

Revolution™

Warning Series LED Lightheads

Installation and Programming Instructions

WIRES

INTERNAL FLASHER (SMART MODE)

RED Connect to Battery +12Vdc thru +24Vdc to activate
 BLACK Connect to Battery GROUND
 YELLOW Sync Line
 BLUE Alternate Flash Pattern

DIRECT CONTROL

RED Connect to Battery +12Vdc thru +24Vdc to activate (Active Low Inputs Only)
 BLACK Connect to Battery GROUND (Active High Inputs Only)
 YELLOW Side A or Color 1
 BLUE Side B or Color 2

ELECTRICAL

Input Voltage: +12Vdc thru +24Vdc

Input Current:	Steady Burn Normal Mode		Steady Burn Dim Mode		Default Flash Normal Mode		Default Flash Dim Mode	
	12Vdc	24Vdc	12Vdc	24Vdc	12Vdc	24Vdc	12Vdc	24Vdc
R37/R46 Warning Lights	1.53A	0.86A	0.41A	0.24A	0.39A	0.27A	0.11A	0.05A
R79 Warning Lights	3.06A	1.70A	0.85A	0.47A	0.95A	0.53A	0.26A	0.14A

Note: Complete installation with wire rated for 125% of amperage draw

SYNCHRONIZE WARNING LAMPS – Internal Flasher (Smart) Modes Only

To synchronize, first program each lamp to the same flash pattern. Unpredictable results will occur if synchronized lamps have different flash patterns selected. Connect the YELLOW wires of up to 10 synchronized iLED lamps together. Do not connect the yellow wires to power or ground. Do not exceed 100 feet of wire between the furthest synchronized units.

OPERATING CONFIGURATIONS

The Revolution series can be set to one of two Operating Modes, and the Inputs can be set to one of two Active States. This gives four distinct configurations:

Internal Flasher, Active High Inputs
Internal Flasher, Active Low Inputs
Direct Control, Active High Inputs
Direct Control, Active Low Inputs

Internal Flasher – This is the Default Mode. All flash patterns are controlled by the on-board flasher.

Direct Control – Select the direct control mode if you are using an external flasher to control the light head.

Active high inputs – This is the Default Mode. All lamp functions are activated by applying +12Vdc through +24Vdc.

Active low inputs – When set to active low all lamp functions are activated by applying ground.

PROGRAMMING FLASH PATTERNS AND RATES

ENTERING PROGRAM MODE

For Internal Flasher, Active High Inputs Configuration (Default Smart Mode):

To Program the Primary Flash Pattern

Connect the Sync (YELLOW) wire and the RED power wire to +12Vdc; connect the BLACK wire to ground.

Continue to apply +12vdc to the Sync (YELLOW) wire for at least 2 seconds.

All LEDs will flash **3** times to indicate you have entered Primary Flash Pattern selection mode.

While maintaining power, remove the Sync (YELLOW) wire from +12vdc and the unit will operate in the currently selected flash pattern.

Tap the Sync (YELLOW) wire to +12vdc to select the Flash Type & Rate.

Tap the Alternate (BLUE) wire to +12vdc to select the Flash Pattern.

Tap both the Sync (YELLOW) and Alternate (BLUE) wires to +12vdc to select the Quadrants.

See the “SELECTING FLASH PATTERNS” section and Pattern Tables below for more details.

To Program the Alternate Flash Pattern

Connect the Alternate (BLUE) and Sync (YELLOW) wires and the RED power wire to +12vdc; connect the BLACK wire to ground.

Continue to apply +12vdc to the Alternate (BLUE) and Sync (YELLOW) wires for at least 2 seconds.

All LEDs will flash **4** times to indicate you have entered Alternate Flash Pattern selection mode.

While maintaining power, remove the Alternate (BLUE) and Sync (YELLOW) wires from +12vdc and the unit will operate in the currently selected alternate flash pattern.

Use the Sync (YELLOW) wire tapped to +12vdc to select the Flash Type & Rate.
Use the Alternate (BLUE) wire tapped to +12vdc to select the Flash Pattern.
Use both the Sync (YELLOW) and Alternate (BLUE) wires tapped to +12vdc to select the Quadrants.
See the “SELECTING FLASH PATTERNS” section and Pattern Tables below for more details.

For Internal Flasher, Active Low Inputs Configuration:

To Program the Primary Flash Pattern

Connect the Sync (YELLOW) wire and the BLACK wire to Ground; connect the RED wire to +12Vdc. Continue to apply Ground to the Sync (YELLOW) wire for at least 2 seconds. All LEDs will flash **3** times to indicate you have entered Primary Flash Pattern selection mode. While maintaining power, remove the Sync (YELLOW) wire from Ground and the unit will operate in the currently selected flash pattern.

Use the Sync (YELLOW) wire tapped to Ground to select the Flash Type & Rate.
Use the Alternate (BLUE) wire tapped to Ground to select the Flash Pattern.
Use both the Sync (YELLOW) and Alternate (BLUE) wires tapped to Ground to select the Quadrants.
See the “SELECTING FLASH PATTERNS” section and Pattern Tables below for more details.

To Program the Alternate Flash Pattern

Connect the Alternate (BLUE) and the Sync (YELLOW) wires and the BLACK wire to Ground; connect the RED wire to +12vdc. Continue to apply Ground to the Alternate (BLUE) and Sync (YELLOW) wires for at least 2 seconds. All LEDs will flash **4** times to indicate you have entered Alternate Flash Pattern selection mode. While maintaining power, remove the Alternate (BLUE) and Sync (YELLOW) wires from Ground and the unit will operate in the currently selected flash pattern.

Use the Sync (YELLOW) wire tapped to Ground to select the Flash Type & Rate.
Use the Alternate (BLUE) wire tapped to Ground to select the Flash Pattern.
Use both the Sync (YELLOW) and Alternate (BLUE) wires tapped to Ground to select the Quadrants.
See the “SELECTING FLASH PATTERNS” section and Pattern Tables below for more details.

For Direct Control, Active High Inputs Configuration:

To Program the Primary Flash Pattern

Connect the RED power wire to +12vdc; connect the BLACK wire to Ground. Wait for at least 2 seconds. All LEDs will flash **3** times to indicate you have entered Primary Flash Pattern selection mode. The LEDs will remain **off**, indicating that the Direct Control mode is currently selected.

Tap the Sync (YELLOW) wire to +12vdc to select the Flash Type & Rate.
Tap the Alternate (BLUE) wire to +12vdc to select the Flash Pattern.
Tap both the Sync (YELLOW) and Alternate (BLUE) wires to +12vdc to select the Quadrants.
See the “SELECTING FLASH PATTERNS” section and Pattern Tables below for more details.

For Direct Control, Active Low Inputs Configuration:

To Program the Primary Flash Pattern

Connect the RED power wire to +12vdc; connect the BLACK wire to Ground. Wait for at least 2 seconds. All LEDs will flash **3** times to indicate you have entered Primary Flash Pattern selection mode.

The LEDs will remain **off**, indicating that the Direct Control mode is currently selected.

Use the Sync (YELLOW) wire tapped to Ground to select the Flash Type & Rate.

Use the Alternate (BLUE) wire tapped to Ground to select the Flash Pattern.

Use both the Sync (YELLOW) and Alternate (BLUE) wires tapped to Ground to select the Quadrants.

See the “SELECTING FLASH PATTERNS” section and Pattern Tables below for more details.

SELECTING FLASH PATTERNS:

Use the Sync wire (YELLOW) to step through the Flash Type & Rate table.

Single Tap - Step Forward

Double Tap - Step Backward

Touch and Hold - Reset to Defaults and Toggles the Dim Setting (Bright or Dim)

Use the Alternate wire (BLUE) to step through the Pattern table.

Single Tap - Step Forward

Double Tap - Step Backward

Touch and Hold - Step through the Color settings: Color 1, Color 2, Color 1 then 2, Color 2 then 1, Color 1:2, Color 2:1

Use the Sync and Alternate wires (YELLOW & BLUE) to step through the Quadrant table.

Single Tap - Step Forward

Double Tap - Step Backward

Touch and Hold - Toggles the Inputs Active State setting (High or Low).

For Active High Inputs:

Tap or Touch and Hold⁵ inputs to +12vdc.

For Active Low Inputs:

Tap or Touch and Hold⁵ inputs to Ground.

SELECTABLE FLASH TYPE & RATE

1. Neobe flash 150 FPM
2. Neobe flash 120 FPM
3. Neobe flash 75 FPM
4. Double flash 250 FPM
5. Double flash 125 FPM
6. Double flash 75 FPM
7. Single flash 375 FPM
8. Single flash 150 FPM
9. Single flash 120 FPM
10. Single flash 75 FPM

Use the Sync wire (YELLOW) to step through the Flash Type & Rate table.

Single Tap - Step Forward

Double Tap - Step Backward

Touch and Hold⁵ - Reset to Defaults and Toggles the Dim Setting (Bright or Dim)

SELECTABLE PATTERN

1. Alternating
2. Simultaneous [Phase 0]⁷
3. Combo (2 cycles alt + 2 cycles sim)⁷
4. California steady (half flashing, half steady)
5. Simultaneous [Phase 1]⁷
6. Flicker⁷
7. Clockwise⁸
8. Counter Clockwise⁸
9. Steady Burn⁷
10. Multi flash 1⁶
11. Multi flash 2⁶
12. Multi flash 3⁶
13. Direct Control¹

Use the Alternate wire (BLUE) to step through the Pattern table.

Single Tap - Step Forward

Double Tap - Step Backward

Touch and Hold⁵ - Step through the Color settings²:

Color 1

Color 2

Color 1/2 (1 then 2)

Color 2/1 (2 then 1)

Color 1:2

Color 2:1

SELECTABLE QUADRANTS³

1. Left/Right
2. Top/Bottom
3. Diagonal D/U
4. Right/Left
5. Bottom/Top
6. Diagonal U/D

Use the Sync and Alternate wires (YELLOW & BLUE) to step through the Quadrant table.

Single Tap - Step Forward

Double Tap - Step Backward

Touch and Hold⁵ - Toggles the Inputs Active State⁴ setting (High or Low).

CONFIGURATION SELECTION NOTES:

- 1) Direct Control is only selectable from the Primary Pattern selection.
- 2) The Color Settings are only available on the Dual Color models.
 - Color 1 Flash Patterns only use Color 1.
 - Color 2 Flash Patterns only use Color 2.
 - Color 1/2 Flash Patterns switch colors every time through a pattern. The first time through the pattern, Color 1 is used, the second time through the pattern Color 2 is used.
 - Color 2/1 Flash Patterns switch colors every time through a pattern. The first time through the pattern, Color 2 is used, the second time through the pattern Color 1 is used.
 - Color 1:2 Flash Patterns use Color 1 for Side A and Color 2 for Side B.
 - Color 2:1 Flash Patterns use Color 2 for Side A and Color 1 for Side B.
- 3) The Quadrants are Upper Left (UL), Upper Right (UR), Lower Left (LL) and Lower Right (LR).
 - Left Quadrants are UL and LL.
 - Right Quadrants are UR and LR.
 - Top Quadrants are UL and UR.
 - Bottom Quadrants are LL and LR.
 - Diagonal D(own) Quadrants are UL and LR.
 - Diagonal U(p) Quadrants are LL and UR.
- 4) Input Active State settings are High and Low. High means the input wire must be connected to +Vdc to activate the function. Low means the input wire must be connected to Ground to activate the function.
- 5) The hold time for the Touch and Hold action is 3 seconds.
- 6) Patterns in the Multi Pattern Combinations.
 - Multi 1:
 - A) NEOBE FLASH 150 ALTERNATE.
 - B) DOUBLE FLASH 250 SIMULTANEOUS PHASE 0.
 - C) SINGLE FLASH 375 ALTERNATE.
 - D) NEOBE 150 SIMULTANEOUS PHASE 0.

- Multi 2: A) NEOBE FLASH 75 ALTERNATE.
 B) DOUBLE FLASH 125 SIMULTANEOUS PHASE 0.
 C) SINGLE FLASH 150 ALTERNATE.
 D) SINGLE FLASH 75 SIMULTANEOUS PHASE 0.

- Multi 3: A) DOUBLE FLASH 125 ALTERNATE.
 B) SINGLE FLASH 150 ALTERNATE.
 C) DOUBLE FLASH 250 SIMULTANEOUS PHASE 0.
 D) SINGLE FLASH 150 SIMULTANEOUS PHASE 0.

7) For Two Color Lamps, these Flash Patterns only use one color.

For Color selection 1/2 or 1:2 - only Color 1 is used.

For Color selection 2/1 or 2:1 - only Color 2 is used.

8) For Two Color Lamps, the colors used for CW and CCW Flash Patterns is:

For Color selection 1/2 or 1:2 - UL and LR are Color 1, UR and LL are Color 2.

For Color selection 2/1 or 2:1 - UL and LR are Color 2, UR and LL are Color 1.

Addendum A

Example: Configuring R79LD-W-RW for NFPA compatible Flash Patterns

For an R79LD-W-RW, the default Flash Patterns are:

Primary Flash Pattern: Neobe flash 150 FPM, Full Brightness, Simultaneous Phase 0 pattern, Color 1 (Red), Left/Right Quadrant Split.

Secondary Flash Pattern: Neobe flash 75 FPM, Full Brightness, Steady Burn pattern, Color 2 (White), Left/Right Quadrant Split.

NFPA compatible Flash Patterns:

Set the Primary flash pattern to Color Red/White, Alternating Left/Right.

Set the Secondary flash pattern to Color Red, Alternating Left/Right, Neobe flash 150 FPM.

- 1) Enter Program Mode for Primary Flash Pattern.
- 2) Step Table 2 backwards to Alternating pattern.
- 3) Step Color selection four times to Color 1:2 (Red/White).
- 4) Exit Program Mode (i.e. remove power).
- 5) Enter Program Mode for Secondary Flash Pattern.
- 6) Step Table 1 backwards to Neobe flash 150 FPM.
- 7) Step Table 2 (forward or backward) to Alternating pattern.
- 8) Step Color selection five time to Color 1 (Red).
- 9) Exit Program Mode (i.e. remove power).