User manual and installation guide

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Introducing the Light Dimmer Box

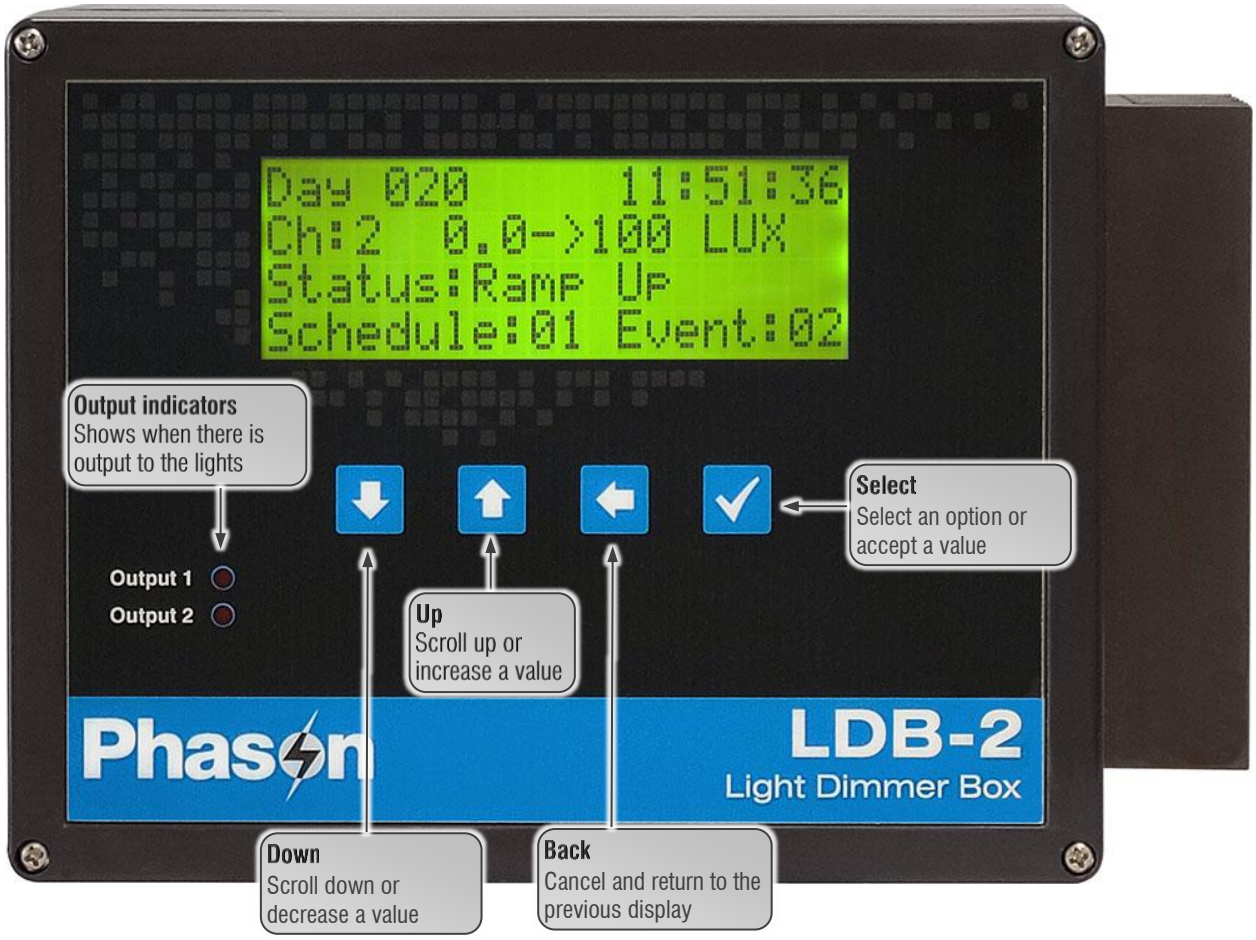
Phason's Light Dimmer Box (**model LDB-2**) is designed around its easy-to-use functionality and ability to control LED, CFL, or incandescent lights. The LDB-2's large 4-line, 20-character display is bright and easy to read, and the 4-button keypad makes it a breeze to navigate through the menu and program the control.

Whether you are using the LDB-2 to control a light schedule for your poultry, swine, dairy, or greenhouse facility, the Light Dimmer Box is sure to exceed your expectations.

Features

- LED, CFL, and incandescent light compatibility
- Two automatic modes:
  - **Power mode** controls by 0 to 100% power output
  - **Sensor mode** controls by measured LUX output
    Requires DOL 16 light sensor
- Configurable 365-day lighting program
- Independent programs for each channel
- Up to 20 schedules/lighting periods, per control mode
- Up to 12 events per schedule
- Separate ramp-up and ramp-down durations
- Automatic program restart option
- Manual override
- Two variable AC channels
- Two DC-signal channels
- Two disconnect relays
- Two light sensor connections
- Light output calibration
- Connection for a Variable Load Expansion Box
- Four-line, 20-character backlit LCD display
- Real-time clock with power-failure settings protection
- NEMA 4X enclosure (corrosion resistant, water resistant, and fire retardant)
- CSA approval (cCSAus)
- Limited warranty (two years)

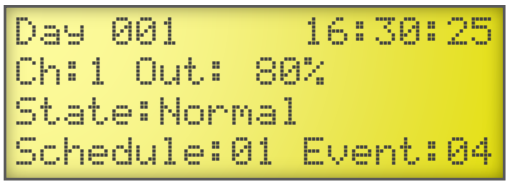
Becoming familiar with the Light Dimmer Box



Menus and displays

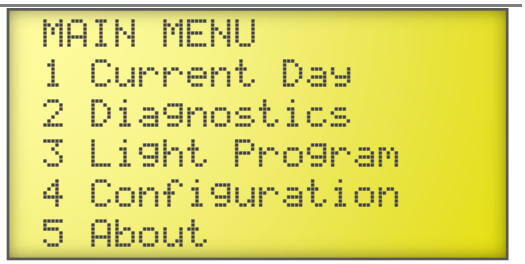
Main display

- ◇ Shows the program status and time
- ◇ Press **Select** to go to the main menu.



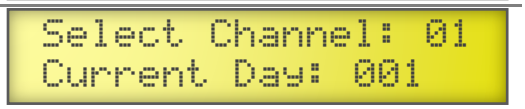
Main menu

- ◇ Provides access to information and settings.
- ◇ Press **Up** or **Down** to move through the menu.
- ◇ Press **Select** to access an item.



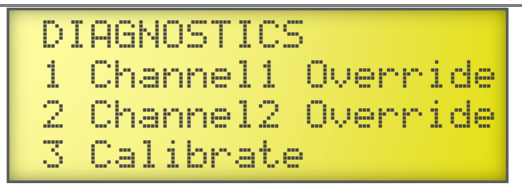
Current day

Move forward or backward in your lighting program. For more information, read **Current day** on page 17.



Diagnostics menu

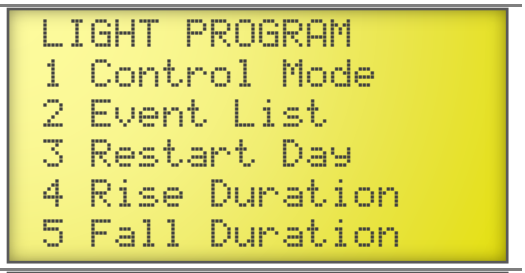
- ◇ Manually adjust the output. For more information, read **Manual override** on page 18.
- ◇ Allows you to calibrate the minimum and maximum light output. For more information, read **Light output calibration** on page 19.



Light program menu

Provides access to all light program settings and configuration. For more information, read:

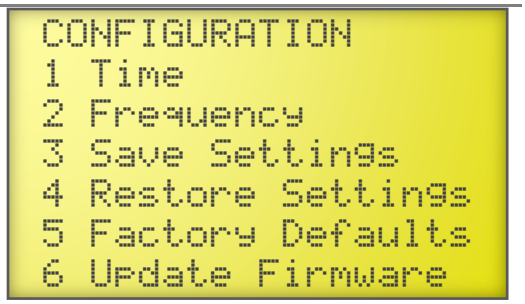
- ◇ **Control mode** on page 12
- ◇ **Light program** on page 13



Configuration menu

Provides access to configuration. For more information, read:

- ◇ **Control time** on page 12
- ◇ **Operating frequency** on page 11
- ◇ **Saving and restoring settings** on page 21
- ◇ **Factory defaults** on page 20
- ◇ **Updating the firmware** on page 22



About display

Shows the version and date of the firmware.

What you need to know before installing the LDB-2

It is important that you read the following sections **before** you install your control.

Understanding power surges and surge suppression

Power surges can be caused by external influences (for example, lightning or utility distribution problems) or they can be caused internally (for example, starting and stopping inductive loads such as motors).

One of the most common causes of power surges is lightning. When lightning strikes the ground, it produces an enormously powerful electromagnetic field. This field affects nearby power lines, which transmit a surge to any device connected to it, such as lights, computers, or environmental controls like your Light Dimmer Box. Lightning does not have to strike a power line to transmit a surge.

- If you do not install external surge suppression devices, you risk damage to the electronics inside your LDB-2, which may cause your LDB-2 to fail.
- Because it is not possible to **completely** protect this product internally from the effects of power surges and other transients, we **highly recommend** that you install external surge suppression devices. For specific recommendations, see your electrical contractor.
- If you do not take these precautions, you acknowledge your willingness to accept the risk of loss or injury.

Electrical ratings

Control power	120/230 VAC, 50/60 Hz Fuse: 250 V, 1 A fast-acting glass
Variable AC	1000 watts at 120 VAC, 2000 watts at 230 VAC 8.5 A at 120/230 VAC, general-purpose (resistive) Fuses: 15 A, 250 VAC ABC-type ceramic
Relays	1/3 HP at 120 VAC, 1/2 HP at 230 VAC 360 W tungsten at 120 VAC Fuse: 12 A, 250 VAC ABC-type ceramic
Variable DC signals	0 to 10 V, 50 Ω, 200 mA
Alarm relay	0.4 A at 125 VAC, 2.0 A at 30 VDC, resistive load 0.2 A at 125 VAC, 1.0 A at 30 VDC, inductive load

Variable AC lights must be on the same phase as the control.

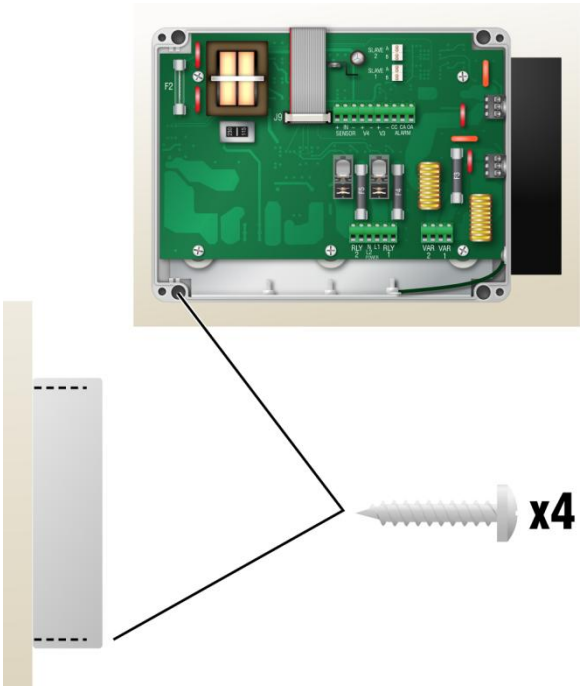
Installing your control

Before connecting the incoming power, switch OFF the power at the source. Do not switch ON the power until you have finished all wiring and verified all equipment is properly connected and free of obstructions.

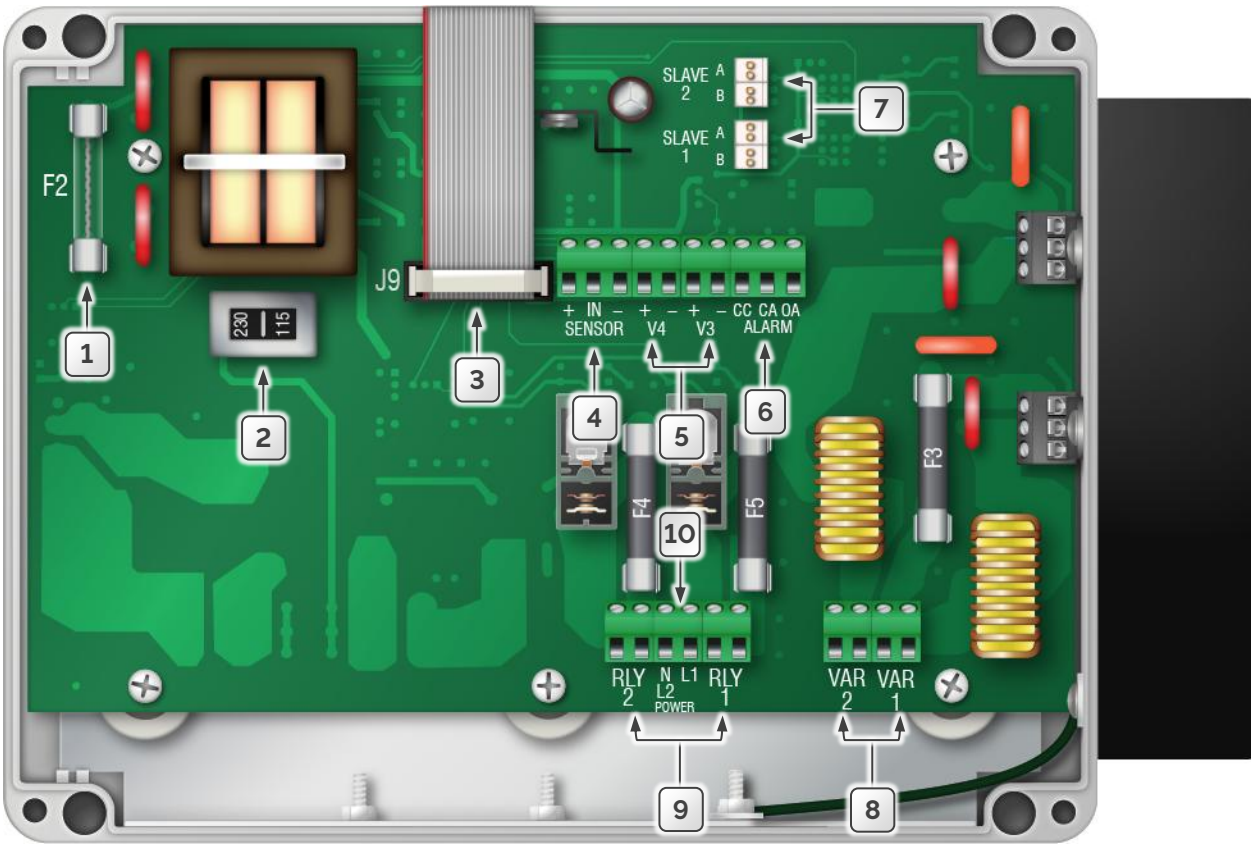
- Use the electrical knockouts for bringing wires or cables into or out of your control's enclosure. Do not make additional holes in the enclosure; this can damage the watertight seal or control components and void the warranty.
- Before connecting the power, set the voltage selection switch to the correct voltage.

Mounting your control

1. Select a location for your control.
   Make sure you have enough cable and wire to reach all the equipment you want to control.
2. Remove the screws from the front cover and then gently lift it off.
3. Mount the enclosure to a wall using the four screws provided with the control. Insert the screws into the large holes in each corner of the box and then tighten.



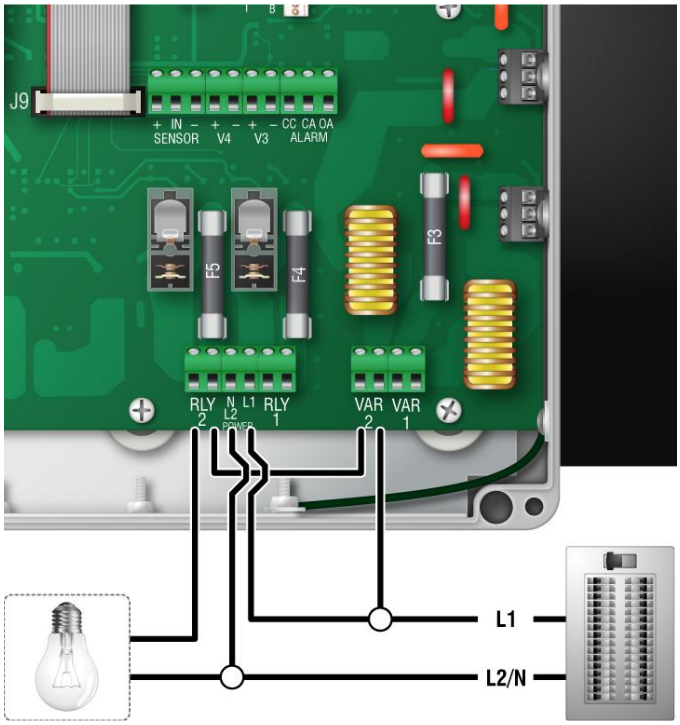
Control board layout



1	**Control fuse:** The fuse is 250 V, 1 A fast-acting glass.
2	**Voltage selection switch:** Set the switch to the correct supply voltage before installing your control.
3	**Display cable:** Make sure the ribbon cable from the display is properly connected.
4	**Sensor terminal:** This terminal is not used
5	**Variable DC terminals:** Connect lights requiring a 0 to 10 V DC signal for control.
6	**Alarm relay terminal:** Connect an external alarm system or siren to this terminal.
7	**Expansion Box connectors:** You can connect optional Variable Load Expansion Boxes (model VLX-20) to these connectors.
8	**Variable AC terminals:** Connect AC powered lights. AC powered lights must be on the same phase as the control.
9	**Disconnect relay terminals:** Connect as a disconnect switch.
10	**Incoming power terminal:** Connect the incoming power (120/230 VAC, 50/60 Hz).

Connecting lights to the variable AC

The relays follow the variable circuits and act as disconnect switches. RLY 1 is for VAR1; RLY 2 is for VAR2. When the output is 0%, the relay is open (off). When the output is 1% or higher, the relay is closed (on).

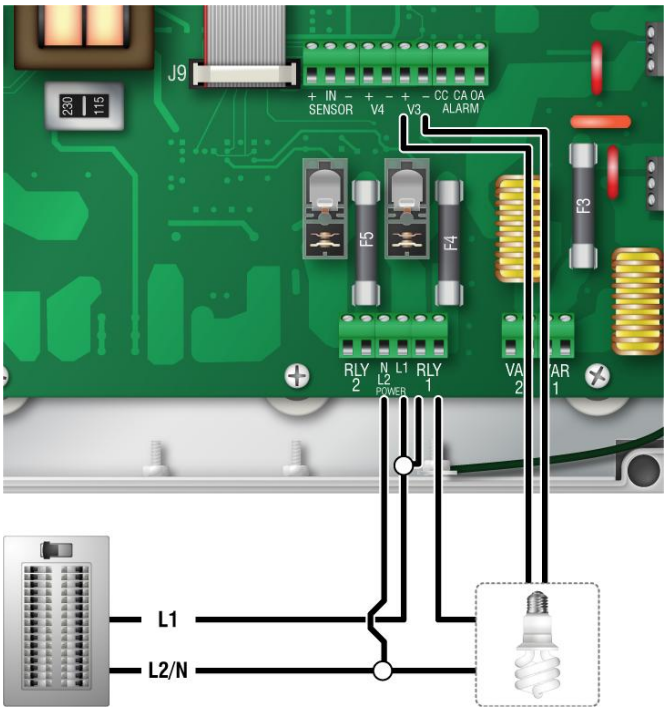


> **NOTE** Variable AC lights must be on the same phase as the control.

Connecting lights to the variable DC

The variable DC outputs are for controlling AC-powered, dimmable lights requiring a 0 to 10 V DC signal.

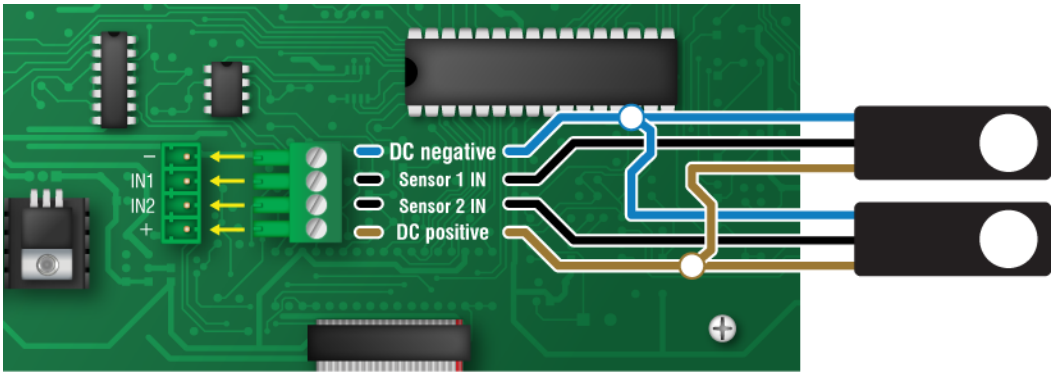
The relays follow the variable circuits and act as disconnect switches. RLY 1 is for V3; RLY 2 is for V4. When the output is 0%, the relay is open (off). When the output is 1% or higher, the relay is closed (on).



Connecting DOL 16 light sensors

You can connect an optional **DOL 16 light sensor**. Light sensors allow you to take advantage of the LDB-2's ability to control by lux output and adjust according to ambient light.

Sensor 1 is for VAR 1/V3. Sensor 2 is for VAR 2/V4.



Verifying the installation

After installing and connecting equipment, verify the installation by following the steps below.

1. Make sure the voltage selection switch is in the correct setting.
2. Make sure all wires are properly connected to the correct terminals. Make sure you know which piece of equipment is connected to each relay.
3. Make sure the display cable is properly connected.
4. Place the cover on the control and then tighten each screw a couple turns using your fingers.
5. Switch on the power to your LDB-2.

   When the power comes on, the control should show a `Power Fail` message and then show the main display. If the main display does not show, go back to step 1.
6. Test the equipment using manual override. For more information, read **Manual override** on page 18.
7. Tighten the four screws in the cover.

Do not over tighten the screws. Avoid using power screwdrivers or drills.

Programming the Light Dimmer Box

Programming the Light Dimmer Box means entering in the information it will need to control lights according to your specifications. Below is the recommended order of programming your control.

1. **Operating frequency**, only if using 50 Hz, (below)
2. **Control time** (on page 12)
3. **Control mode** (on page 12)
4. **Light program** (on page 13)

You can use an LDB-2 Saver to program controls in seconds. For more information, read **LDB-2 Saver** on page 24.

Operating frequency

In North America, utility companies supply power at 60 Hz. In some areas of the world, power is supplied at 50 Hz. The control is set to 60 Hz at the factory.

To change the operating frequency

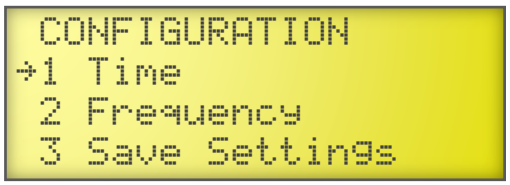
1. In the Configuration menu, press **Down** until the cursor is beside `Frequency`, and then press **Select**.
2. Press **Select**.
3. Press **Up** or **Down** to switch between 50 and 60 Hz, and then press **Select**.
4. Press **Back** until you reach the menu or display you want.

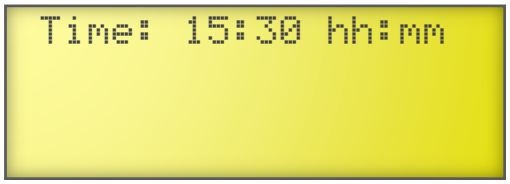
Control time

Because the Light Dimmer Box switches relays on or off at specific times, it is important that the control time be correct. The Light Dimmer Box uses **24-hour time**.

To change the control time

1. In the Configuration menu, press **Down** until the cursor is beside Time, and then press **Select**. The display shows the current time.
2. Press **Select**.
   The hours flash.
3. Press **Up** or **Down** to adjust the hour, and then press **Select**. Repeat for the minutes.
4. Press **Back** until you reach the menu or display you want.





Control mode

The Light Dimmer Box has two automatic modes: **power control** and **sensor control**. Each channel can have the same or different mode.

Power control mode

In power control mode, the Light Dimmer Box adjusts the power to the lights from 0 to 100%. There is no adjustment for ambient light or other factors.

Sensor control mode

In sensor control mode, the Light Dimmer Box adjusts the output of the lights according to the measured lux values. The control automatically adjusts for ambient light. Sensor control mode requires an optional **DOL16 light sensor**. A separate light sensor is required for each channel using sensor control.

Sensor mode has an alarm you can enable. When the control detects abnormal readings, it can display a message on the screen.

To select the control mode

1. In the Light Program menu, press **Down** until the cursor is beside `Control Mode`, and then press **Select**.
2. Press **Select**.
3. Press **Up** or **Down** to select the channel, and then press **Select**.
4. Press **Up** or **Down** to select the mode you want to use, and then press **Select**.

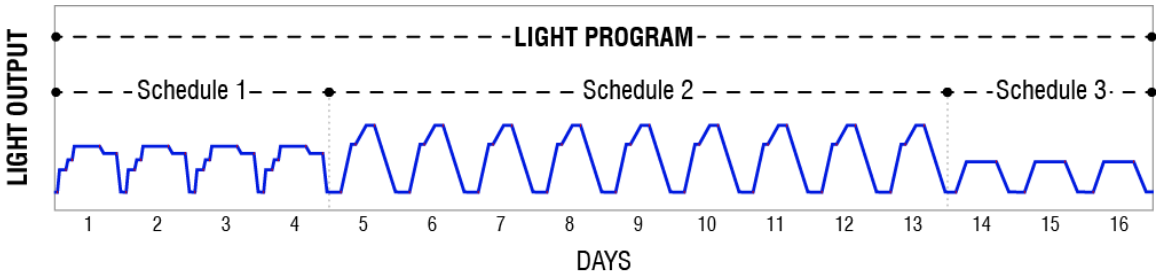
   If you selected power control, the process is complete.
5. Press **Select**.
6. You have the option to enable or disable the sensor alarm.
   To change the setting, press **Up** or **Down**.
7. Press **Select**.
8. Press **Back** until you reach the menu or display you want.

Light program

The light program consists of **schedules**, **events**, a **rise duration**, a **fall duration**, a **start day**, and an **end day**. Each channel can run the same or different light programs. The following diagrams and explanations will help you understand how the settings work together.

Schedules

Schedules operate on 24-hour cycles (days), from midnight to midnight. Schedules can be from 0 to 365 days. Setting a schedule to 0 days disables that schedule. At the end of a schedule, the next schedule starts. If there are no more schedules, the control follows the setting for the **restart day** (see the next page). The light program can have up to 20 schedules.

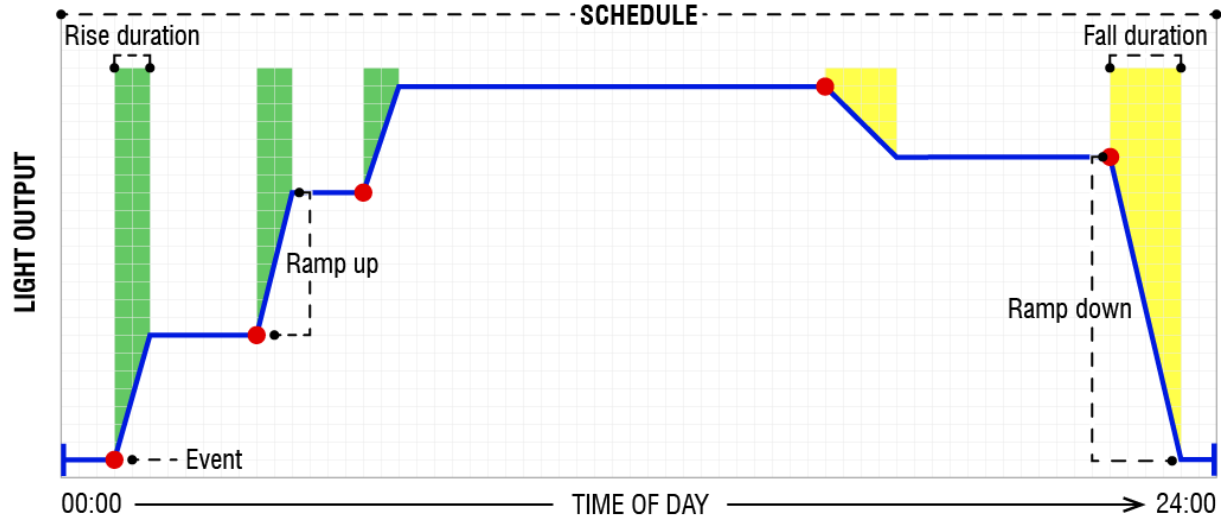


Events

Events are times of day at which the light output starts to change. Each event has a time of day and a light output. The time of day is in 24-hour time. There can be up to 12 events for each schedule.

Rise and fall durations

Rise duration is the amount of time it takes to increase the light level from one event to the next. Fall duration is the amount of time to decrease the light level. The rise and fall durations can be different from each other. There is only one rise duration and one fall duration; you cannot have different durations for different events. The range for both is 1 to 100 minutes; the default is 1.



Restart day

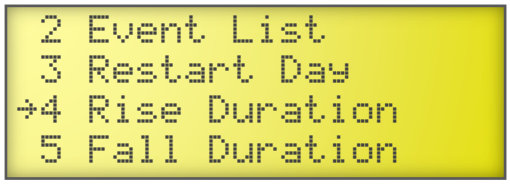
The restart day determines what happens at the end of the light program. The restart day can be from day 1 to 365, and can be set to disable or enable.

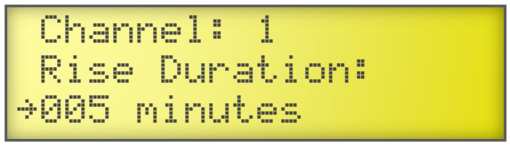
If you set the restart day to disable, at the end of the selected day, the light program does not restart and the output goes to 0. If you set the restart day to enable, at the beginning of the selected day, the light program restarts at schedule 1.

For example, if the restart day is set to 100, at the beginning of day 100, the light program restarts at schedule 1, day 1.

To set the rise and fall durations

1. In the Light Program menu, press **Down** until the cursor is beside `Rise Duration`, and then press **Select**.
2. If you need to choose a different channel, press **Select**.
   The setting flashes.
3. Press **Up** or **Down** to change the channel, and then press **Select**.
4. Press **Up** or **Down** to move to the duration line, and then press **Select**.
5. Press **Up** or **Down** to adjust the setting, and then press **Select**.
6. Press **Back** to return to the Light Program menu.
7. Repeat steps 1 to 6 for fall duration.
8. Press **Back** until you reach the menu or display you want.

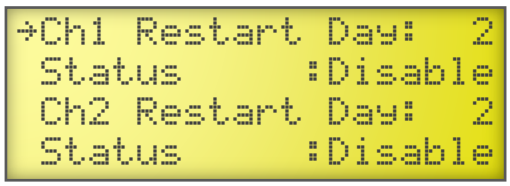




To set the restart day and status

1. In the Light Program menu, press **Down** until the cursor is beside `Restart Day`, and then press **Select**.

   If you only want to change the status, go to step 5. If you want to change the day, continue with the next step.
2. Press **Up** or **Down** to select the channel you want to adjust, and then press **Select**.
3. Press **Up** or **Down** to set the restart day, and then press **Select**.
4. If you want to change the status, continue with the next step. Otherwise, press **Back** to return to the Light Program menu.
5. Press **Down** until `Status` is highlighted, and then press **Select**.
6. Press **Up** or **Down** to switch between `Enable` and `Disable`, and then press **Select**.
7. Press **Back** until you reach the menu or display you want.



To program schedules

The schedule number and channel assignment
The days the schedule starts and ends
The number of active events

1. In the Light Program menu, press **Down** until the cursor is beside Event List, and then press **Select**.
   Schedule 1 displays. If you have not set up the schedule, the channel assignment will be Off.
2. Select the schedule you want to program and the channel assignment.
   a. With the cursor beside Schedule, press **Select**.
      The schedule number flashes.
   b. Press **Up** or **Down** until the schedule you want displays, and then press **Select**.
      The channel assignment flashes.
   c. Press **Up** or **Down** select the channel assignment, and then press **Select**.
3. Set the start and end days.
   a. Press **Down** until the cursor is beside Start, and then press **Select**.
      The start day flashes.
   b. Press **Up** or **Down** set the start day, and then press **Select**.
      The end day flashes.
   c. Press **Up** or **Down** set the end day, and then press **Select**.
4. If you want to program events, read the next section. If you are finished programming, press **Back** until you reach the menu or display you want.

To program or edit events

The event number, time of day the event starts, and light output (in % or LUX) after the rise or fall

1. In the Schedule screen, with the schedule you want to edit selected, press **Down** until the cursor is beside the event you want to edit and then press **Select**.
   The hour flashes.
2. Press **Up** or **Down** to adjust the hour, and then press **Select**.
   The minute flashes.
3. Press **Up** or **Down** to adjust the minute, and then press **Select**.
   The light output flashes.
4. Press **Up** or **Down** to adjust the light output, and then press **Select**.
   The cursor returns to the beginning of the line and the event is saved.

5. Repeat these steps for each event you want to program.
6. When finished, press **Back** until you reach the menu or display you want.

The Light Dimmer Box organizes events automatically by time. If you program a new event that is earlier than one you have already programmed, the control inserts it at the correct time and then re-numbers the events.

Using and maintaining the Light Dimmer Box

After programming the Light Dimmer Box, it will operate according to your specifications. However, there might be times when you need to service or maintain equipment, or perform other tasks. Below is a list of these tasks you can perform.

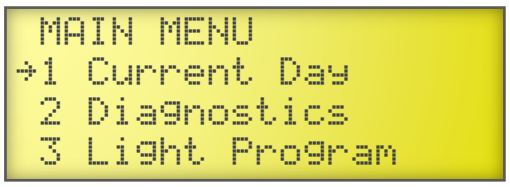
- Change the current day of the light program (below)
- Manually override the light output (on page 18)
- Save and restore settings from an LDB-2 Saver (on page 21)
- Restore the factory defaults (on page 20)
- Update the firmware (on page 22)

Current day

The real-time clock counts time (seconds, minutes, hours, days), up to 365 days and then starts at day 1 again. Adjusting the current day allows you to move forward or backward in the light program.

To change the current day

1. In the Main menu, with the cursor beside Current Day, press **Select**.
2. If the channel you want to change is not selected, press **Select**.
3. Press **Up** or **Down** to select the channel, and then press **Select**.
4. Press **Up** or **Down** to move the cursor beside Current Day, and then press **Select**.
5. Press **Up** or **Down** to set the current day, and then press **Select**.
6. Press **Back** until you reach the display you want.



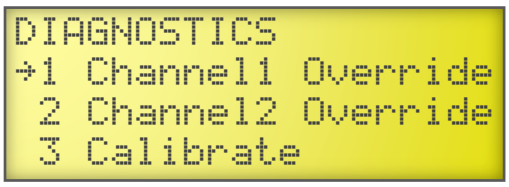
Manual override

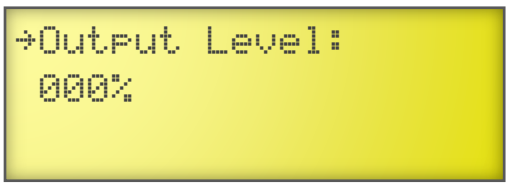
Manual override is for testing the installation and equipment connected to your control. Manual override allows you to adjust the output of the lights to a value between 0 and 100% power. If you have DOL16 light sensor connected, the display will also show the measured lux reading. The output remains at the displayed value until you exit.

- When the control is in manual override, it does not operate lights according to the time of day.
- The control does not exit manual override automatically. To exit manual override, you must return to the Diagnostics or Main menu.
- When you exit manual override, the light level adjusts to normal operation according to the ramp up or ramp down duration.

To use manual override

1. In the Main menu, press **Down** until the cursor is beside `Diagnostics`, and then press **Select**.
2. Press **Up** or **Down** to select the channel you want to override, and then press **Select**.
3. To override the output level:
   a. Press **Select**.
   b. Press **Up** or **Down** to adjust the output, and then press **Select**.
4. If you have a light sensor connected and want to override the sensor reading:
   a. Press **Up** or **Down** to move the cursor beside the sensor reading, and then press **Select**.
   b. Press **Up** or **Down** to adjust the reading, and then press **Select**.
5. When finished, press **Back** until you reach the menu or display you want.
   The control returns to normal operation when you exit the manual override screen.





Light output calibration

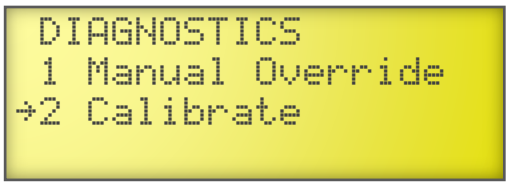
Calibrating the light output allows you to set the minimum light level for when the output is 1%, and the maximum light level for when the output is 100%.

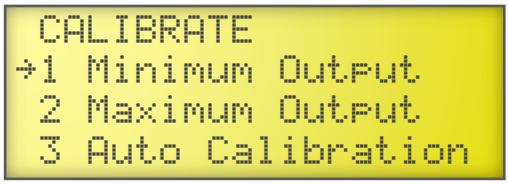
NOTE

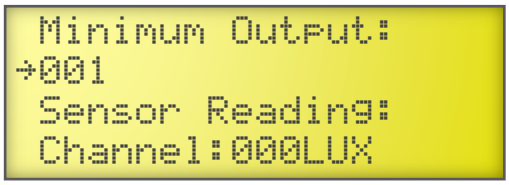
You can calibrate light output automatically if you have a DOL 16 light sensor installed. For more information, see **DOL 16 Light Sensor** on page 23.

To calibrate light output manually

1. In the Main menu, press **Down** until the cursor is beside `Diagnostics`, and then press **Select**.
2. Press **Down** until the cursor is beside `Calibrate`, and then press **Select**.
3. To set the minimum output:
   a. Press **Up** or **Down** until the cursor is beside the output value and then press **Select**.
   b. Press **Select.** Press **Up** or **Down** to select the channel, and then press **Select**.
   The control reduces the output to 001.
   c. Press **Up** or **Down** to adjust the output, and then press **Select**.
   d. When finished, press **Back** to return to the calibration menu.
4. To set the maximum output, press **Up** or **Down** to move the cursor beside `Maximum Output`, and then press **Select**. Follow the same instructions as minimum output.
5. Press **Back** until you reach the menu or you want.





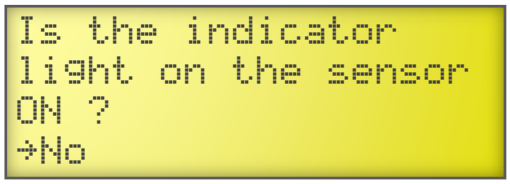


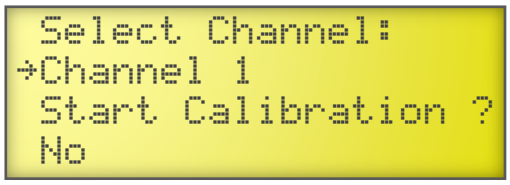
To calibrate light output automatically

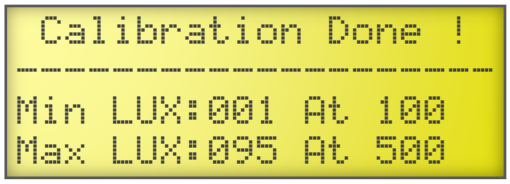
1. In the Diagnostics menu, press **Down** until the cursor is beside `Calibrate`, and then press **Select**.
2. Press **Up** or **Down** to move the cursor beside `AutoCalibration`, and then press **Select**.
3. Verify that the indicator light on the sensor is lit. Press **Select** and then **Up** or **Down** to change the No to Yes, and then press **Select**.

   If the channel you want to calibrate is selected, go to step 4.
4. Press **Select**. Press **Up** or **Down** to change the channel, and then press **Select**.
5. Press **Up** with **Down** to move the cursor beside `No`, and then press **Select**.
6. Press **Up** or **Down** to change the No to Yes, and then press **Select**.

   The control goes through the calibration process. First the minimum and then the maximum are calibrated. The results display when it is complete.
7. When finished, press **Back** until you reach the menu or you want.







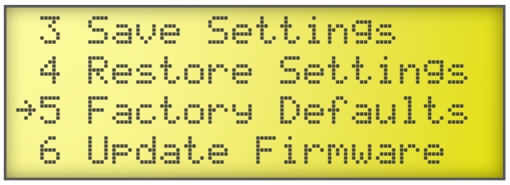
Factory defaults

When the Light Dimmer Box leaves the factory, it comes with default settings and configuration.

- **Schedules and events**: erases all schedules and events for the **current control mode** (power or sensor).
- **Configuration**: resets all items **except** schedules and events.
- **Factory defaults**: resets **everything**.

To reset defaults

1. In the Configuration menu, press **Down** until the cursor is beside Factory Defaults, and then press **Select**.
2. Press **Select**.
3. Press **Up** or **Down** to select what you want to reset,
   and then press **Select**.
4. Press **Down** until the cursor is beside **No**, and then press **Select**.
5. Press **Up** or **Down** to change the Yes to No, and then press **Select**.
   The control resets the defaults you selected.
6. When it is finished, press **Back** until you reach the menu or you want.

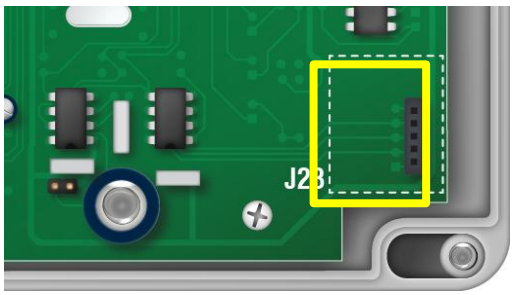


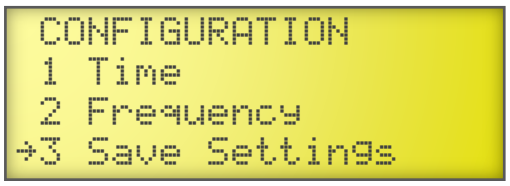
Saving and restoring settings

The LDB-2 Saver (**model LDB2-SAVER**) is an innovative and easy-to-use product that allows you to store all your LDB-2 configuration and settings. You can restore them at any time, or use the LDB-2 Saver to set up new controls in seconds. For more information, read **LDB-2 Saver** on page 24.

To save settings

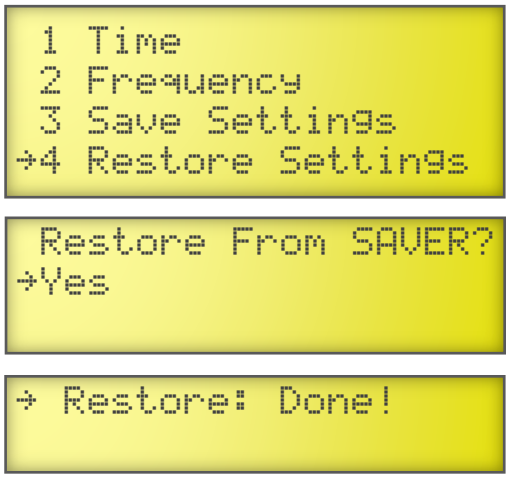
1. Loosen the four screws in the enclosure and then gently remove the cover. Make sure not to disconnect the ribbon cable.
2. Plug the LDB-2 Saver onto the connector labeled **J23** on the inside bottom-right of the cover.
3. It the Configuration menu, press **Down** until the cursor is beside Save Settings, and then press **Select** two times.
4. Press **Up** or **Down** to change the No to Yes, and then press **Select**.
   The control saves the changes to the LDB-2 Saver.
5. After the process completes, press **Back** until you reach the menu or display you want.
6. Remove the LDB-2 Saver.
7. Replace the cover and then tighten the four screws.





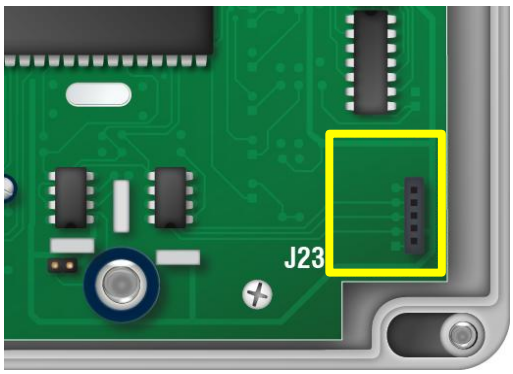
To restore settings

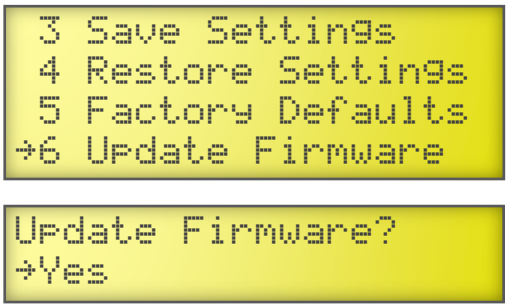
1. Loosen the four screws in the enclosure and then gently remove the cover. Make sure not to disconnect the ribbon cable.
2. Plug the LDB-2 Saver onto the connector labeled **J23** on the inside bottom-right of the cover.
3. At the Configuration menu, scroll to `Restore Settings` and then press **Select** two times.
4. Press **Up** or **Down** to change the `No` to `Yes`, and then press **Select**.
   The control restores the settings from the LDB-2 Saver.
5. After the process completes, press **Back** until you reach the menu or display you want.
6. Remove the LDB-2 Saver.
7. Replace the cover and then tighten the four screws.



Updating the firmware

Phason constantly improves and adds new features to their products. With the LDB-2 Updater (**model LDB2-UPDATER**), you can upgrade the firmware in your Light Dimmer Box as features become available. The Updater takes only seconds to use and can upgrade all the Light Dimmer Boxes at your site. For more information, read **LDB-2 Updater** on page 24.





To update the firmware

1. Loosen the four screws in the enclosure and then gently remove the cover. Make sure not to disconnect the ribbon cable.
2. Plug the LDB-2 Updater onto the connector labeled **J23** on the inside bottom-right of the cover.
3. At the Configuration menu, scroll to `Update Firmware` and then press **Select**.
4. Press **Select**.
5. Press **Up** or **Down** to change the `No` to `Yes`, and then press **Select**.
   The control updates the firmware and then restarts.

Additional information

Replacement kits

If the display or bottom circuit board of your Light Dimmer Box fails, you can replace it with a kit.

- Control kit (**model KLDB2-CONTROL**)
- Display kit (**model KLDB2-DISPLAY**)
  After installing the display kit, you will need to reprogram the control.

Optional accessories

DOL 16 Light Sensor

The DOL 16 Light Sensor (model: **DOL16LIGHT**) is designed to measure light intensity in livestock house environments but is also well suited for a number of industrial applications. The sensor has two analog outputs with signals for 0 to 100 LUX and 0 to 1000 LUX.

LDB-2 Saver

The **LDB-2 Saver** is an innovative and easy-to-use product that allows you to store all your Light Dimmer Box configuration and settings. You can restore them at any time, or use the LDB-2 Saver to set up new controls in seconds.

Features

- Quick and easy to use
- Portable, reliable, and safe storage of configuration and settings
- Transferrable to any Light Dimmer Box that has the same firmware version
- Compact design that fits in a pocket

LDB-2 Updater

Phason constantly improves and adds new features to their products. With the **LDB-2 Updater**, you can upgrade the firmware in your Light Dimmer Box as features become available. The Updater takes only seconds to use and can upgrade all the Light Dimmer Boxes at your site.

Features

- Quick and easy to use
- Compact design that fits in a pocket

Variable Load Expansion Box

The Variable Load Expansion Box (model VLX-20) is an affordable way to increase the capacity of your lighting control system. Installation is simple and there is no additional configuration required; the VLX-20 follows the programs and settings of the LDB-2. You can connect up to six Expansion Boxes to each channel of the LDB-2.

Features

- One variable AC stage
- Expandable using additional units
- NEMA 4X enclosure (corrosion resistant, water resistant, and fire retardant)
- CSA approval (cCSAus)
- Limited warranty (2 years)

Electrical ratings

- 2300 W at 120 VAC, 4600 W at 230 VAC
- 20 A at 120/230 VAC, general-purpose (resistive)
- 14 FLA at 120/230 VAC, PSC motor
- 1 HP at 120 VAC, 2 HP at 230 VAC, PSC motor

Troubleshooting

The following table lists some problems, possible causes, and possible solutions. If you are having a problem using your Light Dimmer Box, see if the problem is described in the table and then follow the directions for correcting the problem.

Problem	Possible cause	Possible solution
Power supply components blown out Burn marks on boards and components	Power surge, brownout, or power outage	◇ Avoid the problem in future by providing proper voltage and protection for the control.
AC powered lights not operating properly	Lights and control are on different phases	◇ Connect the lights and the control to the same phase.
DC powered lights not shutting off	Lights not connected to disconnect relay	◇ Connect the lights the disconnect relay. For more information, read **Connecting lights to the variable DC** on page 9.
No power and/or display	A circuit breaker at service panel is off or tripped.	◇ Reset the circuit breaker.
	Incorrect incoming power wiring	◇ Correct the wiring.
	The display board connect cable is not plugged into the control board properly.	◇ Plug in the display board cable. For more information, read **Control board layout** on page 8.
	The 115/230 VAC switch is in the wrong position	◇ Switch off the power, set the switch to the correct setting, and then switch on the power. For more information, read **Control board layout** on page 8.

Light program worksheets

The light program worksheets can help you configure your light program. Enter your information in the tables and then use them when setting up the control. For complete instructions, read **Light program** on page 13.

Defaults and ranges

Control mode
Range: power or sensor control
Default: power control

Restart day
Range: 1 to 365, enabled or disabled
Default: 1, disabled

Rise duration
Range: 1 to 100 minutes
Default: 1 minute

Fall duration
Range: 1 to 100 minutes
Default: 1 minute

Schedules
Up to 20 available, per control mode

Start day
Range: 1 to 365
The start day for a schedule must be after the end day of the previous schedule.

End day
Range: 1 to 365
The end day cannot be before the start day.

Events
Up to 12 per schedule

Common settings

Restart day		**Rise duration**		**Fall duration**	

Schedule and event worksheets

Control mode					
Schedule		**Start day**		**End day**	

Event	**Time** (hh:mm)	**Output** (%)	**Event**	**Time** (hh:mm)	**Output** (%)
1	:		7	:	
2	:		8	:	
3	:		9	:	
4	:		10	:	
5	:		11	:	
6	:		12	:	

Control mode					
Schedule		**Start day**		**End day**	

Event	**Time** (hh:mm)	**Output** (%)	**Event**	**Time** (hh:mm)	**Output** (%)
1	:		7	:	
2	:		8	:	
3	:		9	:	
4	:		10	:	
5	:		11	:	
6	:		12	:	

Control mode					
Schedule		**Start day**		**End day**	

Event	**Time** (hh:mm)	**Output** (%)	**Event**	**Time** (hh:mm)	**Output** (%)
1	:		7	:	
2	:		8	:	
3	:		9	:	
4	:		10	:	
5	:		11	:	
6	:		12	:	

Control mode					
Schedule		**Start day**		**End day**	

Event	**Time** (hh:mm)	**Output** (%)	**Event**	**Time** (hh:mm)	**Output** (%)
1	:		7	:	
2	:		8	:	
3	:		9	:	
4	:		10	:	
5	:		11	:	
6	:		12	:	

Control mode					
Schedule		**Start day**		**End day**	

Event	**Time** (hh:mm)	**Output** (%)	**Event**	**Time** (hh:mm)	**Output** (%)
1	:		7	:	
2	:		8	:	
3	:		9	:	
4	:		10	:	
5	:		11	:	
6	:		12	:	

Control mode					
Schedule		**Start day**		**End day**	

Event	**Time** (hh:mm)	**Output** (%)	**Event**	**Time** (hh:mm)	**Output** (%)
1	:		7	:	
2	:		8	:	
3	:		9	:	
4	:		10	:	
5	:		11	:	
6	:		12	:	

Control mode					
Schedule		**Start day**		**End day**	

Event	**Time** (hh:mm)	**Output** (%)	**Event**	**Time** (hh:mm)	**Output** (%)
1	:		7	:	
2	:		8	:	
3	:		9	:	
4	:		10	:	
5	:		11	:	
6	:		12	:	

Control mode					
Schedule		**Start day**		**End day**	

Event	**Time** (hh:mm)	**Output** (%)	**Event**	**Time** (hh:mm)	**Output** (%)
1	:		7	:	
2	:		8	:	
3	:		9	:	
4	:		10	:	
5	:		11	:	
6	:		12	:	

Control mode					
Schedule		**Start day**		**End day**	

Event	**Time** (hh:mm)	**Output** (%)	**Event**	**Time** (hh:mm)	**Output** (%)
1	:		7	:	
2	:		8	:	
3	:		9	:	
4	:		10	:	
5	:		11	:	
6	:		12	:	

Control mode					
Schedule		**Start day**		**End day**	

Event	**Time** (hh:mm)	**Output** (%)	**Event**	**Time** (hh:mm)	**Output** (%)
1	:		7	:	
2	:		8	:	
3	:		9	:	
4	:		10	:	
5	:		11	:	
6	:		12	:	

Limited warranty

This warranty applies only to the Phason Light Dimmer Box (LDB-2). If you need warranty service, return the product and original proof of purchase to your dealer.

Phason Inc. (Phason) warrants the LDB-2 subject to the following terms and conditions.

This warranty is valid only to the original purchaser of the product, for two years from the manufacturing date. The manufacturing date is stated in the first eight digits of the serial number in the form year-month-day.

Phason hereby warrants that should the LDB-2 fail because of improper workmanship, Phason will repair the unit, effecting all necessary parts replacements without charge for either parts or labor.

Conditions

- Installation must be done according to our enclosed installation instructions.
- The product must not have been previously altered, modified, or repaired by anyone other than Phason.
- The product must not have been involved in an accident, misused, abused, or operated or installed contrary to the instructions in our user and/or installation manuals. Phason's opinion about these items is final.
- The person requesting warranty service must be the original purchaser of the unit, and provide proof of purchase upon request.
- All transportation charges for products submitted for warranty must be paid by the purchaser.

Except to the extent prohibited by applicable law, no other warranties, whether expressed or implied, including warranties of merchantability and fitness for a particular purpose, shall apply to the LDB-2. Any implied warranties are excluded.

Phason is not liable for consequential damages caused by the LDB-2.

Phason does not assume or authorize any representatives, or other people, to assume any obligations or liabilities, other than those specifically stated in this warranty.

Phason reserves the right to improve or alter the LDB-2 without notice.

Service and technical support

Phason will be happy to answer all technical questions that will help you use your Light Dimmer Box. Before contacting Phason, check the following:

- Read this manual for information about the feature with which you are having trouble.
- If you are having a problem using your Light Dimmer Box, read **Troubleshooting** on page 26 and then follow the directions for correcting the problem.
- If you still have a problem with your LDB-2, collect the following information:
  - The serial number
  - Any messages displayed by your LDB-2
  - A description of the problem
- A description of what you were doing before the problem occurred

Phason controls are designed and manufactured to provide reliable performance, but they are not guaranteed to be 100 percent free of defects. Even reliable products can experience occasional failures and the user should recognize this possibility.

Phason Inc.
2 Terracon Place
Winnipeg, Manitoba, Canada
R2J 4G7

Phone: 204-233-1400
Fax: 204-233-3252

E-mail: support@phasoncontrols.com
Web site: www.phasoncontrols.com