P500 Series
INSTALLATION MANUAL

Profile P500 Series Controllers Revision: 2.3

UL Listing #: 16BL

NOTE: Inspect the Profile P500 Series controller prior to installation for any damage which may have occurred during shipping. Report any damage found to Profile Systems, LLC immediately.

Installation of the Profile P500 Series controller presents potential unsafe conditions including, but not limited to, electrical shock, improper voltage to components and improper operation that may cause personal injury or damage to property.

Installation of the Profile P500 Series controller must be performed by qualified electrical contractors in good standing who are properly licensed to perform work in the municipality, county, and state where installation of Profile equipment will occur. Installation practices should follow recommendations and procedures as determined by the original equipment manufacturer(s) and should adhere to the application and use of the equipment as intended by the original equipment manufacturer(s).

Profile Systems LLC
1000 East 80th Place
Suite 777 South
Merrillville, IN 46410
Voice: (219) 757-3575
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NOTE: Inspect the Profile P500 Series controller for any damage, which may have occurred during shipping. Report any damage to the shipping agency at once.

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

GENERAL SAFETY INSTRUCTIONS FOR AC LINE OPERATED EQUIPMENT

The installation of this electrical device presents potential unsafe conditions, including, but not limited to, electrical shock, improper voltage to components and improper operation that may cause personal injury or damage to property.

- **Read Instructions -** All the safety instructions should be read before the equipment is installed and should be retained for future reference. Specialized procedures and instructions are required and must be followed when working on the Profile P500 Series controller. Additionally, all applicable safety procedures, such as OSHA requirements, National Electrical Code requirements, local code requirements, safe working practices, and good judgment must be used by personnel when installing the equipment.

- **Heed Warnings –** The installer should pay attention to all warnings on the equipment and in the installation instructions. All instructions on operation and use of this equipment should be followed. Safety, as defined in this instruction manual, involves two conditions:

  - Personal injury or death.

  - Product or property damage (includes damage to the Profile P500 Series controller and other components.)

- A **DANGER** notation denotes a hazardous or unsafe practice that **will** result in severe personal injury, death, or property damage.

A **CAUTION** notation denotes a hazardous or unsafe practice that **could** result in severe personal injury, death, or property damage.

- A **NOTE** notation highlights general information that the installer should know.

- **Mounting -** The equipment should only be mounted as specified in this installation manual. Profile Systems LLC considers any method of mounting not covered in this manual unacceptable and no claim is made as to the proper operation of the unit under these conditions.

- **Damage Requiring Service -** The equipment should be serviced by qualified personnel when:

  - The equipment does not appear to operate normally or exhibits a marked change in performance.

  - The equipment has been dropped, or the enclosure damaged.

  - The installer should not attempt to service the equipment beyond that described in this guide. All other servicing should be referred to Profile Systems, LLC.

- **Lock out / Tag out -** OSHA approved Lock out/Tag out procedures should be followed during installation of this product.

IF THERE ARE ANY QUESTIONS ABOUT THE PRODUCT, CALL PROFILE SYSTEMS, LLC AT 1-800-898-5483 (LITE).

TO ENSURE PROPER INSTALLATION OF THIS EQUIPMENT, CAREFULLY READ THIS INSTRUCTION MANUAL.

IF YOU HAVE ANY QUESTIONS DURING INSTALLATION OR COMMENTS ON HOW WE CAN IMPROVE THIS MANUAL, PLEASE CALL PROFILE SYSTEMS CUSTOMER SUPPORT AT 1-800-898-5483.

STEP 1 - DETERMINE REQUIREMENTS FOR INSTALLATION

This section will guide the installer through some of the requirements for the Profile P500 Series controller.

- **Environmental Requirements**
  There are virtually no environmental requirements. The Profile P500 Series controller has been tested to withstand temperatures from -30°C to +55°C (-22°F to 131°F). **The P500 Series is NEMA4R rated** when ordered with an enclosure.

- **Electrical Requirements**
  The Profile P500 Series controller requires 120 VAC 60 Hz electrical power to operate. A ground fault interrupter circuit breaker may be required by local code to prevent electrical shock. All local codes must be observed when installing this controller.
  The output relays of the control unit contain dry contacts and are rated at a **MAXIMUM CURRENT OF 30 AMPS.**

CAUTION:	**Do not install this unit where it may be in contact with standing water.**

STEP 2 - MOUNTING THE PROFILE P500 Series CONTROLLER

This section will guide the installer through the mounting procedure for the Profile P500 Series controller.

- **Site Preparation**
  Choose a mounting site that is close to an AC power source.

- **Drilling Wiring Access Holes**
  A hole must be drilled at the bottom of the enclosure so the installer can connect the necessary wiring and conduit to the unit. To properly drill all necessary holes, perform the following steps:

  1. Determine where the proper sized holes will need to be drilled in the enclosure.

  2. After the holes are drilled and conduit is installed, seal the holes to ensure no water leakage. The use of watertight fittings is recommended.

  3. Repeat these steps to add any other necessary holes.

CAUTION:	**Due to the sealed enclosure, if proper precautions are not taken, water may accumulate inside the unit. If conduit is run through the top or sides of the unit, the installer must drill a small hole in the bottom of the enclosure to allow water to escape. Failure to do so may cause standing water to build up inside the unit and void the warranty.**

- **Drilling Mounting Holes**
  In order to maintain a sealed enclosure, the only pre-drilled mounting holes are located in the four corners of the unit as shown in Figure 2. **The installer must drill any other necessary mounting holes and provide screws to mount the unit.** Some space has been provided above and below the circuit board for drilling mounting holes. In the event that mounting holes must be drilled in the space behind the circuit board, remove the circuit board from the enclosure by loosening the four screws shown in Figure 1.

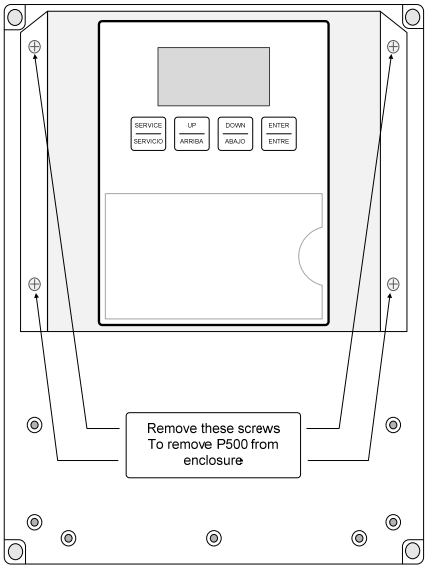


Figure 1

NOTE:	**Profile Systems, LLC will not be responsible for any type of damage sustained to a circuit board that is not mounted inside its enclosure.**

The Profile P500 Series controller may be mounted on two possible surfaces. One is a flat surface (such as a wall), while the other is a rounded surface (such as the side of a pole). The following are some suggestions for positioning mounting holes for these two situations.

- **Mounting holes for a flat surface**
  When mounting the unit to a wall, use the 4 pre-drilled mounting holes located in each corner of the back enclosure as shown in Figure 2.

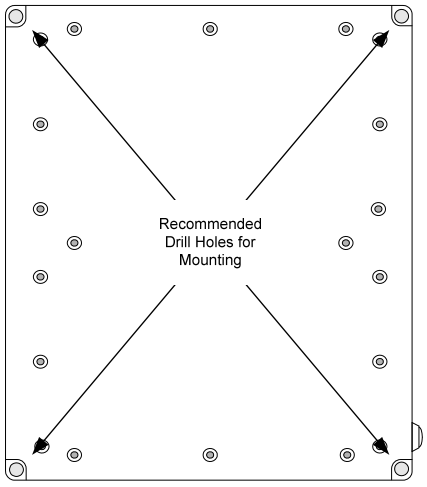


Figure 2

- **Mounting holes for a rounded surface**
  When mounting the unit to the side of a pole, drill two to three holes along the vertical center of the back enclosure as shown in Figure 3. Seal mounting holes to prevent water from running down the back of the circuit board.

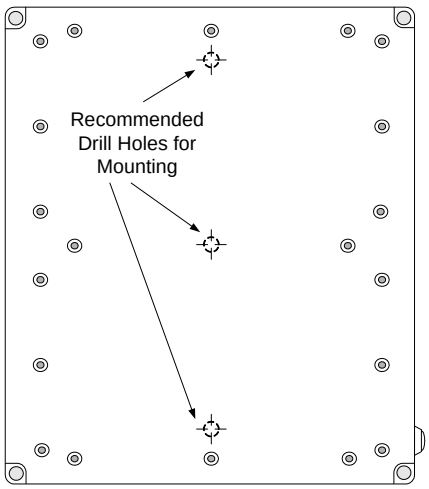


Figure 3

♦ **Mounting The P500 Series Controller**
Once the controller has been properly prepared, mount the unit to the required surface. After all mounting screws have been tightened; make sure that the unit is securely in place. **Do not over-tighten screws.**

CAUTION:	**If mounting screws lie in the area beneath the circuit board, then make sure that all screw heads are no taller than 0.25 inches. This will prevent the mounting screw heads from touching the bottom of the circuit board when it is placed back within the unit.**

- If the circuit board was removed from the unit in order to mount the enclosure, place it back in the unit and make sure that it is fastened securely in place with the original screws.

Now run the wiring and conduit to the unit. After all of the wiring and conduit is brought through the access holes, make sure that any gaps between the conduit and enclosure are sealed. This will help prevent unwanted water and insects from entering. The next step is to connect power to the unit.

NOTE:	**Profile Systems, LLC will not be responsible for unit failure due to incorrect mounting.**

STEP 3 - CONNECT THE AC POWER

DANGER:	**When connecting AC power, the electrical circuit MUST be disconnected at the source by switching OFF all appropriate circuit breakers.**

CAUTION:	**Make sure to remove and discard the foam packing block(s) from inside of the unit enclosure before applying power.**

Installation of AC power should only be performed by qualified personnel following the requirements set forth in the National Electrical Code and local codes. Due to the environment in which the Profile P500 Series controller will be working, AC power wiring must be rated for outdoor use. **All wire should be size no. 10 stranded copper and rated for 60°C.** To connect the AC power to the controller, perform the following steps:

NOTE:	**It is recommended that a Profile controller be installed on its own power feed OR breaker separate from all lighting.**

1. **TURN OFF MAIN POWER !** We suggest pulling the breaker to ensure that power is disconnected.

2. Connect power and load wires to the Profile P500 series controller input/output wires provided for you as shown in Figure 4.

   - The P500 Series controller has **2 circuit contacts** rated at a **MAXIMUM CURRENT OF 30 AMPS EACH.**

NOTE:	**The P500 Series controller power and Load 1 internally share the same input LINE connection (120 VAC).**

3. Check the following items to make sure that everything is connected properly before applying power to the control unit:

   - Make sure that all wiring is connected to the proper terminals.
   - Tighten any loose wires or connections.
   - Make sure that all of the conduit connections are tight and the enclosure is securely fastened.

4. Apply AC power to the unit.

5. You are now ready to test the system.

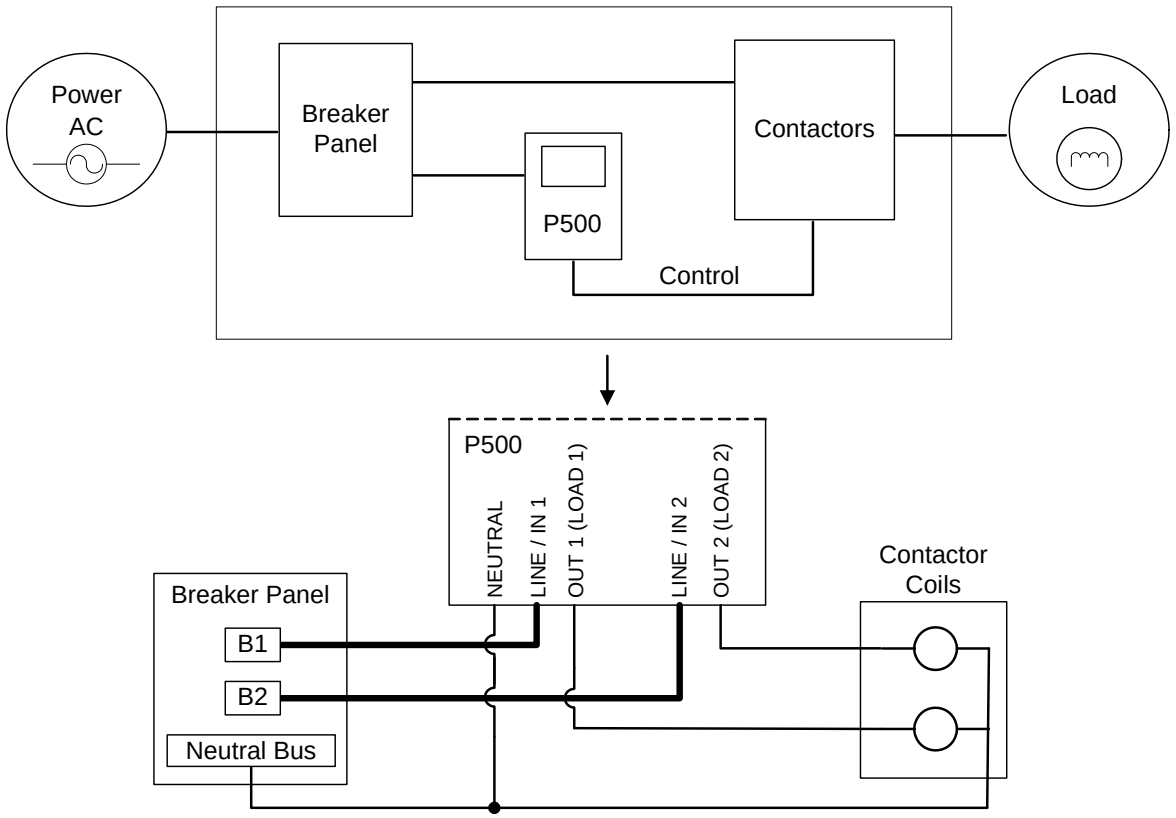


Figure 4

STEP 4 - TEST AND SET THE UNIT

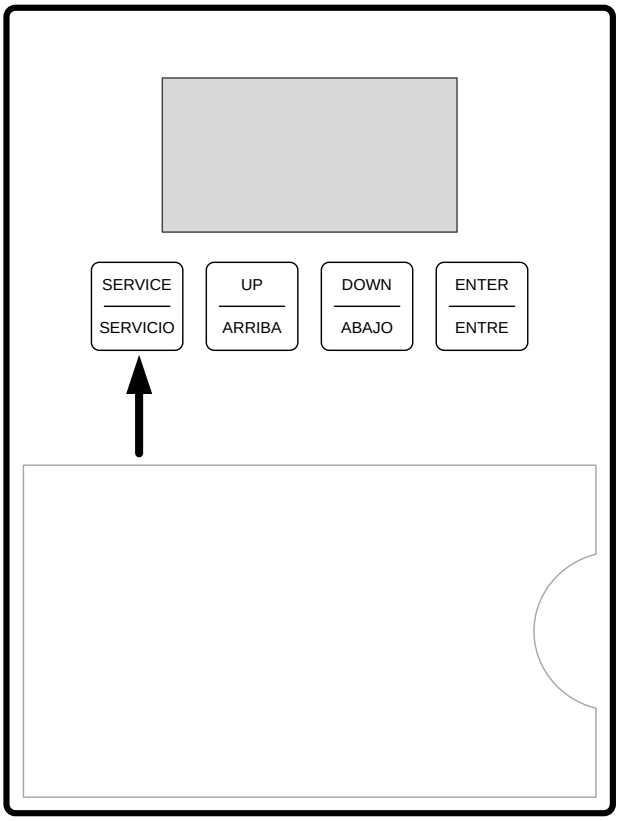
This section will guide the installer through testing the Profile P500 Series controller and setting the lighting schedule for the unit.

- To test the controller, the installer must press the **SERVICE** button located on the front of the controller as shown in Figure 5.
- Each circuit output will turn **ON** and energize its respective load.
- The controller will stay in service mode until one of the following conditions is met:
  - The **SERVICE** button is toggled OFF.
  - A scheduled OFF time has elapsed
  - Power is take away from the unit

NOTE:	**During the time that a P500 Series controller is operating a programmed schedule the SERVICE button will NOT function.**

Check the loads for each contact and make sure that there is a current flow present. If not, power the unit down and recheck all load connections. After verifying that all circuits are operating correctly, the last step is to set the lighting schedule for the unit.

Please refer to the fold out guide included with the Profile P500 Series controller for programming the settings and scheduling. **In the event the installer no longer has access to the P500 Series programming guide, a replacement is included on the last page of this manual.**



P500 Series Controller
Figure 5

Troubleshooting Guide

Most problems that may occur with the controller are due to improper installation or programming. The following steps should aid you in resolving the problem.

Is AC Power present ?

If the controller ***DOES NOT*** show a display (current time) upon power up, check the following:

1. Check the breaker that supplies power to the controller. Make sure it is operating correctly and all connections are secure.

2. Check line and neutral wire connections that provide power to the contoller. Make sure all connections are secure and provide the proper voltage/current.

3. For any unresolved issues, call Customer Support for further assistance.

Does the P500 Series controller display properly ?

If the P500 Series controller LCD display shows scrambled, incomplete, or unchanging characters, check the following:

1. Check the supply voltage to the controller. Make sure it is receiving a constant **120 VAC at 60 Hz** feed.

2. Cycle power to the contoller. After a successful power up, the controller, display should show the current time with the " : " character that separates hours and minutes flashing continuously.

3. For any unresolved issues, call Customer Support for further assistance.

Do the outputs engage when the Service Button is pressed ?

If the outputs of the controller ***DO NOT*** turn on when the service button is pressed, check the following:

1. When starting service, make sure to press and hold the service button momentarily. **SERVICE** will display on the controller LCD screen and an audible click should be heard when the outputs engage.

2. If the lights still do not come on, make sure all load connections are secure and the proper power is being applied to those loads.

3. For any unresolved issues, call Customer Support for further assistance.

Do the outputs engage at the expected time ?

If the outputs of the controller ***DO NOT*** turn on at the expected scheduled time, check the following:

1. Check the breaker(s) that supplies power to the load(s). Make sure it is operating correctly and all connections are secure.

2. Press the service button (see service button directions) and make sure loads are receiving power when the controller outputs are switched on.

3. Check the controllers time and/or programmed schedules for correct settings (see P500 series programming guide).

4. For any unresolved issues, call Customer Support for further assistance.

NOTE: Burned out bulbs, bad ballast(s), and bad or lose wiring connections can also cause faults.

Profile Customer Support

(800) 898-5483

(24 HOUR TOLL-FREE ASSISTANCE)

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LIMITED WARRANTY

Profile Systems, LLC, warrants to the original purchaser that its product, as originally supplied, is free from defects in materials and workmanship and will perform adequately under normal use and service, subject to the following conditions and limits:

If within ninety (90) days from the date of original purchase, the product or any part thereof proves to be defective in normal use, then the product will be replaced or repaired at the option of Profile Systems, LLC, provided that such notice of such defect is given by the original purchaser to Profile Systems, LLC, within ninety (90) days from the original date of purchase.

Profile System, LLC's, obligation under this warranty is limited exclusively to replacing without charge or repairing without charge the product upon the return of the defective product to Profile Systems, LLC, offices in Merrillville, Indiana. Once, in Profile Systems, LLC's, sole opinion, it has been determined that the product has not been used in an inappropriate manner, as described in the Profile Systems, LLC, Installation Manual for P500 series models or has not been subject to misuse, alteration, accident, damage during transit or delivery, or does not have an altered serial number, then warranty work will proceed. All decisions regarding the existence of defects in material or workmanship or other causes of failure shall be made by Profile Systems, LLC, and shall be binding upon the parties. Returns shall be made only upon the prior authorization and issuance of an RMA from Profile Systems, LLC. This warranty specifically does not apply to damage caused by lightning or excess power applied to the product.

THE FOREGOING LIMITED WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESS OR IMPLIED INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Profile Systems LLC's limited warranty shall not be enlarged or affected by and no liability or obligation shall arise from Profile Systems, LLC's rendering of technical or other advice, or service, in connection with its equipment or parts. Employees, agents, distributors, and sales representatives are not authorized to make warranties. Oral or written statements by them do not constitute warranties and shall not be relied upon. **REPLACEMENT OR REPAIR OF DEFECTIVE EQUIPMENT OR PARTS IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY FOR CONTRACT, WARRANTY, NEGLIGENCE, TORT, OR STRICT LIABILITY CLAIMS FOR ANY LOSS, LIABILITY, DAMAGE OR EXPENSE ARISING FROM OR ALLEGED TO ARISE OUT OF THE DESIGN, MANUFACTURE, SALE, DELIVERY, OR USE OF SUCH PRODUCT, EQUIPMENT AND/OR PARTS. IN NO EVENT SHALL PROFILE SYSTEMS, LLC, BE AT LAW OR IN EQUITY, LIABLE FOR ANY SUCH LOSS, LIABILITY, DAMAGE OR EXPENSE IN AN AMOUNT IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT OR EQUIPMENT OR FROM LOSS OF USE, OR PROFITS, LOSS FROM BUSINESS INTERRUPTION, ATTORNEY'S FEES OR CONSEQUENTIAL, CONTINGENT, INCIDENTAL OR SPECIAL DAMAGES CAUSED OR ALLEGED TO BE CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE, TORT, STRICT LIABILITY, BREACH OF CONTRACT, BREACH OF WARRANTY OR OTHER BREACH OF DUTY OF PROFILE SYSTEMS, LLC.**

THIS WARRANTY IS NON-TRANSFERABLE.

Profile Systems, LLC
1000 East 80th Place – Suite 777 South – Merrillville, IN, 46410 – 219-757-3575

Thank you for choosing the P501 control unit to meet your specific lighting needs. The P501 provides accurate and reliable lighting control through the use of a time clock and schedule programming.

Menu Display and Navigation

1. Apply power to the P501. The display will show the current unit time.
2. Simultaneously press the UP and DOWN buttons to enter MENU mode. After a brief delay, display will show the zip code.
3. Once in MENU mode, press the SERVICE button to save the current setting and advance to the next setting. This will allow the user to cycle to a specific setting and adjust the value.

Change Zip Code

1. To adjust the zip code value, press the ENTER button.
2. The first digit of the zip code will begin flashing to show that it is selected.
3. Press UP (increase) or DOWN (decrease) to change the flashing number.
4. Press ENTER to advance to the next digit.
5. Repeat steps 3 & 4 until the entire zip code value is correct.
6. Press SERVICE to proceed to the next section (Change DST).

Change DST (Daylight Saving Time)

1. The letters DST will flash in the lower right corner of the display.
2. Press ENTER to show the current setting (Yes or No). This setting determines if the P501 will observe DST.
3. Press UP or DOWN to toggle the value to the desired setting (Yes or No).
4. Press SERVICE to proceed to the next section (Change Date).

Change Date

1. A flashing “M” followed by a number will indicate the month of the year.
2. Press ENTER to select the number (number will begin flashing).
3. Press UP (increase) or DOWN (decrease) to change the value.
4. Press ENTER to save the value.
5. Press the SERVICE button.
6. A flashing “d” followed by a number will indicate the day of the month.
7. Press ENTER to select the number (number will start flashing).
8. Press UP (increase) or DOWN (decrease) to change the value.
9. Press ENTER to save the value.
10. Press the SERVICE button.
11. A flashing “Y” followed by a number will indicate the year.
12. Press ENTER to select the number (number will start flashing).
13. Press UP (increase) or DOWN (decrease) to change the value.
14. Press ENTER to save the Value.
15. Press SERVICE to proceed to the next section (Change Time).

Change Time

1. TIME will flash in the upper left corner. The number on the display shows the current unit time.
2. Press ENTER to select HOURS (the first 2 digits of the number will begin flashing).
3. Press UP (increase) or DOWN (decrease) to change the value.
4. Press ENTER to select MINUTES (the last 2 digits of the number will begin flashing).
5. Press UP (increase) or DOWN (decrease) to change the value.
6. Press ENTER to save the value.
7. Press SERVICE to proceed to the next section (Change Schedule).

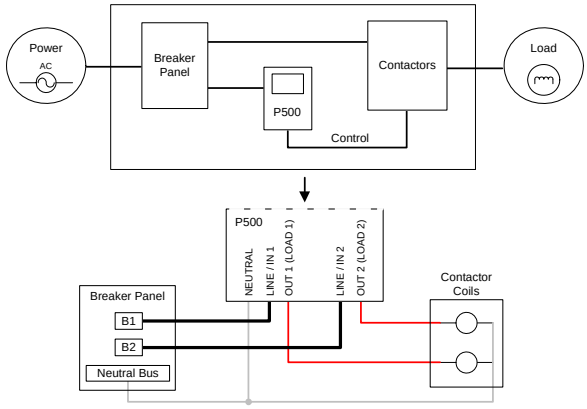
Change Schedule

1. SCHEDULE will flash in the upper left corner while ON will display in the upper right corner to denote the ON schedule.
2. Press ENTER to select the schedule type (value will show either DUSK, DAWN, or TIME).
3. Press UP or DOWN to cycle the value to the desired setting (DUSK, DAWN, or TIME).
4. Press ENTER to select the time value. (The left half of the number will flash).
5. If DUSK or DAWN is selected, the time value represents the number of minutes before (-) or after (+) the DUSK/DAWN event. If TIME is selected, the time value represents the absolute time in military format.
6. For DUSK/DAWN this value represents positive (+) or negative (-). For TIME this value represents HOURS in military format.
7. Press UP (increase) or DOWN (decrease) to change the value.
8. Press ENTER to save the value and select the next position. (The right half of the number will flash). For P502
9. For DUSK/DAWN this value represents MINUTES (0 to 55) in increments of 5. For TIME this value represents MINUTES (0 to 59) in increments of 1.
10. Press ENTER to save the value.
11. OFF will display in the upper right corner to denote the OFF schedule.
12. Repeat steps 2 through 10 to complete the settings for OFF schedule.
13. Upon completing step 12, the unit will exit MENU mode and display the current time.

Manual ON (Loads)

1. Press SERVICE during normal operation to force the relay outputs ON (SERVICE will appear in the bottom left corner).
2. Press SERVICE again to turn the outputs OFF.

Connection Diagram (Sample Configuration)



*Note: The P501 unit power and Load 1 internally share the same input LINE connection (120VAC).

For assistance, contact Profile Customer Support at:

1-800-898-5483