset is a lighting scene in which all channels fade to a predetermined level when the corresponding Preset Button is pressed on the control panel. Presets allows the activation of a dimming scene of all the lighting under control of the Panel with the simple press of a button.
- Typically, there are 8 stored presets, each recalled by pressing one of the Preset Buttons numbered 1-8.
- To program a Preset:
 1. Change the fade rate (from that of last Preset selected), if desired. To do so:
 - a. Press the *F* Button.
 - b. Press the '1' Preset Button.
 - c. Press the number Preset Button corresponding to the desired fade rate (1 = no fade, 2 = 3 seconds (default), 3 = 8 seconds, 4 = 15 seconds, 5 = 45 seconds, 6 = 3 minutes, 7 = 5 minutes, 8 = 15 minutes). The Display Pane will show 't(fade rate number)'
 2. Use the sliders (move up or down) to adjust the channels to the desired levels.
 3. Once all channels are set with the sliders, depress the *Save Preset* button. The Display Pane will show 'SP'.
 4. Depress a Preset Button (1-8) to save the scene as that Preset number.
- To activate a Preset, press the appropriate Preset Button. The Preset number will then be displayed in the Display Pane and all channels will fade to the levels specified for the Preset.
- To go to the Preset channel levels immediately (no fade) when activating a Preset, press the Preset Button twice.



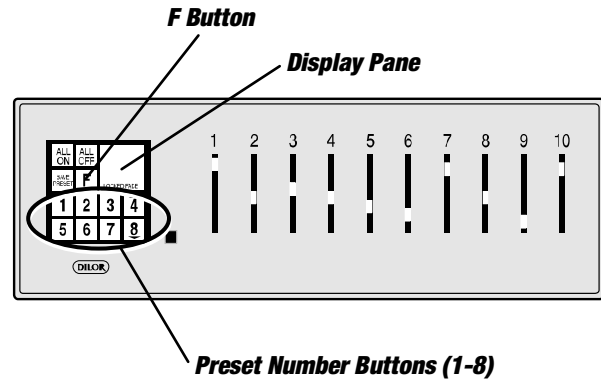
Extended Presets

- Some ALC3 Control Panels have the capability of storing up to 64 Presets in memory. However, only 8 can be activated from a Panel at any one time.
- All stored Presets are arranged in eight groups called *Banks*, with each bank containing up to 8 saved Presets. Preset numbers are two digits, with the first digit designating the bank number and the second digit designating the number of the Preset within that bank. For instance, 'Preset 21' would be Bank 2, Preset 1.
- To program an extended Preset:
 1. Change the fade rate, if desired.
 2. Press the *F* button. The Display Pane will show 'F'.
 3. Press the 3 button to select Bank Function. The Display Pane will show 'b'.
 4. Press a number button 2-8 to select a bank. (Do not select Bank '1', as that is actually the default bank of the Presets normally accessed by pressing buttons 1-8.) The Display Pane will show 'b(bank number selected)'.
 5. Set desired channel levels by moving the sliders, then depress the *Save Preset* button to save the extended Preset in the ALC3's memory. The Display Pane will show 'SP'.
 6. If you want to be able to activate the extended Preset just saved from the Panel's controls, depress a Preset Button (1-8) to be able to activate the extended Preset as that Preset number.
- To activate an extended Preset that is stored in the ALC3's memory, perform Steps 2-4 to select the stored extended Preset, then perform Step 6 so it can be activated by a Preset Button (1-8) on the ALC3 Control Panel.



Fade Rate

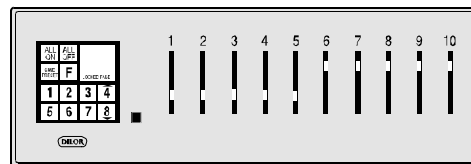
- A Fade is a smooth transition from one dimming level to another one selected. The *Fade Rate* is the amount of time necessary for changing from the existing dimming level to the next.
- In a Dilor Dimming System, the Fade Rate can be any of eight time increments, from 0 seconds to 15 minutes, as shown in the table at the lower right. For programming purposes, each Fade Rate has a number assigned to it. Factory default is 3 seconds (#2)
- Whenever a fade is occurring, a red dot flashes above the word 'FADE' on the right side of the Display Pane. This is the fade indicator light.
- The Fade Rate for any existing Preset is the the fade rate selected when the Preset was last modified. The Fade Rate for ALL OFF is that of the last Preset selected.
- To change the Fade Rate of a Preset:
 1. Press the appropriate Preset Number Button to recall the Preset. The Display Pane will show the Preset's number (1-8).
 2. Press the *F* Button, then '1' to enter Fade Rate Set mode. The Display Pane will show '*t(current fade rate number)*'.
 3. Press the Preset Number Button corresponding to the Fade Rate you want to select. For instance, if you want to select a Fade Rate of 45 seconds, press '5'. The Display Pane will show '*t(new fade rate number selected)*'. For the selected Fade Rate of 45 seconds, the display would be 't5'.
- Fade time for ALL OFF or for any Preset can be bypassed when selected by pressing its button twice. When you press the ALL OFF button or a Preset Number button twice, the Lights will go to OFF, or to the Preset's dimming levels, immediately (no fade).



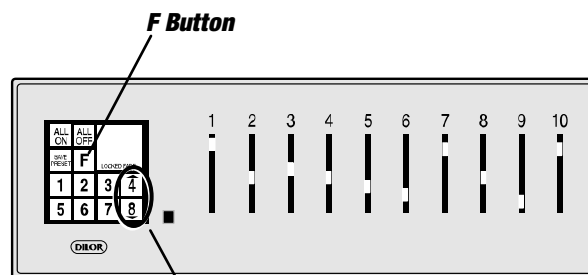
Number	Fade Rate
1	0 seconds (instant)
2	3 seconds
3	8 seconds
4	15 seconds
5	45 seconds
6	3 minutes
7	5 minutes
8	15 minutes

Proportional Master

- Proportional Master controls allow you to raise, or lower, the dimming levels of all the channels in a selected Preset by the same proportion, with their relative brightness remaining the same.
- For example, consider a Preset whose dimming levels are set by the sliders positions shown in **Example 1** at the right. Channels 1-5 are set at dimming levels much lower than Channels 6-10. If you used the Proportional Master Increase control once, Channels 1-5 would increase from (approximately) 25% to 26% brightness and Channels 6-10 would increase from (approximately) 75% to 76% brightness. Likewise, if you used the Proportional Master Decrease control once, Channels 1-5 would decrease from (approximately) 25% to 24% brightness and Channels 6-10 would decrease from (approximately) 75% to 74% brightness. As Channels 1-5 were preset much lower than Channels 6-10, their relative brightness would still remain much lower than Channels 6-10 after Proportional Master adjustments.
- With Proportional Master controls, lights will increase or decrease in brightness at the fade rate programmed for the active Preset.
- To decrease all lighting channels' brightness:
 1. Press the *F* Button.
 2. Press the *4* Button (Proportional Master Increase). This will increase all lighting channels by approximately 1% from their Preset level. Pressing the button again will dim the channels by another (approximately) 1%.
 3. To increase all the lighting channels' brightness more rapidly, hold down the *4* button until the lights brighten to the desired levels.
- To decrease all lighting channels' brightness:
 1. Press the *F* Button.
 2. Press the *8* Button (Proportional Master Decrease). This will dim all lighting channels by approximately 1% from their Preset level. Pressing the button again will dim the channels by another (approximately) 1%.
 3. To dim all the lighting channels more rapidly, hold down the *8* button until the lights dim to the desired levels.
- To activate a Preset, press the appropriate numbered Preset Button.



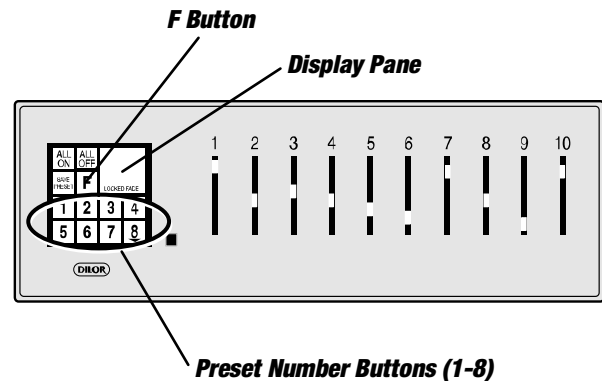
Example 1



Proportional Master Buttons (4, 8)

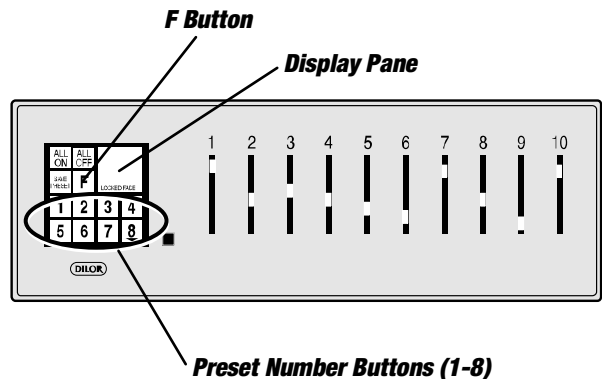
Locking All Stations

- Placing an ALC3 Station in 'Lock' mode will prevent any action on all the Control Stations that are connected to the same data line. In effect, this prevents ANY ACTION on ANY STATION in ALL ZONES, except for 'Unlock'.
- To Lock an ALC3 Control Station along with any interconnected Control Stations:
 1. Press the *F* Button, then '6' to enter Lock mode. The Display Pane will show 'L'.
 2. Press '5174' using the Preset Number buttons. The Display Pane will show an illuminated dot (Locked light) above the word 'LOCKED' to indicate that all control stations in the network are locked.
- To unlock a network of locked ALC3 Control Stations, press 'F', then '6', then '5174' from any of the Control Stations. The Locked light will go off and control will be re-enabled to all the Stations.



Protecting All Stations

- Placing an ALC3 Station in 'Protect' mode will prevent users from changing Presets on all Control Stations that are connected to the same data line. In effect, this prevents changing the Presets on ANY STATION in ALL ZONES, although users can still activate the existing Presets and still change dimming levels with sliders.
- To Protect an ALC3 Control Station and any interconnected Control Station:
 1. Press the *F* Button, then '2' to enter Protect mode. The Display Pane will show 'P'.
 2. Press '6283' using the Preset Number buttons. The Display Pane will show an illuminated dot (Protect light) above the word 'FADE' to indicate that all control stations in the network are protected.
- To un-protect a network of protected ALC3 Control Stations, press 'F', then '2', then '6283' from any of the Control Stations. The Protect light will go off and full user control will be restored to all the Stations.



Locking and Protecting All Stations

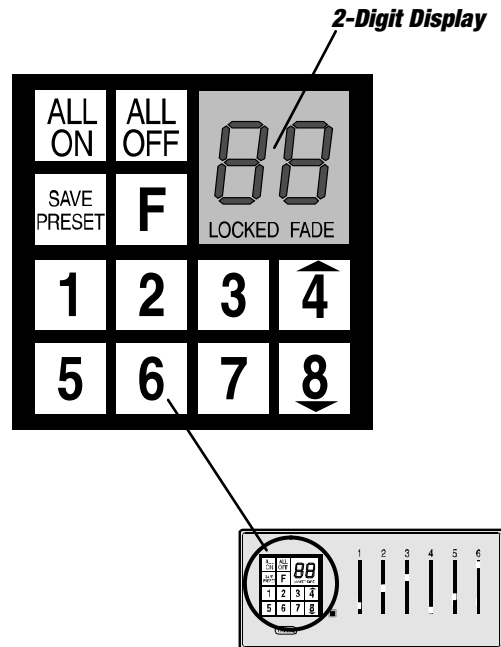
- It is possible to enable the *Lock* mode on all Stations once they have been put in the *Protect* mode. This will allow other operators to lock and unlock the stations, but not change Preset Settings.
- To Lock and Protect a network of ALC3 Control Stations:
 1. Place the network in Protect mode by pressing 'F', then '2', then '6283'.
 2. Place the network in Lock mode by pressing 'F', then '6', then '5174'.
- To remove the network from Lock and Protect mode, first un-lock the network (by pressing 'F', then '6', then '5174' from any control station), then un-protect the network (by pressing 'F', then '2', then '6283').

2-Digit Display

- The 2-digit display next to the control buttons on the front of the ALC3 Control Panel is used to:
 - indicate current status of lighting channels
 - provide prompts when you are programming or changing settings
- The following table lists the various displays and their meanings.

ALC3 Displays

Display	Meaning
--	ALL OFF selected
1	Preset #1 selected
2	Preset #2 selected
2 X	Extended Preset #(X) in Bank 2 selected
3	Preset #3 selected
3 X	Extended Preset #(X) in Bank 3 selected
4	Preset #4 selected
4 X	Extended Preset #(X) in Bank 4 selected
5	Preset #5 selected
5 X	Extended Preset #(X) in Bank 5 selected
6	Preset #6 selected
6 X	Extended Preset #(X) in Bank 6 selected
7	Preset #7 selected
7 X	Extended Preset #(X) in Bank 7 selected
8	Preset #8 selected
8 X	Extended Preset #(X) in Bank 8 selected
ALL	ALL ON selected
b	Bank mode (setting Extended Presets) selected
c	Program (patch) mode selected
F	F (Function) Button selected
L	prompt to enter lock code (5174)
P	prompt to enter protect code (6383)
SP	SAVE PRESET selected
t X	Fade Time set to #(X)
both digits flashing	Patch mode selected
flashing '0'	prompt to select slider during Patch mode
flashing 'X' (digit 1-16)	Patch mode operating for slider #(X)
flashing dot above 'FADE'	Fade in progress
solid dot above 'FADE'	Protect mode selected
solid dot above 'LOCKED'	Lock mode selected



System Programming and Configuration

- Typically, a Dilor Dimming System comes from the factory pre-configured and pre-programmed. All that is necessary is to install the ALD Dimmer Panel, install the ALC3 Control Stations and make the wiring and data signal connections.
- There may be cases where programming details were not made available to the factory, or changes are required after installation. The following sections provide details on programming and configuring the controls in a Dilor Dimming System.

The Dilor Dimming System

- A Dilor Dimming System includes an **ALD Dimmer Panel** and a number of **ALC3 Control Stations**. Refer to the illustration to the right.
- The **ALD Dimmer Panel** houses two primary groups of components
 1. The **Dimmer Modules**, which are mounted in the line voltage section of the panel. They supply the power signal to the the incandescent lighting loads which determines the dimming level. It is important to know which lighting circuit each Dimmer Module is connected to, so each Dimmer Module can be assigned to the appropriate ALC3 Control Station(s).
 2. The **Electronic Control Modules**, which are mounted in the Dimmer Control Electronics section of the panel. They link the data signals from the ALC3 Control Stations outside the panel to the Dimmer Modules or other circuits that regulate the lighting loads. There are 3 types of Electronic Control Modules that can be used in a Dilor System:
 - Dimmer Control Module (most common) provides output signals to the Dimmer Modules for controlling incandescent lighting loads.
 - Ballast Control Module provides output signals directly to dimming ballasts for controlling fluorescent lighting loads.
 - Relay Control Module (not shown) provides output signals for triggering relays ON or OFF in response to signals from ALC3 control stations. Only used for some non-dim applications.

In a Dilor Dimming system, each Electronic Control Module must be assigned an address (Module ID) and connected to specific outputs.

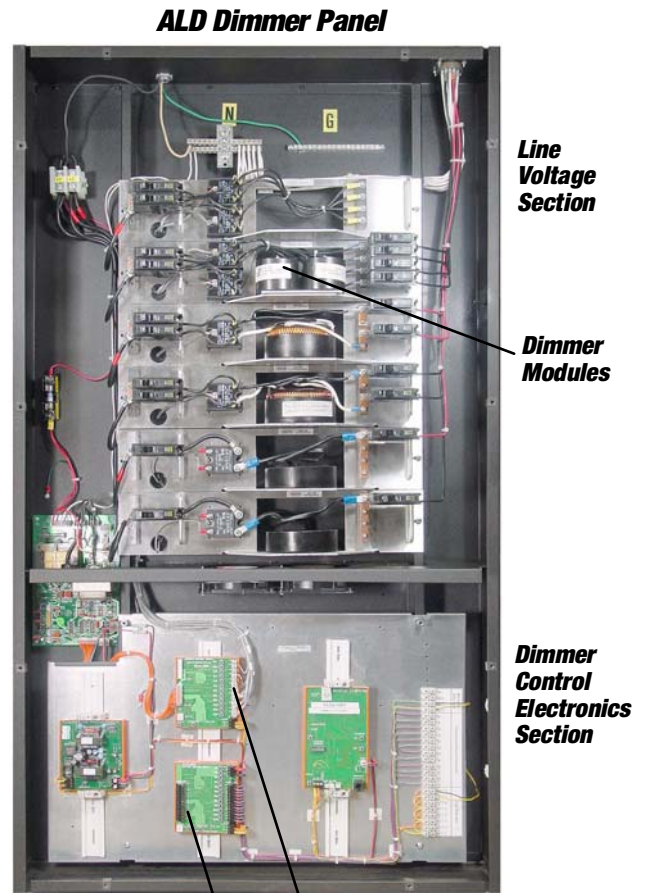
- The **ALC3 Control Station** is a wall-mounted device which allows the user to control the dimming levels by operating its sliders or push buttons. Each control station connects to the Dimmer Control Electronics in the ALD Dimmer Panel via the 2-wire data signal.

Each control station within a Dilor Dimming System can be programmed to a control specific groups of lighting circuits called a *zone*. Up to 15 zones can exist in one Dilor Dimming System, and more than one ALC3 Control Station can control the same zone.

In a Dilor Dimming System, each ALC3 Control Station must be assigned an address (Station ID) and assigned, or *patched* to, specific lighting outputs within its zone. Control Stations that control the same zone are assigned the same address and will operate in parallel.

- The steps for configuring and programming a Dilor Dimming System are:
 - 1) Set Module ID's for all Electronic Control Modules;
 - 2) Determine the zones and which lighting outputs each contains;
 - 3) Assign zones and Station ID's for all ALC3 Control Stations;
 - 4) Patch sliders to specific outputs for all ALC3 Control Stations.

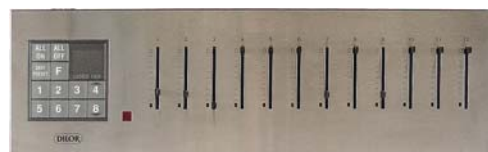
Refer to the following sections for details.



Ballast Control Module



Dimmer Control Module



ALC3 Control Stations

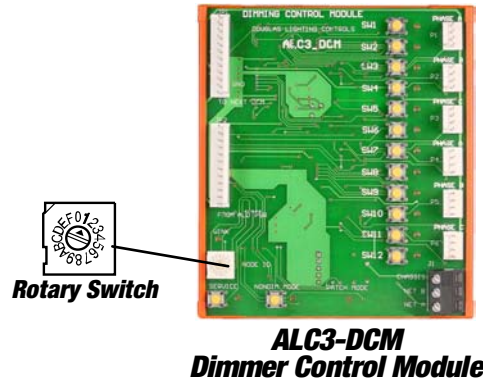
A Dilor Dimming System can contain several ALC3-DCM-12 Dimmer Control Modules. Each Dimmer Control Module has 12 outputs, with the outputs connecting to Dimmer Modules for dimming incandescent lighting loads.

Each Dimmer Control Module must have a Module ID assigned to it.

Dimmer Control Module outputs can be set to NON-DIM mode, where lights are OFF when slider level is below 10% and ON when slider is 10% or above. (Refer to page 14 for details.)

Setting Module ID's

- To set the Module ID's
 1. Determine the number of Electronic Control Modules in the System.
 2. On each Module, find the small rotary switch marked NODE ID. The diagram to the right shows the location on the Dimmer Control Module.
 3. Using a flat tip screwdriver, turn the dial until the arrow points to the address (letter or number) you wish to select. (in the example to the right, the address selected is '1'.)
 4. The order in which addresses are assigned to the Electronic Control Modules does not matter, as long as each and every Module has a unique ID.



ALC3-DCM Dimmer Control Module -Details

To other ALC-DCM

Provides ALD-PSR power signal to another ALC-DCM module, if used.
Connected with 12-pin wire harness.

Power

Power and phase correction signals from ALD-PSR power supply.
Connected with 12-pin wire harness.

Node ID Select

Assign unit an ID by turning center screw with flat screwdriver. (This is usually done at the factory.)
Up to 16 Dimmer Control, Ballast Control and/or Relay Control Modules can exist in a Dilor Network. Each must have a different ID.

Service Button

Press and hold to check power.
indicator LED goes ON if unit has power.

Non-Dim Mode Select Button

Press and hold to start Non-Dim mode. Indicator LED goes ON when mode is active.
Select outputs to be Non-Dim (ON/OFF only) by toggling their Output Select Button.
Press button again to exit mode.

Patch Mode Indicator LED

LED is ON when Patch mode is initiated at a control station.
Select an output to be under control of the selected slider by toggling its Output Select Button.

Data Signal

Standard twisted pair, unshielded 16AWG Beldon #85102 or equivalent.

Output Select Buttons

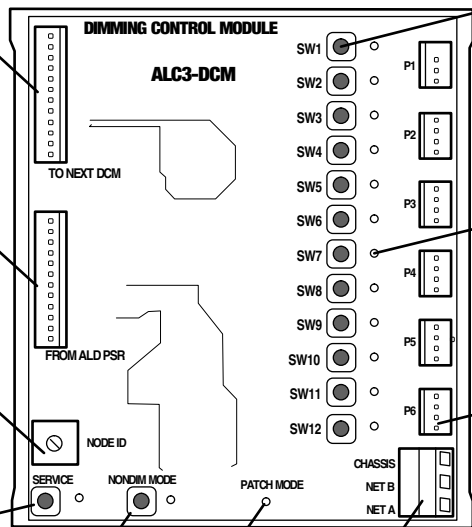
During normal operation, pressing button toggles output to 5V or 0V.
When programming (Non-Dim or patch), pressing button selects or de-selects output.

Output Indicator LEDs

LED is ON when output's slider is at least 20% during normal operation.
LED is also ON when output is selected during Non-Dim or patch programming.

Outputs

0-5VDC power for dimming modules.
Six 4-pin output terminals, each providing two 2-pin output signals.
Output select button and indicator LED adjacent to output pin pair.
Connect to dimming module(s) with 4-pin harness.

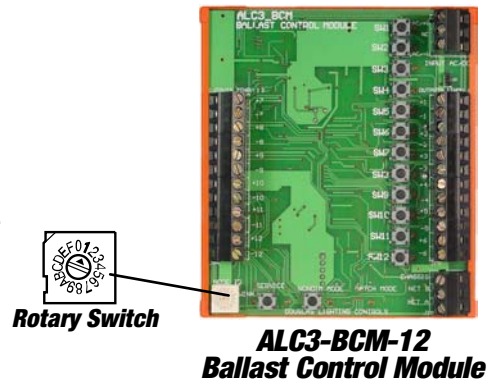


When dimming of fluorescent lighting loads is required, a Dilor Dimming System can contain one or more ALC3-BCM-12 Ballast Control Modules. Each Dimmer Control Module has 12 outputs, with the outputs connecting to dimming ballasts which dim the fluorescent lighting loads.

Each Ballast Control Module must have a Module ID assigned to it.

Setting Module ID's

- To set the Module ID's
 1. Determine the number of Electronic Control Modules in the System.
 2. On each Module, find the small rotary switch marked NODE ID. The diagram to the right shows the location on the Ballast Control Module.
 3. Using a flat tip screwdriver, turn the dial until the arrow points to the address (letter or number) you wish to select. (in the example to the right, the address selected is '1'.)
 4. The order in which addresses are assigned to the Electronic Control Modules does not matter, as long as each Module has a unique ID.



ALC3-BCM Ballast Control Module -Details

Output Select Buttons

During normal operation, pressing button toggles output to 10V or 0V.

When programming (Non-dim or Patch mode), pressing button selects or de-selects output.

Outputs

12 outputs (6 per side), designed to control dimmable ballasts that use 0-10V control.

Maximum of 50 ballasts can be controlled per output. Connections are ballast violet wire = +ve, ballast grey wire = -ve.

Fade rates and up to 128 presets can be stored for each output.

Node ID Select

Assign unit an ID by turning center screw with flat screwdriver. (This is usually done at the factory.)

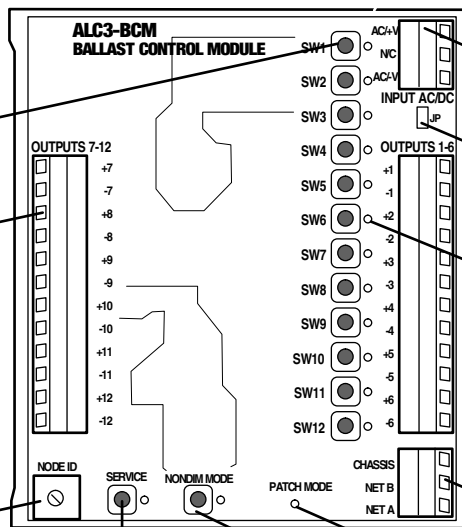
Up to 16 Dimmer Control, Ballast Control and/or Relay Control Modules can exist in a Dilor Network. Each must have a different ID.

Service Button

Press and hold to check power. Indicator LED goes ON if unit has power.

NonDim Mode Select Button

Press and hold to start NonDim mode. Indicator LED goes ON when mode is active.
Select outputs to be non-dim (ON/OFF only) by toggling their Output Select Button.



Power

24VAC or 24VDC +/-10%.

AC/DC Jumper

Remove if using VAC.

Output Indicator LEDs

LED is ON when slider controlling output is at least 20% during normal operation.

LED is also ON when output is selected during Non-Dim or Patch mode.

Data Signal

Standard twisted pair, unshielded 16AWG Belden #85102 or equivalent.

Patch Mode Indicator LED

LED is ON when Patch Mode is initiated at a control station.
Select an output to be under control of the selected slider by toggling its Output Select Button.

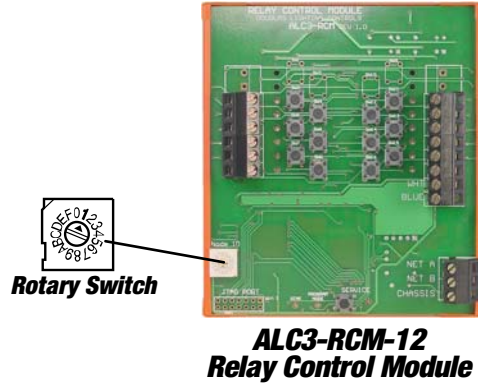
When latching relays need to be switched ON or OFF in response to signals from an ALC3 Control Station, a Dilor Dimming System can contain one or more ALC3-RCM-12 Relay Control Modules. Each Relay Control Module has 12 outputs, with the outputs connecting to 2-wire Douglas latching relays.

The Relay Control Module can be mounted in the ALD Dimmer Panel or in a separate relay panel. It must receive the data line signal from an Active Power Link interface.

Each Relay Control Module must have a Module ID assigned to it.

Setting Module ID's

- To set the Module ID's
 1. Determine the number of Electronic Control Modules in the System.
 2. On each Module, find the small rotary switch marked NODE ID. The diagram to the right shows the location on the Relay Control Module.
 3. Using a flat tip screwdriver, turn the dial until the arrow points to the address (letter or number) you wish to select. (in the example to the right, the address selected is '1'.)
 4. The order in which addresses are assigned to the Electronic Control Modules does not matter, as long as each Module has a unique ID.



ALC3-RCM Relay Control Module -Details

Output Indicator LEDs

LED is ON when output is triggered during normal operation.

LED is also ON when output is selected during programming.

Output Select Buttons

During normal operation, pressing button toggles output to ON or OFF.

When programming (Non-Dim or Patch), pressing button selects or de-selects output.

Node ID Select

Assign unit an ID by turning center screw with flat screwdriver. (This is usually done at the factory.)

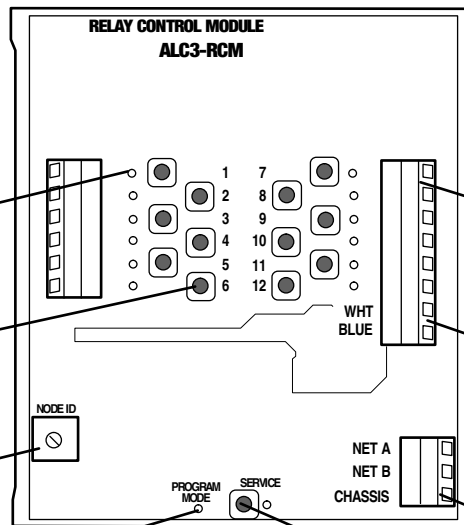
Up to 16 Dimmer Control, Ballast Control and/or Relay Control Modules can exist in a Dilor Network. Each must have a different ID.

Program Mode Indicator LED

LED is ON when Patch mode is initiated at a control station. Select an output to be under control of the selected slider by toggling its Output Select Button.

Service Button

Press and hold to check power. Indicator LED goes ON if unit has power.



Outputs

12 outputs (6 per side). Compatible with all models of Douglas 2-wire latching relays.

Maximum number of relays per output: 2.

Relay outputs trigger ON when slider level exceeds 10%.

Fade rates and up to 128 presets can be stored for each output.

Power

24VAC, 50ma.

From ALC-PRS power supply in ALD Dimmer Panel or 24V transformer in relay panel.

Data Signal

Standard twisted pair, unshielded 16AWG Beldon #85102 or equivalent.

Data signal must come directly from an Active Link Power Interface.

It is necessary to divide the total area serviced by the Dilor Dimming system into 'Zones', or separate, individually-controlled areas or rooms.

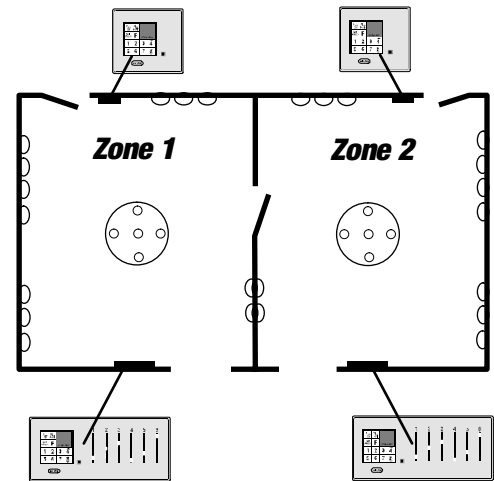
It is also necessary to determine which ALC3 Control Station, or Control Stations, will control each zone and to assign each Control Station an address, or Station ID Number.

Normally, zones and their Control Stations, as well as each Station's ID Number, are determined and assigned in the design/fabrication stage and are listed in the *Dimmer Cabinet Schedule* that comes with the Dilor Dimming System's fabrication drawings.

In cases where zones and/or Control Stations need to be assigned/re-assigned or numbered/re-numbered on-site, follow these procedures:

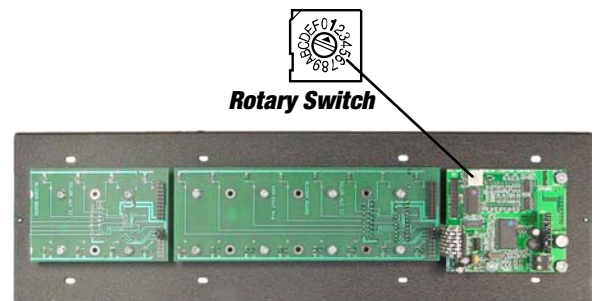
Determining Zones and their Control Stations

- To determine zones and their Control Stations
 1. Study the reflected ceiling plan. Divide all the space into areas that will have separately-controlled lighting. They will become the zones.
In the example at the right, the space is divided into two rooms. The first room will be zone 1 and second room will be zone 2.
 2. Once the zones have been determined, decide the location for the ALC3 Control Station, or control stations, that will control the lights within each zone. Consider what the zone will be used for and where the control station(s) will be located relative to the occupants. You should usually locate the stations in areas where the occupants are likely to be when they want to turn on or dim the lights.
In the example at the right, each room will have a control station with sliders near the front main entrance. Each room will also have a smaller control station with only ON/OFF and Preset activation near the rear service entrance.
 3. Once all the zones' control stations and their locations have been determined, record this information for future reference. (For this purpose, you can use a copy of a blank dimming station schedule provided on page 17 of this manual.)



Setting Control Station IDs

- To set the Station ID's
 1. Determine which ALC3 Control Station(s) will control each zone.
 2. On each Control Station, find the small rotary switch marked NODE 1D. The example at the lower right shows the location on a typical ALC3 Control Station. The rotary switch will always be on the circuit board located behind the push button controls.
 3. Using a flat tip screwdriver, turn the dial until the arrow points to the address (letter or number) you wish to select. (In the example at the lower right, the address selected is '1'.)
 4. The order in which addresses are assigned to the Control Stations does not matter for the Dilor Dimming System to function. It is recommended, however, that you assign ID# 1 to the Control Station(s) that will control zone 1, ID# 2 to the Station(s) that will control zone 2, ID# 3 to those that will control zone 3, etc. for simplicity.
 5. If more than one control station will control the same zone, be sure to assign the same Control Station ID to all those stations. They will operate in parallel. When programming, you will only have to program one of the Stations in the zone for all of them to receive the same programming.
In the example above where zones were assigned, the two Control Stations in the first room (zone 1) would each be assigned ID# 1 and the two Control Stations in the second room (zone 2) would each be assigned ID# 2.



**ALC3 Control Station
(back)**

It is necessary to assign lighting circuits to the sliders on each control panel. The lighting circuits assigned to any slider are called the 'Control Channel' for that slider.

Usually, control channels for all ALC3 Control Stations in a Dilor Dimming System are assigned in the fabrication stage and are listed in the *Dimmer Cabinet Schedule* that comes with the Dilor Dimming System's fabrication drawings.

In cases where control channels need to be assigned or re-assigned on-site, follow this procedure:

Programming (Patching) Sliders to Lighting Outputs

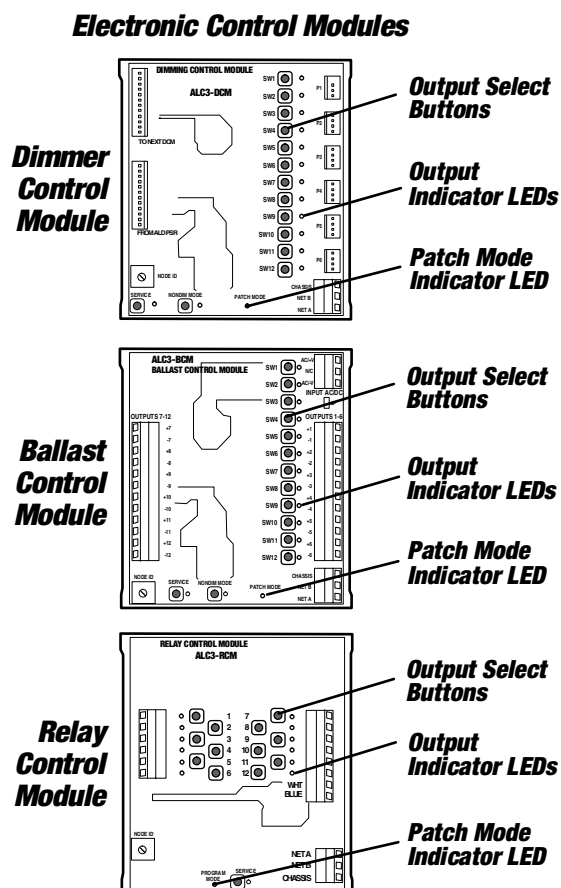
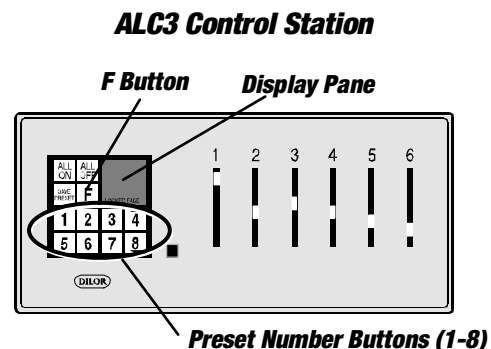
■ To program sliders to lighting outputs

If programming more than one ALC3 Control Station, it is best to go in a logical, sequential order following the zones. Start at the lowest zone number and work your way up. (If you have set your Station ID numbers to match the zone they control, it is easiest to do it this way.)

If more than one control station is controlling the same zone, it is only necessary to program one of the zone's control stations. It is best to program the control station that has the most sliders.

1. Go to the ALC3 Control Station you wish to program and press 'F', then '5'. The Display Pane will display 'c'.
2. Enter the configuration code '2637' by pressing the Preset Number Buttons. The Display Pane will show a flashing '0'.
3. Move the slider you wish to assign outputs to. The Display will change to a flashing '(slider number)'. The system is now in Patch Mode for the slider selected.
4. Go to the ALD Dimmer Panel. The *Patch Mode Indicator LED* on any of the Electronic Control Modules with outputs controlled by that slider will be ON, and the *Output Indicator LEDs* will be ON for those outputs controlled by the slider.
5. Add or remove outputs for the slider selected by toggling the *Output Select Button* for the output. If the *Output Indicator LED* is ON, that output has been added, if the *Output Indicator LED* is OFF, that output has been removed.
6. Return to the ALC3 Control Station and press the 'F' button to exit Patch Mode and store the settings.
7. Repeat the previous steps for any other sliders you wish to program.

Note: During Patch Mode there is a 15-minute time out, meaning the system will exit Patch Mode if it detects no activity for 15 minutes. If the *Patch Mode Indicator LED* on the Electronic Control Module goes out at any time during programming, it will be necessary to re-start the programming of its outputs from the beginning.



In some cases, it may be preferred to only switch certain lighting outputs in a Dilor Dimming System only ON and OFF from full brightness to full darkness.

In these cases, the lighting outputs can be programmed to the NON-DIM mode, where they are ON when their controlling slider is 10% or greater and OFF when their controlling slider is below 10%.

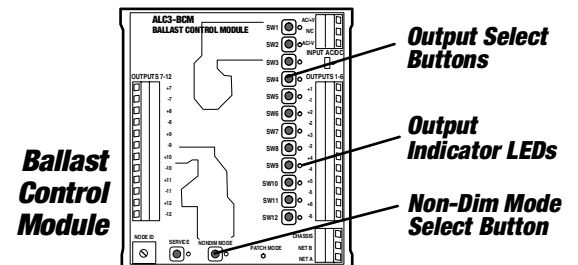
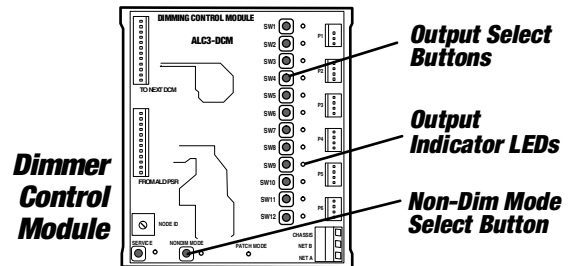
Non-dim programming is done on the Electronic Control Module for the output, at the ALD Dimmer Panel. Use the following procedure:

Programming Lighting Outputs as Non-Dim

- To program lighting outputs as Non-Dim
 1. Go to the ALD Dimmer Panel. Locate the Dimmer Control Module or the Ballast Control Module that controls the lighting output you want to configure.
 2. Press and hold (for approximately 3 seconds) the *Non-Dim Mode Select Button* until the LED next to it goes ON.
 3. Add or remove outputs for Non-Dim Mode by toggling the *Output Select Button* for the output. If the *Output Indicator LED* is ON, that output is designated as Non-Dim, if the *Output Indicator LED* is OFF, that output is not Non-Dim.
 4. Press and hold the *Non-Dim Mode Select Button* until the LED next to it goes OFF to exit Non-Dim mode and store the settings.
 5. Repeat the previous steps for outputs at any other Electronic Control Modules in the panel you wish to program as Non-Dim.

Note: During Non-Dim Mode there is a very short 30-second time out, meaning the system will exit Non-Dim Mode if it detects no activity for 30 seconds. If the *Non-Dim Mode Indicator LED* on the Electronic Control Module goes out at any time before programming is complete, it will be necessary to re-start the programming of that module from the beginning.

Electronic Control Modules



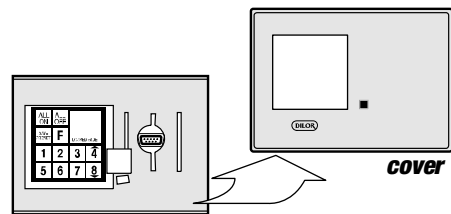
Presets and other settings can be programmed into an ALC3 Preset Activation Station (a Control Station without sliders but with push button controls) using a Portable ALC3 Master Station.

Provided the Preset Activation Station has a socket (either built-in or remote) for connecting to a Portable Master Station, you can use the sliders and push buttons on the Master Station to program the Activation Station's presets.

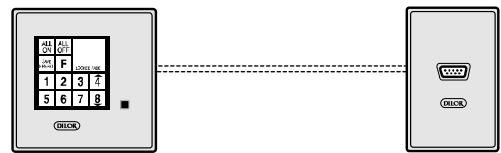
To program a Preset Activation Station with a Portable Master Station, use the following procedure:

Programming using a Portable Master Station

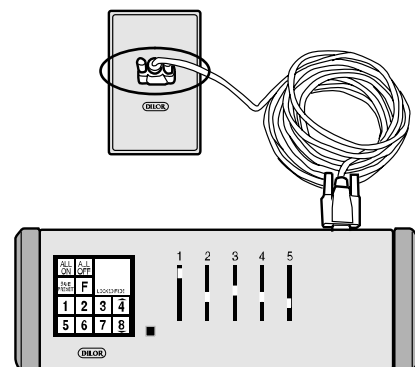
- To program a Preset Activation Station with a Portable Master Station:
 1. To be programmable by a Portable Master Station, the Preset Activation Station must have a socket, either built-in (under the snap-on cover plate) or remote (mounted separately on wall) as shown in the illustration at right. Locate the socket.
 2. Make sure the Preset Activation Station has a correct Station ID assigned (see page 13 for details).
 3. Plug the Portable Master Station into the socket, using the cable as shown in the illustration to the lower right.
 4. Using the sliders and push buttons on the Portable Master Station, program Presets for the Preset Activation Station. (Refer to page 4 of this manual for the step-by-step procedure for programming a Preset.)
 5. When finished, detach the Portable Master Station from the socket. The Preset Activation Station will activate the Preset last programmed when any of its Preset Buttons (1-8) are pushed.



Preset Station with built-in socket



Preset Station with remote wall socket



Portable Master Station plugged into socket

DOUGLAS **lighting controls®**

www.DouglasLightingControls.com
4455 Juneau Street • Burnaby, B.C. • CANADA
phone: (604) 873-2797 • fax: (604) 873-6939

WARRANTY

DOUGLAS products are warranted for one year from the date of purchase by the consumer against defects due to materials and the company's workmanship only. The sole obligation hereunder shall be to repair, or at the company's option to replace, products as aforesaid, provided same are returned, upon authorization, 'Transportation Prepaid' to the company's Burnaby, CANADA office within the said period. Defects or failures due to improper or careless installation, storage or handling, or usage other than rated conditions, are specifically excluded from this warranty. No liability is accepted for return transportation charges following repair or replacement as aforesaid or for reinstallation costs. No other liability of any nature or kind, whether arising out of or from the use of the product, whether or not defective, is assumed.

DOUGLAS lighting controls reserves the right to cancel or change items shown in this publication without notice.