



Installation and Operation Instructions

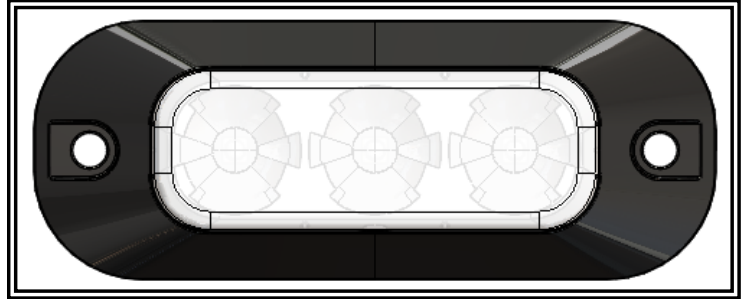
XTP SERIES LIGHT HEADS

Single and Split Colors

Introduction:

CODE3 XTP series LED heads are compact and versatile high intensity directional LED warning lights suitable for mounting anywhere on a vehicle. Colorless until illuminated, these discrete LED heads feature a high degree of environmental and vibration protection.

Additional benefits include low current draw, a long and maintenance free service life with reliable solid-state operation. LED heads can be controlled by conventional switches or relays and can also be synchronized to flash with other compatible CODE3 synchronizing LED products.



IMPORTANT! Read all instructions before installing and using. Installer: This manual must be delivered to the end user.



WARNING!

Failure to install or use this product according to manufacturers recommendations may result in property damage, serious injury, and/or death to those you are seeking to protect!



Do not install and/or operate this safety product unless you have read and understand the safety information contained in this manual.

1. Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of emergency personnel and the public.
2. Emergency warning devices often require high electrical voltages and/or currents. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation is vital to the performance of this warning device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.
5. It is the responsibility of the vehicle operator to ensure daily that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles or other obstructions.
6. The use of this or any other warning device does not ensure all drivers can or will observe or react to an emergency warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, drive against traffic, respond at a high rate of speed, or walk on or around traffic lanes.
7. This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding emergency warning devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.

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Package Contains:

1	Light Head
2	Screws
1	Installation Guide
1	Mounting Gasket
1	Bezel

Operation Environment:

Ambient Temperature: -40 to 77°C (-40 to 170°F)

Specifications:

Light Head Model	XTP3	XTP4	XTP6
Input Voltage	12-24VDC	12-24VDC	12-24VDC
Work Current	0.5A Max @ DC12V or 24V	1.0A Max @ DC12V or 24V	1.0A Max @ DC12V or 24V
Physical H x W x L	0.62 in x 1.39 in x 3.65 in 1.58 cm x 3.53 cm x 9.28 cm	0.62 in x 1.39 in x 4.72 in 1.58 cm x 3.53 cm x 11.98 cm	0.62 in x 1.39 in x 6.21 in 1.58 cm x 3.53 cm x 15.78 cm
Weight	0.088 lb (0.04 Kg)	0.127 lb (0.06 Kg)	0.160 lb (0.07 Kg)
Available Single Colors	Red, Blue, Amber, White, Green	Red, Blue, Amber, White, Green	Red, Blue, Amber, White, Green
Available Split Dual Colors	N/A	Amb/Wht, Blue/Amb, Blue/Wht, Red/Amb, Red/Blue, Red/Wht	Amb/Wht, Blue/Amb, Blue/Wht, Red/Amb, Red/Blue, Red/Wht

Installation and Mounting:

To mount the light head, use the bezel as a template to mark the mounting holes. The supplied self-tapping #6 x 0.75" screws typically use 0.125" diameter holes but this may vary depending on the type of material and the thickness being tapped. Provide a minimum 0.50" diameter hole for the wires. Grommet the hole if possible and seal with RTV sealant.

It is important to note:

The light head has a small round hole covered with vent membrane that must face downward when mounting the light head.

Caution! When drilling into any vehicle surface, make sure that the area is free from any electrical wires, fuel lines, vehicle upholstery, etc. that could be damaged.

Wiring Instructions:

RED: Positive, (5A fuse required)

WHITE: Positive, (5A fuse required)

BLACK: Negative

BLUE: Pattern select to negative -- Dim control to positive

YELLOW: Synchronized Function (Up to 32 units can be Synchronized)

Notes on Choosing Flash Patterns:

A variety of flash patterns may be chosen for the light head. The Single and Split Dual Color light heads are split vertically as separate lighted areas that may be chosen to operate alternately. The Split Dual Color version has different colors for the left side versus the right side to allow for patterns that flash right-left using various color combinations. The XTP3 does not have this feature.

A separate flash pattern may be assigned for the power wires red, white, or both connected together and the pattern operated depending which wire or wires are energized. Power the wire (or wires) then use the pattern select blue wire (touch to ground) to select the chosen flash pattern from the list below. The XTP3 can only be assigned one flash pattern.

Note: The split dual color light heads have a separate flash pattern list.

See the legend at the top of the pattern lists for compliance with various standards.

Pattern Select Operation:

The light head flash pattern may be changed by touching the Blue wire to ground for the following intervals (while the light head is flashing):

NOTE: The blue wire must be disconnected from any voltage when not activating DIM nor changing flash patterns.

- When the light head signal becomes steady, disconnect the Blue wire and the flash pattern will increment by one pattern.

- When the light head signal becomes steady, then goes off, disconnect the Blue wire and the flash pattern will decrement by one pattern.

- When the light head signal becomes steady, then goes off, then becomes steady again, disconnect the Blue wire and the flash pattern will reset to the factory default pattern.

- When the light head signal becomes steady, then goes off, then becomes steady again, then goes off again, disconnect the Blue wire and the flash pattern will become set to the steady burn mode.

Notes on Dim Control:

The light head intensity may be reduced if necessary. The Blue wire when connected to positive will reduce the intensity to 25% for SAE patterns. Light intensity for ECE patterns will reduce to 55%.

NOTE: The blue wire must be disconnected from any voltage when not activating DIM nor changing flash patterns.

Notes on Synchronizing and Phase (Sync Ph):

(Up to 32 light heads can be Synchronized by connecting their yellow wires).

When the yellow wires of the light heads are connected together, the group with Ph1 flash patterns will flash simultaneously. If the light heads in the second group are set to Ph2 flash patterns, they will flash alternately with the first group. To simplify the set-up of a synchronized installation, the following process is recommended:

- Before connecting the yellow wires together, choose the desired flash pattern for each light head. **The patterns chosen must have the same flash rate for all light heads intended to be synchronized. (By definition a 75fpm light head will not sync with at 120fpm light head)** To avoid confusion set each light head individually to the chosen flash pattern using the blue pattern select wire. Ph1 light heads will alternate with Ph2 light heads and simultaneously with all other light heads set to Ph1. Ph2 light heads flash simultaneously with all other light heads set to Ph2. It is also strongly recommended that the same style of flash pattern be used on all heads to produce the most effective warning pattern.
- Connect the yellow synchronization wires together and check that the light heads are flashing in a synchronized manner as expected. If a pattern for one light head appears to be wrong, keep the yellow wire connected and use the blue pattern select wire to cycle forward or backward for that individual light head until the correct pattern is selected. Once that is completed verify the light head is synchronized correctly.

Flash Patterns XTP3:

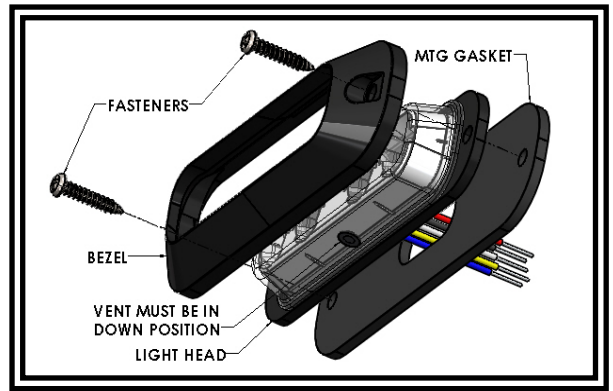
For patterns that meet SAE J595 Class1 requirements for Red, Blue, Amber, and White, see **S** in chart below!

For patterns that meet California Title 13 Class B requirements for Red, Blue, and Amber, see **C** in chart below!

For patterns that meet ECE65 Class1 Cat X (night only) requirements for Blue, Amber, see **E1** in chart below!

For patterns that meet ECE65 Class2 Cat X (day & night) requirements for Red, see **E2** in chart below!

PATTERN GROUP	RED WIRE	FLASH PATTERN	SYNC	Complies with
0	1-Default	Cycle Flash	no	
1	2	Single Flash 75FPM sim. Phase1	yes	SC
	3	Single Flash 75FPM sim. Phase2	yes	SC
2	4	Single Flash 120FPM sim. Phase1	yes	S
	5	Single Flash 120FPM sim. Phase2	yes	S
3	6	Double Flash 75FPM sim. Phase1	yes	SC
	7	Double Flash 75FPM sim. Phase2	yes	SC
4	8	Double Flash 120FPM sim. Phase1	yes	Blue, Amb SE1 - Red SE2
	9	Double Flash 120FPM sim. Phase2	yes	Blue, Amb SE1 - Red SE2
5	10	Quad Flash 75FPM sim. Phase1	yes	SC
	11	Quad Flash 75FPM sim. Phase2	yes	SC



Important! This unit is a safety device, and it must be connected to its own separate, fused power point to assure its continued operation should any other electrical accessory fail.

PATTERN GROUP	RED WIRE	FLASH PATTERN	SYNC	Complies with
6	12	Quad Flash 150FPM sim. Phase1	yes	S
	13	Quad Flash 150FPM sim. Phase2	yes	S
7	14	Triple 75FPM sim. Phase1	yes	SC
	15	Triple 75FPM sim. Phase2	yes	SC
8	16	Quint Flash 150FPM sim. Phase1	yes	S
	17	Quint Flash 150FPM sim. Phase2	yes	S
9	18	Modulation	No	
10	19	2 Double Flash, 2 Triple Flash	No	
11	20	4 Single Flash, 2 Quad Flash	No	
12	21	Steady Burn	No	

Flash Patterns XTP4 and XTP6 versions:

For patterns that meet SAE J595 Class1 requirements for Red, Blue, Amber, and White, see **S** in chart below!

For patterns that meet California Title 13 Class B requirements for Red, Blue, and Amber, see **C** in chart below!

For patterns that meet ECE65 Class2 Cat X (day & night) requirements for Red, Blue, Amber, see **E2** in chart below!

Flash Patterns XTP4 and XTP6 - Single Color:

PATTERN GROUP	RED WIRE	WHITE WIRE	RED & WHITE WIRE	FLASH PATTERN	SYNC	Complies with
0	1-Default	1-Default	1-Default	Cycle Flash	no	
1	2	2	2	Single Flash 75FPM sim. Phase1	yes	SC
	3	3	3	Single Flash 75FPM sim. Phase2	yes	SC
	4	4	4	Single Flash 75FPM Alt.	yes	S
2	5	5	5	Single Flash 120FPM sim. Phase1	yes	S
	6	6	6	Single Flash 120FPM sim. Phase2	yes	S
	7	7	7	Single Flash 120FPM Alt.	yes	S
3	8	8	8	Double Flash 75FPM sim. Phase1	yes	SC
	9	9	9	Double Flash 75FPM sim. Phase2	yes	SC
	10	10	10	Double Flash 75FPM Alt.	yes	S
4	11	11	11	Double Flash 120FPM sim. Phase1	yes	SE2
	12	12	12	Double Flash 120FPM sim. Phase2	yes	SE2
	13	13	13	Double Flash 120FPM Alt.	yes	S
5	14	14	14	Quad Flash 75FPM sim. Phase1	yes	SC
	15	15	15	Quad Flash 75FPM sim. Phase2	yes	SC
	16	16	16	Quad Flash 75FPM Alt.	yes	S
6	17	17	17	Quad Flash 150FPM sim. Phase1	yes	S
	18	18	18	Quad Flash 150FPM sim. Phase2	yes	S
	19	19	19	Quad Flash 150FPM Alt.	yes	S
7	20	20	20	Triple 75FPM sim. Phase1	yes	SC
	21	21	21	Triple 75FPM sim. Phase2	yes	SC
	22	22	22	Triple 75FPM Alt.	yes	S
8	23	23	23	Quint Flash 150FPM sim. Phase1	yes	S
	24	24	24	Quint Flash 150FPM sim. Phase2	yes	S
	25	25	25	Quint Flash 150FPM Alt.	yes	S
9	26	26	26	Steady - Single	No	
10	27	27	27	Modulation	No	
11	28	28	28	2 Double Flash, 2 Triple Flash	No	
12	29	29	29	4 Single Flash, 2 Quad Flash	No	
13	30	30	30	Steady Burn	No	

Flash Patterns XTP4 and XTP6 - Split Dual Colors:

PATTERN GROUP	RED WIRE	WHITE WIRE	RED & WHITE WIRE	FLASH PATTERN	SYNC	Complies with
0	1-Default	1-Default	1-Default	Cycle Flash	no	
1	2	2	2	Single Flash 75FPM Alt. Phase1	yes	S
	3	3	3	Single Flash 75FPM Alt. Phase2	yes	S
	4	4	4	Single Flash 120FPM Alt. Phase1	yes	S
2	5	5	5	Single Flash 120FPM Alt. Phase2	yes	S
	6	6	6	Double Flash 75FPM Alt. Phase1	yes	S
3	7	7	7	Double Flash 75FPM Alt. Phase2	yes	S
	8	8	8	Double Flash 120FPM Alt. Phase1	yes	S
4	9	9	9	Double Flash 120FPM Alt. Phase2	yes	S
	10	10	10	Quad Flash 75FPM Alt. Phase1	yes	S
5	11	11	11	Quad Flash 75FPM Alt. Phase2	yes	S
	12	12	12	Quad Flash 150FPM Alt. Phase1	yes	S
6	13	13	13	Quad Flash 150FPM Alt. Phase2	yes	S
	14	14	14	Triple 75FPM Alt. Phase1	yes	S
7	15	15	15	Triple 75FPM Alt. Phase2	yes	S
	16	16	16	Quint Flash 150FPM Alt. Phase1	yes	S
8	17	17	17	Quint Flash 150FPM Alt. Phase2	yes	S
	18	18	18	Steady - Single	No	
10	19	19	19	Modulation	No	
11	20	20	20	2 Double Flash, 2 Triple Flash Alt.	No	
12	21	21	21	4 Single Flash, 2 Quad Flash Alt.	No	
13	22	22	22	Steady Burn	No	

Troubleshooting:

The XTP series light head has been thoroughly factory tested. If any of the the device functions fail, please check the following:

1. Be sure the power source is activated, then check all connections both positive and ground at the light head (to assure no open or shorted circuits).
2. Permanently connecting the Blue programming wire to ground will disable the light head, no matter what the programmed flash pattern.
3. If the Dim function does not operate, verify the Blue wire is connected to positive.
4. If the sync function is not being used and the light head is functioning erratically, verify the Yellow wire is not connected to positive or ground.

Replacement Parts and Accessories:

Part/Accs	XTP3	XTP4	XTP6
Bezel Black Plastic	T51874	T51875	T51876
Bezel Chrome Plastic	250-0425-00	250-0427-00	250-0429-00
Mtg Grommet Rubber	T51890	T51891	T51892
Mtg Gasket Foam	T51886	T51887	T51888

Manufacturer Limited Warranty Policy:

Manufacturer warrants that on the date of purchase this product will conform to Manufacturer's specifications for this product (which are available from the Manufacturer upon request). This Limited Warranty extends for Sixty (60) months from the date of purchase.

DAMAGE TO PARTS OR PRODUCTS RESULTING FROM TAMPERING, ACCIDENT, ABUSE, MISUSE, NEGLIGENCE, UNAPPROVED MODIFICATIONS, FIRE OR OTHER HAZARD; IMPROPER INSTALLATION OR OPERATION; OR NOT BEING MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE PROCEDURES SET FORTH IN MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS VOIDS THIS LIMITED WARRANTY.

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MANUFACTURER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. THE IMPLIED WARRANTIES FOR MERCHANTABILITY, QUALITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICE ARE HEREBY EXCLUDED AND SHALL NOT APPLY TO THE PRODUCT AND ARE HEREBY DISCLAIMED, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW. ORAL STATEMENTS OR REPRESENTATIONS ABOUT THE PRODUCT DO NOT CONSTITUTE WARRANTIES.

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MANUFACTURER'S SOLE LIABILITY AND BUYER'S EXCLUSIVE REMEDY IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR UNDER ANY OTHER THEORY AGAINST MANUFACTURER REGARDING THE PRODUCT AND ITS USE SHALL BE, AT MANUFACTURER'S DISCRETION, THE REPLACEMENT OR REPAIR OF THE PRODUCT, OR THE REFUND OF THE PURCHASE PRICE PAID BY BUYER FOR NON-CONFORMING PRODUCT. IN NO EVENT SHALL MANUFACTURER'S LIABILITY ARISING OUT OF THIS LIMITED WARRANTY OR ANY OTHER CLAIM RELATED TO THE MANUFACTURER'S PRODUCTS EXCEED THE AMOUNT PAID FOR THE PRODUCT BY BUYER AT THE TIME OF THE ORIGINAL PURCHASE. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR LOST PROFITS, THE COST OF SUBSTITUTE EQUIPMENT OR LABOR, PROPERTY DAMAGE, OR OTHER SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES BASED UPON ANY CLAIM FOR BREACH OF CONTRACT, IMPROPER INSTALLATION, NEGLIGENCE, OR OTHER CLAIM, EVEN IF MANUFACTURER OR A MANUFACTURER'S REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. MANUFACTURER SHALL HAVE NO FURTHER OBLIGATION OR LIABILITY WITH RESPECT TO THE PRODUCT OR ITS SALE, OPERATION AND USE, AND MANUFACTURER NEITHER ASSUMES NOR AUTHORIZES THE ASSUMPTION OF ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH PRODUCT.

This Limited Warranty defines specific legal rights. You may have other legal rights which vary from jurisdiction to jurisdiction. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages.

Product Returns:

If a product must be returned for repair or replacement*, please contact our factory to obtain a Return Goods Authorization Number (RGA number) before you ship the product to Code 3®, Inc. Write the RGA number clearly on the package near the mailing label. Be sure you use sufficient packing materials to avoid damage to the product being returned while in transit.

*Code 3®, Inc. reserves the right to repair or replace at its discretion. Code 3®, Inc. assumes no responsibility or liability for expenses incurred for the removal and /or reinstallation of products requiring service and/or repair.; nor for the packaging, handling, and shipping; nor for the handling of products returned to sender after the service has been rendered.



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