

# **ENOVATION**

## **CONTROLS**<sup>®</sup>

A HELIOS TECHNOLOGIES COMPANY



## **PowerVision<sup>®</sup> P70**

*Model Number 01DISP0002*

*Installation Manual*

CE

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00-02-1230  
2026-02-06  
Section 78

To consistently bring you the highest quality, full-featured products, we reserve the right to change our specifications and designs at any time. The latest version of this manual can be found on [novationcontrols.com](http://novationcontrols.com).


**Warranty** - A limited warranty on materials and workmanship is given with this Enovation Controls product. A copy of the warranty may be viewed or printed by going to [www.enovationcontrols.com/warranty](http://www.enovationcontrols.com/warranty)



**BEFORE INSTALLING THIS ENOVATION CONTROLS PRODUCT:**

Read and follow all installation instructions.

Please contact Enovation Controls immediately if you have any questions.



This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Revision Table			
Date	Description	Date	Description
2023-10-06	First Draft		
2023-10-24	Released to web page		
2025-01-23	Added 01DISP0002 model number		
2025-10-24	Corrected Pinouts to Blue and White Connectors		
2026-02-06	Removed Ethernet mention from Specifications.		

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## Hardware Installation

The following instructions will guide you through installing the PowerVision® P70 display.

### Inspecting Package Contents

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Before installing the product, it is recommended that you ensure all parts are accounted for and inspect each item for damage (which sometimes occurs during shipping). The items included in the box are:

- 1 PV70 7" Display

Hardware needed

- Four (4) 8-32 Fasteners

Tools needed:

- Rotating drill with a bit size of 3/16-inch.



This product is protected by a 25A fuse. Replace only with a similar style 25A fuse.


### Fuse Type / Ratings

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#### Littelfuse® Fuses Rated 32V, 25A



Developed by Littelfuse for the automotive industry, the ATOF® fuse has become the original equipment circuit protection standard for foreign and domestic automobiles and trucks. Readily identifiable and easily replaced, this fuse can be specified for a variety of low voltage electronic applications.

Part Number	Current Rating (A)	Housing Material Color	Typ. Voltage Drop (mV)	Cold Resistance (mΩ)	I <sup>2</sup> t (A <sup>2</sup> s)
0287025._	25		92	2.52	1,000

UL Listed:

CSA Certified:





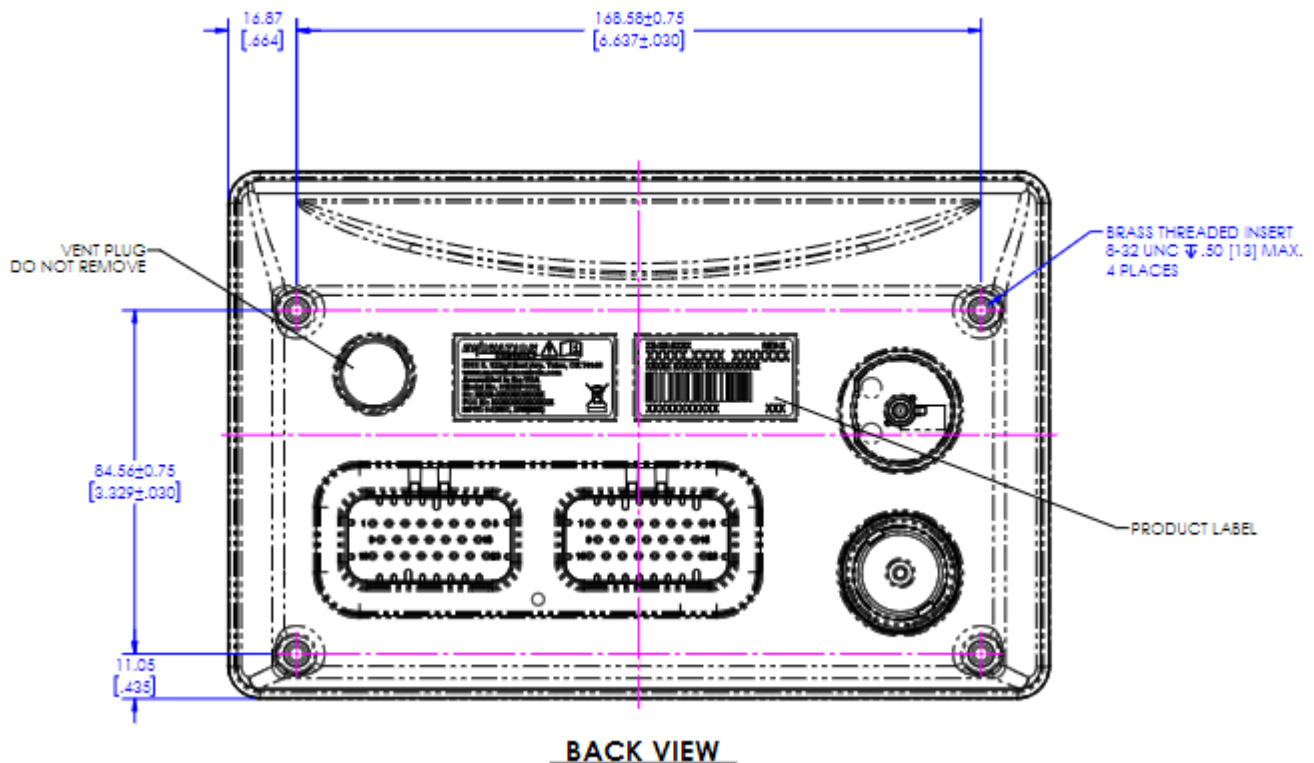
**IMPORTANT NOTE:** Per IEC 62368-1 requirement the equipment needs to be protected in case of excessive input power. It is recommended that a 40A external fuse be added to the wiring to limit the input power to the device and remove the electrical energy completely in case of a fault. Adding an external fuse is a way of protecting your electrical devices from overcurrent or short circuits. It involves connecting a fuse holder and a fuse to an existing circuit, usually using a fuse tap or a wire splice. The fuse rating should match the current draw of the device you are powering.

This same recommendation should also be applied to the output pins due to 1) being powered separately and 2) their sinking current.

## Surface-Mounted Installation

To properly mount the display, first prepare the dashboard:

1. Use the measurement diagram shown below to create a clearance cutout for the connectors.
2. Using the provided measurements drill four locating holes for the fasteners.
3. Use 8-32 fasteners to mount the display using the four provided threaded inserts.



## Ordering Information

The P70 and accessories (if available) can be purchased through Enovation Controls:

Part Number	Description	Order Details
78700712	Basic PV70	
78700692	P70 including internal GPS receiver, 2.4GHz Wi-Fi 01DISP0002	
	Harness, TBD	

## Software Platform

PowerVision Configuration Studio® 6.x or later

## Pinout Specifications

### 23 Position Connector A (Mating Connector AMP 770680-2 Natural)

PIN #	Function	
1	Digital Out 5A – High Side	
2	Digital Out 5B – High Side	
3	HS Driver Battery	
4	HS Driver Battery	
5	HS Driver Ground	
6	HS Driver Ground	
7	Battery	
8	Ground	
9	Digital In 1	
10	Digital In 2	
11	Digital In 3	
12	Digital In 4	
13	Analog Return	

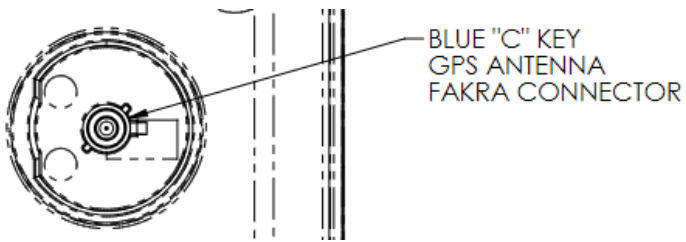
14	Analog Return	
15	Ignition	
16	CAN 1 L	
17	CAN 1 H	
18	CAN 2 L	
19	CAN 2 H	
20	Analog In 1	
21	Analog In 2	
22	Analog In 3	
23	Analog In 4	

**23 Position Connector B (Mating Connector AMP 770680-5 Blue)**

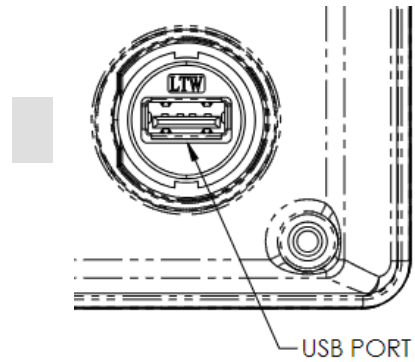
PIN #	Function	
1	NC	
2	Line Out 3 Left P	
3	Line Out 3 Left N	
4	Digital Out 1 – Low Side	
5	Digital Out 2 – Low Side	
6	Video In 2 P	
7	Video In 1 P	
8	Analog Out Return	
9	Frequency In Return	
10	Amp Turn-On	
11	Digital Out 3 – Low Side	
12	Digital Out 4 – Low Side	
13	Video In 2 N	
14	Video In 1 N	

<b>15</b>	Analog Out
<b>16</b>	Line Out 1 Left P
<b>17</b>	Line Out 1 Left N
<b>18</b>	Line Out 1 Right P
<b>19</b>	Line Out 1 Right N
<b>20</b>	Line Out 2 Left P
<b>21</b>	Line out 2 Left N
<b>22</b>	Line Out 2 Right P
<b>23</b>	Line Out 2 Right N

GPS Antenna (If Equipped)

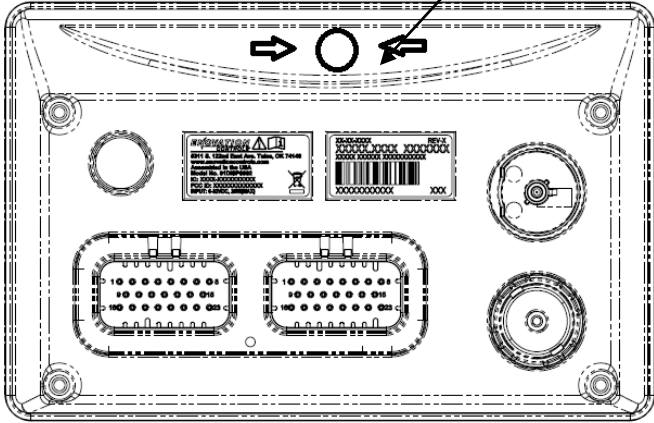
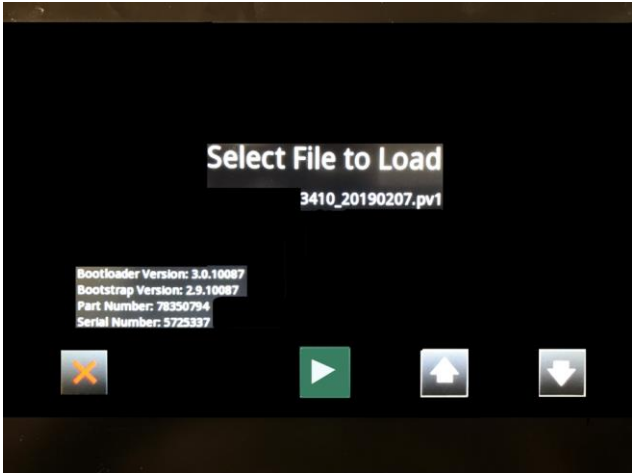


USB Port



## Configuration Information

Follow these steps to download a custom configuration to the P70 display:

Step	Action
1	Turn off the display.
2	Insert the USB drive that contains the new configuration file into the display's attached USB pigtail.
3	<p>Place a magnet onto the area shown here on the upper middle side of the back of the display:</p> 
4	Power the display back on, continually holding the magnet in place.
5	<p>Remove the magnet when the display shows the utility for loading new software.</p> 

Continued

Step	Action
6	Touch the up or down arrow keys on the screen until the appropriate configuration file from the USB to be loaded into the display is shown on the screen.
7	Press the right arrow/green arrow key on the screen twice to load the selected configuration.
8	Once completed, the unit will reboot into the loaded application.

## Specifications

Computing	
<b>Main Processor:</b>	Renesas® RZ/G1e Arm® Cortex® -A7 dual-core processor @ 1.0 GHz (32-bit)
<b>Operating System:</b>	QNX® Real-time Operating System
<b>Storage:</b>	8 GB
<b>Ram:</b>	512 MB DDR3-SDRAM
<b>Graphics</b>	Integrated Graphics Processor
Display	
<b>Type:</b>	7" (202.38mm [H] x 129.88mm [V]) LVDS TT LCD with LED backlight
<b>Color:</b>	24-bit color
<b>Resolution:</b>	800 x 480 Pixels
<b>Contrast Ratio:</b>	1000:1 (typical)
<b>Brightness:</b>	1000 cd/m <sup>2</sup>
<b>Surface:</b>	Anti-glare
<b>Touch Panel:</b>	Projected capacitive (PCAP) with glove touch
<b>Ambient Light Sensor</b>	Yes
<b>Sensors (Optional)</b>	Internal GPS Receiver (P/N 78700692) Accelerometer (P/N 78700692)

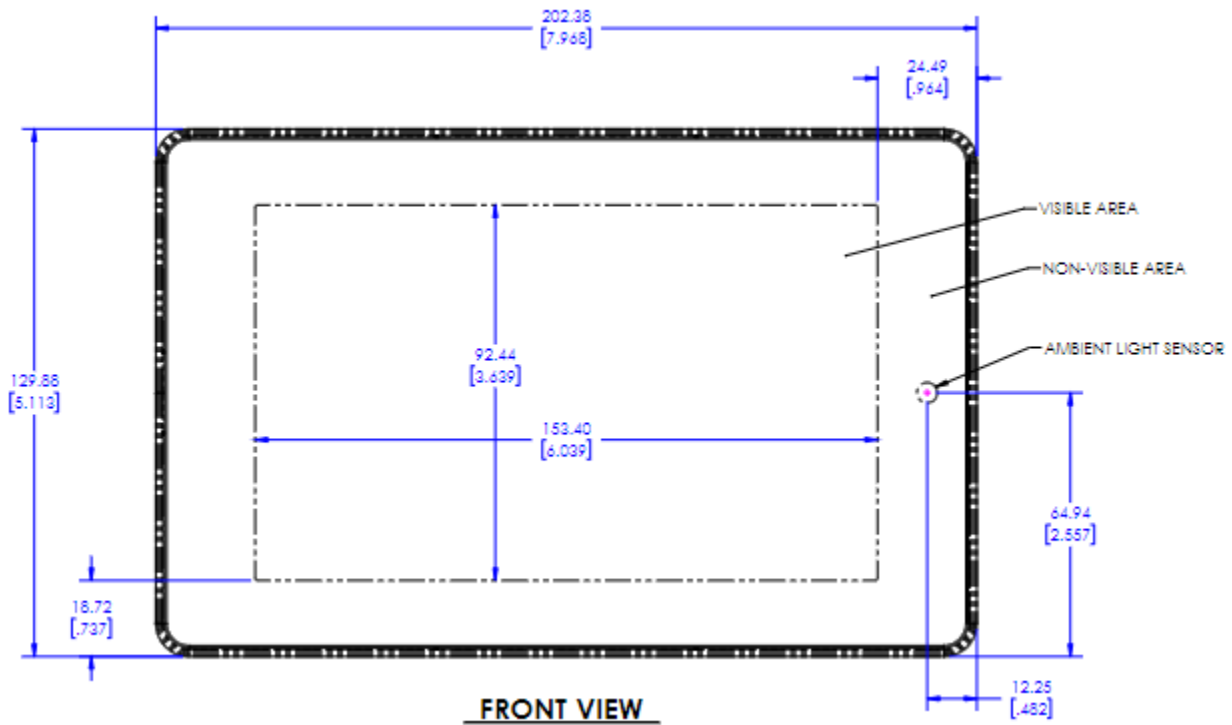
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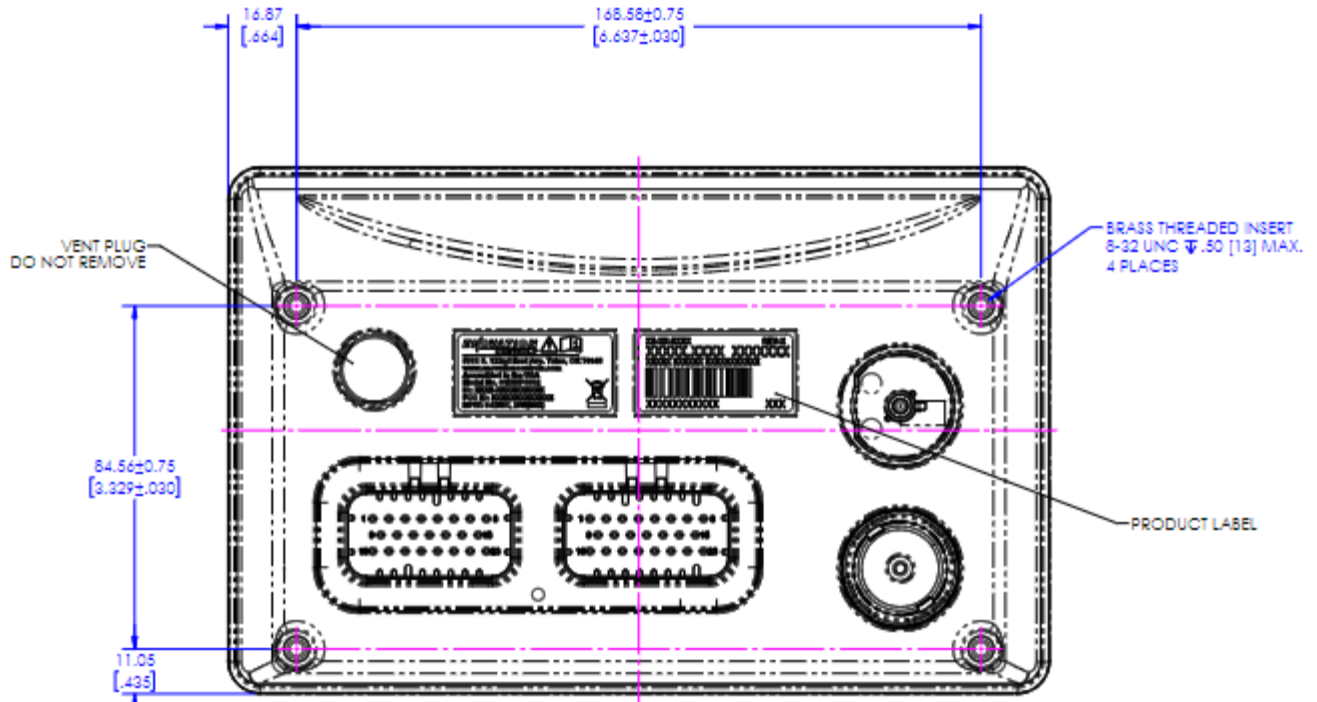
Hardware	
<b>Real-time Clock:</b>	Li-Ion battery backup (Typ. Lifespan minimum 10 years), non-rechargeable, non-replaceable
<b>Connectors:</b>	(1) Ampseal 23 pin (1) Ampseal 23 pin (1) USB Bulkhead (1) GPS Fakra Antenna Jack (Optional)
<b>Video Inputs:</b>	(2) NTSC/PAL (Single channel viewable, Differential)
Communication	
<b>CAN:</b>	(2) CAN 2.0B according to ISO 11898-2; J1939 and CANopen; proprietary messaging
<b>USB:</b>	(1) USB 2.0 High Speed Host (Optional)
<b>Wi-Fi (P/N 78700692):</b>	802.11 b/g/n radio, 2.4GHz (Requires future firmware update)
Electrical	
<b>Operating Voltage:</b>	9 – 32 VDC, reverse polarity protected
<b>External / Inline Fuse Rating</b>	40A
<b>Outputs:</b>	(4) 500mA Switched Low-side (1) Analog Out (0-5V) (1) High-Side Digital (Battery level 10A)
<b>Inputs:</b>	(4) Analog 0-5VDC, 4-20mA, or resistive, 10-bit resolution (1) Discrete digital, active-high
Environmental	
<b>Operating Temperature:</b>	-40°C to 70°C (-40°F to 158°F)
<b>Storage Temperature:</b>	-40°C to 85°C (-40°F to 185°F)
<b>Protection:</b>	IP66 and IP67, front and back, for outdoor use
<b>Vibration:</b>	ISO 15003: 3.9 Grms (10-350Hz), 3 axes
<b>Shock:</b>	±50G in 3 axes
<b>EMC/EMI:</b>	SAE J1113, ISO 13766, CE per 2014/53/EU

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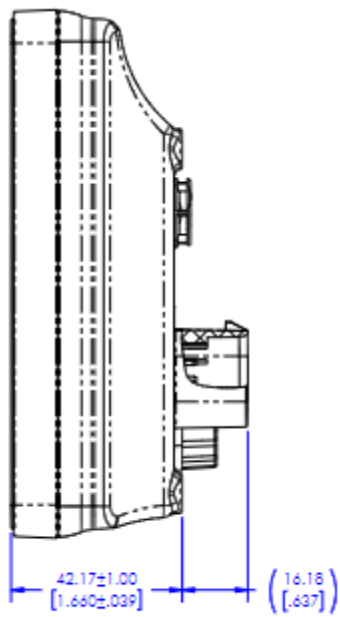
Infotainment (Optional)	
<b>Stereo</b>	(2) Outputs (Stereo, 20Hz-20kHz, Differential) (1) Subwoofer (mono, configurable, 30Hz-250Hz) (1) Amp Turn On/Accessory
<b>USB Media</b>	MP3, MP4 Playback
<b>Bluetooth (P/N 78700692)</b>	Audio Streaming; Fully integrated Bluetooth 5.0 Class 1

## Dimensions





**BACK VIEW**



**SIDE VIEW**

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