



# 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 [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 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

<b>Hardware Installation</b> .....	<b>5</b>
Inspecting Package Contents.....	5
Product Dimensions .....	5
Dash-Mounted Installation.....	6
<b>Wiring Information</b> .....	<b>7</b>
Pin Out Specifications .....	7
S35 Mating Connector Part Numbers .....	8
S35 Wiring Diagram .....	8
<b>Configuration and Programming Information</b> .....	<b>9</b>
Application Update Procedure.....	9
<b>Specifications</b> .....	<b>12</b>

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](http://Support.enovationcontrols.com), then search for S35.

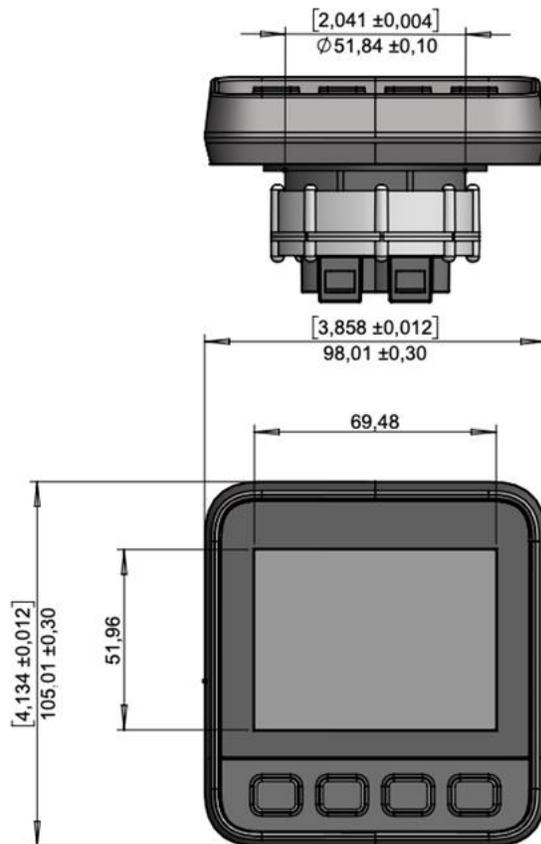
## Inspecting Package Contents

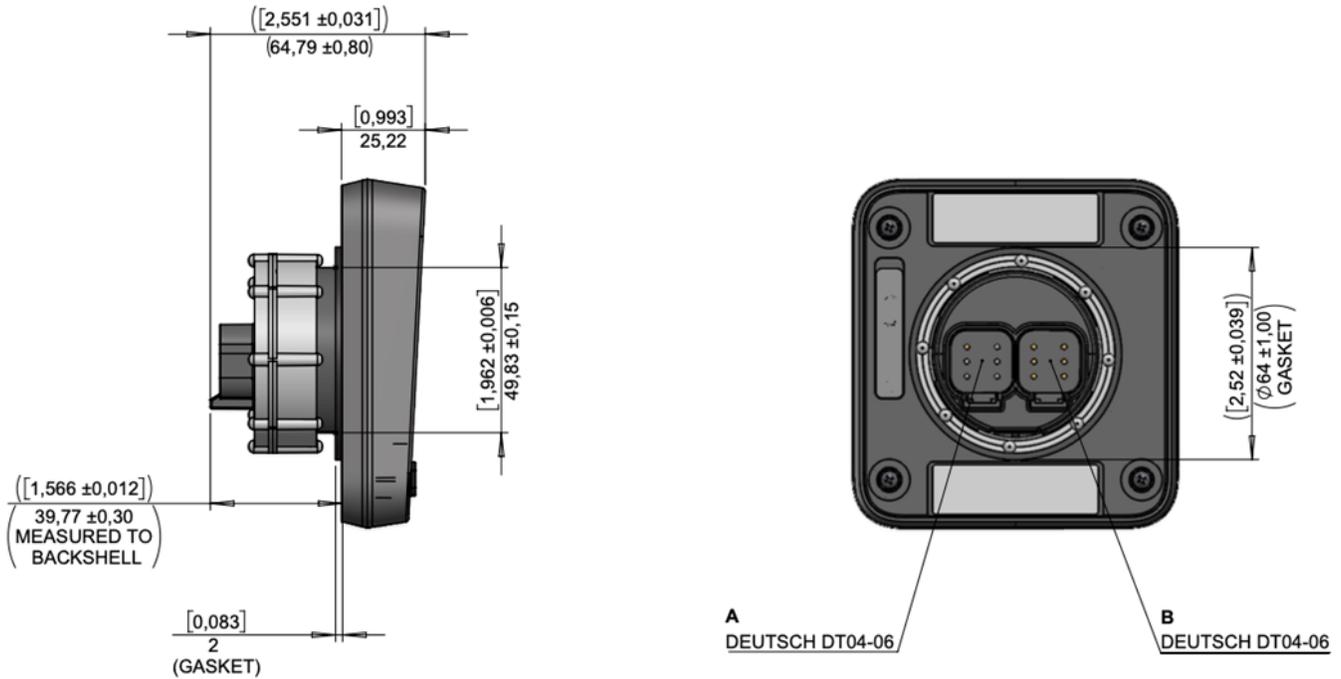
It is recommended that you ensure all parts are accounted for and inspect each item for damage (which may occur during shipping) before attempting to install the product. The items included in the box are:

- 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

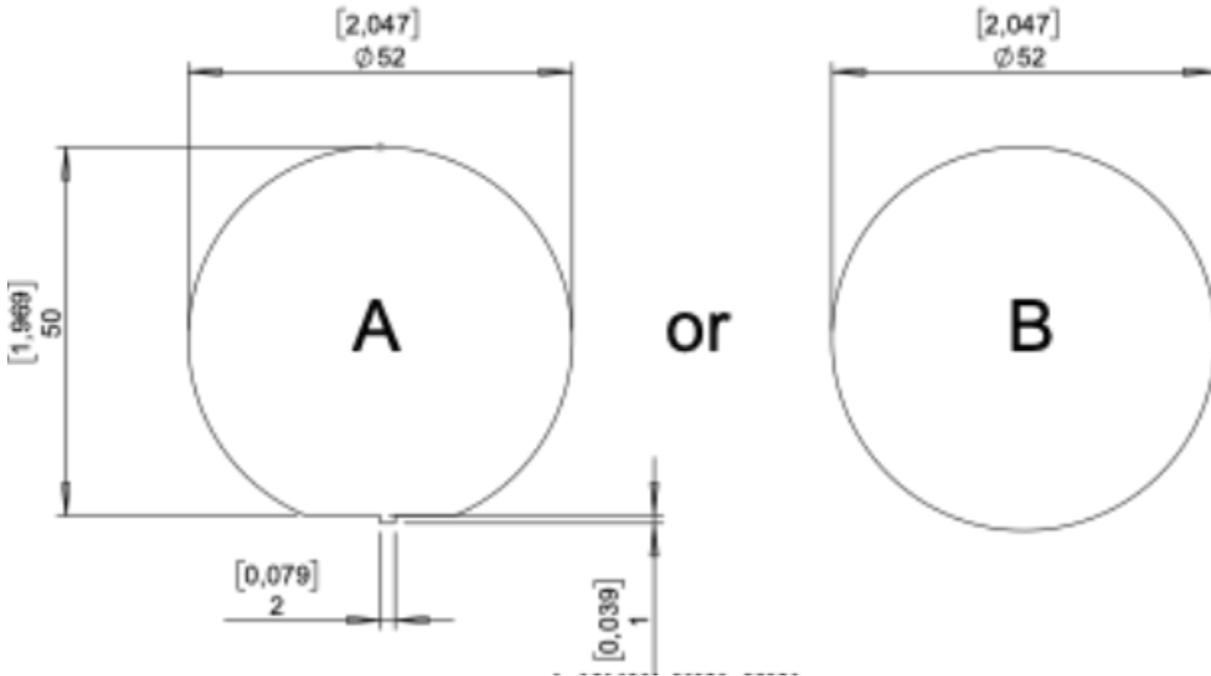
1. Determine the location where the S35 will be placed into the dash. Refer to the Mounting Hole Options section next for appropriate hole opening size.
2. Measure twice, cut once! Cut the hole into the dash where the S35 will reside.

## 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.

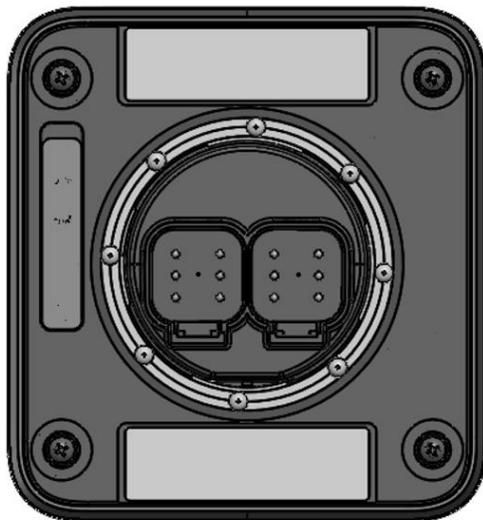
**Note:** The unit must be mounted at a height below 6.6ft (2m).

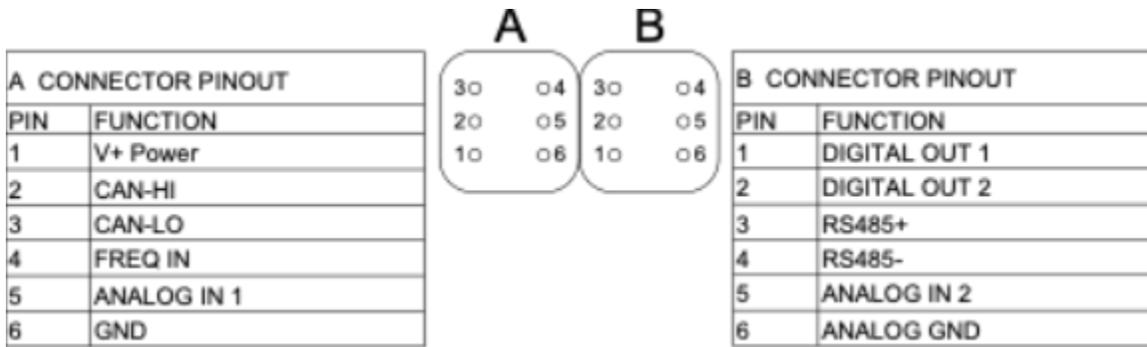
## Mounting Hole Options



## Wiring Information

### Pin Out Specifications

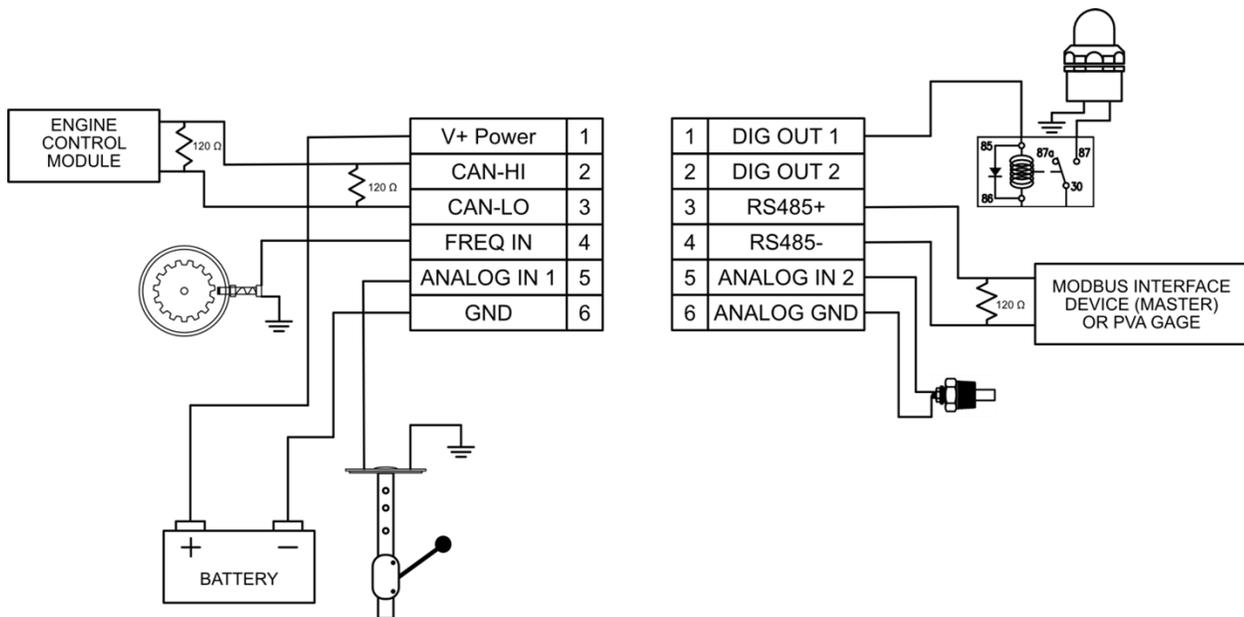




## S35 Mating Connector Part Numbers

- 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 USB 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. 
4	Release the leftmost button when the bootloader splash screen appears: 

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

## How to Order

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

<b>Part Number</b>	<b>Description</b>	<b>Order Details</b>
<b>78700727</b>	<b>S35 Color Display</b>	<b>Display</b>
<b>78900727</b>	<b>S35 Color Display (24 Pack)</b>	<b>Bulk Pack Display</b>

- 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](http://www.enovationcontrols.com/warranty)

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

**ENOVIATION 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

**ENOVIATION 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@ENOVIATIONCONTROLS.COM](mailto:SALES@ENOVIATIONCONTROLS.COM)  
[WWW.ENOVIATIONCONTROLS.COM](http://WWW.ENOVIATIONCONTROLS.COM)

**CONTACT US**



**INTERNATIONAL SALES & SUPPORT**

**EUROPE, MIDDLE EAST, AFRICA**  
PHONE: +44 1722 410055  
EMAIL: [EMEASALES@ENOVIATIONCONTROLS.COM](mailto:EMEASALES@ENOVIATIONCONTROLS.COM)

**CHINA**  
PHONE: +86 21 6237 5885  
EMAIL: [APACSALES@ENOVIATIONCONTROLS.COM](mailto:APACSALES@ENOVIATIONCONTROLS.COM)

**INDIA**  
PHONE: +91 91581 37633  
EMAIL: [INDIASALES@ENOVIATIONCONTROLS.COM](mailto:INDIASALES@ENOVIATIONCONTROLS.COM)



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



1022QAP07 (India)