



A Safe Fleet Brand



# INVIEW TRUESIGHT CAMERA & MONITOR SYSTEMS MODEL: BCA100-200 SERIES



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# INTRODUCTION

## Overview

The inView TrueSight™ is a camera video system designed for maximum visibility and safety around the apparatus to eliminate blind spots. They are available as either Wireless or Wired systems for customization options.

Wired systems can have from 1 to 4 camera configurations, and are available with or without monitor displays. Multiple camera systems include a video switcher to alternate between the connected cameras to choose a different viewpoint.

Wireless systems are available as 1 or 2 camera configurations. These systems are suitable for upgrading video on existing apparatus, or for use in aerial applications where running a video wire is not practical. A transmitter can connect to any one of our cameras, which allows it to wirelessly connect to any monitor with RCA inputs.

## Features—Wired System

### ▲ Full or Quad Screen Wired Monitor

- ◇ 7" TFT LCD Color with Super Sharp Display
- ◇ Accommodates one to four cameras in real time
- ◇ Full or Quad-screen Monitor (with 4 cameras)
- ◇ Built-in Speakers & on-dash backlit buttons

### ▲ 130° Front /Rear View Wired Camera

- ◇ 2.1mm Sharp® Color CCD Camera
- ◇ High Quality Image with no Blind Spots
- ◇ 18 Infrared illuminators for clear image up to 50' away
- ◇ Anti-Vibration / Waterproof for severe conditions
- ◇ *Kits with front and rear mounted cameras come with two 130° Wired Cameras*

### ▲ 120° Side View Sharp® Color CCD Wireless Camera

- ◇ 9 infrared illuminators for clear image day or night (up to 30' visibility)
- ◇ Mounts flush or using Mounting Bracket

### Optional Features (*not standard*):

- 7" Rear View Mirror Monitor
- Large 10" In-cab Monitor
- 7" Waterproof Monitor on Panel
- Proximity Sensor with Display
- 4-Channel DVR
- Dome Waterproof Camera
- Brake Light Camera

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## Features—Wireless System

- ▲ Full or Split Screen Wireless Monitor
  - ◇ 7" TFT LCD Color with Super Sharp Display
  - ◇ Accommodates one or two cameras in real time
  - ◇ Full or Split-screen Mode
  - ◇ Built-in Speakers & on-dash backlit buttons
- ▲ 130° Rear View Wireless Back Up Camera
  - ◇ 2.1mm Sharp® Color CCD Camera
  - ◇ High Quality Image with no Blind Spots
  - ◇ 9 Infrared LEDs for night time visibility up to 50'
  - ◇ Anti-Vibration / Waterproof for severe conditions
  - ◇ Wireless Transmitter
- ▲ 120° Side View Sharp® Color CCD Camera
  - ◇ 9 Infrared LEDs for night time visibility up to 30'
  - ◇ Mounts flush or using Mounting Bracket

### **Optional Features** (*not standard*):

- 7" Rear View Mirror Monitor
- Large 10" In-cab Monitor
- 7" Waterproof Monitor on Panel
- Wireless Proximity Sensor with Display

# Specifications

## Table 1. Wired Systems—Camera Specifications

MODELS		
	<b>XE-BCA507-A0A</b>	<b>XE-BCA201L(R)-A0A</b>
<b>Camera Type</b>	130° Front/Rear View, 1/3" SONY® Color CCD Sensor	120° Side Angle, 1/4" Sharp® Color CCD Sensor
<b>Picture Elements</b>	250,000 pixels	250,000 pixels
<b>Gamma Correction</b>	R=0.45 to 1.0	R=0.45 to 1.0
<b>Image Sensor</b>	600 TV Lines, PAL: 500(H) *582(V), NTSC: 510(H) *492(V)	420 TV Lines, PAL: 500 (H) x 582 (V), NTSC: 510 (H) x 492 (V)
<b>Lens</b>	2.1mm	2.1mm
<b>Viewing Angle</b>	130° Front/Rear View	Side-Angle 120°
<b>Waterproof Rating</b>	IP69K	IP68
<b>Sync System</b>	Internal Synchronization	Internal Synchronization
<b>Infrared Distance</b>	50 Ft. (18 Infrared IR)	30 Ft. (9 Infrared IR)
<b>Usable Illumination</b>	0 Lux (IR ON)	0 Lux (IR ON)
<b>Power Source</b>	DC 12V-24V (+/-10%)	DC 12V-24V (+/-10%)
<b>Power Consumption</b>	2.5W	2.5W
<b>S/N Ratio</b>	More Than 48DB	More Than 48DB
<b>Electronic Iris</b>	1/50, 1/60-1/100,000 SEC	1/50, 1/60-1/100,000 SEC
<b>Video Output</b>	1V.P.P 75 Ω	1V.P.P 75 Ω
<b>IR Switch Control</b>	CDS Automatic Control	CDS Automatic Control
<b>Vibration and Impact Rating</b>	20G/100G	20G/100G
<b>Operating Temperature</b>	-40°F ~ +176°F / RH 95% Max	-40°F ~ +176°F / RH 95% Max

**Table 2. Wireless Systems—Camera Specifications**

<b>MODELS</b>		
	<b>XE-BCA252-A0A</b>	<b>XE-BCA255L(R)-A0A</b>
<b>Camera Type</b>	130° Front/Rear View, ¼" Sharp® Color CCD Sensor	120° Side Angle, ¼" Sharp® Color CCD Sensor
<b>Picture Elements</b>	250,000 pixels	250,000 pixels
<b>Gamma Correction</b>	R=0.45 to 1.0	R=0.45 to 1.0
<b>Image Sensor</b>	540 TV Lines PAL: 752(H) *582(V), NTSC: 769(H) x 494(V)	420 TV Lines, PAL: 500 (H) x 582 (V), NTSC: 510 (H) x 492 (V)
<b>Lens</b>	2.1mm	2.1mm
<b>Viewing Angle</b>	130° Front/Rear View	Side-Angle 120°
<b>Waterproof Rating</b>	IP68	IP68
<b>Sync System</b>	Internal Synchronization	Internal Synchronization
<b>Infrared Distance</b>	50 Ft. (9 Infrared IR)	30 Ft. (9 Infrared IR)
<b>Usable Illumination</b>	0 Lux (IR ON)	0 Lux (IR ON)
<b>Power Source</b>	DC 12V-24V (+/-10%)	DC 12V-24V (+/-10%)
<b>Power Consumption</b>	3W	3.6W
<b>S/N Ratio</b>	More Than 48DB	More Than 48DB
<b>Electronic Iris</b>	1/50, 1/60-1/100,000 SEC	1/50, 1/60-1/100,000 SEC
<b>Video Output</b>	1V.P.P 75 Ω	1V.P.P 75 Ω
<b>IR Switch Control</b>	ACDS Automatic Control	ACDS Automatic Control
<b>Vibration and Impact Rating</b>	20G/100G	20G/100G
<b>Operating Temperature</b>	-40°F ~ +176°F / RH 95% Max	-40°F ~ +176°F / RH 95% Max

**Table 3. Standard Monitor Specifications**

<b>MODELS</b>			
	<b>XE-BCAM601-NM-D0A</b>	<b>XE-BCAM602-D0A</b>	<b>XE-BCA7650-LW-D0A</b>
<b>Monitor Type</b>	LED Digital Panel - for up to 3 Cameras	TFT LCD Quad View Color - for up to 4 Cameras	Dual Screen TFT LCD Color, 70 ft. Wireless transmission for up to 2 cameras
<b>Wired/Wireless</b>	Wired Systems	Wired Systems	Wireless Systems
<b>Screen Size</b>	7"	7"	7"
<b>Dot Resolution</b>	800 x 3 (RGB) x 480	800 x 3 (RGB) x 480	800 x 3 (RGB) x 480
<b>Display Format/ Contrast</b>	U:50° D:60° L/R:70°	16:9 / 500:1	16:9 / 500:1
<b>Display Brightness</b>	400 CD/m <sup>2</sup>	400 CD/m <sup>2</sup>	400 CD/m <sup>2</sup>
<b>Viewing Angle</b>	U:50° D:60° L/R:70°	U:50° D:60° L/R:70°	U:50° D:60° L/R:70°
<b>Video Input</b>	3 Channel CVBS	4 Channel	2 Channel
<b>Video Source</b>	1 VP-P, 75Ω	1 VP-P, 75Ω	1 VP-P, 75Ω
<b>Power Supply</b>	DC 12V-24V (+/-10%)	DC 12V-24V (+/-10%)	DC 12V-24V (+/-10%)
<b>Power Consumption</b>	5W	5W	5W
<b>Operating Temperature</b>	-22°F ~ +176°F	-22°F ~ +176°F	-22°F ~ +176°F
<b>Video System</b>	Auto NTSC/PAL	Auto NTSC/PAL	Auto NTSC/PAL
<b>Overall Dimensions</b>	7" (L) x 5" (H) x 1" (D)	7" (L) x 5" (H) x 1" (D)	7" (L) x 5" (H) x 1" (D)
<b>Vibration Rating</b>	5G	5G	5G



**Table 4. Optional Monitor Specifications**

	<b>MODELS</b>		
	<b>XE-BCAM615-D0A</b>	<b>XE-BCAM6011-D0A</b>	<b>XE-BCAM609-NM-D0A</b>
<b>Monitor Type</b>	TFT LCD Quad View Color w/ Sunshade & Flush-mount - for up to 4 Cameras	TFT LCD Color - for up to 2 Cameras	TFT LCD Color - for up to 3 Cameras
<b>Wired/Wireless</b>	Wired Systems	Wired Systems	Wired Systems
<b>Screen Size</b>	10.1"	7"	7"
<b>Dot Resolution</b>	1024 x 600	800 x 3 (RGB) x 480	800 x 3 (RGB) x 480
<b>Display Format/ Contrast</b>	450:1	16:9 / 500:1	16:9 / 500:1
<b>Display Brightness</b>	450 CD/m <sup>2</sup>	400 CD/m <sup>2</sup>	400 CD/m <sup>2</sup>
<b>Viewing Angle</b>	U:50° D:60° L/R:70°	U:50° D:60° L/R:70°	90° Minimum
<b>Waterproof Rating</b>	N/A	IP69K	N/A
<b>Video Input</b>	4 Channel	2 Channel	3 Channel
<b>Video Source</b>	1 VP-P, 75Ω	1 VP-P, 75Ω	1 VP-P, 75Ω
<b>Power Supply</b>	DC 12V-24V (+/-10%)	DC 12V-24V (+/-10%)	DC 12V-24V (+/-10%)
<b>Power Consumption</b>	8.5W	5W	5W
<b>Operating Temperature</b>	-22°F ~ +176°F	-22°F ~ +176°F	14°F ~ +149°F
<b>Video System</b>	Auto NTSC/PAL	Auto NTSC/PAL	Auto NTSC/PAL
<b>Overall Dimensions</b>	10" (L) x 6.5" (H) x 1" (D)	7" (L) x 5" (H) x 1" (D)	10.5" (L) x 7" (H) x 2.6" (D)
<b>Vibration Rating</b>	5G	5G	5G

**Table 5. Proximity Sensor Specifications**

	<b>MODELS</b>		
	<b>XE-BCA112W-S0A</b>	<b>XE-BCA125-A0A</b>	<b>XE-BCA115W-S0A</b>
<b>Sensor Type</b>	(4) Acoustic, Flush Mount & Weatherproof	(4) Analog Active Sensor - 40KHz	(2-4) Ultrasonic Sensors for Reverse; (6-8) Ultrasonic Sensors for Parking Aid
<b>Transmission Mode</b>	Wired	Wireless	Wired
<b>Sensor Cables</b>	8 ft.	8 ft.	8 ft.
<b>Detecting Angles</b>	Horizontal: Approx. 30° Vertical: Approx. 50°	Horizontal: Approx. 30° Vertical: Approx. 50°	Horizontal: Approx. 50° Vertical: Approx. 59°
<b>Detection Range</b>	12 inches to 7 feet	9 inches to 8 feet	1 inch to 8 feet
<b>Warning Mode</b>	Ultrasonic Echo Location - Audio Pulse Alerts	Digit, LED Bar & Sound	LED Display, Digit, Sound, Direction
<b>Speaker Sound Output</b>	80 db at 4 inches	70 db at 4 inches	60 db at 4 inches
<b>Speaker Cable Length</b>	5 ft.	N/A	N/A
<b>Waterproof Rating</b>	IP67 Sensor only	IP67 (Sensors & Control Box)	IP67 (Sensors & Control Box)
<b>Power</b>	12VDC	12VDC	12VDC
<b>Power Cables</b>	6 ft.	6 ft.	4 ft.
<b>Power Consumption</b>	0.6W	3W	1.2W
<b>Operating Temperature</b>	-22°F ~ +158°F	-22°F ~ +158°F	-22°F ~ +158°F
<b>Sensor Dimensions (Overall w/housing)</b>	1" (H) x 1" (D)	1" (H) x 1" (D)	1" (H) x 1" (D)
<b>Control Box</b>	4.88" x 3.5" x 1.4"	4.33" x 3.62" x 1.25"	4.88" x 3.5" x 1.4"

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## DVR Specification

NOTE: If ordered, please see the separate manual for the SEON inView Guardian DVR System Model No. XE-SNBTH4C-A0A. This DVR Kit comes with a built in G sensor, and 256 GB of SD storage. For more details, please refer to the enclosed SEON inView Guardian DVR System manual (included with this DVR Kit).

## GENERAL DESCRIPTION

Depending on whether the system is Wired or Wireless, the following components are available to customize the camera and video configuration on the apparatus.

### Components

**BCA1XX Wired** camera system consists of the following components:

Cameras: 1 – 4 cameras (including front/rear and side views) for flexible configurations

Monitors: The standard monitor for wired systems is a 3-channel, single view monitor consisting of 1 - 3 cameras. The Quad View monitor is standard for 4-camera wired systems.

Extension cables: 66 ft. for the 130° camera, 33 ft. for the 120° side camera

Video Splitter (*Only included for multiple monitors*)

**BCA2XX Wireless** camera system consists of the following components:

Cameras: 1 – 2 cameras (including front/rear and side views) for flexible configurations

Monitors: The standard monitor for wireless systems supports single view and split screen view.

### **Options:**

**4-Channel DVR** (*Optional for only Wired BCA1XX Series*)

**DVR Adapter** (*Comes with DVR for only Wired BCA1XX Series*)

**Proximity Sensors** (*Optional for both Wired BCA1XX & Wireless BCA2XX Series*)

### **Monitors:**

7" Waterproof TFT LCD Color Monitor\*

9" Quad View TFT LCD Color Monitor\*

10.1" Quad View TFT LCD Color Monitor with Sunshade and Flush-mount\*

**\*Note: For BCA2XX, these monitors include wireless transmitters for wireless connection. Additional monitors are available.**

### Camera

The cameras have the following distinctions: wired or wireless, and backup or side. The side cameras have specific models for either left or right mounting.

### Monitor

The monitors are connected to the cameras for live viewing. Each monitor comes with its own harness; these harnesses cannot be used with other monitor models.

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**Extension Cable**

This is a female to female extension cable that is supplied with each wired camera. These cables are required to connect the cameras to the monitor as both of them have male connectors. The standard length supplied is 66 ft. for back up cameras and 33 ft. for side cameras.

**Video Splitter**

This adapter allows you to connect your camera to 2 separate monitors.

**DVR (Optional)**

This device captures the video feed from the cameras and stores it onto a hard drive. It comes standard with 500 GB of storage. The videos are viewable on a computer through the included VMax View software CD.

**Proximity Sensors (Optional)**

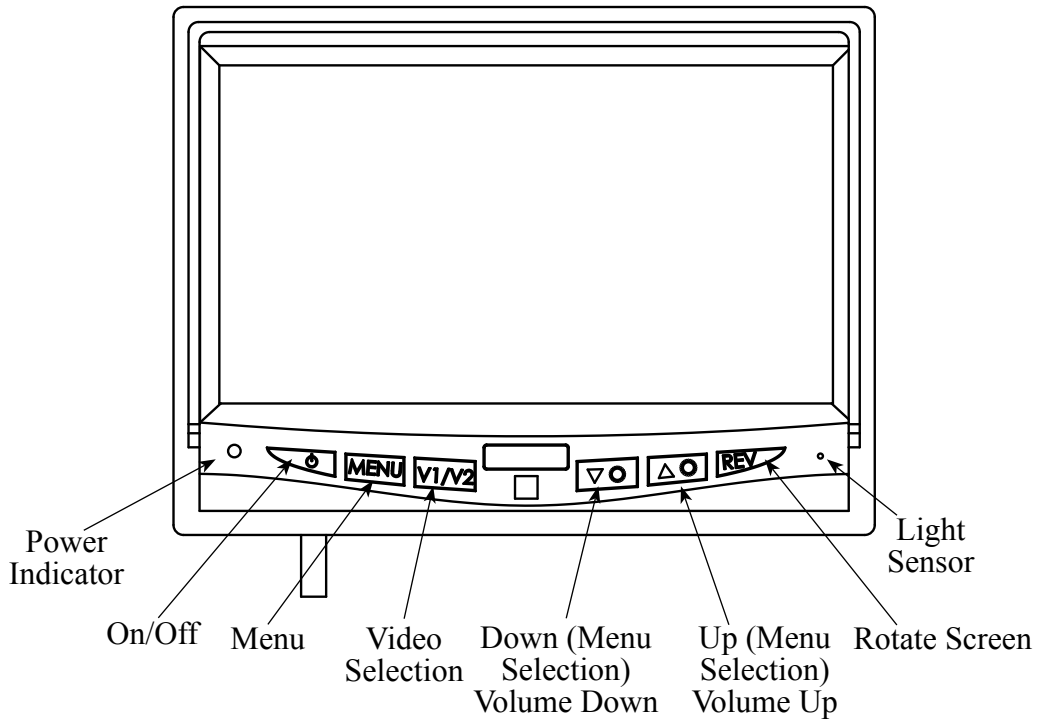
These sensors detect and display how much available distance there is behind the vehicle. The proximity sensors also include audible warnings to alert the driver of potential hazards.

**Wireless Transmitter (Optional)**

The wireless transmitters come paired from the factory. The Wireless Transmitter shall have up to 70 feet of transmission.

# Controls and Indicators

## XE-BCAM601-NM-D0A\* & XE-BCAM602-NM-D0A\* Wired 7" Monitors



## XE-BCA7650-LW-D0A Wired 7" Monitor

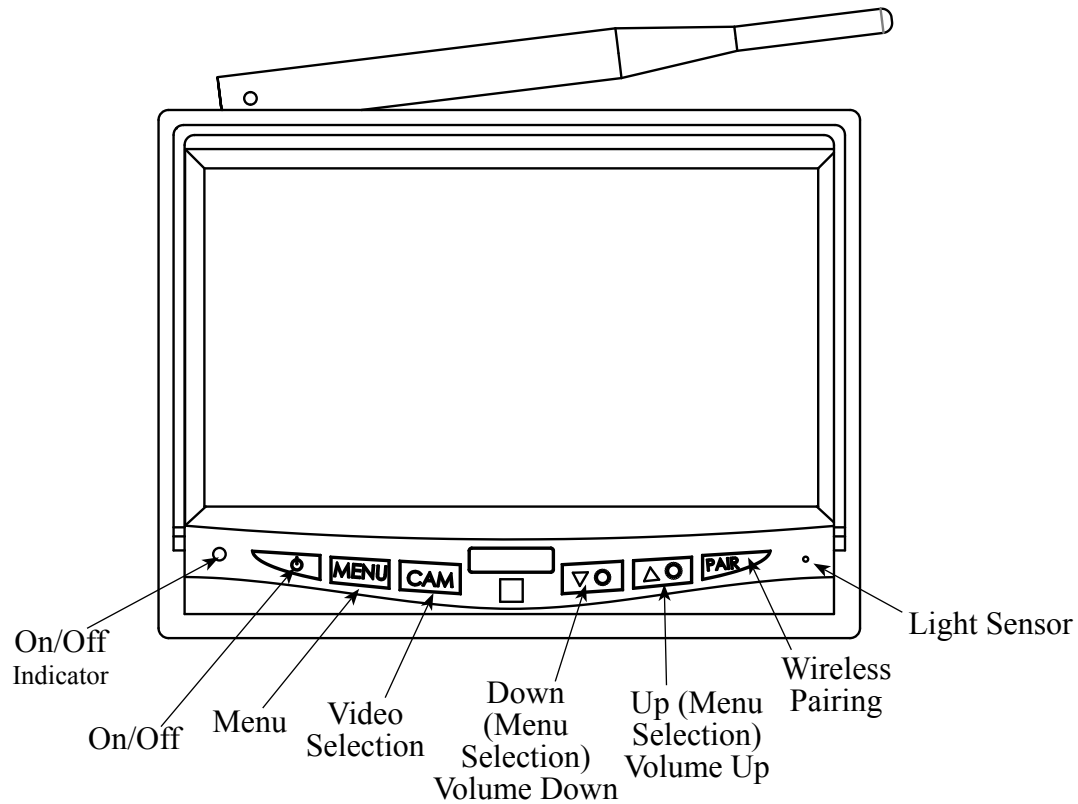
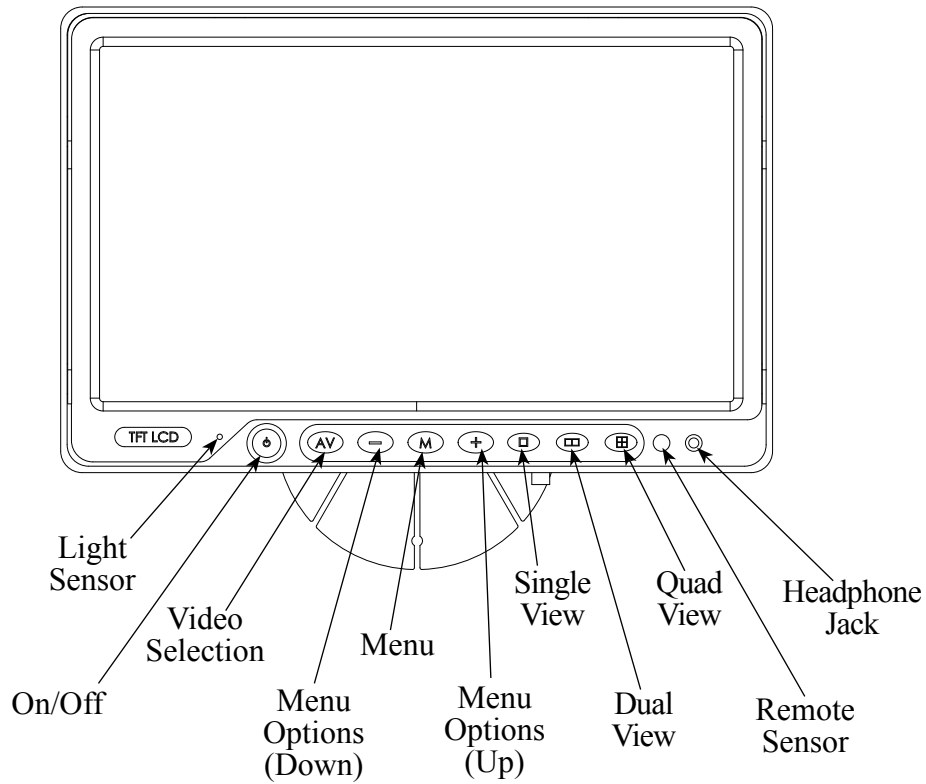


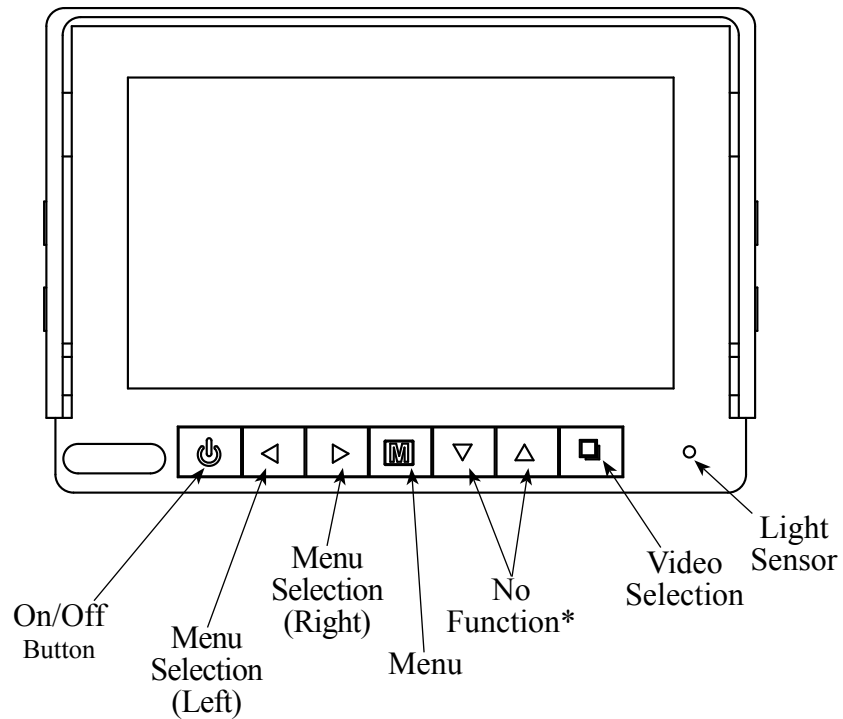
Figure 1. Controls and Indicators

# Controls and Indicators

## XE-BCAM615-D0A Quad View 10" Color Monitor



## XE-BCAM6011-D0A TFT LCD 7" Color Monitor



**Figure 2. Controls and Indicators**

# Controls and Indicators

## XE-BCAM609-D0A Replacement Mirror 7" Color Monitor

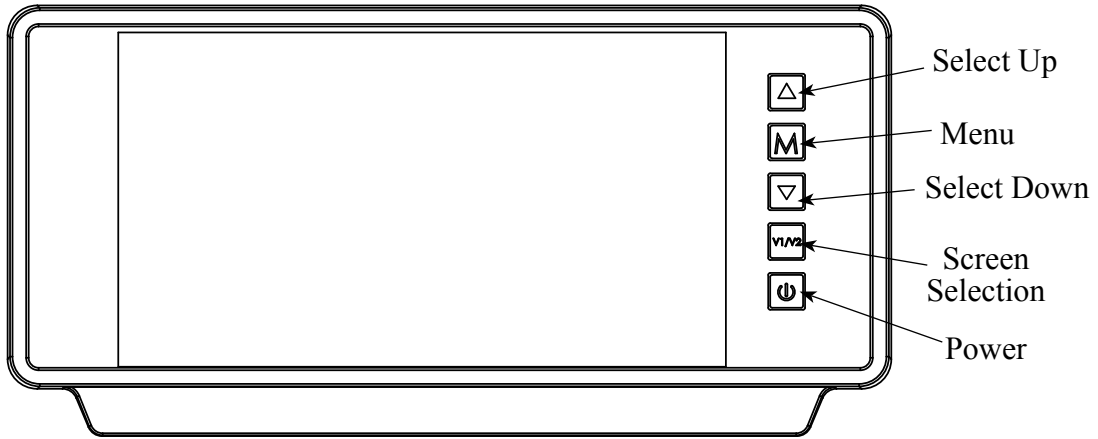
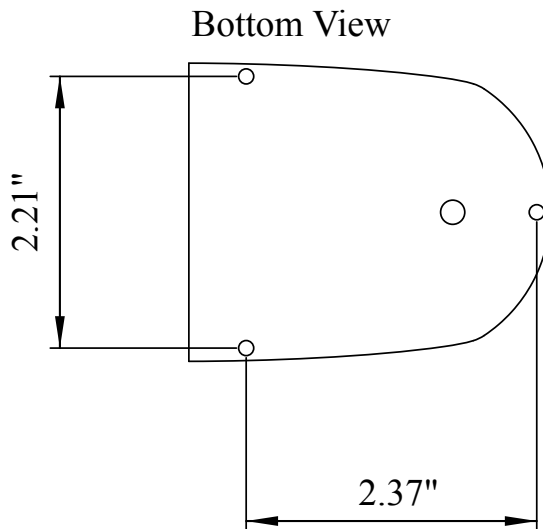
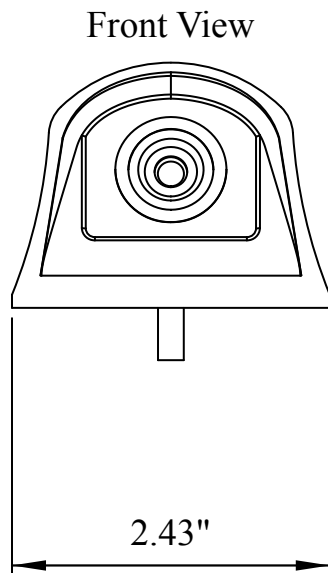
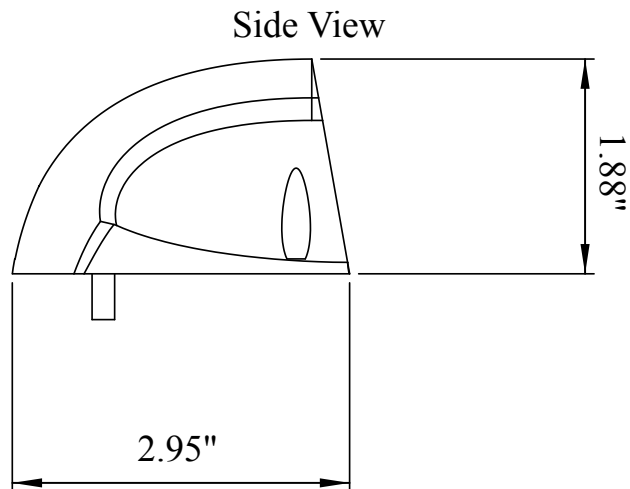


Figure 3. Controls and Indicators



# INSTALLATION

**NOTE:** See the installation instructions for each monitor for detailed installation instructions for the cameras and monitors.



**Figure 4. XE-BCA201L(R)-A0A Dimensional Camera Diagrams**

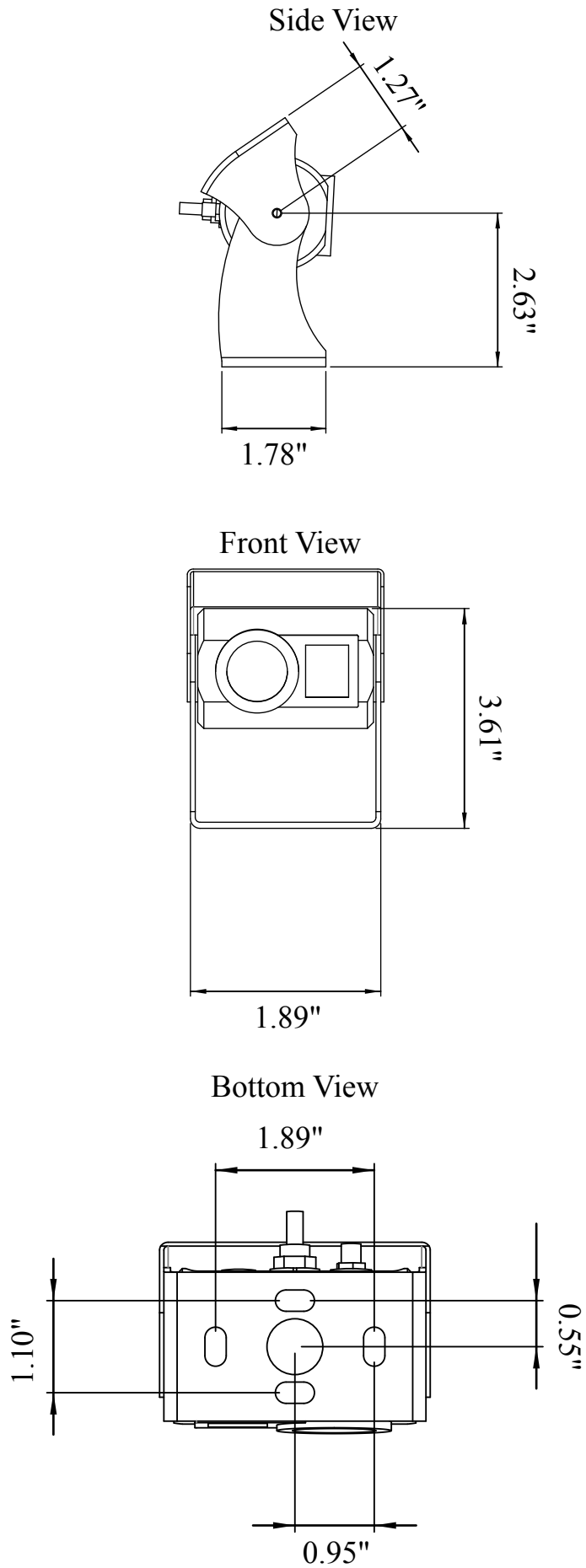


Figure 5. XE-BCA252-A0A Dimensional Camera Diagrams

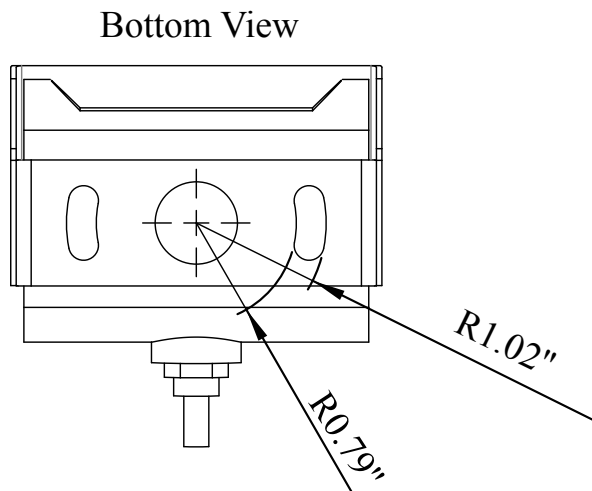
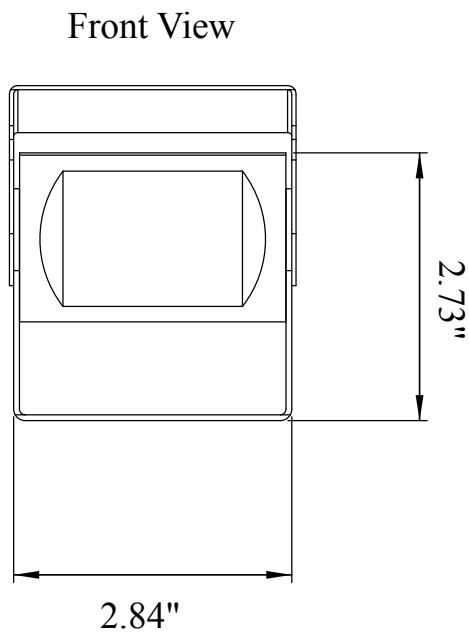
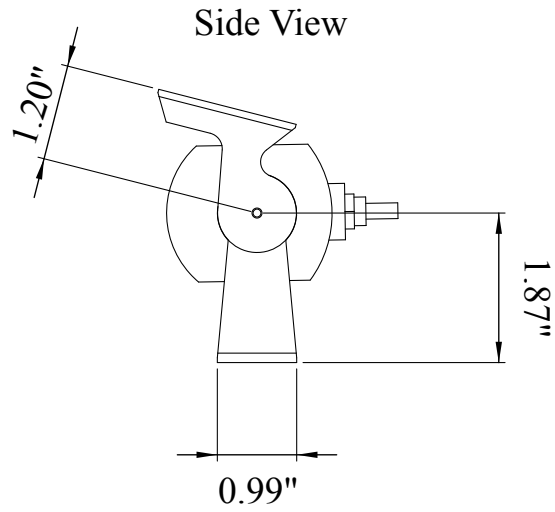


Figure 6. XE-BCA507-A0A Dimensional Camera Diagrams

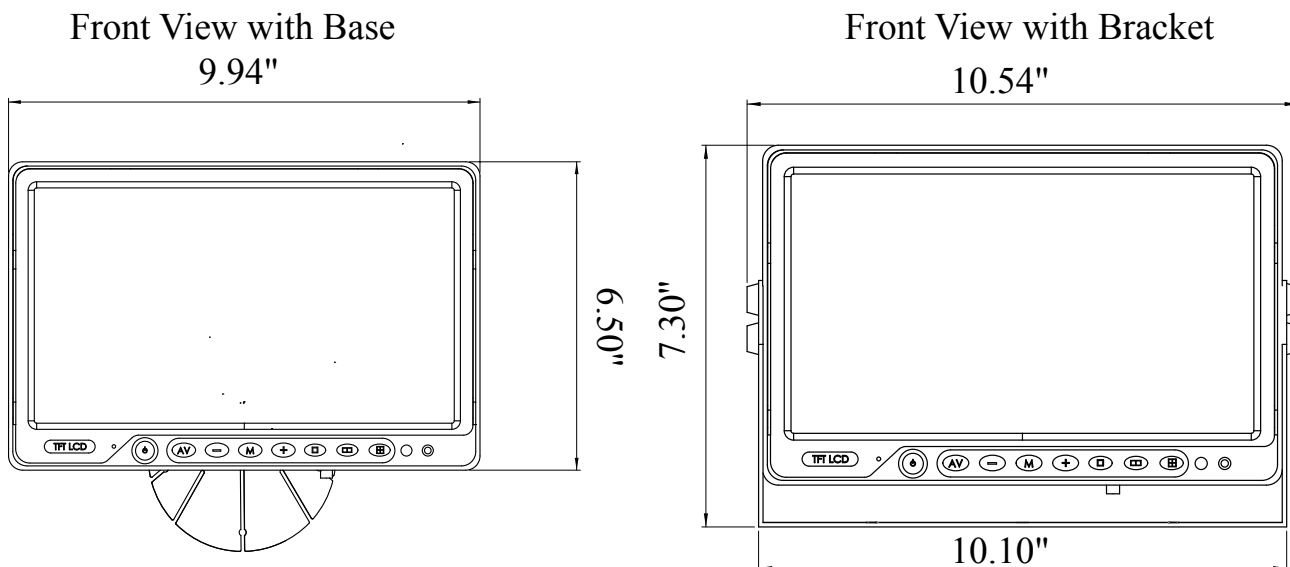
# XE-BCAM615-D0A Optional Monitor

## Installation Steps:

1. Choose the camera and monitor location.
2. Locate the wiring on your vehicle. The interior panel may need to be removed in order to locate this.
3. Connect the monitor to the power harness.
4. Connect each camera to the power harness using the camera's extension cable. ("Camera 3" is the designated backup channel.)
5. Connect the Blue trigger wire to a 12 volt reverse power source. (Do not attach the Blue trigger to constant power. When the Blue wire is active, it will have precedence over the other triggers.)
6. Connect the White and Yellow trigger when necessary (Grey-CH1, Green-CH2, Brown-CH4).
7. Connect the audio input cable to a speaker source when necessary.
8. Connect the power (RED) 12V+ wire to an ignition switched accessory power source. Connect the ground (BLACK) wire to chassis ground.
9. Once all cables and wiring have been properly routed and connected, perform a system function test by temporarily connecting the system.

**NOTE:** If connecting power directly to the battery, the camera will be constantly ON and this will drain the battery. Therefore, it is recommended to connect power to an ignition switched accessory power source.

**NOTE:** It is strongly recommended doing a benchmark test before installation to insure that all components are working properly.



**Figure 7. XE-BCAM615-D0A Dimensional Monitor Diagrams with Base**

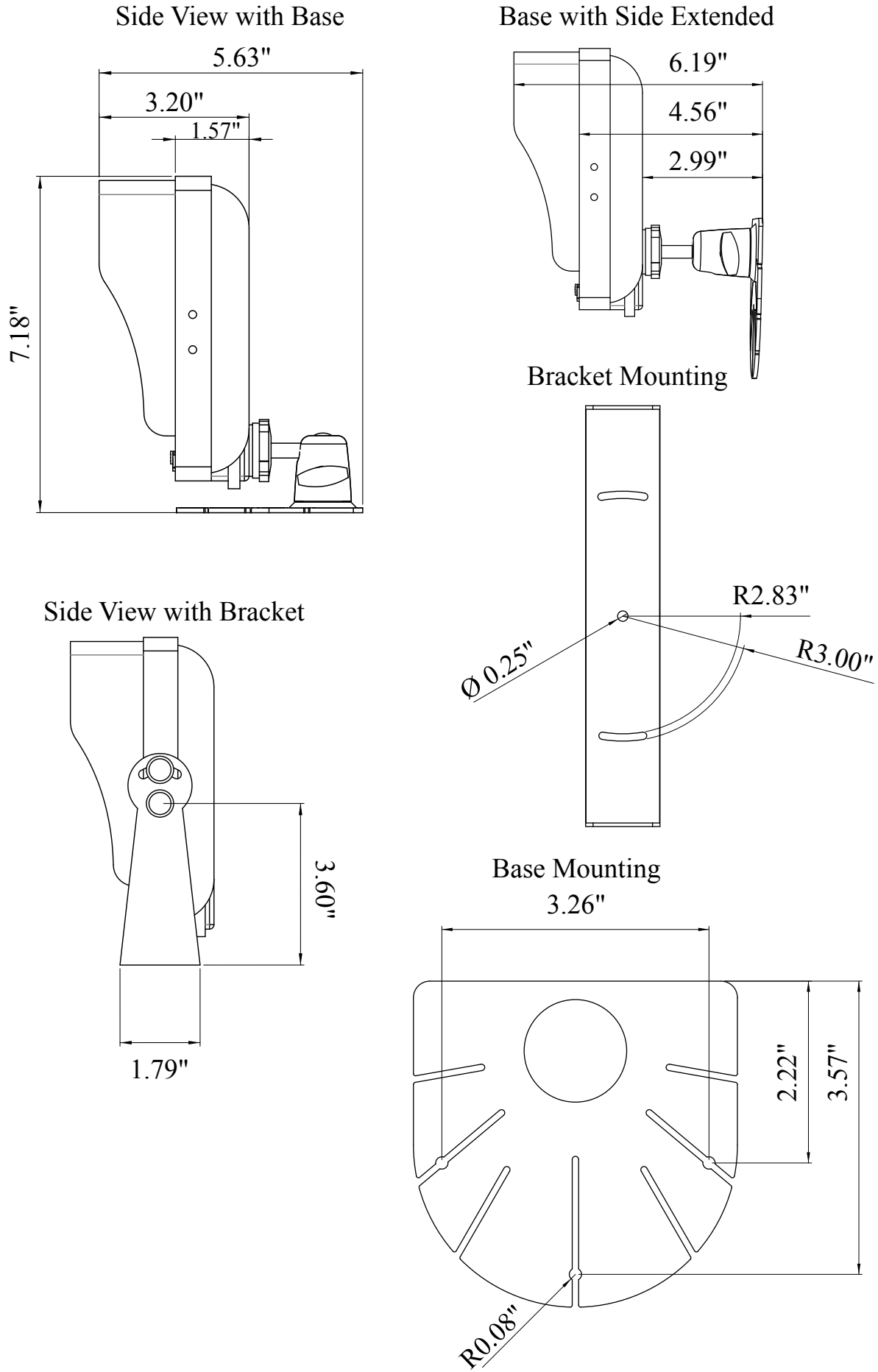


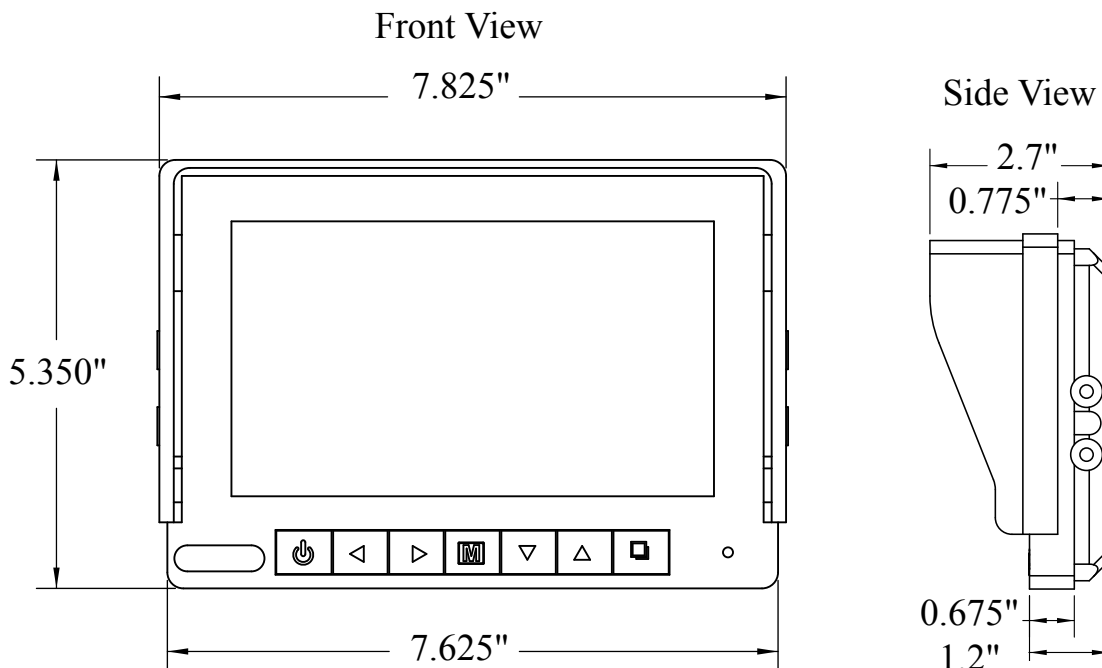
Figure 8. XE-BCAM615-D0A Dimensional Monitor Diagrams

# XE-BCAM6011-D0A Optional Monitor

## Installation Steps:

1. Choose the camera and monitor location.
2. Locate the wiring on your vehicle. The interior panel may need to be removed in order to locate this.
3. Connect the monitor to the supplied power harness.
4. Connect the camera (s) to the power harness using the camera's extension cable.
5. Connect the Blue trigger wire to a 12 volt reverse power source. (Do not attach the Blue trigger to constant power. When the Blue wire is active, it will have precedence over the other triggers.)
6. Connect the White trigger when necessary.
7. Connect the power (RED) 12V+ wire to an ignition switched Accessory power source. Connect the ground (BLACK) wire to chassis ground.
8. Once all cables and wiring have been properly routed and connected, perform a system function test by temporarily connecting the system.

**NOTE:** It is strongly recommended doing a benchmark test before installation to insure that all components are working properly.



**Figure 9. XE-BCAM6011-D0A Dimensional Monitor Diagrams**

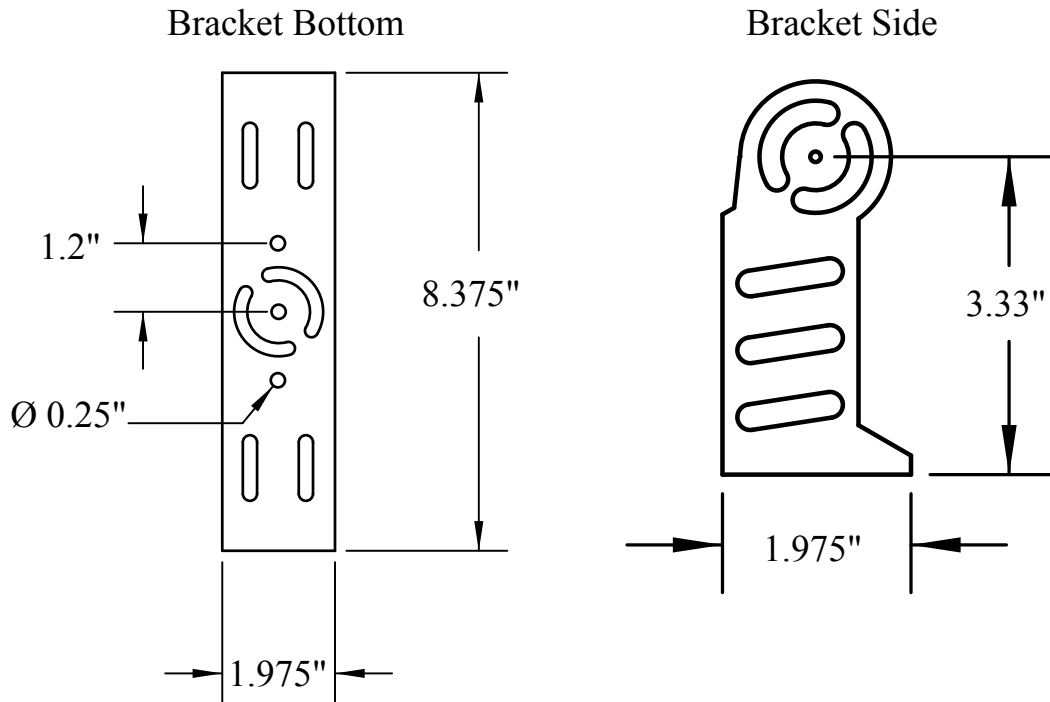


Figure 10. XE-BCAM6011-D0A Dimensional Bracket Diagrams

# XE-BCA7650-LW-D0A Monitor

## Installation Steps:

1. Choose the camera and monitor location.
2. Locate the wiring on your vehicle. The interior panel may need to be removed in order to locate this.
3. Connect the power cables for camera: Red wire to light's positive; Black wire to chassis ground.
4. Connect the Monitor power (RED) 12V+ wire to an ignition switched accessory power source. Connect the ground (BLACK) wire to chassis ground.
5. After the system is connected and powered on, if there is no image on the monitor screen refer to the Operations section on page 34, and review the steps for "Auto Pairing" listed at the bottom of that page for this monitor.

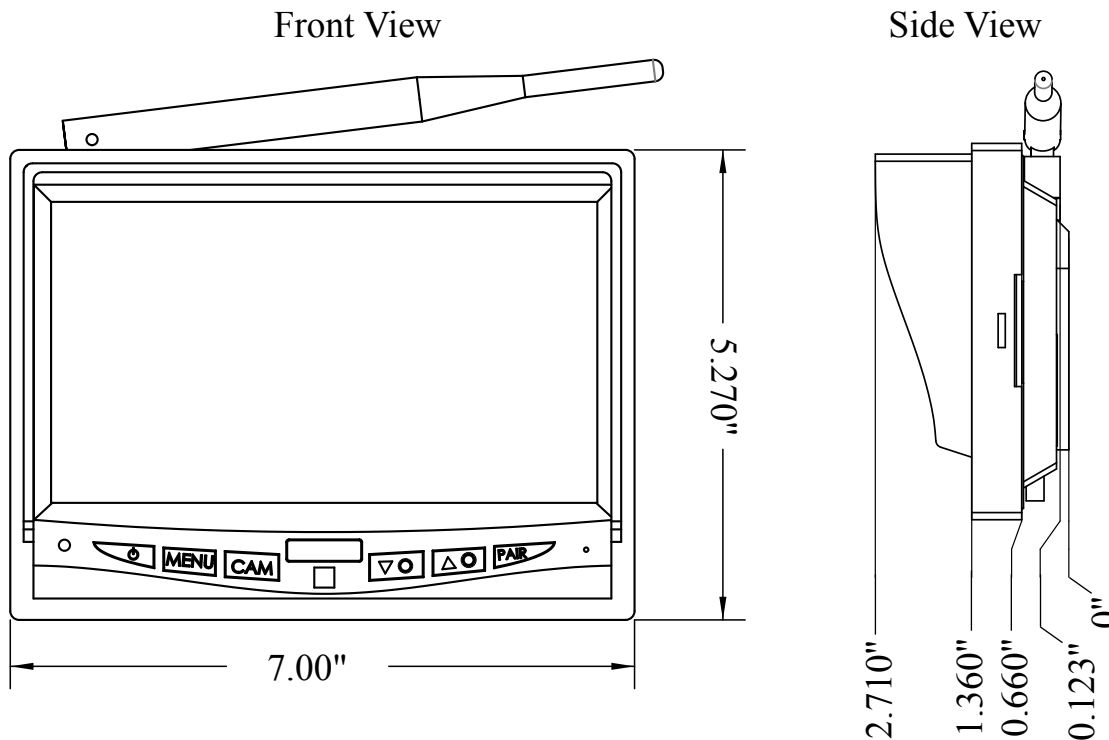


Figure 11. XE-BCA7650-LW-D0A Dimensional Monitor Diagram



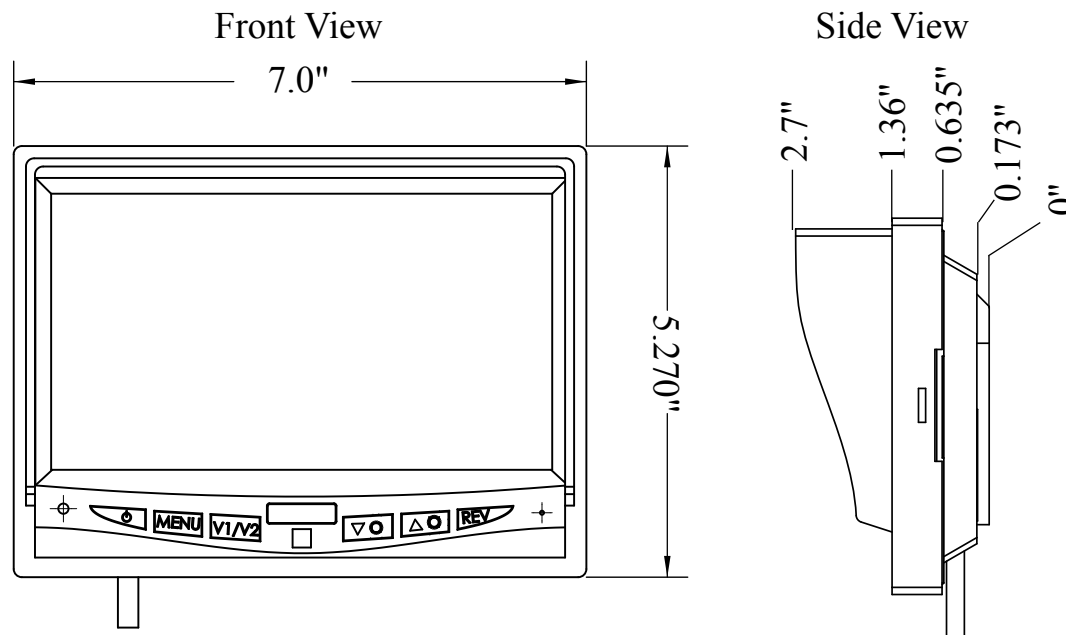
# XE-BCAM601-NM-D0A Monitor

## Installation Steps:

1. Choose the camera and monitor location.
2. Locate the wiring on your vehicle. The interior panel may need to be removed in order to locate this.
3. Connect the monitor to the power harness.
4. Connect each camera to the power harness using the camera's extension cable. ("Camera 3" is the designated backup channel.)
5. Connect the Blue trigger wire to a 12 volt reverse power source. (Do not attach the Blue trigger to constant power. When the Blue wire is active, it will have precedence over the other triggers.)
6. Connect the White or Brown trigger when necessary (White-CH1, Brown-CH2).
7. Connect the power (RED) 12V+ wire to an ignition switched accessory power source. Connect the ground (BLACK) wire to chassis ground.
8. Once all cables and wiring have been properly routed and system has paired, perform a system function test by temporarily connecting the system.

**NOTE:** If connecting power directly to the battery, the camera will be constantly ON and this will drain the battery. Therefore, it is recommended to connect power to an ignition switched accessory power source.

**NOTE:** It is strongly recommended doing a benchmark test before installation to insure that all components are working properly.



**Figure 12. XE-BCA601-NM-D0A Diagram**

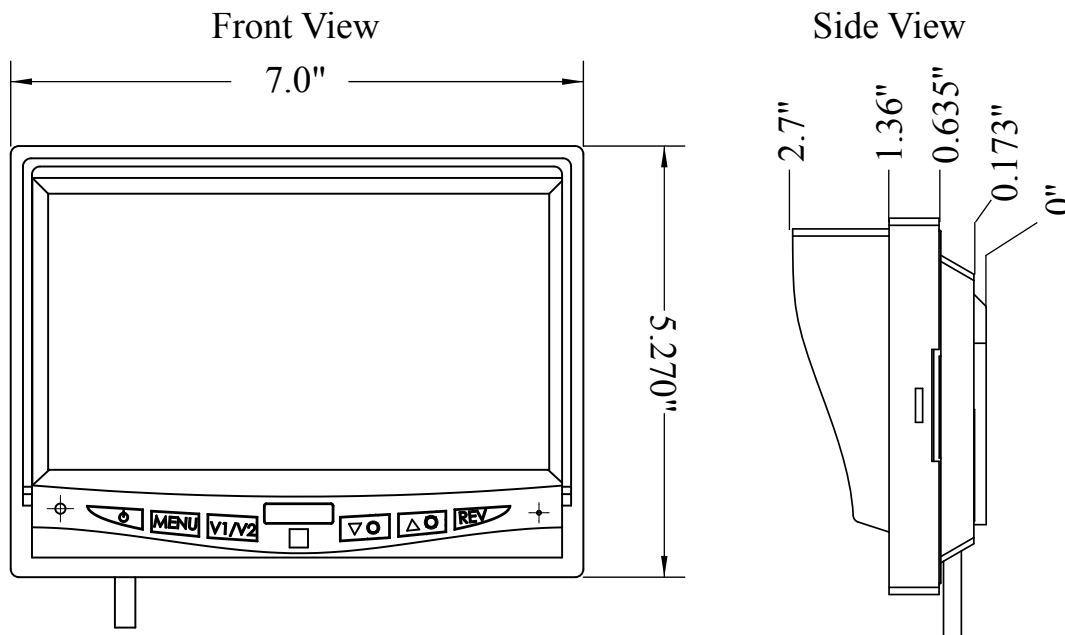
# XE-BCAM602-NM-D0A Monitor

## Installation Steps:

1. Choose the camera and monitor location.
2. Locate the wiring on your vehicle. The interior panel may need to be removed in order to locate this.
3. Connect the monitor to the power harness.
4. Connect each camera to the power harness using the camera's extension cable. ("Camera 3" is the designated backup channel.)
5. Connect the Blue trigger wire to a 12 volt reverse power source. (Do not attach the Blue trigger to constant power. When the Blue wire is active, it will have precedence over the other triggers.)
6. Connect the Yellow or Brown trigger when necessary (Yellow-CH1, Brown-CH2).
7. Connect the power (RED) 12V+ wire to an ignition switched accessory power source. Connect the ground (BLACK) wire to chassis ground.
8. Once all cables and wiring have been properly routed and system has paired, perform a system function test by temporarily connecting the system.

**NOTE:** If connecting power directly to the battery, the camera will be constantly ON and this will drain the battery. Therefore, it is recommended to connect power to an ignition switched accessory power source.

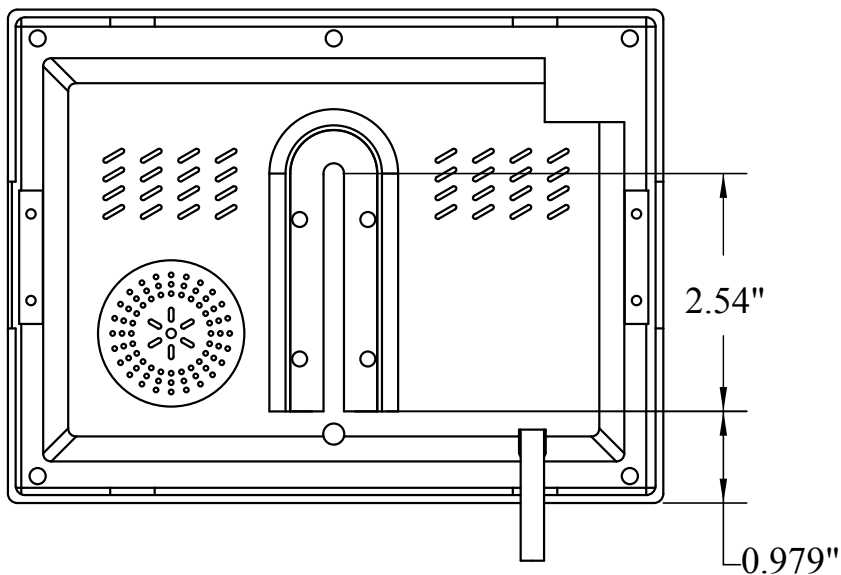
**NOTE:** It is strongly recommended doing a benchmark test before installation to insure that all components are working properly.



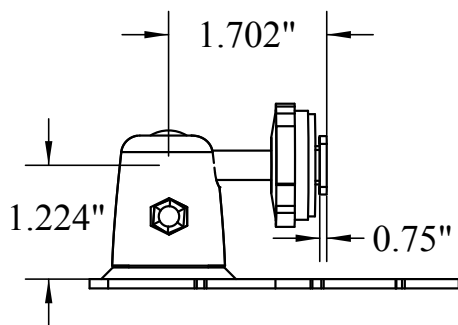
**Figure 13. XE-BCA602-NM-D0A Diagram**

# XE-BCAM601-NM-D0A & XE-BCAM602-NM-D0A Monitors

Monitor Back View



Mounting Base  
(Side View)



Mounting Base  
(Top View)

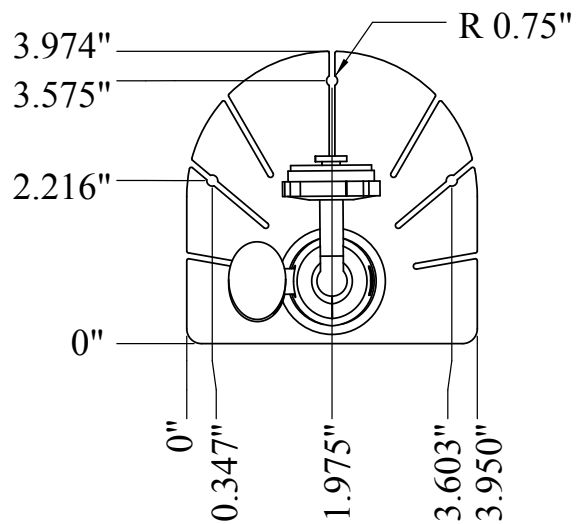


Figure 14. XE-BCA601-NM-D0A & XE-BCA602-NM-D0A Diagrams

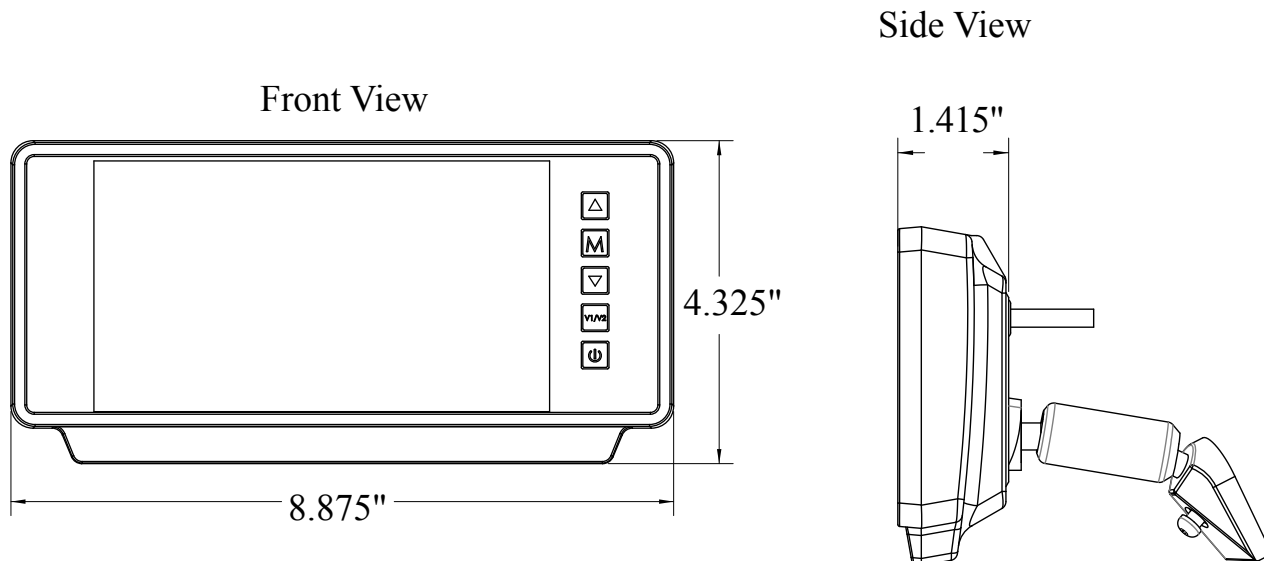
# XE-BCAM609-NM-D0A Monitor

## Installation Steps:

1. Choose the camera and monitor location.
2. Locate the wiring on your vehicle. The interior panel may need to be removed in order to locate this.
3. Connect the monitor to the power harness.
4. Connect each camera to the power harness using the camera's extension cable. ("Camera 3" is the designated backup channel.)
5. Connect the Blue trigger wire to a 12 volt reverse power source. (Do not attach the Blue trigger to constant power. When the Blue wire is active, it will have precedence over the other triggers.)
6. Connect the White or Brown trigger when necessary (White-CH1, Brown-CH2).
7. Connect the power (RED) 12V+ wire to an ignition switched accessory power source. Connect the ground (BLACK) wire to chassis ground.
8. Once all cables and wiring have been properly routed and system has paired, perform a system function test by temporarily connecting the system.

**NOTE:** If connecting power directly to the battery, the camera will be constantly ON and this will drain the battery. Therefore, it is recommended to connect power to an ignition switched accessory power source.

**NOTE:** It is strongly recommended doing a benchmark test before installation to insure that all components are working properly.



**Figure 15. XE-BCAM609-NM-D0A Diagram**

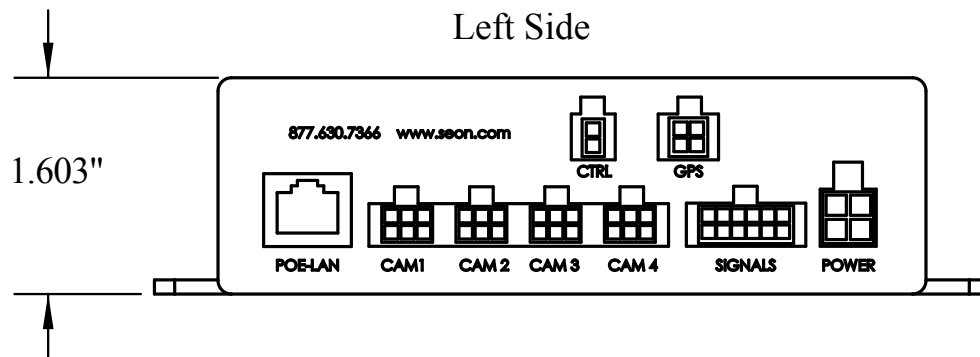
# XE-SNBTH4C-D0A DVR SYSTEM

## Installation Steps:

1. Choose the camera, DVR and monitor location.
2. Locate the wiring on your vehicle. The interior panel may need to be removed in order to locate this.
3. Connect the display to the MONITOR power harness cable.
4. Connect the DVR to the DVR power harness cable.
5. Using a camera extension cable (female to female) to connect the camera and Y adapter cable.
6. There are 2 outputs from the Y adapter cable. Pick one of them and connect to the BCA monitor using a male to female extension cable. The other output connects to the DVR using a male to female extension cable and 5-pin to Micro-fit 6-pin adapter.
7. Connect the power wire (RED) on the monitor harness to 12 volt power source. Connect the ground (BLACK) wire to ground.
8. Connect the power wire (RED) and on the DVR harness 12 volt power source. Connect the VEHICLE SWITCHED (YELLOW) wire to an ignition switched accessory power source. Connect the ground (BLACK) wire to ground.
9. Connect the sensor trigger harness to the DVR. Then connect each trigger to the designated power source when necessary.
10. Once all cables and wiring have been properly routed, perform a system functional test by temporarily connecting the system.

**NOTE:** If connecting power directly to the battery, the camera will be constantly ON and this will drain the battery. Therefore, it is recommended to connect power to an ignition switched accessory power source.

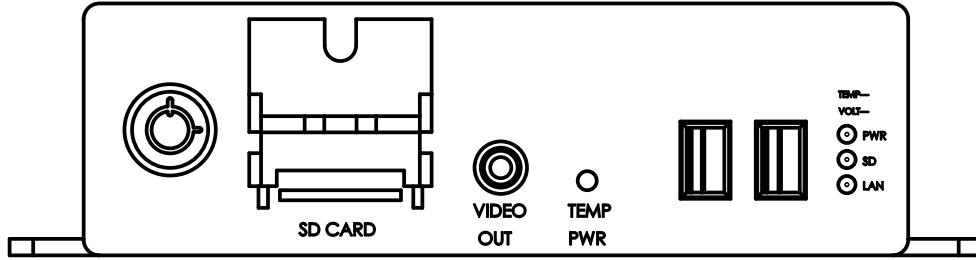
**NOTE:** It is strongly recommended doing a benchmark test before installation to insure that all components are working properly.



**Figure 16. XE-SNBTH4C-D0A Diagram**

# XE-SNBTH4C-D0A DVR SYSTEM

Right Side



Top View

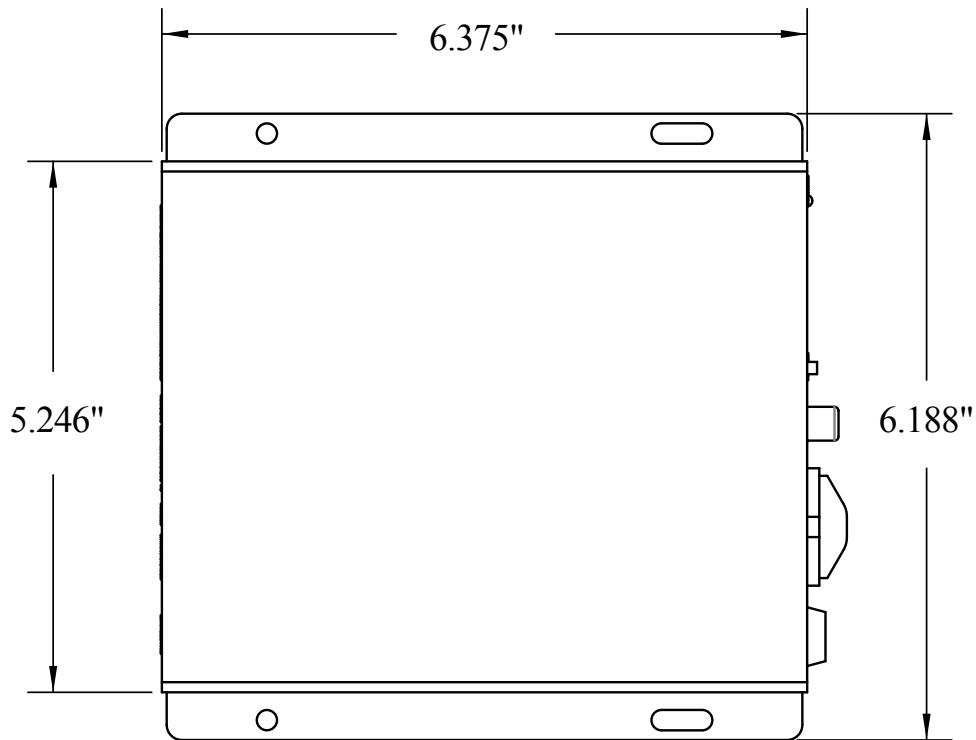


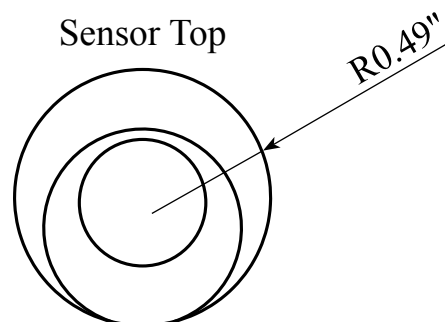
Figure 17. XE-SNBTH4C-D0A Diagrams

# PROXIMITY SENSOR POSITIONING

The following general guidelines for proper positioning will apply to the installation of all proximity sensors mentioned in this manual.

## Proximity Sensors General Guidelines for Proper Positioning:

1. Since the width of different vehicle models will vary, installing the sensors in the proper location is important for accurate functioning. For example, if the width of the vehicle is  $L$ , the space between the adjacent sensors is  $L/4$  (the total width divided by 4). ( $L$  = the length of the vehicle.)
2. The sensors should be mounted on the bumper at a height of 23-40 inches (60-100 cm) from the ground. If the sensor is mounted on a low bumper, or at a less than 23 inches high, the sensor will report the ground as obstacle and the alarms/alerts will constantly be triggered. In this case, we recommend adjusting the grade of the mounting height along with the switch on the Control Box (ECU). Select Grade 2; the mounting height can be at 20 inches. Select grade 3 for 16 inches. Select grade 4 for 28 inches.
3. Carefully drill holes on the bumper with the enclosed drill bit, feed the sensor cable through the hole and mount each sensor one at a time.



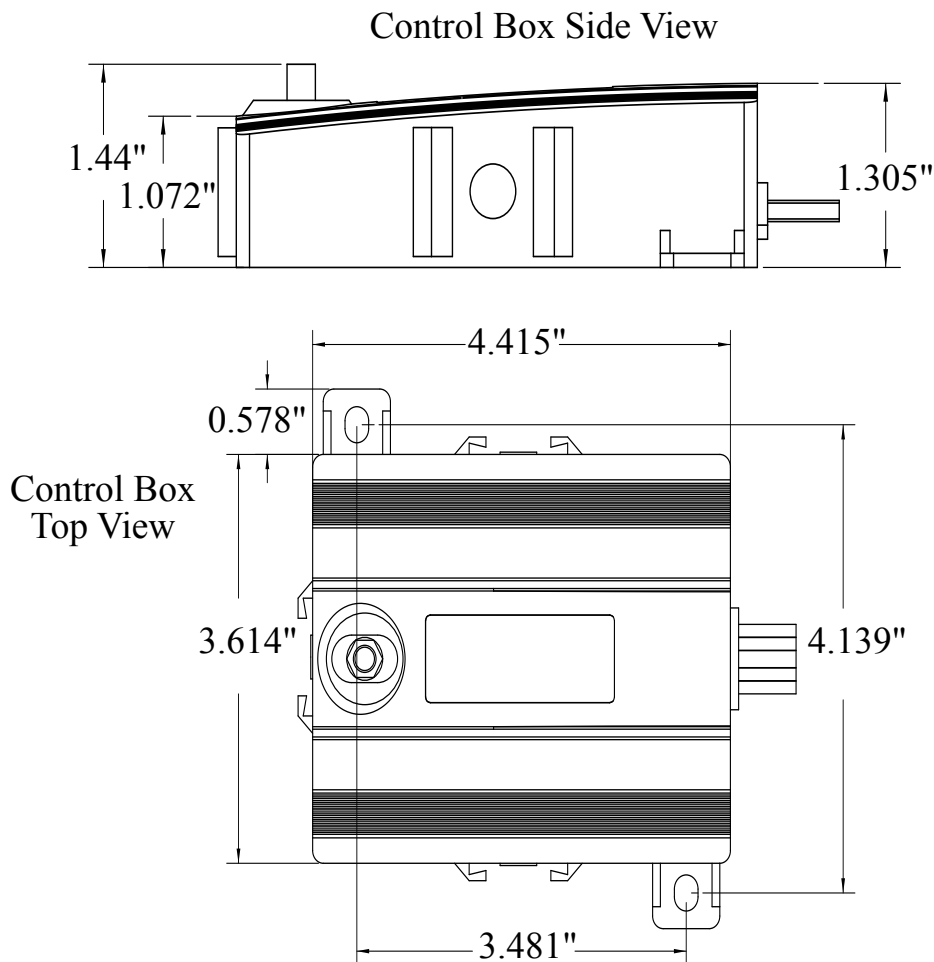
**Figure 18. Proximity Sensor Positioning**

# XE-BCA125-A0A Proximity Sensors

## Installation Steps:

1. Choose the sensor and display unit location.
2. Locate the wiring on your vehicle. The interior panel may need to be removed in order to locate this.
3. Connect DSP cable from ECU control box to Display unit.
4. Connect sensors to each sensor (1, 2, 3, 4) to the control box (ECU).
5. Connect the power wire (RED) 12V+ wire on the ECU box to wire to 12 volt reverse power source. Connect the ground (BLACK) wire to chassis ground.
6. Connect the power wire (RED) 12V+ wire on the indicator box to wire to 12 volt reverse power source. Connect the ground (BLACK) wire to chassis ground.
7. Once all cables and wiring have been properly routed, perform a system function test by temporarily connecting the system.

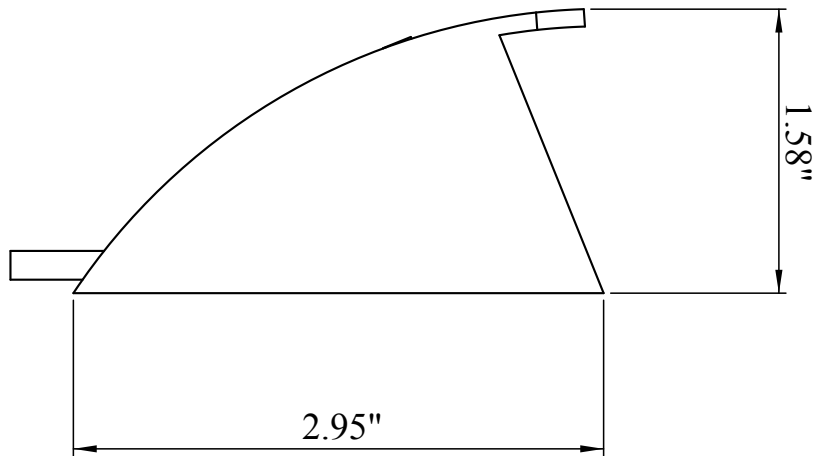
**NOTE:** It is strongly recommended doing a benchmark test before installation to insure that all components are working properly.



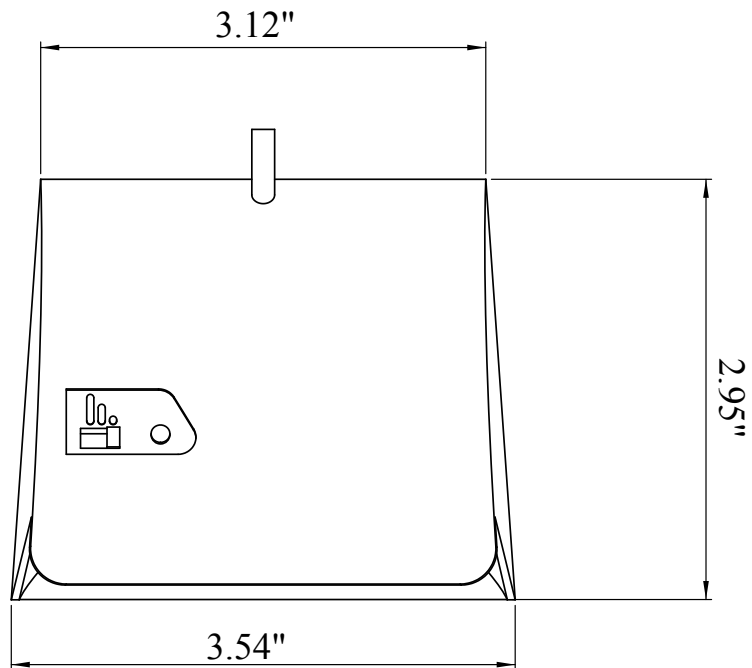
**Figure 19. XE-BCA125-A0A Proximity Sensor Diagrams**



Display Unit Side View



Display Unit Top View



**NOTE: For operation instructions, refer to the separate Operator's Manual for Proximity Sensors included.**

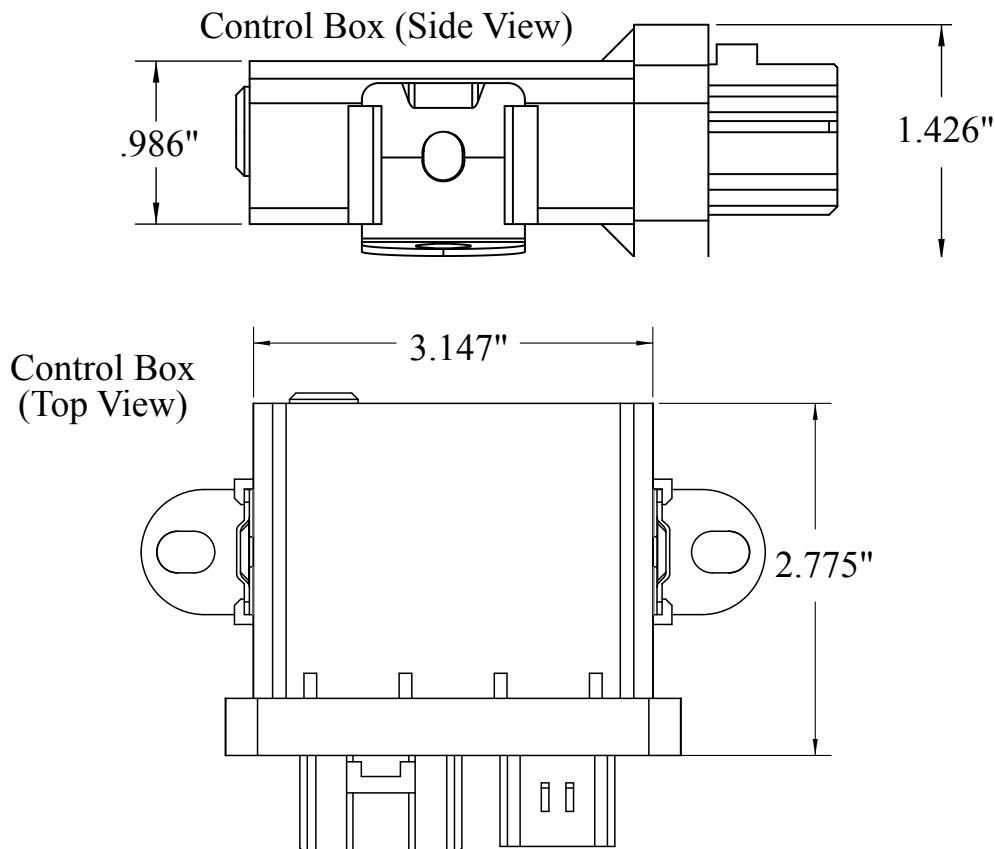
**Figure 20. XE-BCA125-A0A Proximity Sensor Diagrams**

## XE-BCA115W-S0A Proximity Sensors

### Installation Steps:

1. Choose the sensor and display unit location.
2. Locate the wiring on your vehicle. The interior panel may need to be removed in order to locate this.
3. Connect ECU control box to the power harness cable.
4. Connect the display to the power harness cable.
5. Connect the power wire (RED) 12V+ wire to an wire to 12 volt reverse power source. Connect the ground (BLACK) wire to chassis ground.
6. Connect ECU control box to the sensor harness cable.
7. Connect sensors to each sensor input port (1, 2, 3, 4) on sensor harness cable.
8. Once all cables and wiring have been properly routed, perform a system function test by temporarily connecting the system.

**NOTE:** It is strongly recommended doing a benchmark test before installation to insure that all components are working properly.



**Figure 21. XE-BCARS115W-S0A Proximity Sensor Diagrams**

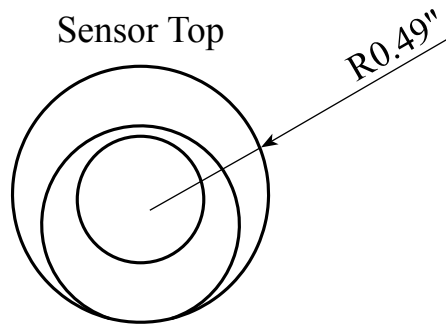
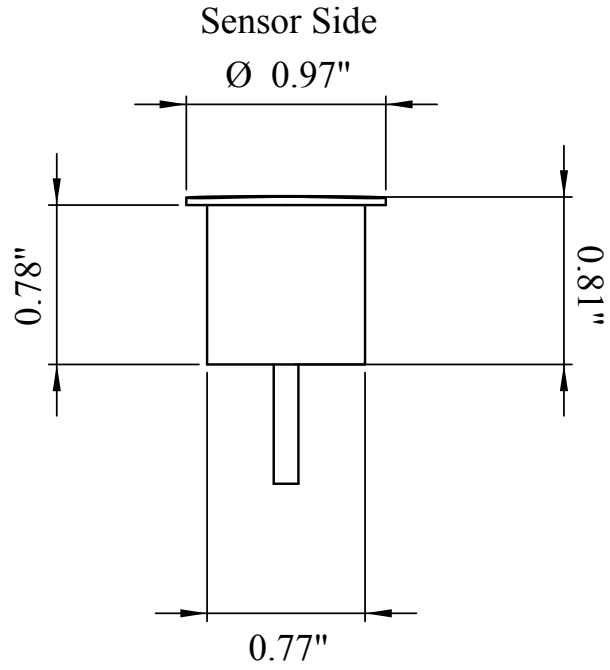


Figure 22. XE-BCARS115W-S0A Proximity Sensor Diagrams

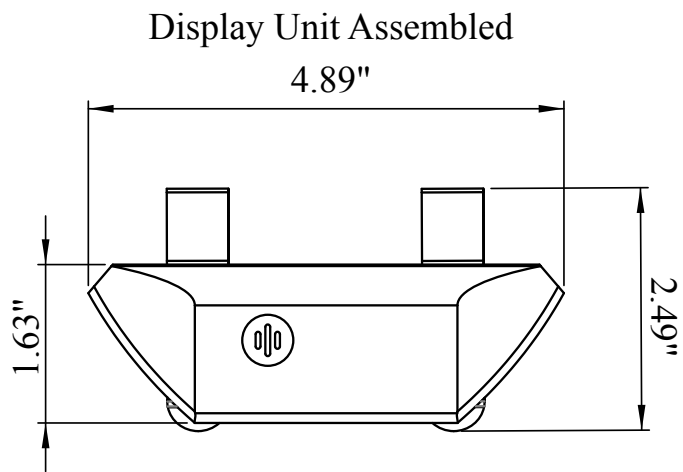
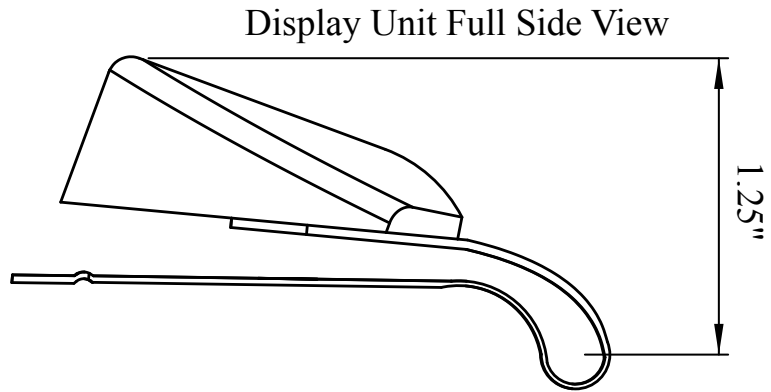


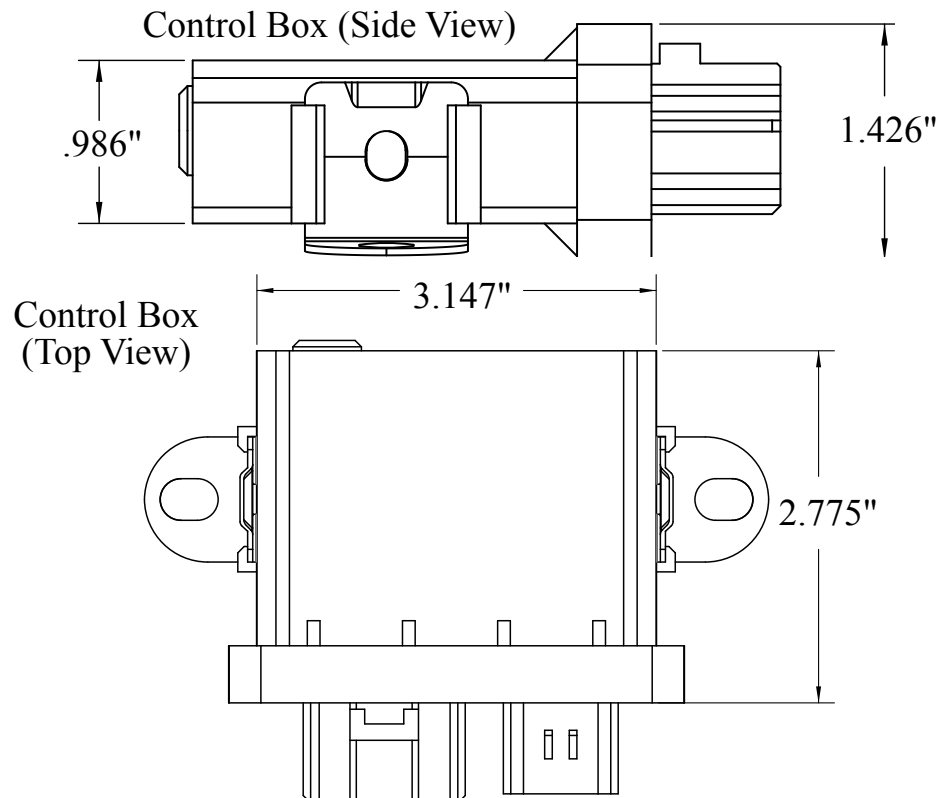
Figure 23. XE-BCARS115W-S0A Proximity Sensor Diagrams

# XE-BCA112W-S0A Proximity Sensors

## Installation Steps:

1. Choose the sensor and display unit location.
2. Locate the wiring on your vehicle. The interior panel may need to be removed in order to locate this.
3. Connect power/output harness to the ECU box.
4. Connect camera extension cable to the 5 pin male cable on the power/output harness; then on the other side of camera extension cable connect to rear camera.
5. Connect 5 pin female cable the power/output harness to the monitor (channel 3).
6. Connect sensors to each sensor (1, 2, 3, 4) to sensor harness and then connect it to the ECU box.
7. Connect yellow trigger wire to 12 volt reverse power source. (Do not attach the blue trigger to constant power.)
8. Connect the power (red) 12V+ wire to an ignition switched Accessory power source, and the ground (BLACK) wire to chassis ground.
9. Once all cables and wiring have been properly routed, perform a system function test by temporarily connecting the system.

**NOTE:** It is strongly recommended doing a benchmark test before installation to insure that all components are working properly.



**Figure 24. XE-BCA112W-S0A Proximity Sensor Diagrams**

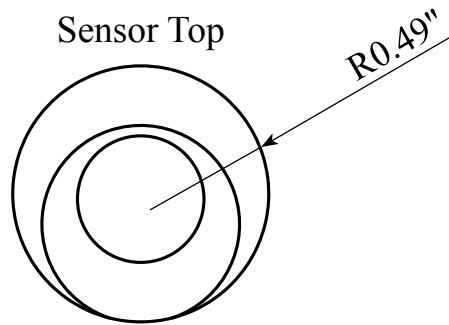
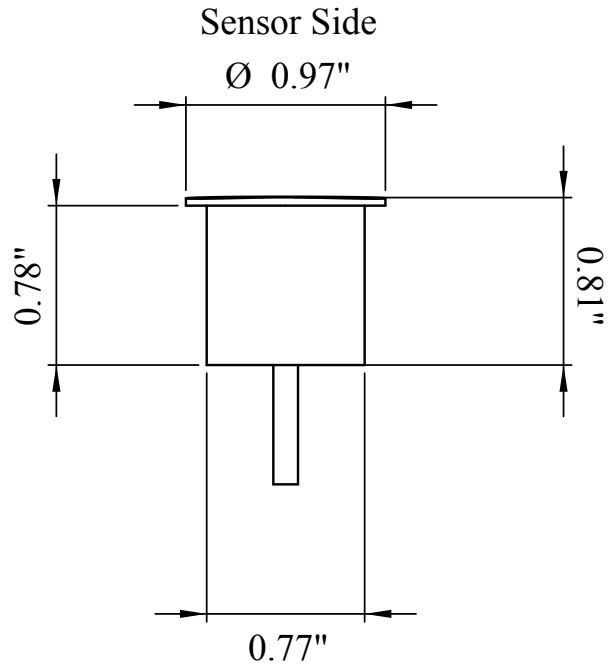


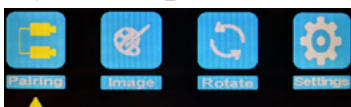
Figure 25. XE-BCA112W-S0A Proximity Sensor Diagrams

# OPERATION

Depending on the Camera/Monitor system configuration installed, camera functioning is controlled through the monitor that the camera is connected to. First, ensure the camera/monitor system is properly installed and all necessary connections are made according to the Installation section and the Specifications for the monitor/camera system installed.

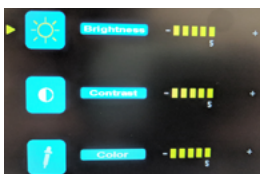
## XE-BCA7650-LW-D0A Monitor Basic Functions

### System Operation:



1. To get to Main Menu, press '**MENU**'. Use the arrow keys to navigate the menu and use the '**MENU**' button to confirm your selection. To go back, press the '**REV**' button.

2. To adjust the volume, simply use the up and down arrows.



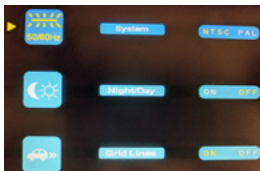
### 3. Menu Options:

- Pair the wireless camera and monitor
- Image - adjust the image properties (brightness, contrast, saturation/color)



- Rotate - rotate the image in all four directions

- Settings:



- ▲ Grid lines: turn on/off the grid lines
- ▲ System: change the color encoding system (PAL / NTSC)
- ▲ Day/night: turn on/off the night mode

### Auto Pairing:

1. After the hardware has been installed, follow the steps below to start the pairing process.
2. Use the '**CAM**' button to select the channel to be paired.
3. Press '**MENU**' to open the menu; press '**MENU**' again to initiate "Pairing Mode". The system will start counting down from 50 seconds to 0. Once "Pairing Mode" is active, it will last for 50 seconds.
4. The system should pair automatically.
5. Unplug the paired camera from power before pairing a second camera.

**NOTE:** After the system has been paired, it is strongly recommended doing a benchmark test before installation to insure that all components are working properly.

# XE-BCAM601-NM-D0A Monitor Basic Functions

## System Operation:

1. To get to Main Menu, press '**MENU**'. Use the arrow keys to navigate the menu and use the '**MENU**' button to confirm your selection. To go back, press the '**REV**' button. Use the On/Off button to power the monitor on or off.
2. Volume Adjustment: simply use the up and down arrows to raise and lower the speaker volume.
3. **Menu Options:**



- For either '**Brightness**', '**Contrast**', '**Saturation**', or '**Sharpness**': adjust the image properties.
- Picture Adjust: Stretches image horizontally (right/left and left/right)
- Turn: Toggles between mirror/normal image on each individual channel



- Day/Night: Toggle between back-lit buttons and auto dimming
- Name: Changes the name of each individual channel
- Trigger Source: Toggles the channel destination for each trigger
- Trigger Delay: Adjusts the time delay on each trigger
- Distance Grid: Toggles between each channel to display distance grid lines
- Grid Position: Adjusts the grid lines



- Auto Power: the monitor will automatically turn on when the vehicle has been started. When Auto is selected, the monitor will resume to the previous state.
- Reset: Resets the settings to the factory default

**NOTE:** For the XE-BCAM602-NM-D0A monitor, the operational steps are identical to the above steps for the XE-BCAM601-NM-D0A monitor.



# XE-BCAM609-NM-D0A Monitor Basic Functions

## System Operation:

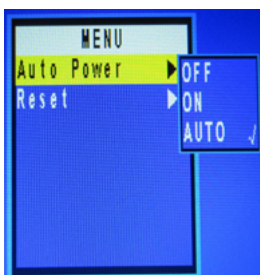
1. To get to Main Menu, press '**MENU**'. Use the arrow keys to navigate the menu and use the '**MENU**' button to confirm your selection. To go back, press the '**V1/V2**' button. Use the On/Off button to power the monitor on or off.
2. Volume Adjustment: simply use the up and down arrows to raise and lower the speaker volume.
3. **Menu Options:**



- For either '**Brightness**', '**Contrast**', '**Saturation**', or '**Sharpness**': adjust the image properties.
- Picture Adjust: Stretches image horizontally (right/left and left/right)
- Turn: Toggles between mirror/normal image on each individual channel



- Day/Night: Toggle between back-lit buttons and auto dimming
- Name: Changes the name of each individual channel
- Trigger Source: Toggles the channel destination for each trigger
- Trigger Delay: Adjusts the time delay on each trigger
- Distance Grid: Toggles between each channel to display distance grid lines
- Grid Position: Adjusts the grid lines



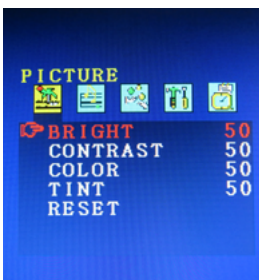
- Auto Power: the monitor will automatically turn on when the vehicle has been started. When Auto is selected, the monitor will resume to the previous state.
- Reset: Resets the settings to the factory default

# XE-BCAM615-D0A Monitor Basic Functions

## System Operation:

1. Press **'MENU'** (**'M'**) to access the top level main menu features.
2. Use the A/V button to move through the sub-menu choices and select features.
3. Use the plus (+) and minus (-) buttons to adjust a menu feature.
4. Press the **'MENU'** button to toggle back and forth between menu items, or to go back to a previous menu feature/option and make adjustments.
5. To adjust speaker volume in the top level menu, the audio output must first be connected. (Use the up/down arrows to adjust the volume.)

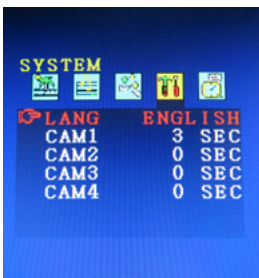
### Menu Options:



- **'Brightness', 'Contrast', 'Saturation', or 'Sharpness':** use to adjust the image properties.

- **Rotation (whole screen):** Toggles between mirror/normal image on whole screen.

- **Light Sensor:** Switch for the light sensor, which auto detects the light level and automatically turns the brightness up or down.



- **Blue Screen:** Displays the options for each channel; doesn't have any signal (black or blue).

- **Guide Lines:** ON/OFF

- **Language:** Select preferred language.

- **Camera Delay:** Set up a delay time to turn the camera on (0 to 15s).



- **Rotation for Individual Cameras:** Toggles between mirror/normal images on each individual channel.



# XE-BCAM6011-D0A Monitor Basic Functions

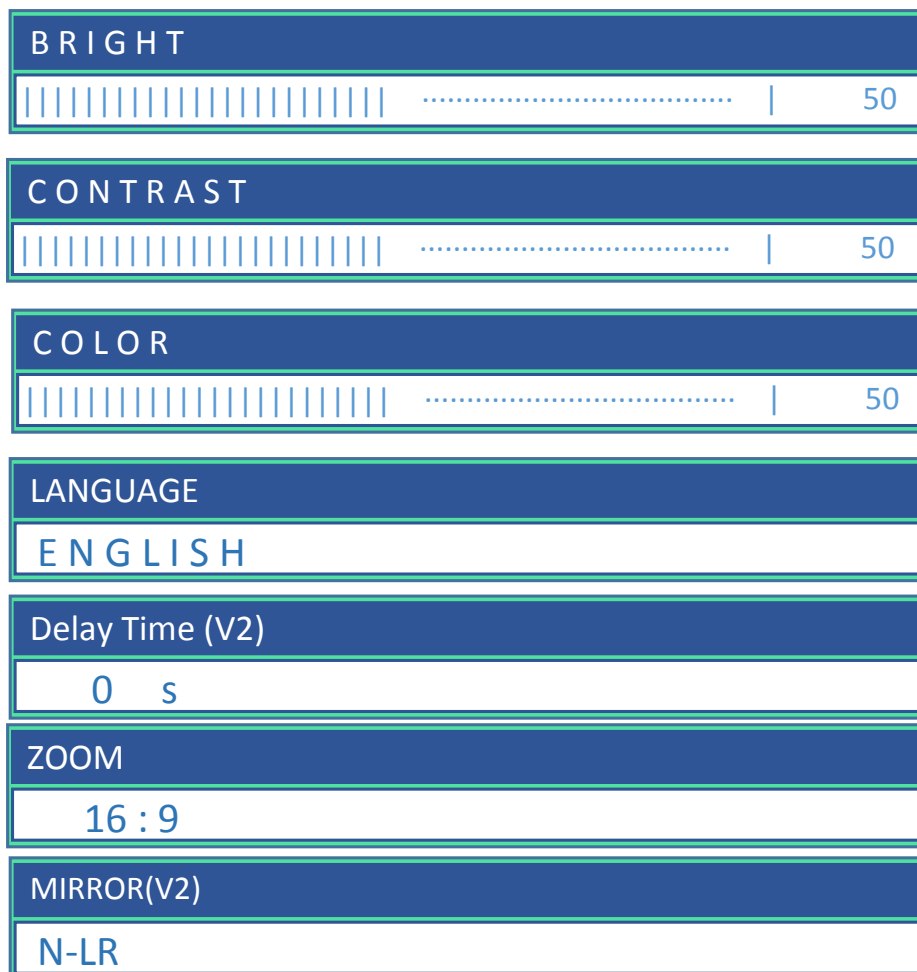
## System Operation:

1. To get to Main Menu, press '**MENU**' ('M').
2. Use the box keys to toggle features.
3. Use the left and right arrow key to toggle between the parameters.
4. Press '**M**' to toggle between the menu items.

## Menu Options:

- '**Brightness**', '**Contrast**', '**Saturation**', or '**Sharpness**': use to adjust the image properties.
- Language: Select preferred language.
- Guide Lines: ON/OFF

**NOTE:** For Model number XE-BCAM6011-D0A, the up and down buttons are not functional.



## Proximity Sensor Operations

**NOTE:** For all the proximity sensors mentioned in this manual, system operations is covered in the separately enclosed product manual.

# WIRING

The following figures include the schematics, wiring diagrams, block diagrams, and cables for the monitors and proximity sensors offered in this manual.

## XE-BCAM601-NM-D0A Monitor Wiring Diagram

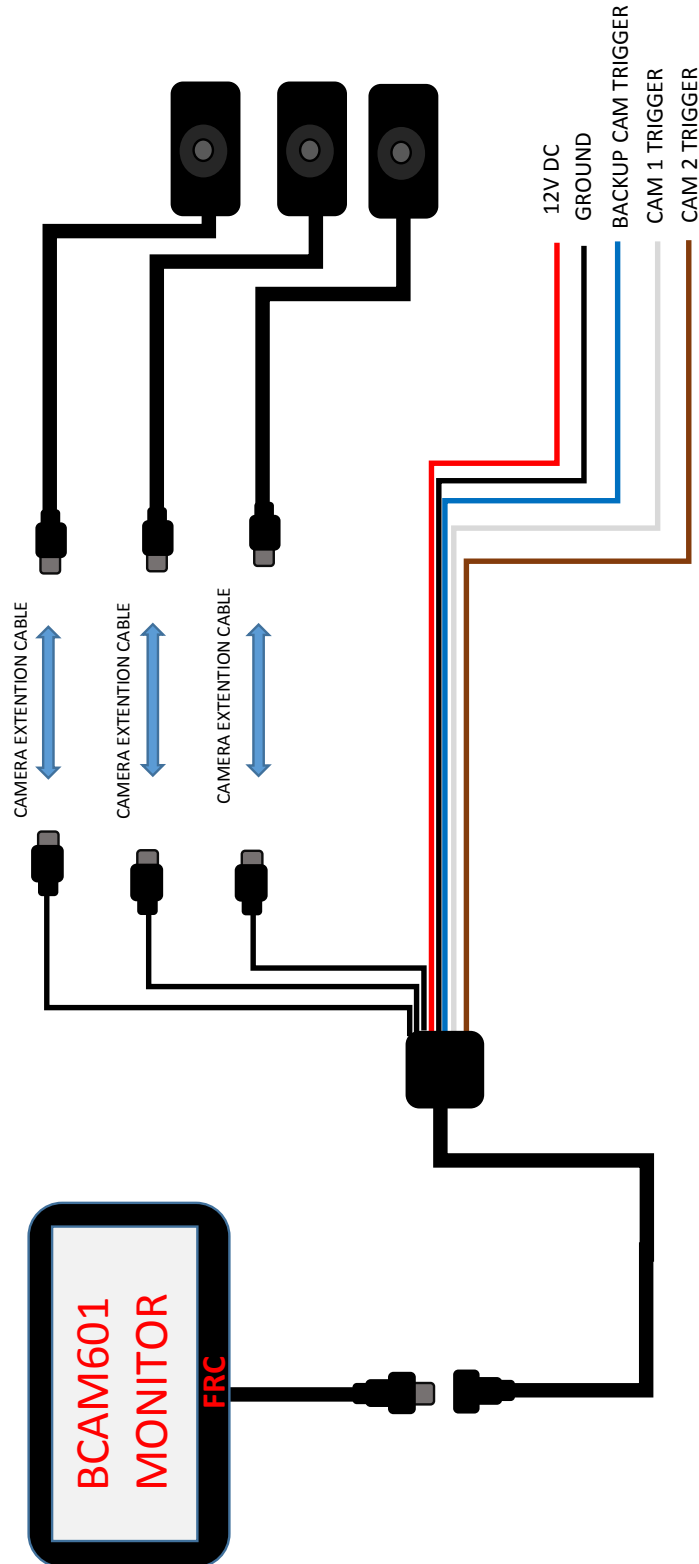


Figure W1. XE-BCAM601-D0A Monitor Power Harness Diagram

# XE-BCAM602-D0A Monitor Wiring Diagram

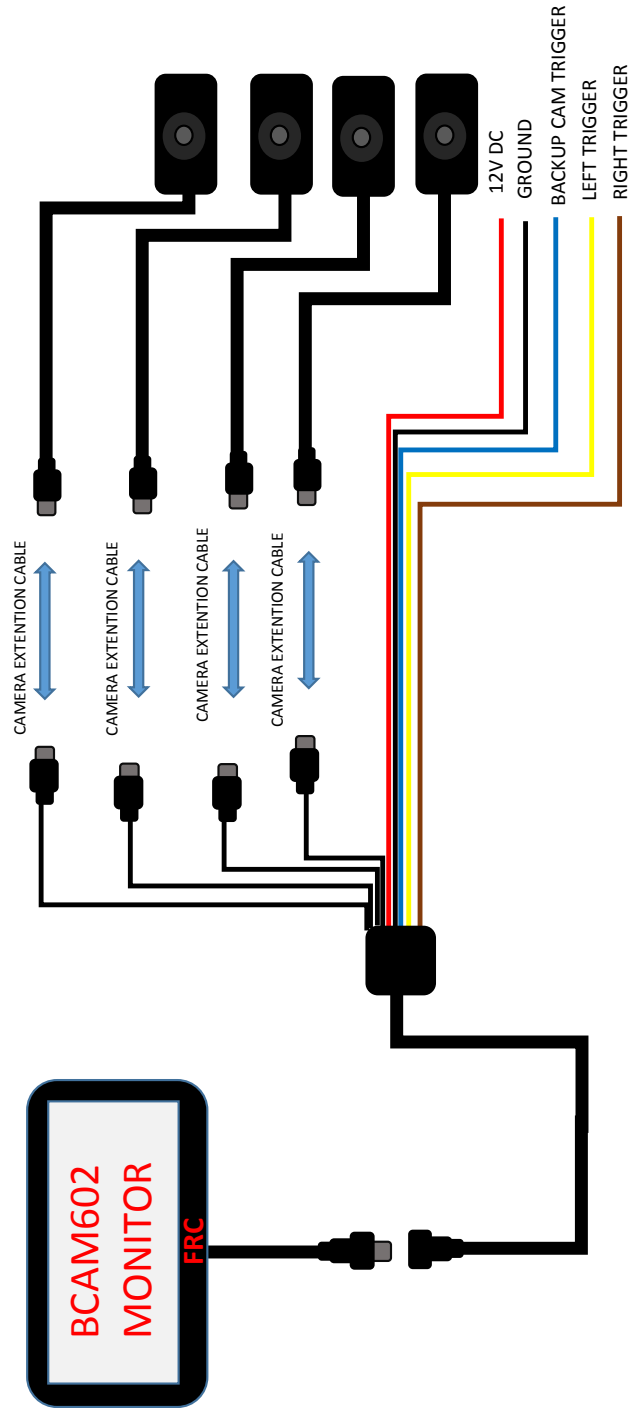


Figure W2. XE-BCAM602-D0A Monitor Power Harness Diagram

# XE-BCAM609-NM-D0A Monitor Wiring Diagram

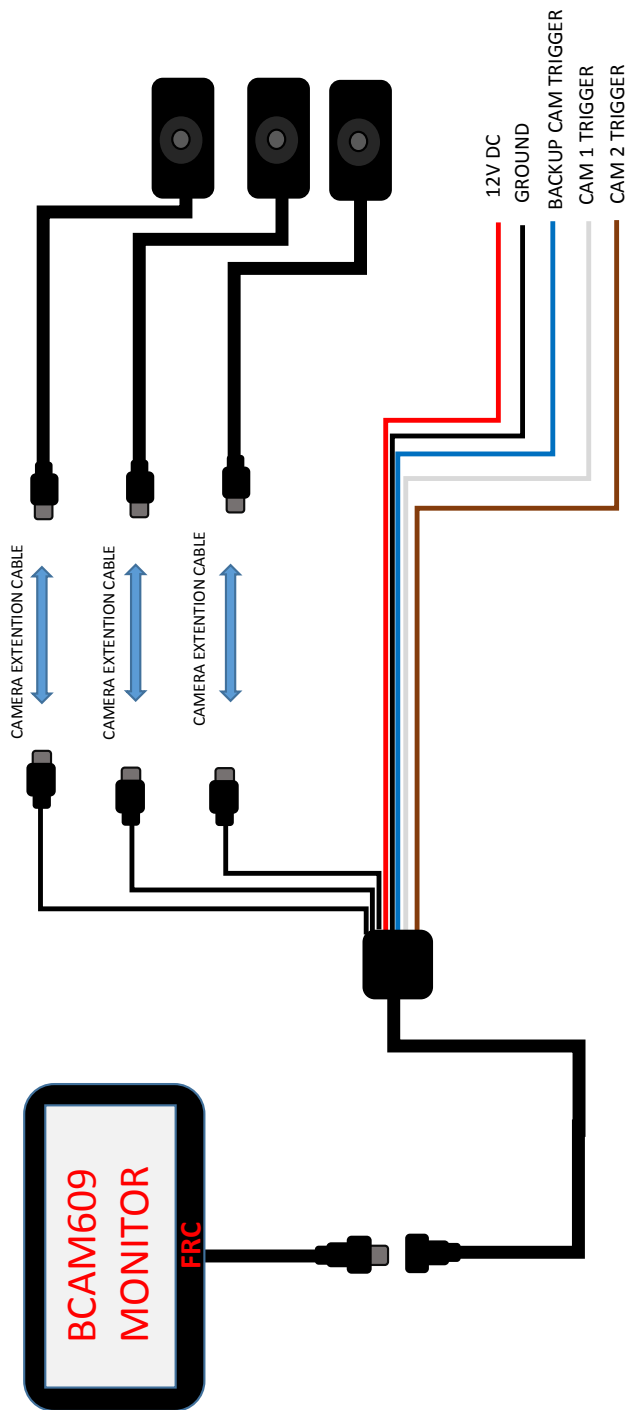


Figure W3. XE-BCAM609-NM-D0A Monitor Power Harness Diagram

# XE-BCAM7650-LW-D0A Monitor Wiring Diagram

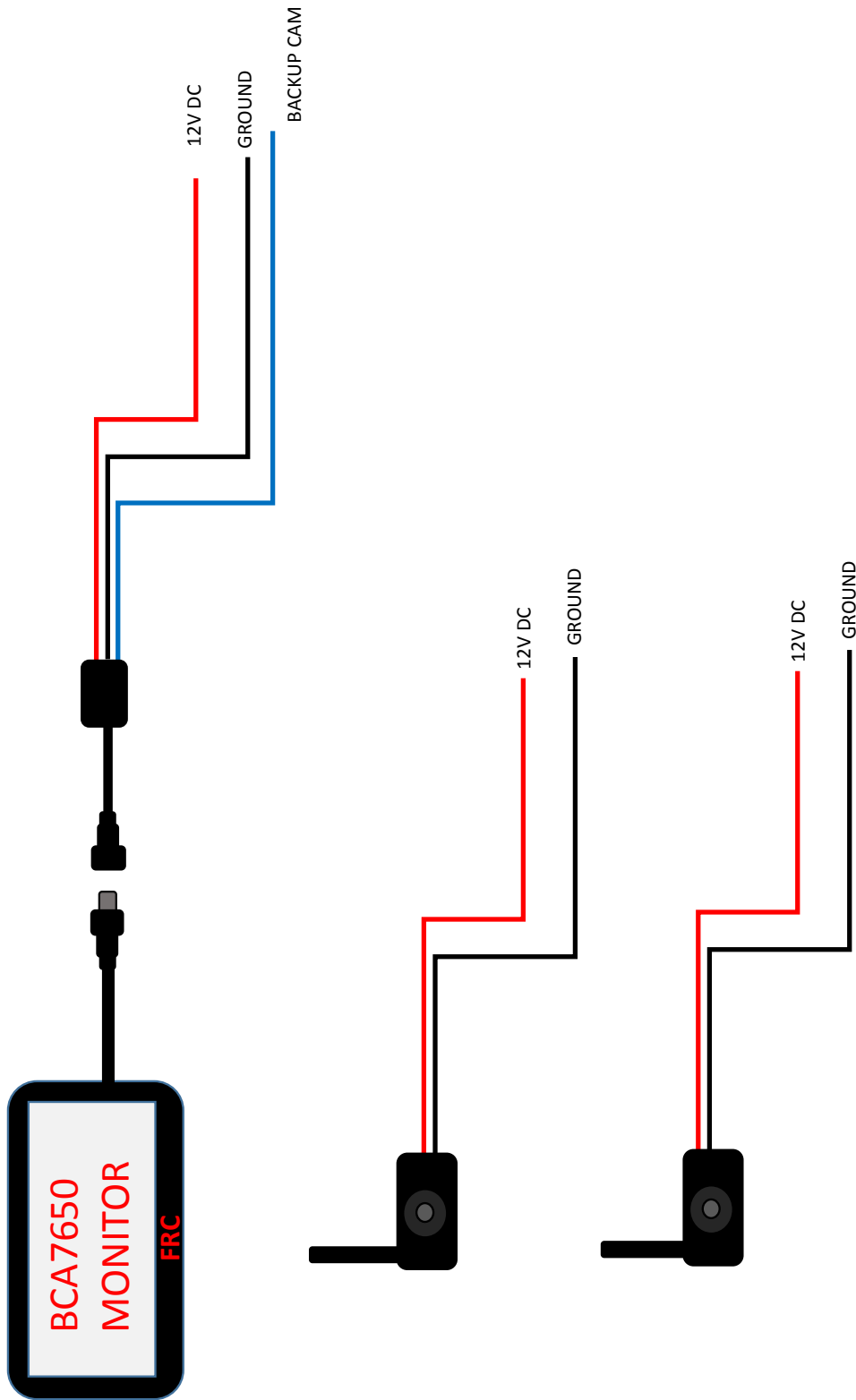


Figure W4. XE-BCA7650-LW-D0A Monitor Power Harness Diagram



# XE-BCAM615-D0A Monitor Wiring Diagram

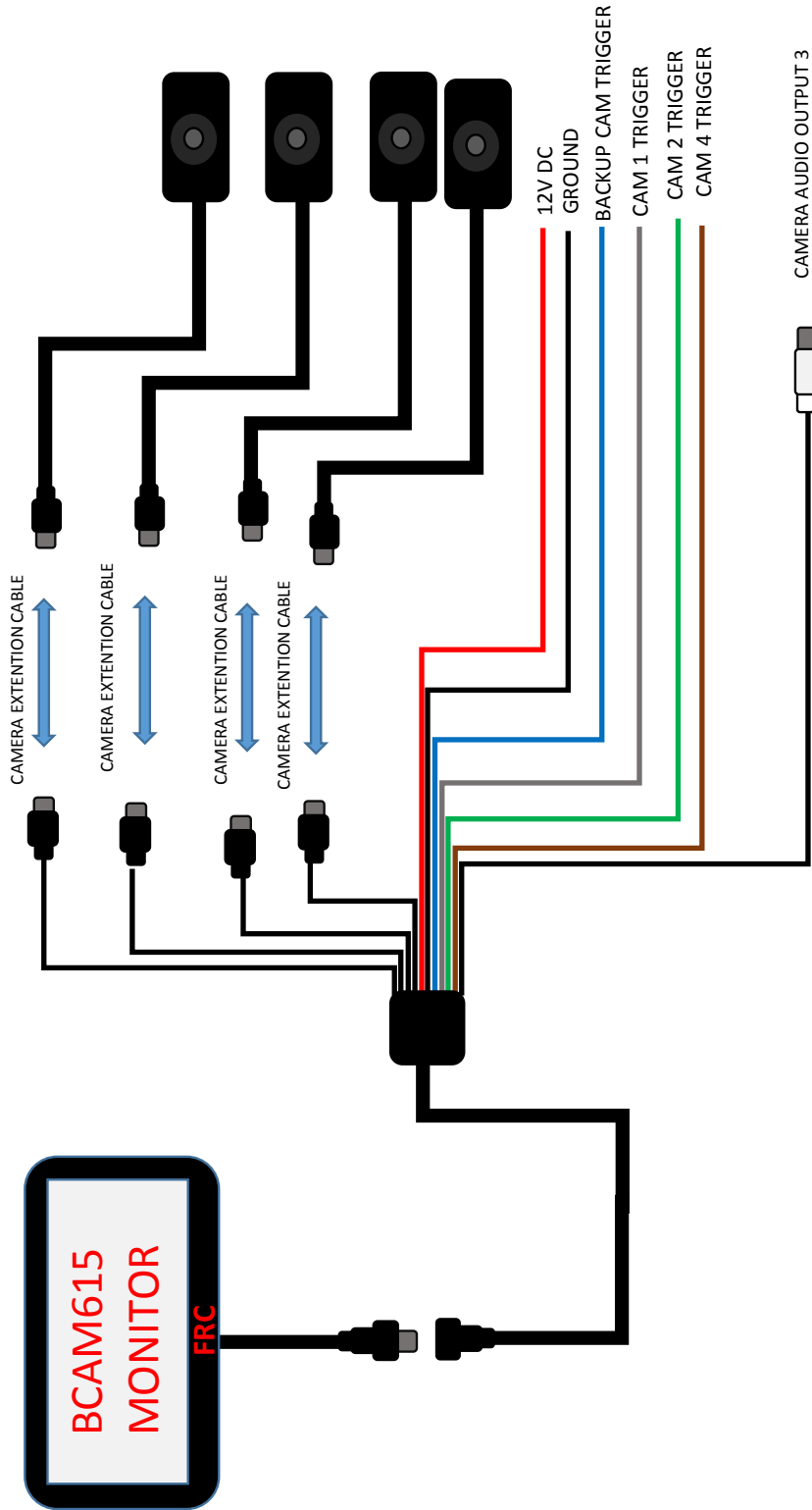


Figure W5. XE-BCAM615-D0A Monitor Power Harness Diagram

# XE-BCAM6011-D0A Monitor Wiring Diagram

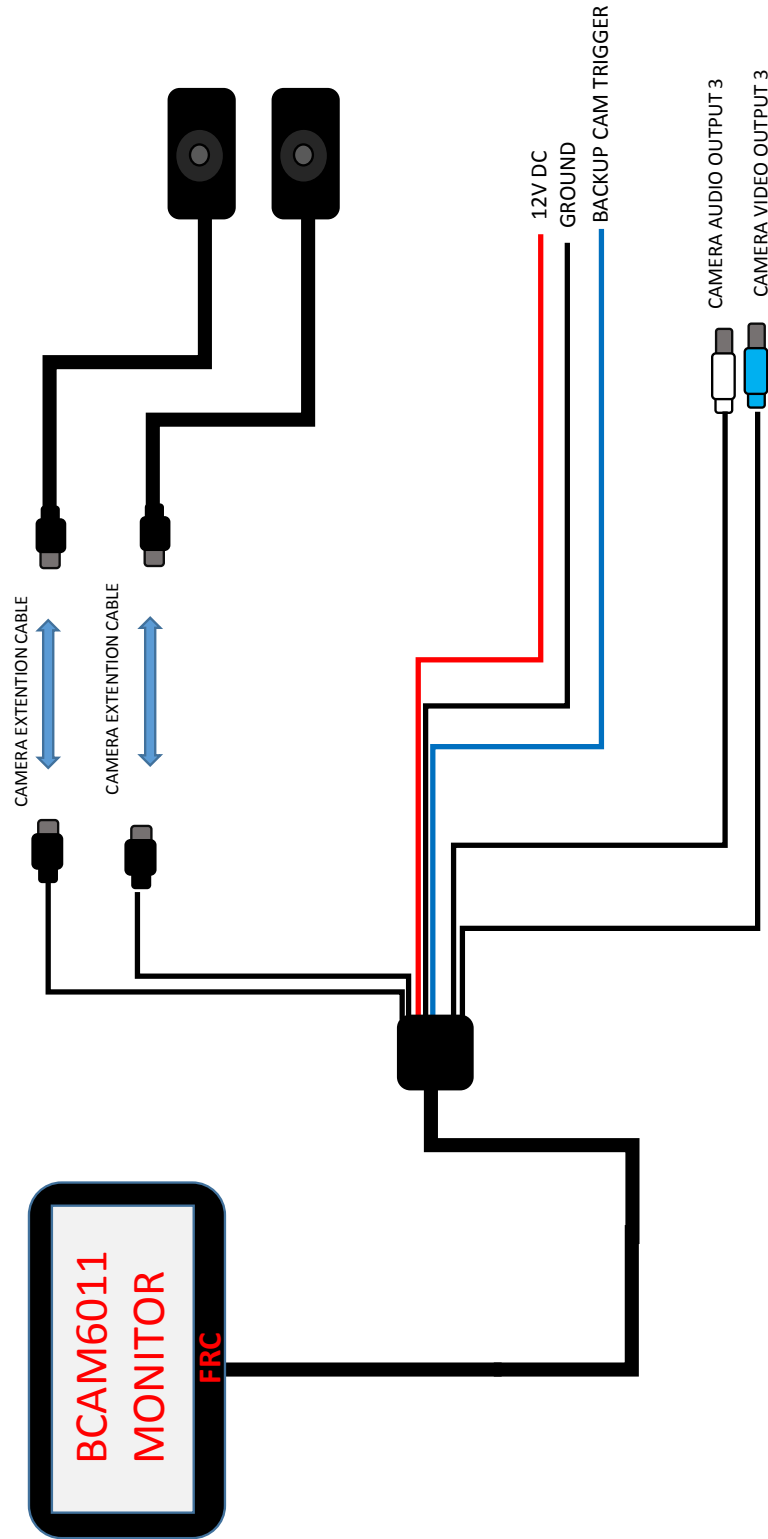
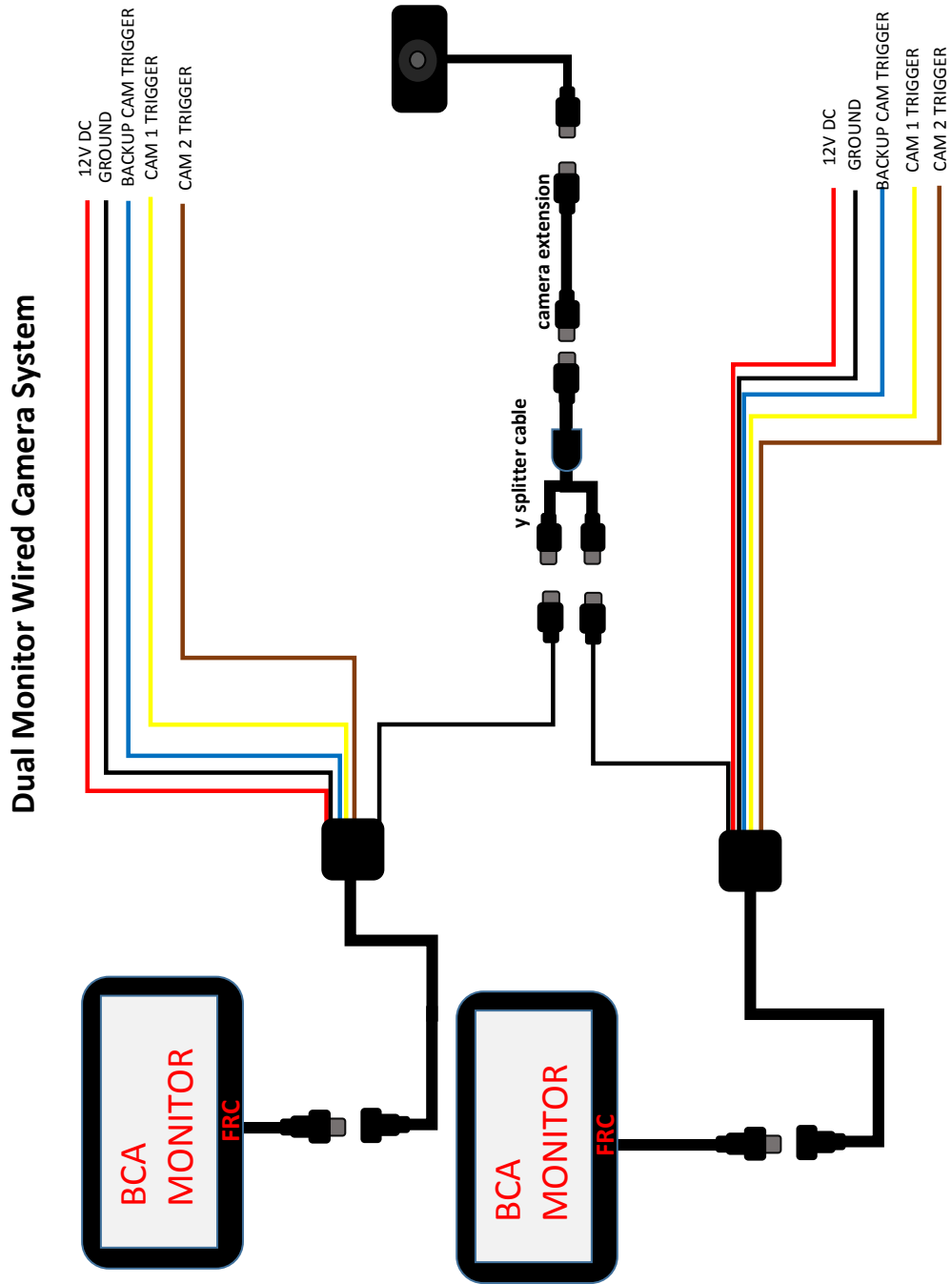


Figure W6. XE-BCAM6011-D0A Monitor Power Harness Diagram

# BCA112-A00 Dual Monitor Wired Camera Diagram



**NOTE:** This 2-monitor system can be connected with between 1 - 4 cameras.

**Figure W7. BCA112-A00 Dual Monitor Wired Camera Diagram**

# XE-SNBTH4C-D0A 4-CHANNEL DVR Wiring Diagram

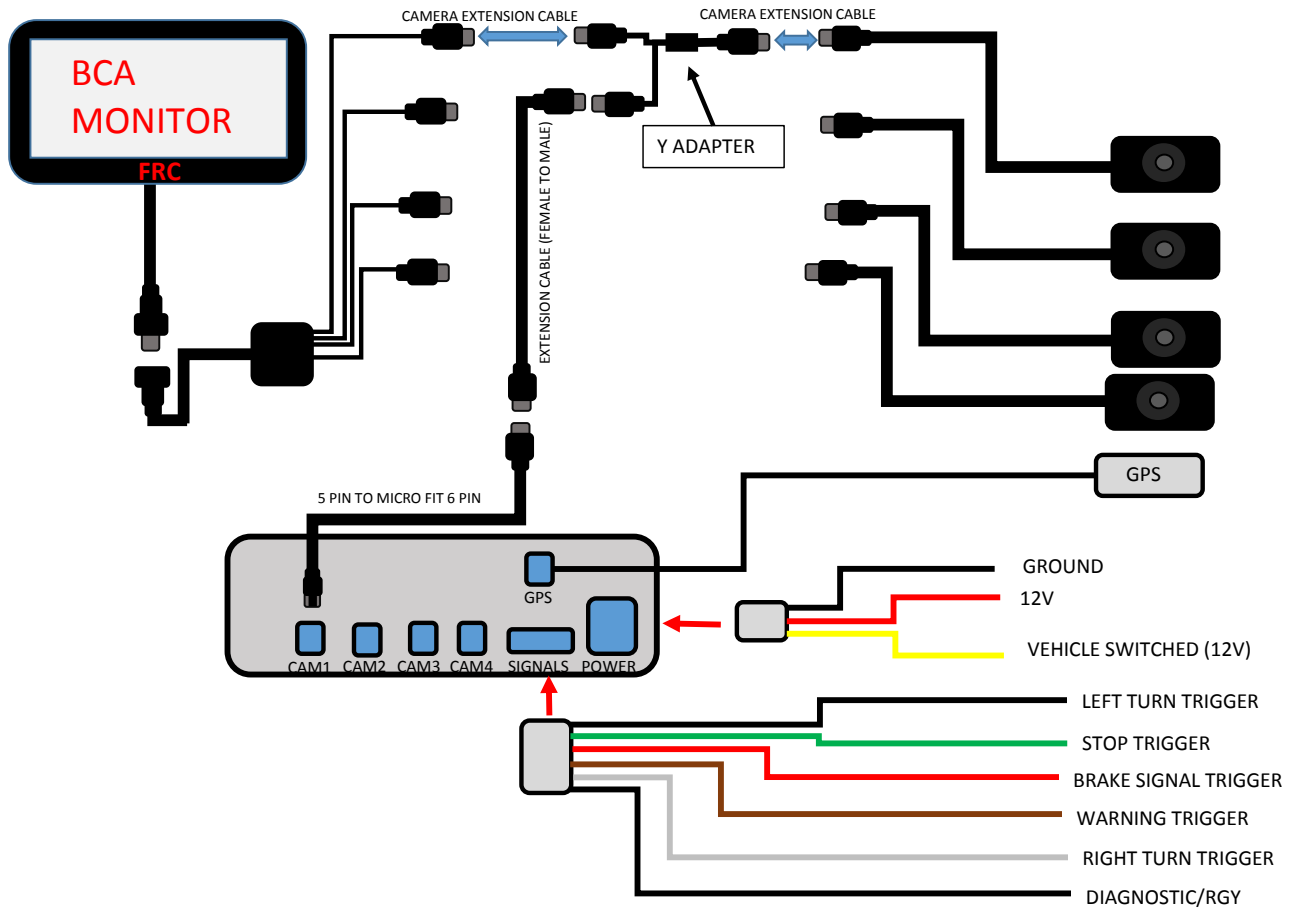


Figure W8. XE-SNBTH4C-D0A 4-CHANNEL DVR Wiring Diagram

# XE-BCA112W-S0A Proximity Sensor Wiring Diagram

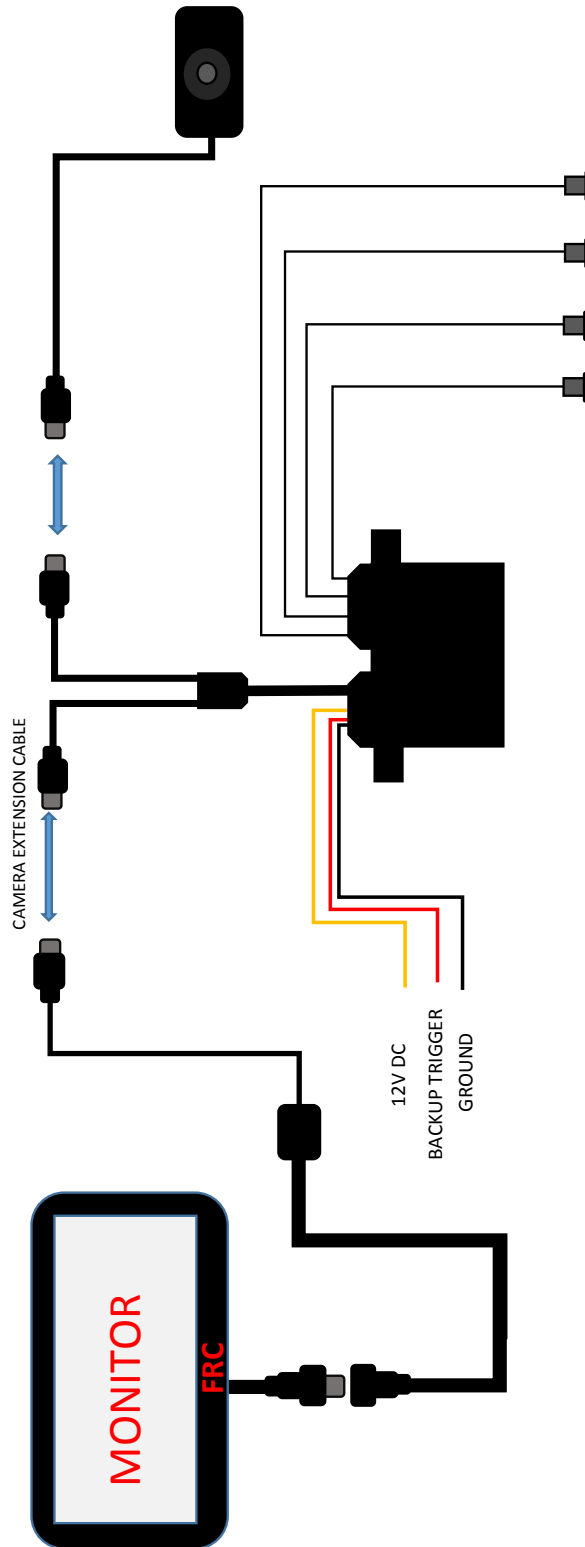


Figure W9. XE-BCA112W-S0A Proximity Sensor Wiring Diagram

# XE-BCA125-A0A Proximity Sensor Wiring Diagram

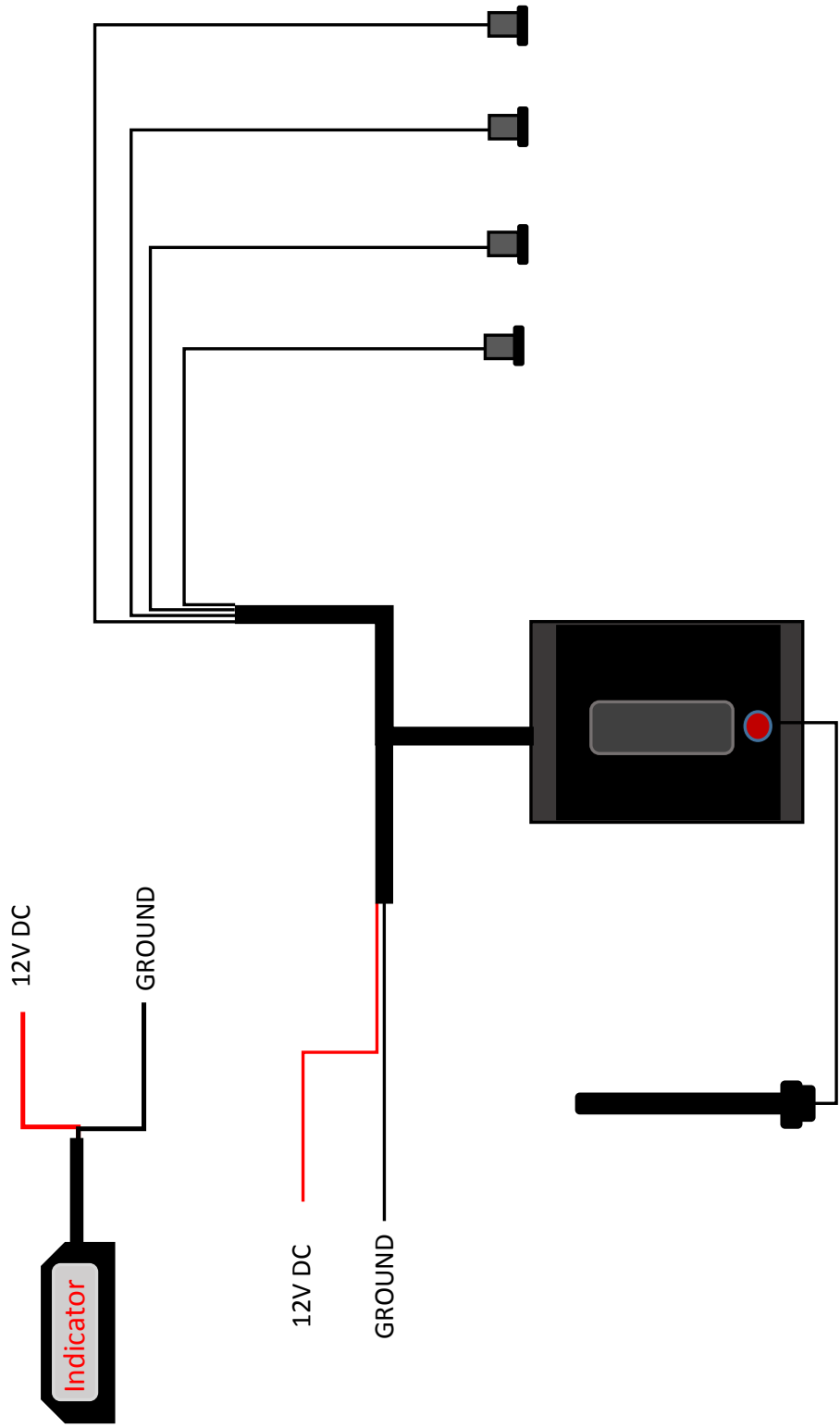


Figure W10. XE-BCA125-A0A Proximity Sensor Wiring Diagram

# XE-BCA115W-S0A Proximity Sensor Wiring Diagram

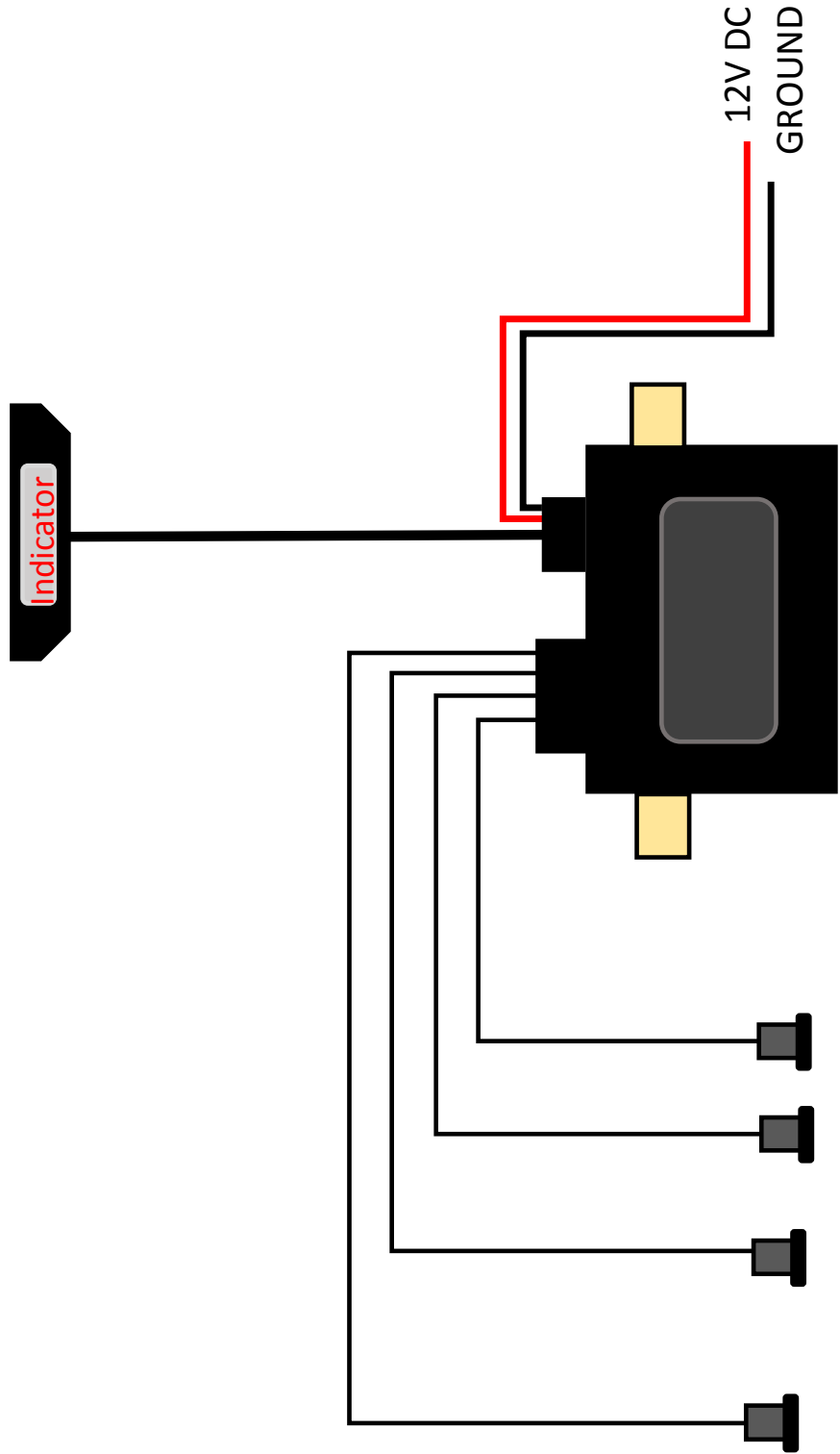


Figure W11. XE-BCARS115W-S0A Proximity Sensor Wiring Diagram



### **PERSONAL RESPONSIBILITY CODE**

The member companies of FEMSA that provide emergency response equipment and services want responders to know and understand the following:

1. Firefighting and Emergency Response are inherently dangerous activities requiring proper training in their hazards and the use of extreme caution at all times.
2. It is your responsibility to read and understand any user's instructions, including purpose and limitations, provided with any piece of equipment you may be called upon to use.
3. It is your responsibility to know that you have been properly trained in Firefighting and/or Emergency Response and in the use, precautions, and care of any equipment you may be called upon to use.
4. It is your responsibility to be in proper physical condition and to maintain the personal skill level required to operate any equipment you may be called upon to use.
5. It is your responsibility to know that your equipment is in operable condition and has been maintained in accordance with the manufacturer's instructions.
6. Failure to follow these guidelines may result in death, burns or other severe injury.



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