

KRAIN® *PRO-LC* Wi-Fi Capable Irrigation Controller

INSTALLATION, PROGRAMMING AND OPERATION MANUAL



EPA WaterSense® Approved

Recognized as a responsible
water-saving tool when used
with a BRIDGE Wi-Fi Module

MODELS		
3104W	3108W	3112W
3104W-220	3108W-220	3112W-220
3104WID-220	3108WID-220	3112WID-220

DECLARATION OF CONFORMITY

This unit has been designed to provide protection against harmful interference in a residential install. This equipment uses, generates and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. There is no guarantee that interference will not occur in any particular install.

If the equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and back on again, the user is encouraged to try to correct the interference by:

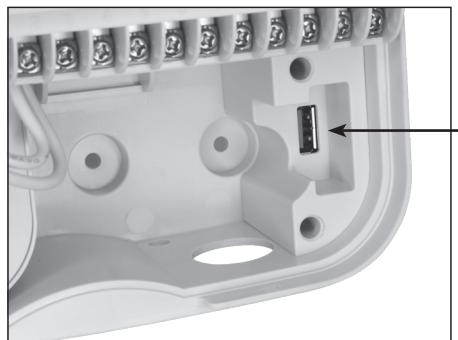
- (1) Increasing the separation between the equipment and receiver;
- (2) Connecting the equipment into an outlet on a different circuit from the receiver;
- (3) Consulting the dealer or an experienced radio / TV technician for help.

Changes or modifications to this equipment could void the user's authority to use the equipment as well as the warranty.

INTRODUCTION

The Pro-LC WiFi-Ready Controller is available as indoor or outdoor models. The unit consists of a master valve/pump start, common, sensor and terminals that will accommodate up to 12 electric valves.

There is also a built-in cradle/plug that accepts the K-Rain BRIDGE WiFi Module.



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CONTROLS AND PUSH BUTTON

LCD DISPLAY

- ① Displays the time of day and day of the week
- ② During programming shows the results of entered commands
- ③ During watering shows the valve that is on and the minutes remaining in its run time

ERROR/ALARM LED

- ① Watering is suspended by a sensor
- ② The controller senses a valve short circuit
- ③ A programming error has been made.

DOWN / UP BUTTONS

Used to set time/date and to make program changes.

SENSOR BYPASS SELECT BUTTON
Used to tell the controller to obey or ignore sensor input.

PROGRAM SELECT BUTTON

Used to select watering program A, B or C.

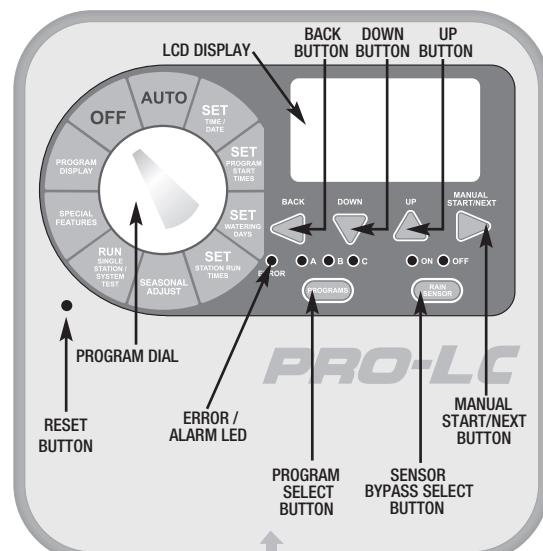
PROGRAM DIAL

- ① Used to turn the controller on and off and to program.
- ② Used to run on Automatic and to discontinue watering (OFF)
- ③ Used to select desired controller setting functions (SET)
- ④ Shows total content of a program (PROGRAM DISPLAY)
- ⑤ Used to allow setting controller special features (SPECIAL FEATURES)
- ⑥ Used to run single stations or system test cycles (RUN)

MANUAL START/NEXT BUTTON
Used to start a selected irrigation program manually, or to manually advance watering from one station valve to the next.

RESET BUTTON

The PRO-LC has a reset button. It does not clear programs or reset to factory settings. This button is strictly an option to power cycle if the controller is not functioning properly. Simply insert a paper clip into the hole to reset.



SETTING THE CONTROLLER TO OFF

1. Turn dial to “OFF”.

When the dial is in the “OFF” position no watering occurs. The display will show “OFF,” the time of day and day of the week.

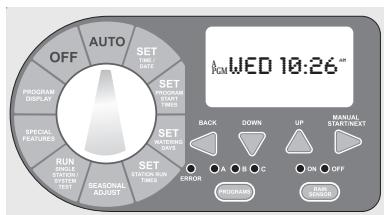
NOTE: Pressing any button will momentarily display the current “REVISION NUMBER,” “K-RAIN” or full display screen.



SET CONTROLLER TO RUN AUTOMATICALLY

1. Turn the dial to “AUTO”

When the dial is in the “AUTO” position the controller will run in automatic mode. The display will show the selected program, the day of the week and the time of day. The controller will turn on automatically to meet ANY programmed water schedules.



PROGRAM SELECT BUTTON

The Pro-LC controller has three separate programs, A, B and C. Multiple programs allow valves automatic operation with different watering days and start times. You can program any valve to run in one or more of the three programs.

1. To select a program, press the PROGRAM select button on the front panel to select program A, B or C.
2. The display briefly shows the program selected.
3. The selected program then appears on the left side of the display.
4. Any programming instructions entered will apply only to the selected program.
5. Program C is by default an irrigation program. But when the lighting feature is used, program C will be for lighting only. See Pg. 15

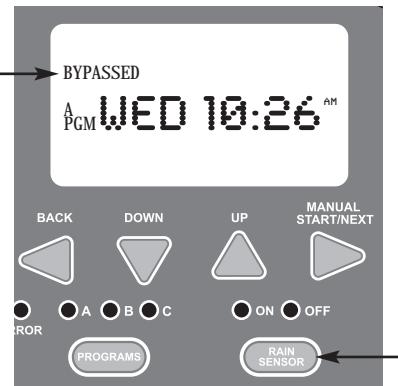


RAIN SENSOR SELECT BUTTON

The purpose of a rain sensor is to stop automatic watering when sufficient precipitation has been reached.

The rain sensor select button allows the user to bypass the rain sensor. If a rain sensor has been installed, and BYPASSED has been selected, then BYPASSED will be displayed in the upper left corner of the LCD.

NOTE: When the rain sensor select button is in the ON position a rain sensor or wire jumper must be installed in order to run a program. Refer to page 26 for further details.



PROGRAMMING

As the program dial is rotated the display automatically changes. The flashing value within the display can be increased or decreased by pressing the DOWN or UP buttons. To go back or advance to the next value press the BACK or NEXT buttons.

Because of variations in plant watering needs the Pro-LC has three separate programming options; A, B and C. Each program is completely independent of each other and the controller will automatically stack programs that overlap. This allows for all programmed watering to occur because only one program will run at a time and in alphabetical order.

Only one start time per program (A, B or C) is required to operate all stations with a run time. The controller automatically and numerically advances operation to the next station without the need for additional start times.

For additional watering, each program can be set with up to four separate start times. This allows for greater irrigating efficiency when all watering can't be done during a single operation (cycle and soak).

NOTE: A program must contain at least one start time, watering day(s) and one station with a run time in order to operate.

SET TIME / DATE

1. Turn the dial to SET TIME / DATE, the LCD will display the time of day. The word "HRS" will be flashing in the display.
2. Press DOWN or UP buttons to set current hour.
3. To change minutes, press the NEXT button. The word "MIN" will be flashing in the display.
4. Press DOWN or UP buttons to set current minutes.
5. To set the current date, press the NEXT button. The word "DAY" will be flashing in the display.
6. Press DOWN or UP buttons to set current day.



7. To set the current month press the NEXT button. The word "MONTH" will be flashing in the display.
8. Press DOWN or UP buttons to set current month.
9. To set the current year press the NEXT button. The word "YEAR" will be flashing in the display.
10. Press DOWN or UP buttons to set current year.
11. Return the dial to AUTO.

NOTE: The Pro-LC controller can be set for either 12 or 24 hour display. Pressing the BACK and NEXT buttons SIMULTANEOUSLY will allow user to toggle between 12 or 24 hour display.



SET PROGRAM START TIMES

The Pro-LC controller will allow up to four separate watering start times for each program.

1. Use the PROGRAM SELECT BUTTON to select the program (A, B or C) you wish to assign a start time.
2. Turn the dial to SET PROGRAM START TIMES. The display will show the first start time currently set for the selected program.
3. Press DOWN or UP buttons to change start time. The time setting change is in 15-min. increments.
4. To eliminate a watering start time, press DOWN or UP buttons until "OFF" appears in the display. The OFF setting is located between 11:45 p.m. and 12:00 a.m.
5. When additional start times are needed press NEXT button to display next watering start time. Repeat steps 4 through 6 for setting additional start times.
6. Return the dial to AUTO.

SET WATERING DAYS

The Pro-LC controller can be programmed to operate within three different watering cycles.

CUSTOM waters on the days of the week you select.

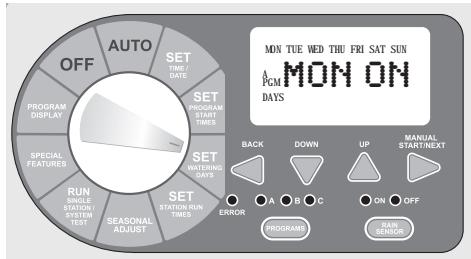
ODD waters only on odd number days of the month.

EVEN waters on even numbered days of the month.



SET CUSTOM OPERATION

1. Use the PROGRAM SELECT BUTTON to select the program (A, B or C) you wish to assign watering days.
2. Turn the dial to SET WATERING DAYS. "MON ON" should appear in the display.
3. Press the DOWN or UP buttons to enable (ON) or disable (OFF) day of the week operation.
4. Press the NEXT button to advance to the next day of the week. Repeat steps 3 and 4 until all days of the week have been set.
5. Return the dial to AUTO.



SET ODD/EVEN OPERATION

1. Use the PROGRAM SELECT BUTTON to select the program (A, B or C) you wish to assign odd or even watering.
2. Press the BACK and NEXT buttons SIMULTANEOUSLY until "ODD" or "EVEN" appears in the display.
3. Return the dial to AUTO.



SET CYCLIC WATER CYCLE

1. Use the PROGRAM select button to select the program (A, B or C) you wish to assign cyclic watering.
2. Turn knob to Set Watering Days.
3. Press BACK and NEXT buttons simultaneously until "CYCLE" appears in the upper right corner of the display and "DAYS REMAINING" will appear in the lower left. "DAYS REMAINING" will be flashing.
4. The display shows the number of days remaining until the next watering day and the number of days in the cycle.
5. Press the DOWN or UP buttons to set the number of days remaining before the next automatic watering should begin.
6. Press the NEXT button to advance to "DAY CYCLE." "DAY CYCLE" will be flashing.
7. Press the DOWN or UP buttons to set the number of days in the cycle from 1 to 31. (For example: to water every 5 days set the day cycle to "5.")
8. Return the dial to AUTO.



SET STATION RUN TIMES MANUAL PROGRAM OPERATION

Stations 1–12 can be set to run from one minute up to six hours. The first hour settings are in one minute increments. The remaining five hours can be set in ten minute increments.

1. Use the PROGRAM SELECT BUTTON to select the program (A, B or C) you wish to assign a run time.
2. Turn the dial to SET STATION RUN TIMES. The station location you are setting will be flashing.
3. Press the DOWN or UP buttons to set the number of minutes/hours you wish the station to operate (run time). For stations that don't require a run time set to "OFF."
4. Press the NEXT button to advance to the next station number in sequence. Repeat steps 3 and 4 until you have set a run time for each desired station in the selected program.
5. Return the dial to AUTO.

When a full program operation is needed, the user can manually start any of the three (A, B or C) programs.

1. Use the PROGRAM SELECT BUTTON to select the program (A, B or C) you wish to manually operate.
2. Turn the dial to AUTO.
3. Press MANUAL START / NEXT button to start the selected program.
4. The display will show "RUN," the station currently running and the remaining run time for that station. As each station completes its previously programmed run time the next station in sequence will begin watering.
5. Manual operation can be canceled anytime by turning the dial to OFF for 3 seconds.
6. Return the dial to AUTO.

NOTE: Pressing BACK or NEXT buttons will manually advance to the next or previous station number. Previously programmed run times can be increased or decreased during manual operation. Any run time changes during manual operation WILL NOT change the station's stored program run time.



When only a single station operation is needed, the user can manually start a specific station.

1. Use the PROGRAM SELECT BUTTON to select the program (A, B or C) that contains the station you wish to manually operate.
2. Turn the dial to RUN SINGLE STATION. Display shows selected program and word "SINGLE." Press NEXT to enter single station operation.
3. Press UP or DOWN to select desired station.
4. Press MANUAL START to begin station operation.

NOTE: Pressing BACK or NEXT buttons will manually advance to the next or previous station number.

Previously programmed run times can be increased or decreased during manual operation. Any run time changes during manual operation WILL NOT change the station's stored program run time.

If station has a zero run time (OFF) use PROGRAM SELECT BUTTON to select a different program.

Stations with a zero run time (OFF) can not be manually activated. Only stations with a previously programmed run time can be manually started.



Locating a valve in an irrigation system may be needed for maintenance or repair. Without the correct tools locating the valves can be time consuming.

The Pro-LC controllers locate feature helps the user find buried valves by pulsing the valves solenoid.

1. Turn the dial to RUN SINGLE STATION/SYSTEM TEST. The display will show selected program and "SINGLE." Press the UP or DOWN buttons until display shows "LOCATE."
2. Press the MANUAL START button to begin the locate feature. The display will now show the available station.
3. Press the MANUAL START button to advance to the next available station.



TEST ALL STATIONS

The Pro-LC controller allows the user a quick and simple method for checking all available stations by running a test program. This feature operates each station individually in numerical order starting with the lowest available station.

Station operation is preset for a two minute run time which the user can alter at anytime during the test.

1. Turn the dial to SYSTEM TEST. Display will show selected program and "SINGLE." Press UP or DOWN buttons until display shows "TEST."
2. Press the MANUAL START button to begin the test feature. The display will now show "RUN" along with its remaining run time for the first available station.
3. To change default test time press UP or DOWN. While the test program is running the display shows the station number currently operating, along with its remaining run time. The controller will run each station in numerical sequence.
4. Press the NEXT button to manually advance to the next available station.

NOTE: Changing the test run time can be done at any time and for any station during the test. Any change to the test run time becomes the new default for all stations.



SPECIAL FEATURES

SEASONAL ADJUST

The seasonal adjust feature allows the user to increase or decrease station run times globally for all stations, without re-programming each individual station. Run times can be reduced to as little as 10% or as high as 200%.

This feature is used to decrease or increase watering times during seasonal temperature changes. The seasonal adjust % is calculated on the programmed run time for each station. For example: if a station is programmed to run 10 minutes, and the seasonal adjust is adjusted downward 80%, the station will now run for 8 minutes. Conversely, if you set the adjustment upwards to 120%, the same station will now run for 12 minutes.

1. Turn the dial to SEASONAL ADJUST. Display will show "SEASONAL ADJUST % 100."
2. Press UP or DOWN buttons to set the percentage in 10% increments.
3. Return the dial to AUTO.



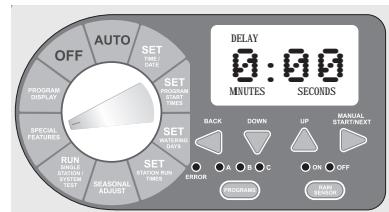
STATION DELAY/OVERLAP

The station delay/overlap feature allows the user to insert a global time delay or overlap between the end of any station's watering cycle and the beginning of the next station's watering cycle.

Station delay is used in systems that have slow closing valves or pump systems operating with a slow recovery time.

Station overlap is used to reduce hydraulic overload (water hammer).

1. Turn the dial to **SPECIAL FEATURES**. Display will show "DELAY 0:00."
2. Press the **UP** button to add a delay time. Delay times can be set from 1 second up to 9 hours.
3. Press **DOWN** button to add an overlap time. Overlap times can be set from 1 to 9 seconds.
4. Return the dial to **AUTO**.



NOTE: If using the app or web portal, Seasonal Adjust can also be set by individual month. The number set in the app will be displayed on the home screen here.

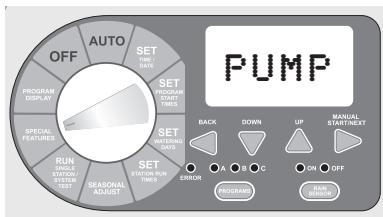
SPECIAL FEATURES

PUMP ON / OFF

The PUMP ON/OFF feature allows the user to enable or disable the MV/PS terminal for each individual station.

The ON/OFF feature is used in irrigation systems where it is desirable for a pump to operate or not operate for a specific station(s). Once the Pump ON/OFF feature is set for a station, it is set for that station across all programs.

1. Turn the dial to SPECIAL FEATURES. Display will show "DELAY 0:00."
2. Press NEXT button until "PUMP" is displayed.
3. Press the BACK and NEXT buttons simultaneously to enter the PUMP ON/OFF feature. The display will show "PUMP ON" and all stations.
4. Press BACK or NEXT to select desired station.
5. Press UP or DOWN buttons to activate (ON) or deactivate (OFF) the station.
6. Return the dial to AUTO.

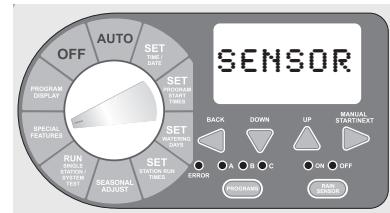


SENSOR

The SENSOR ON/OFF feature allows the user to enable or disable the SENSOR terminals for each individual station.

The on/off feature is used in irrigation systems where it is desirable for a Rain Sensor to operate or not operate for a specific station(s).

1. Turn the dial to SPECIAL FEATURES. Display will show "DELAY 0:00."
2. Press NEXT button until "SENSOR" is displayed.
3. Press the BACK and NEXT button simultaneously to enter the sensor on/off feature. The display will show "ACTIVE" and all stations.
4. Press the BACK or NEXT buttons to select desired station.
5. Press the UP or DOWN buttons to activate (ON) or bypass (OFF) the station.
6. Return the dial to AUTO.



SPECIAL FEATURES

LIGHTING

The Lighting feature allows the user to program one station in PROGRAM C as dedicated for lighting only. There will be one (1) start time available in this new lighting only program. This program can run up to 12 continuous hours. Also, to help avoid any issues, the MV/PS will be automatically turned off by default for Program C if the lighting program is activated.

To activate Lighting program:

1. Turn the dial to SPECIAL FEATURES. Display will show “DELAY 0:00”.
2. Press NEXT button until “LIGHT” is displayed.
3. Press the BACK and NEXT buttons simultaneously to have the word “STATION” pop up at the bottom of the screen along with number “1” flashing.
4. Use the Next or Back button to toggle through the stations until the designated station number you wish to use for lighting is flashing.
5. Using the UP button to confirm, LCD will show “LIGHT ON”. Using the UP button again will deactivate the lighting feature for that station.
6. Return the dial to AUTO.
7. Use PROGRAM button to select PROGRAM C.
8. Turn the dial to SET PROGRAM START TIMES to set the PROGRAM C start times. Set only the 1st start time.
9. Turn the dial to SET STATION RUN TIMES. The previous selected station will be lit at the bottom of the LCD.

All the other stations will show “OFF”, only the run time of the station that shows lit on the screen.



NOTE: Light feature can be set in the K-Rain App, click “Advanced Features”, Click “Lighting”, follow the order in the app to set up.

SPECIAL FEATURES

CLEAR

The CLEAR feature allows the user to erase all current programming and restore the original factory default program (all available stations, everyday for ten minutes).

1. Turn the dial to SPECIAL FEATURES. The display will show “DELAY 0:00.”
2. Press the NEXT button until “CLEAR” is displayed.
3. To enter the CLEAR feature press the UP or DOWN button and the display should now show “CLEAR*.”
4. Press the NEXT button to clear the current program. The display will briefly show “CLEARED” before automatically advancing to the next available feature.
5. Return the dial to AUTO.



SAVE

The SAVE feature allows the user to save all current programming. This allows the user to quickly and easily restore any saved program(s) should they be changed.

1. Turn the dial to SPECIAL FEATURES. Display will show “DELAY 0:00.”
2. Press the NEXT button until “SAVE” is displayed.
3. To enter the SAVE feature press the UP or DOWN button and the display should now show “SAVE*.”
4. Press NEXT button to save the current program(s). Display will briefly show “SAVED” before automatically advancing to the next available feature.
5. Return the dial to AUTO.



SPECIAL FEATURES

RESTORE

The “RESTORE” feature allows the user to restore any previously saved programs.

1. Turn the dial to SPECIAL FEATURES. Display will show “DELAY 0:00.”
2. Press the NEXT button until “RESTORE” is displayed.
3. To enter the RESTORE feature press the UP or DOWN button and the display should now show “RESTORE.”
4. Press the NEXT button to restore any previously SAVED program(s). Display will briefly show “RESTORED” before automatically advancing to the next available feature.
5. Return the dial to AUTO.



PERMANENT DAY OFF

Permanent days off programmed through special features will not display on program features.

Some users or water conservation programs may desire that a specific day(s) of the week be prohibited from watering. The DAY OFF feature allows the user to select a day or days of the week where the system will not operate regardless of SET WATERING DAYS program.

1. Turn the dial to SPECIAL FEATURES. Display will show “DELAY 0:00.”
2. Press the NEXT button until “DAY OFF” is displayed and a flashing “MON” in the upper left corner of the LCD.
3. Press the UP or DOWN buttons to enable (turn on) the day off feature. The display will now show a solid (non-flashing) “MON.”
4. Press NEXT to advance to next day of the week.
5. Repeat steps 3 and 4 until all non-watering days have been selected.
6. Return the dial to AUTO.

NOTE: All days visible at the top of the display will become non-watering days regardless of programming.



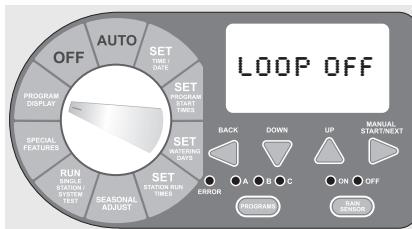
SPECIAL FEATURES

LOOP

The LOOP feature allows the user to create a pattern of run times within a program with a set zone run time and a set delay between zones and be terminated with a designated end time. This feature provides a solution for places such as a greenhouse or similar situations where periodic irrigation throughout the day is required.

To activate Loop program:

1. Turn the dial to SPECIAL FEATURES. Display will show "DELAY 0:00".
2. Press NEXT button until "LOOP OFF" is displayed.
3. Press the UP buttons to have the word "LOOP ON" on the screen.
4. Press the BACK and NEXT buttons simultaneously to go to the next screen. Display will show "PGM A" to the left of the screen, where A will be flashing.
5. Use the NEXT or BACK button to toggle through A, B, and C for the LOOP program.
6. Use the UP button to confirm that program.
7. Press the BACK and NEXT buttons simultaneously to move to "END TIME" setting, the screen will show "END OFF". Use UP button to adjust the end time.
8. Once "END TIME" is set, push the BACK and NEXT buttons simultaneously. The screen will show "DELAY". This is where you insert the amount of time in Minutes or Seconds that is required between the end of the last station and the repeated start of the first station. This step is optional and not required.
9. Turn the dial to AUTO.
10. Set up the PROGRAM START TIME by following the steps in the manual page on 7.
11. Set up the SET WATERING DAYS by following the steps in the manual page 7 and 8.
12. Set up the SET STATION RUN TIMES by following the steps in the manual page 9. LOOP feature has a minimum run time of 5 seconds (To setup run time, remember, 1 minute will translate into 1 second, 1 hour will translate into 1 minute. For example, LOOP station runtime to be set for 5 minutes, the setting needs to be 5 hours.)

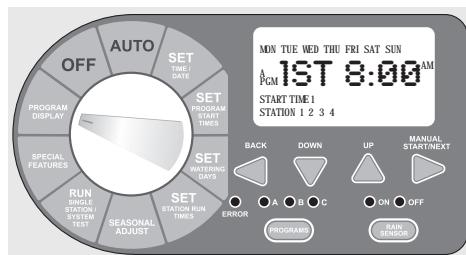


PROGRAM DISPLAY

The Pro-LC program display feature provides a complete visual overview of any program contents.

From this one screen the user can see all programmed Watering Days, the number of Watering Start Times and Stations with a run time per each individual program.

1. Turn the Dial to PROGRAM DISPLAY.
2. Use the Program Switch to select the program (A, B or C) you wish to review.
3. If more than one start time has been set (maximum of four), they will appear next to "START TIME" on the display.
4. Press the NEXT button to view any additional start times.
5. Return the dial to AUTO.



INSTALLATION

The Pro-LC controller can be installed either indoors or outdoors and must be done in compliance with local electrical codes.

For the best viewing and ease of programming we recommend installation at eye level.

The mounting location should have access to 115VAC or 220VAC electrical power and allow enough bottom clearance for the installation of conduit or a "junction" box if required.

CAUTION: Make sure your controller is installed by a qualified professional in accordance with the installation guide supplied.

Where wiring terminals are used, they shall be protected by insulating materials or the equivalent that will prevent contact with wiring installed in the box.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised not to play with the appliance.

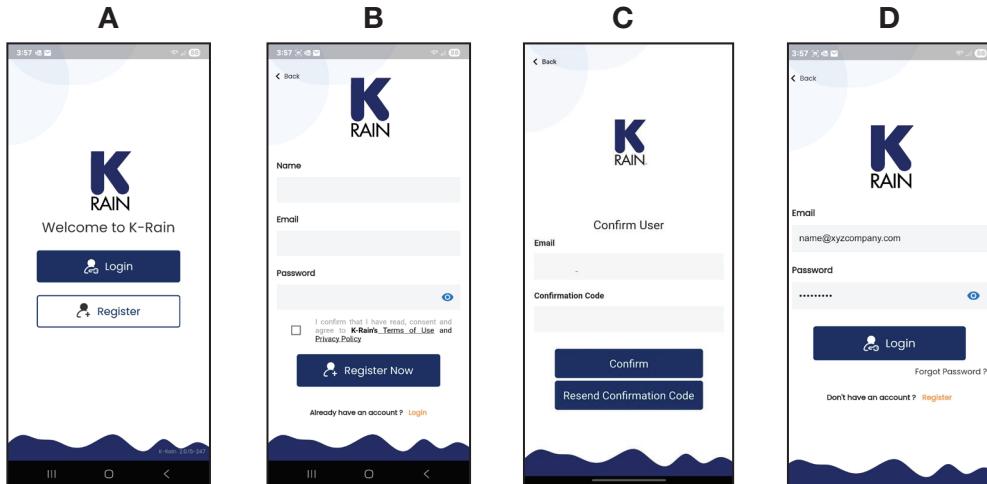
DOOR REMOVAL

1. Open the enclosure door and swing it to the left until fully open.
2. Using both hands grasp both the top and bottom portions of the door at the hinge location.
3. Gently pull either the top or bottom portion of the door forward until the door releases.

CONNECTIVITY

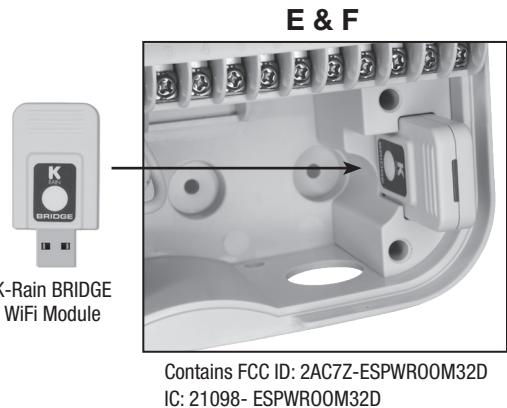
The latest Pro-LC irrigation controller is a WiFi compatible device that can be accessed via an app on a phone or tablet. For access to this, you will need the Pro-LC WiFi-Ready controller and the K-Rain BRIDGE WiFi Module. You will also need access to the internet.

1. Using your smartphone/tablet, download the K-Rain App from the App Store or Google PLAY Store.
2. On the device you just used to download the app, make sure Bluetooth is set to on.
3. Open the K-Rain app. First time users will need to start the Register process.
 - A. Click Register in the first page.
 - B. Type in a username, e-mail address, and choose a password. Click Register Now.
 - C. Open the e-mail account you used to register and look for the confirmation code sent to you.
Fill in the blank under "Conformation Code" on the app.
 - D. Login use the e-mail address and password created and go into Dashboard page.



CONNECTIVITY

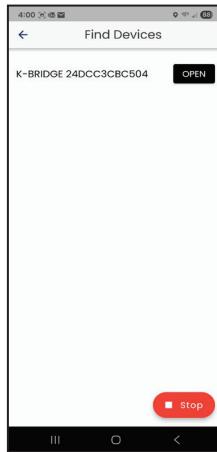
- E. Plug in the K-Rain BRIDGE WiFi Module. Wait for the blue light to stay lit.
- F. Click the button on the BRIDGE WiFi Module once. The blue LED will start to flash.
- G. Within the app Dashboard page, click Add new device.
- H. Click the Scan button and wait for the correct controller to show up. Click connect.
- I. Type in the correct WiFi password, click CONNECT WIFI.



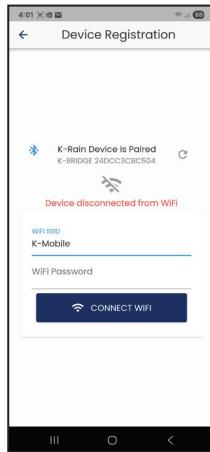
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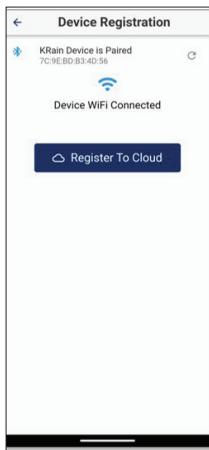
I



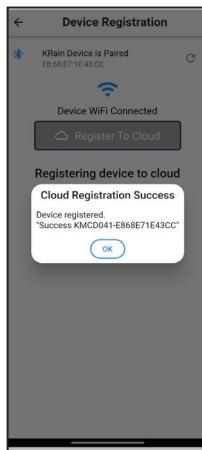
CONNECTIVITY

- J. Click register to Cloud and confirm this step by clicking CONTINUE.
- K. Wait until the process is complete and the window showing “Cloud Registration Success” message pops up. Click OK.
- L. This will take you back to the Dashboard where all of the connected devices (including the one you just connected) will be listed.

J



K



L



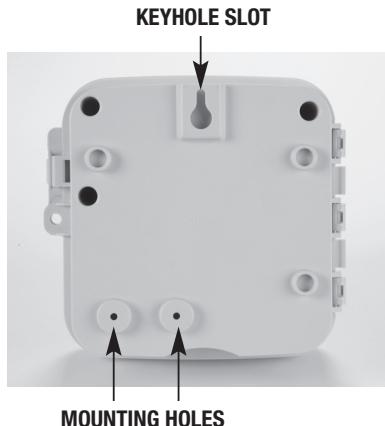
MOUNTING THE CONTROLLER

FIELD WIRE ENTRANCES

The Pro-LC has a single keyhole slot on the top/back of the controller. Two circular mounting holes are located at the bottom/back of the controller.

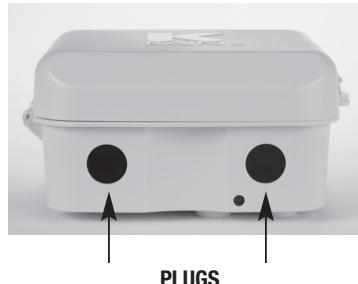
Use a pencil to mark the eye level position on the mounting wall. Or, use the template provided for easy installation.

Drive an appropriate fastening device for the type of wall material into the mark for the keyhole. Hang the controller on the keyhole slot making sure the fastener is secured on the narrow neck area of the keyhole slot.



The Pro-LC controller has two plugs available for the routing valve, pump start and sensor wires.

Both are located on the bottom of the cabinet and sized to 1/2" PVC male adapters.



Making sure the controller is level, drive an appropriate fastener(s) in the lower circular hole(s).

Align the controller vertically as shown here. Both the keyhole slot and mounting holes must be used.

CONNECTING VALVE WIRES

1. Connect each valve with its individual power wire to one of the numbered screw terminals. Station numbers are engraved in the mid-box with the following numbering: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12.
2. Connect the common field wire from all valves to the terminal screw located at the left side between the Sensor and "P" (Pump) terminal screws.
3. Only use code approved wiring for underground installation.

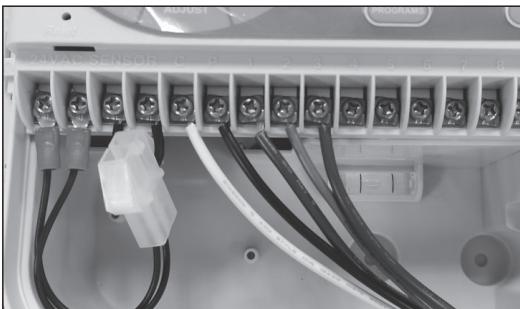
FOR OUTDOOR CONTROLLER

(3104W, 3108W, 3112W, 3104W-220, 3108W-220, 3112W-220)



FOR INDOOR CONTROLLER

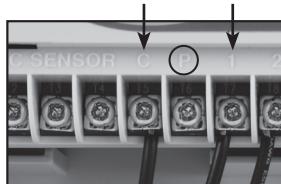
(3104WID, 3108WID, 3112WID, 3104WID-220, 3108WID-220, 3112WID-220)



PUMP START RELAY

This section is only for systems that require a pump start relay. The controller does not provide main power for a pump.

Pump Start Relay wiring terminal is located between "C" and "1" screw terminals.



RAIN SENSOR INSTALLATION

All electrical connections and wiring must be made according to local building codes.

1. Open the cabinet door.
2. Connect the two rain sensor wires to the two terminals marked SENSOR located at #3 and #4 screw terminals.



NOTE:

- If using a rain sensor, uninstall the jumper wire
- If not using a rain sensor, the jumper wire should remain installed.

NOTE: JUMPERS FOR UNUSED STATIONS

To prevent pump or system damage when using a pump start relay, use a jumper to connect all unused stations to the last station with a run time.

Unused station(s) without a jumper could cause pump or system damage should the unused station be turned on. Pump operation with no flow (dead-head), could cause over-pressurization of the system or the pump to overheat.



POWERING THE CONTROLLER

It is recommended that a licensed electrician perform the following power installation.

All electrical connections and wiring must be made according to local building codes. Make sure all electrical power is turned off before any wire connections are attempted.

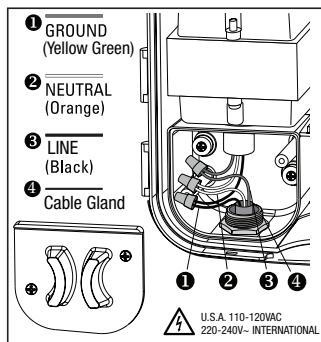
For ease of installation the enclosure door can be removed. Please refer to the installation instructions on page 20 for door removal.

FOR OUTDOOR CONTROLLER

(3104W, 3108W, 3112W, 3104W-220, 3108W-220, 3112W-220)

The hole located on bottom left side of the cabinet should be used to bring AC power wires and conduit into the power junction box.

Connect the AC wires to the transformer wires located inside the power junction box where wiring terminals are used, they shall be protected by insulating materials or the equivalent that will prevent contact with wiring installed in the box.



FOR INDOOR CONTROLLER

(3104WID, 3108WID, 3112WID, 3104WID-220, 3108WID-220, 3112WID-220)

Pro-LC is powered by 24VAC with external AC adaptor. Installation is easy. Simply plug connector from the controller with the connector on the end of the plug pack.



BATTERY REPLACEMENT

The battery compartment is located on the main board.

Replaceable battery model CR2032



CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions

SPECIFICATIONS

OPERATING SPECIFICATIONS

- Station Run Times:
1 minute to 6 hours on programs A, B and C.
- Start Times:
4 per program (12 maximum per day).
- Watering Schedule:
7-day calendar (any day of the week), odd or even calendar day, interval watering up to 31 days.
- Operating Temperature:
0–122° F (-18–50° C)

DIMENSIONS

- Height: 7"
- Width: 7.4"
- Depth: 3.7"

ELECTRICAL SPECIFICATIONS

- Transformer Input:

OUTDOOR CONTROLLER

110-120VAC 60Hz (North America)
(3104W, 3108W, 3112W)

220-240V~ 50/60Hz
(3104W-220, 3108W-220, 3112W-220)

INDOOR CONTROLLER

24V~ 50/60Hz
(3104WID, 3108WID, 3112WID, 3104WID-220,
3108WID-220, 3112WID-220)

Rated load: 0.1-0.68LA 24V~

- Maximum Output:
0.75LA 24V~ 50/60Hz (When the voltage fluctuates)
(includes Master Valve/Pump Start)
- For PERMANENTLY CONNECTED EQUIPMENT, a readily accessible disconnect device shall be incorporated external to the equipment.

DEFAULT SETTINGS

The Pro-LC controller has a battery backup used for time and calendar accuracy during power outages.

TROUBLESHOOTING

SYMPTOMS	POSSIBLE CAUSE	CORRECTION
PROGRAM DOES NOT COME ON AUTOMATICALLY	Dial set to the OFF position	Set dial to AUTO
	No Start Time	Turn the dial to PROGRAM DISPLAY. Check program for start time(s). If missing turn dial to SET PROGRAM START TIMES and enter a start time(s) if needed (page 7).
	Permanent Day Off Feature is Active	Change permanent day programming if needed (page 17).
	Today may not be a Scheduled Watering Day	Turn the dial to PROGRAM DISPLAY and check program Watering Day(s). If missing turn the dial to SET WATERING DAYS and enter watering day(s) if needed (page 7).
	Active or Faulty Rain Sensor	Check LCD Display for BYPASSED or SENSOR. Set Rain Sensor Switch to the Bypassed position.
	No Primary AC Power	Restore primary AC power.
DISPLAY SHOWS A STATION IN OPERATION BUT NO WATERING OCCURS	Rain Sensor is Active and preventing watering	If a recent rain event has occurred then no action is required. Place Rain Sensor Switch in the BY PASSED position to resume operation. If watering does not resume the Rain Sensor is not operating properly.
	Sensor Jumper is missing	Replace Jumper
STATION(S) DOES NOT COME ON	No Station Run Time has been set	Turn the Dial to SET STATION RUN TIMES and check program station for run time.
	A SHORT or OPEN circuit has disabled station operation	Locate and repair SHORT/ OPEN circuit. Error Tone, LED and Display will flash showing affected station(s). To temporarily clear the alarm, turn Dial to OFF position briefly and return Dial to AUTO. Controller will auto reset after repair has been performed.

TROUBLESHOOTING

SYMPTOMS	POSSIBLE CAUSE	CORRECTION
DISPLAY IS PARTIALLY OR COMPLETELY BLANK	Loss of primary AC power	Check for properly installed electrical installation. Check for tripped electrical Breakers or fuses.
	An electrical surge or strike has damaged the electronics	Perform a controller RESET. If no permanent damage occurred the controller will accept programming commands and function normally.
STATION(S) REPEAT OPERATION	More than one (1) start time has been programmed	Turn the dial to PROGRAM DISPLAY and check program(s) for additional start time(s). If unwanted start times are present turn dial to SET PROGRAM START TIMES and remove (page 7).
	The programs could be stacked	Programs stack when another program start time occurs while another program is still running. Check all programs (A, B and C) and start times (4 per each program).
OVERRIDE MESSAGE ON THE DISPLAY SCREEN	The controller was set to OFF using the K-Rain App	
	The Weather IQ has noted that the system has met its preset rain threshold limit	Turn the dial position to OFF for 2 seconds, then back to AUTO to regain control of manual setting.
LOST WIFI CONNECTION	Home router has been replaced, or password changed	Make sure the BRIDGE WiFi dongle is installed, then press and hold the button on the dongle for 5 seconds and release. After 3 seconds the blue indicator light should remain on to indicate connection was reestablished.
	Dongle was removed	Replace the BRIDGE WiFi dongle in the cradle located in the controller, then using a single short press of the button on the side should reestablish connection.
	Power outage	Replace the BRIDGE WiFi dongle in the cradle located in the controller, then using a single short press of the button on the side should reestablish connection.

WARRANTY



The manufacturer guarantees to the original purchaser that any product supplied by the manufacturer will be free from defects in material and workmanship for a period of three years from the date of purchase. Any product found to have defects in material or workmanship within the warranty period shall be repaired or replaced by the manufacturer.

The manufacturer does not guarantee the use for a particular purpose of its products and does not make any guarantee, expressed or implied, other than the warranty contained herein. The manufacturer shall not be liable for any loss from use of the product or incidental or consequential damages to other parts of any installation of which this product is part.

The warranty shall not apply to any equipment which is found to have been improperly installed, set up or used in any way not in accordance with the instructions supplied with this equipment, or to have been modified, repaired or altered in any way without the expressed consent of the manufacturer. This warranty shall not apply to any batteries or accessories used in the equipment covered under this warranty or to any damage which may be caused by such batteries.

If the controller develops a fault, the product or main panel must be returned in adequate packing with:

1. Copy of your original invoice
2. Description of any fault
3. Contact name and information

It is the purchaser's responsibility to return the controller to the manufacturer or their agent by prepaid freight.



K-Rain Manufacturing Corp.
ATTN: WARRANTY
1640 Australian Avenue
Riviera Beach, FL 33404
(561) 844-1002
(561) 842-9493 FAX
1.800.735.7246 | www.krain.com

© K-Rain Manufacturing Corp.
AN ISO 9001 CERTIFIED COMPANY
26007205-REV 07

K-Rain Manufacturing Corporation declares that this irrigation controller PRO-LC is in compliance with Directive 2014/53/EU. Full declaration text available at: www.krain.com

Frequency: 2.4GHz WiFi (2412-2472MHz), BLE(2402-2480MHz).
Max.radiated power: 2.4GHz WiFi≤18dBm, BLE≤1dBm.



To avoid environmental and health problems due to hazardous substances in electrical and electronic goods, appliances marked with a crossed out trash bin should not be placed into your household trash bin. Instead, when they are able to be re-used, they should be recycled. Your local authority will be able to advise you on the location of the nearest recycling center that is authorized to accept this type of waste. Please recycle responsibly.

