



S35 Color Display

Installation Manual

In order 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 at enovationcontrols.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



**BEFORE BEGINNING INSTALLATION OF THIS
ENOVATION CONTROLS PRODUCT:**

Read and follow all installation instructions.

Please contact Enovation Controls immediately if you have any questions.

Table of Contents

Hardware Installation.....5

 Inspecting Package Contents.....5

 Product Dimensions5

 Dash-Mounted Installation.....6

Wiring Information7

 Pin Out Specifications7

 S35 Mating Connector Part Numbers8

 S35 Wiring Diagram8

Configuration and Programming Information9

 Application Update Procedure.....9

Specifications12

THIS PAGE INTENTIONALLY LEFT BLANK

Hardware Installation

The following instructions will guide you through installing the S35 color display. The S35 Operations Manual and this installation manual can be found by scanning the QR code on the product package or online at: [Support.enovationcontrols.com](https://support.enovationcontrols.com), then search for S35.

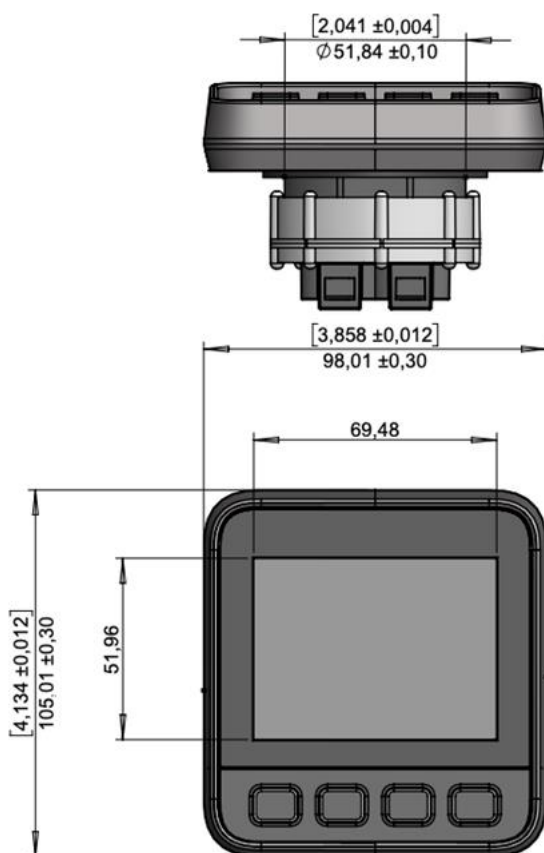
Inspecting Package Contents

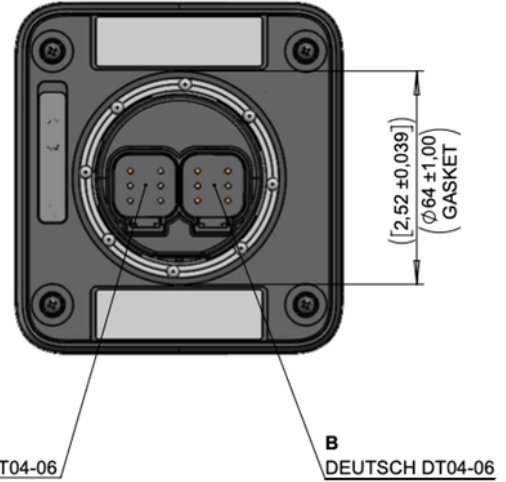
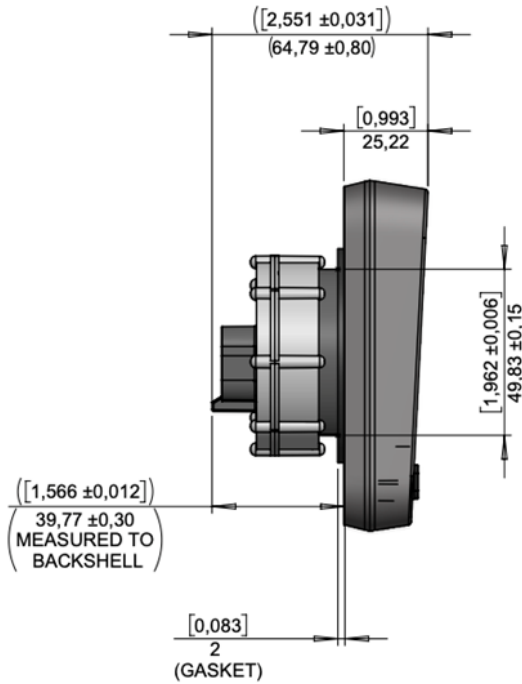
It is recommended that you ensure all parts are accounted for and inspect each item for damage (which may occur during shipping) before attempting to install the product. The items included in the box are:

- 1 – S35 Color display with attached screw-on ring clamp

Product Dimensions

Measurements shown in inches [mm]





Dash-Mounted Installation

Tools needed.

- Jig saw or
- 2" Hole saw or
- 2" knockout (chassis) punch

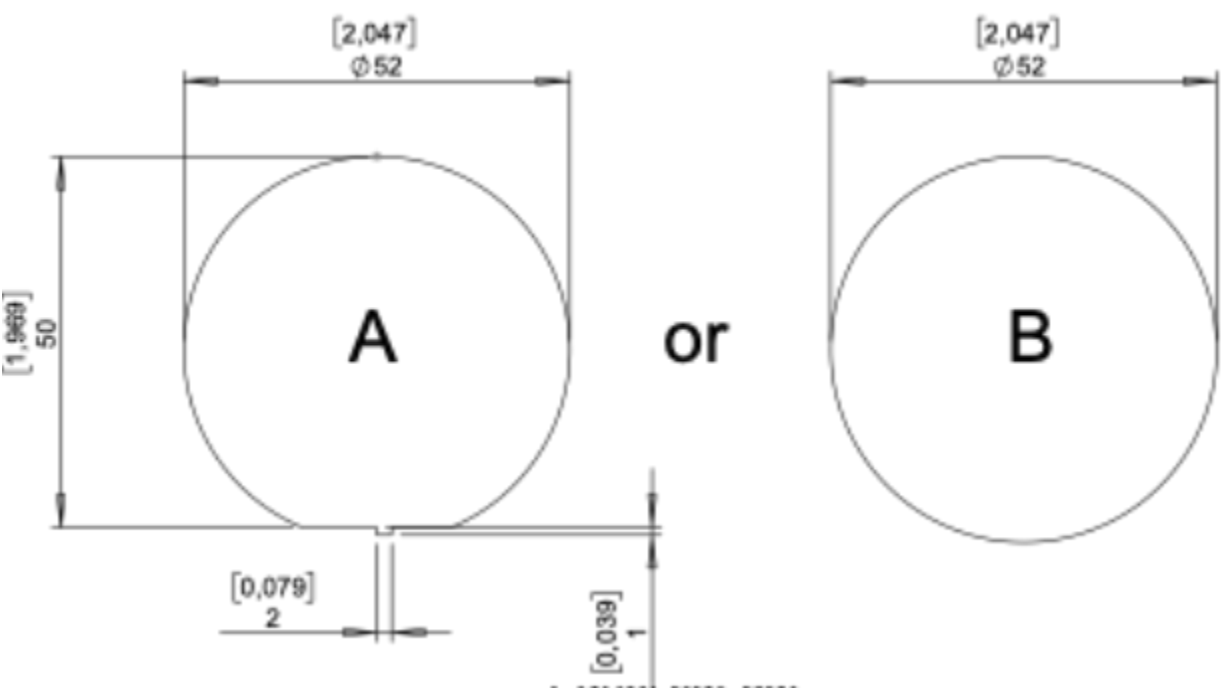
Preparing the Dash

1. Determine the location where the S35 will be placed into the dash. Refer to the Mounting Hole Options section next for appropriate hole opening size.
2. Measure twice, cut once! Cut the hole into the dash where the S35 will reside.

Mounting the Unit

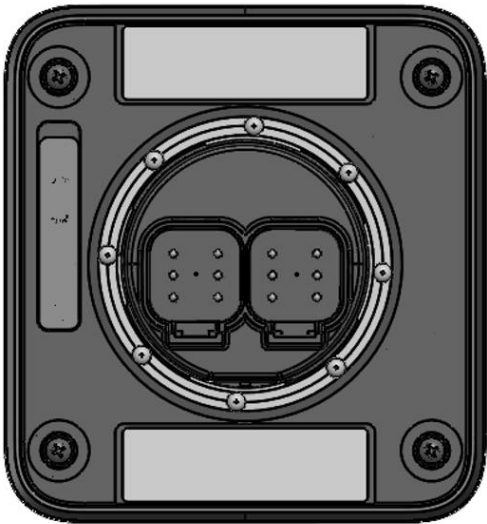
1. Remove the screw-on mounting clamp ring from the back of the display.
2. Place the backside of the display through the opening in the dash.
3. Push the unit through the opening until the back of the case is flush with the panel.
4. Place the screw-on mounting clamp ring behind the panel and screw onto unit until hand-tight.

Mounting Hole Options



Wiring Information

Pin Out Specifications

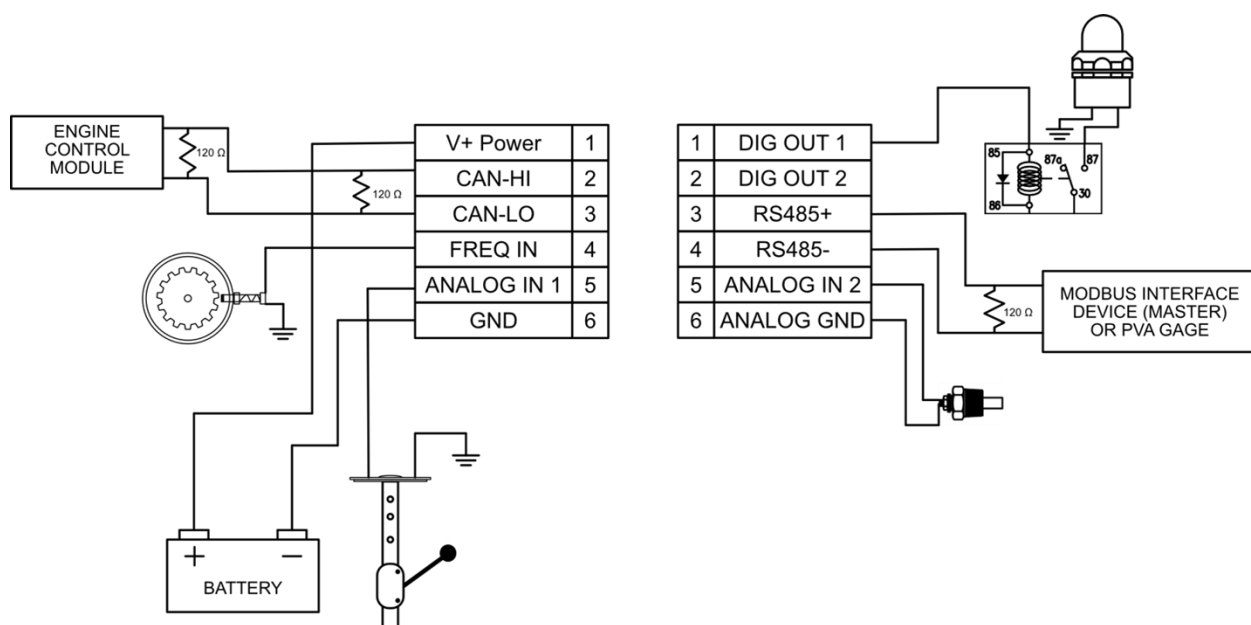


A CONNECTOR PINOUT		A		B		B CONNECTOR PINOUT	
PIN	FUNCTION	30	04	30	04	PIN	FUNCTION
1	V+ Power	20	05	20	05	1	DIGITAL OUT 1
2	CAN-HI	10	06	10	06	2	DIGITAL OUT 2
3	CAN-LO					3	RS485+
4	FREQ IN					4	RS485-
5	ANALOG IN 1					5	ANALOG IN 2
6	GND					6	ANALOG GND

S35 Mating Connector Part Numbers

- Deutsch DT06-6S plug housing
- W6S Wedge locks
- Deutsch 0462-201-16141 contact (socket)

S35 Wiring Diagram





Configuration and Programming Information

Application Update Procedure




This section demonstrates the process of updating a new application on the S35 Color Display.

Installation from a USB Flash Drive




Prior to installation from a USB flash drive, ensure that your USB flash drive is formatted using the default size allocation. For best results, place just a single application install file on the US flash drive.

Step	Action
1	Ensure the S35 Color Display is OFF.
2	Place a single application install file on the USB stick and insert that USB stick in the USB-C port under the rubber grommet on the back of the S35 Color Display.
3	Turn the S35 Color Display ON while pressing and holding the leftmost button. <div></div>
4	Release the leftmost button when the bootloader splash screen appears: <div></div>

Continued

Step	Action
5	<p>The display will now show Searching for Update files. (If a USB flash drive is detected, it will search that location in addition to the internal flash for an update file).</p> 
6	<p>If a USB file exists, Install Software Update will be displayed. Use corresponding buttons to accept or cancel.</p> 
7	<p>If no USB file exists, or if you pressed “No” on the previous screen, “Do you want to switch to application?” will be displayed.</p> 

Continued

Step	Action
8	<p>If “Install Software Update” is accepted in Step 6, “Erasing Flash” will be displayed.</p> 
9	<p>After the internal flash is erased, the new application will get written into flash memory.</p> 
10	<p>Once the installation is complete, the bootloader will switch to the main application.</p> 
NOTE:	Do not turn off the power after accepting a software installation update.

Specifications

Computing	
Main Processor:	Arm 32-bit Cortex-M4 CPU 120 MHz +FPU
Internal Storage	2048 kB
RAM	640 kB
Storage:	4096 kB
Display/HMI	
Screen:	3.5-inch, 18-bit Color LCD TFT
Resolution:	320 x 240
Brightness:	800 cd/m ²
Interfaces	
CAN:	1x CAN 2.0B (Selectable 250k/500k/1Mb baud rate)
Serial:	1x RS485 – Half duplex
USB:	1x USB-C 2.0b
Electrical	
Operating Volts:	6-36 VDC, reverse polarity protected
Digital Outputs:	2x low-side open drain 500 mA
Analog Inputs:	2x user configurable (0-5 V, 4-20mA, Resistive) 1x internal battery voltage sensing (0-36V)
Real Time Clock:	Yes, (with 7-day backup)
Environmental	
Operating Temp:	-40°C to +85°C (-40°F to +185°F)
Storage Temp:	-40°C to +85°C (-40°F to +185°F)
Protection:	IP67 1EC 60529
Vibration:	ISO 16750
Shock:	ISO 16750
EMC/EMI:	ISO 13766, ISO 14982

How to Order

The following S35 Color Display and accessories are available through Enovation Controls:

Part Number	Description	Order Details
78700727	S35 Color Display	Display
78900727	S35 Color Display (24 Pack)	Bulk Pack Display

- THIS PAGE INTENTIONALLY LEFT BLANK -

- THIS PAGE INTENTIONALLY LEFT BLANK -

In order to consistently bring you the highest quality, full-featured products, we reserve the right to change our specifications and designs at any time. MURPHY products and the Murphy logo are registered and/or common law trademarks of Enovation Controls, LLC. This document, including textual matter and illustrations, is copyright protected by Enovation Controls, LLC, with all rights reserved. (c) 2023 Enovation Controls, LLC. A copy of the warranty may be viewed or printed by going to www.enovationcontrols.com/warranty

ENOVATION CONTROLS CORPORATE HEADQUARTERS
5311 S 122ND EAST AVENUE
TULSA, OK 74146

ENOVATION CONTROLS LTD. – UNITED KINGDOM
CHURCH ROAD LAVERSTOCK
SALISBURY SP1 1QZ UK

SUN MURPHY INTERNATIONAL TRADING (SHANGHAI) CO., LTD
B15 ROOM, 6# BUILDING, 351 SIZHUAN ROAD
SONGJIANG DISTRICT, SHANGHAI 201601, CHINA

ENOVATION CONTROLS INDIA PVT. LTD.
PLOT NO. 146, SECTOR 10, PCNTDA
BHOSARI, PIMPRI CHINCHWAD
PUNE - 411026
MAHARASHTRA, INDIA

U.S. SALES & SUPPORT

PHONE: 918 317 4100
EMAIL: SALES@ENOVATIONCONTROLS.COM
WWW.ENOVATIONCONTROLS.COM

CONTACT US



INTERNATIONAL SALES & SUPPORT

EUROPE, MIDDLE EAST, AFRICA
PHONE: +44 1722 410055
EMAIL: EMEASALES@ENOVATIONCONTROLS.COM

CHINA
PHONE: +86 21 6237 5885
EMAIL: APACSALES@ENOVATIONCONTROLS.COM

INDIA
PHONE: +91 91581 37633
EMAIL: INDIASALES@ENOVATIONCONTROLS.COM



FM 28221 (Tulsa, OK - USA)
FM 29422 (UK)



1022QAP07 (India)