ENOVATION CONTROLS®

POWERVIEW® DISPLAYS OVERVIEW

WHY POWERVIEW®?

Technology Without Compromise

Dynamic User Experiences

Proven Reliability in Harsh Environments

Ideal For Gauge Cluster Replacement

Designed For the Life of the Equipment

Tier 4 Final / Stage V Ready

THE FULL SERIES OF POWERVIEW® DISPLAYS

Next Generation Color Displays

PV1200

PV1100

PV700

PV500

Color Displays

PV780B

PV485

PV450

Monochrome Displays

PV380

PV350

PV101

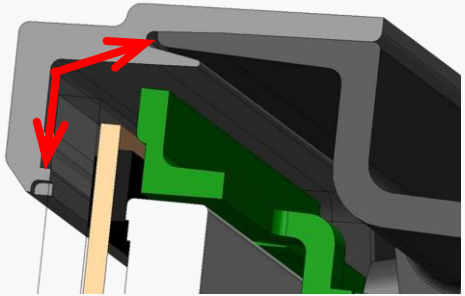
- Optically bonded glare-free LCD screens
- Touch screens available (on some models)
- Programmable with *PowerVision Configuration Studio®*
- Industry leading durability and environmental protection

DESIGNED FOR RUGGED MARKETS

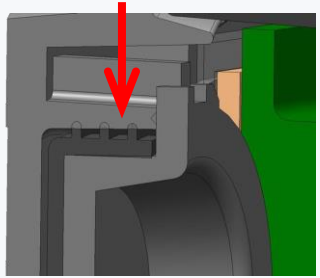
KEY DIFFERENTIATOR – RUGGED PROTECTION

- Rated Up To **IP69K**
- Wide Operating Temperatures
- Dispensed RTV Wet Seal (lens, front, and back housing)

RTV SEAL



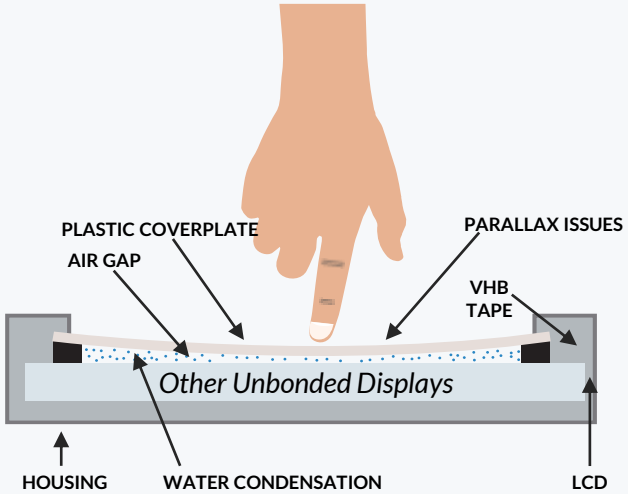
SILICON KEYPAD WITH RADIAL SEAL DESIGN

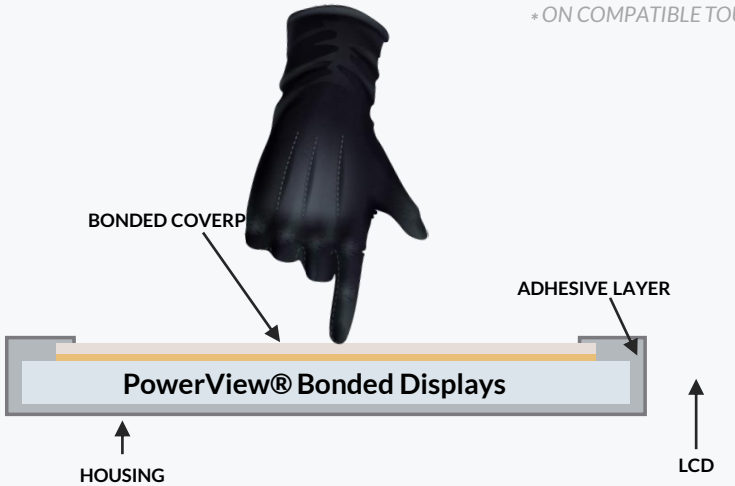


KEY DIFFERENTIATOR – MODERN LCD TECHNOLOGY

- Optically bonded lens improves sunlight viewability and eliminates lens fogging
- Bonding process provides increased protection of LCD and lens from shock/vibration
- Glass lens has superior scratch resistance over plastic
- Acid-etched Anti-Glare (AG) reduces perceived reflection and does not degrade or wash off
- Projected capacitive touch* with water rejection and gloved hand functionality prevents false touches
- Multi-touch capable* for fluid gesture control

*ON COMPATIBLE TOUCH DEVICES



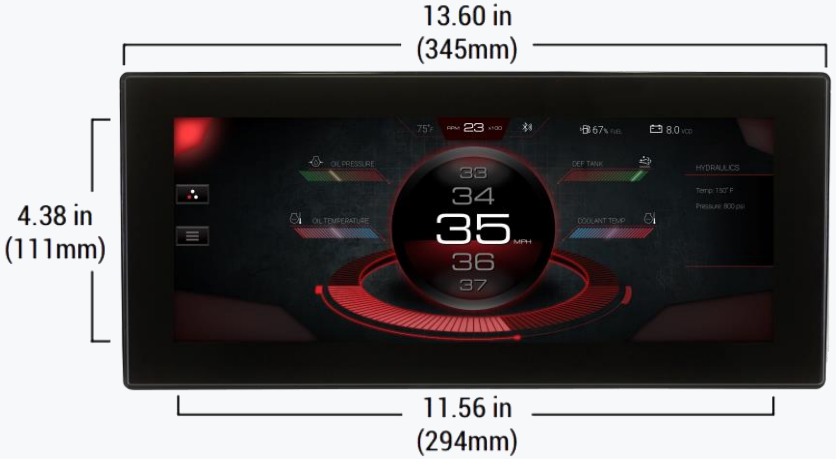


Edge-to-Edge Displays

POWERVIEW 1200

The Murphy PowerView 1200 packs power and viewability in an ultra-wide display.

- Largest color display in the PowerView line at 12.3 inches.
- High-speed processor and 8GB of internal storage.
- Glass display surface offers enhanced clarity and strength.
- Available with or without touch.



- All Weather
- Sunlight Visible
- Great for In-Cab
- Engine Monitoring
- Programmable
- Gauge Replacement
- Video Input
- Glove-Friendly
- Touch Capable

CE IP 67

Tier 4 Final ready Stage V

ENOVATION CONTROLS

POWERVIEW 1100

The Murphy PowerView 1100 display streamlines size and speed in a single display.

- 10.6-inch color display available in portrait and landscape orientations
- High-speed processor and 8GB of internal storage
- Highest resolution PowerView display (1280x768)
- Bonded glare-free LCD screen with high-brightness for superior visibility in sunlight

- All Weather
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- Great for In-Cab
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- Programmable
- Gauge Replacement
- Video Input
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- Touch Capable

CE IP 67

Tier 4 Final ready Stage V

ENOVATION CONTROLS

POWERVIEW 700

The Murphy PowerView 700 packs power and viewability in a compact display.

- 7-inch display with rich color graphics
- IP69K-rated enclosure for harsh environments
- Connect four video inputs and watch two feed simultaneously.
- Glass display surface offers enhanced clarity and strength.

- All Weather
- Sunlight Visible
- Great for In-Cab
- Engine Monitoring
- Programmable
- Gauge Replacement
- Video Input
- Glove-Friendly
- Touch Capable

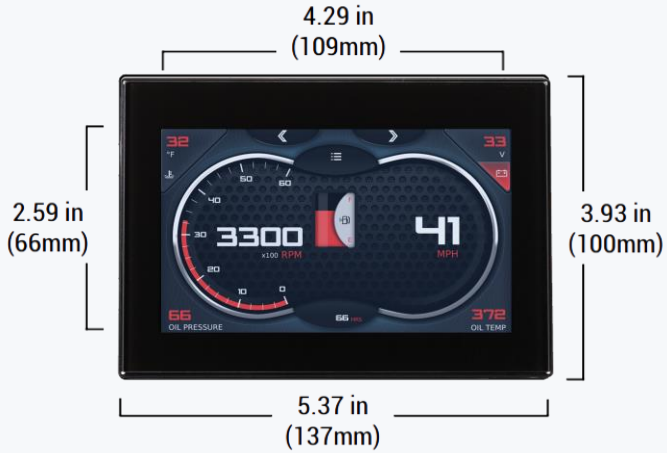
CE IP 69K Tier 4 Final ready Stage V

ENOVATION CONTROLS

POWERVIEW 500

The Murphy PowerView 500 packs power and versatility in an ultra-small footprint.

- Optically-bonded 5-inch color display designed for harsh environments.
- High brightness screen for full sunlight viewability
- Glass lens offers enhanced clarity and strength.



- All Weather
- Sunlight Visible
- Great for In-Cab
- Engine Monitoring
- Programmable
- Gauge Replacement
- Video Input
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CE IP 67

Tier 4 Final ready Stage V

ENOVATION CONTROLS

EDGE-TO-EDGE DISPLAYS COMPARED




	PV1200	PV1100	PV700	PV500
Screen Size	12.3 inches (320 mm x 130 mm)	10.6 inches (231.36 mm × 138.82 mm)	7-inches (178 mm)	5-inch (108 mm x 64.8 mm)
Resolution	1280 × 480	1280 × 768 (WXGA)	800 × 480 (WVGA)	
Processor	Dual-core CPU @ 1.5 GHz			Dual-core CPU @ 1.0 GHz
Communications	(2) CAN 2.0B			
Video	(3) NTSC/PAL Single-Channel Viewable		(4) NTSC/PAL Dual-Channel Viewable	(2) NTSC/PAL Single-Channel Viewable
Inputs	(3) Analog, (5) Digital, (1) Frequency			(1) Analog, (2) Digital
Outputs	(1) Digital, (1) Frequency			(2) Digital

Color Tactile-Button Displays

POWERVIEW 780B

The Murphy PowerView 780B display provides power and reliability with an easy-to-read interface.

- 7-inch display featuring rich color graphics
- 10 tactile configurable soft keys with white LED blacklight
- High-speed processor and 8GB of internal storage.
- Available in touch and non-touch models

All Weather
Sunlight Visible
Great for In-Cab
Engine Monitoring
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Gauge Replacement
Video Input
Glove-Friendly
Touch Capable

CE IP 67

Tier 4 Final ready Stage V

ENOVATION CONTROLS

POWERVIEW 485

The Murphy PowerView 485 is an all-in-one color display and controller designed to meet the needs of modern electronic engines and equipment applications.

- 4.3-inch display featuring rich, color graphics
- 5-tactile configurable soft keys
- Customizable I/O with RS485 serial connection
- Optically-bonded glare-free LCD screen for superior visibility in sunlight

- All Weather
- Sunlight Visible
- Great for In-Cab
- Programmable
- Gauge Replacement
- Engine Monitoring
- Glove-Friendly

CE IP 67

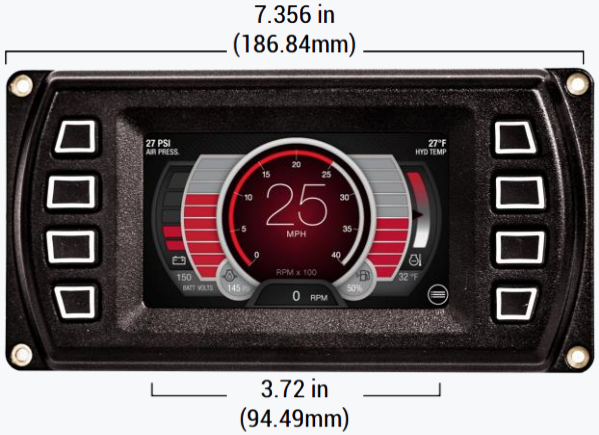
Tier 4 Final ready Stage V

ENOVATION CONTROLS

POWERVIEW 450

The Murphy PowerView 450 features a rich features set and full customization in a compact size.

- 4.3-inch display featuring rich, color graphics
- 8-tactile configurable soft keys
- Optional NMEA 2000 isolation
- Customizable bezel, I/O interface and more
- CSA PV450 version available for oil and gas markets, Class 1 Div 2 certified.



- All Weather
- Sunlight Visible
- Great for In-Cab
- Engine Monitoring
- Gauge Replacement
- Video Input
- Glove-Friendly
- Programmable

CE IP 67

Tier 4 Final ready Stage V

ENOVATION CONTROLS

COLOR TACTILE-BUTTON DISPLAYS COMPARED

	PV450	PV485	PV780B
Screen Size	4.3-inches (109.22 mm)		7-inch (177.8 mm)
Resolution	480 × 272 (WQVGA) with 16-bit color		800 × 480 (WVGA) with 24-bit color
Processor	CPU @ 532MHz		Dual-core CPU @ 1.5 GHz
Communications	(2) CAN 2.0B Optional NMEA 2000 isolation	(1) CAN 2.0B (1) RS-485	(2) CAN 2.0B
Video	(2) NTSC/PAL Single-Channel Viewable	None	(3) NTSC/PAL Single-Channel Viewable
Inputs	(1) Analog	(6) Analog (3) Digital (1) Frequency	(3) Resistive Analog (5) Digital (1) Frequency
Outputs	(1) Digital	(4) Digital, (1) Analog	(1) Digital, (1) Frequency

Monochrome Displays

POWERVIEW 380

The Murphy PowerView 380 is a robust, multifunction display for advanced monitoring of electronic engines and mechanical engines.

- Easy-to-read 3.8-inch (97 mm) QVGA monochrome LCD screen.
- Designed for use with Mechanical and Electronic engines
- User-configurable or out-of-the-box usability
- Set Point Alarm & Shut-down control

All Weather
Sunlight Visible
Great for In-Cab
Programmable
Gauge Replacement
Engine Monitoring
Glove-Friendly

CE IP 67

Tier 4 Final ready Stage V

ENOVATION CONTROLS

POWERVIEW 350

The Murphy PowerView 350 is a robust, multifunction display for advanced monitoring of electronic engines with an NMEA 2000 isolated CAN port.

- Easy-to-read 3.8-inch (97 mm) QVGA monochrome LCD screen.
- Customizable using the PowerVision Configuration Studio® software.
- Equipped with five tactile push buttons to quickly access a convenient menu.

All Weather
Sunlight Visible
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Programmable
Gauge Replacement
Engine Monitoring
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CE IP 67

Tier 4 Final ready Stage V

ENOVATION CONTROLS

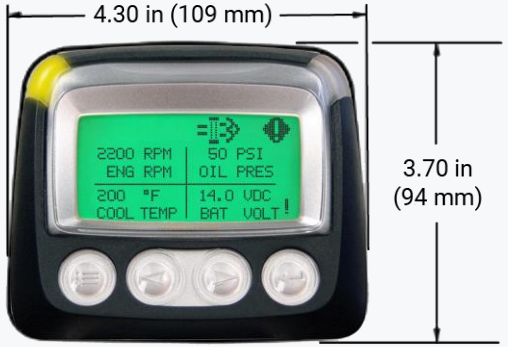
MONOCHROME TACTILE-BUTTON DISPLAYS COMPARED

	PV350	PV380
Screen Size	3.8-inch (97 mm) monochrome LCD screen	
Resolution	320 × 240 (QVGA)	
Processor	CPU @ 168MHz	
Communications	(2) CAN 2.0B Second port is NMEA 2000 isolated	(1) CAN 2.0B (1) RS-485 serial
Inputs	(1) Resistive Analog *Backlight Control*	(4) Resistive Analog (3) Analog (1) Frequency
Outputs	(1) Digital	(2) Digital

POWERVIEW 101

The Murphy PowerView 101 displays over 50 standard SAE J1939 parameters and offers a simple connection to optional components.

- Service Reminders – Five service reminders allow users to set hours for: Change Engine Oil, Air Filters, Hydraulic Oil, and Service Engine and Service Machine.
- Enhanced alarm indicators with ultra-bright alarm and shut-down LEDs
- Resistive touch buttons
- Multiple language options



All Weather

Engine Monitoring

CE IP 68

POWERVIEW 101 SPECIFICATIONS

	PV101
Screen Size	1.3 x 2.6 in. (33 x 66 mm)
Resolution	64 × 128 pixels
Communications	(1) CAN *[Supports 50 SAE J1939 Parameters]* (1) Auxiliary RS-485
Inputs	(1) Resistive Analog *Backlight Control or Fuel Sender*
Outputs	(1) 5V PVM Power

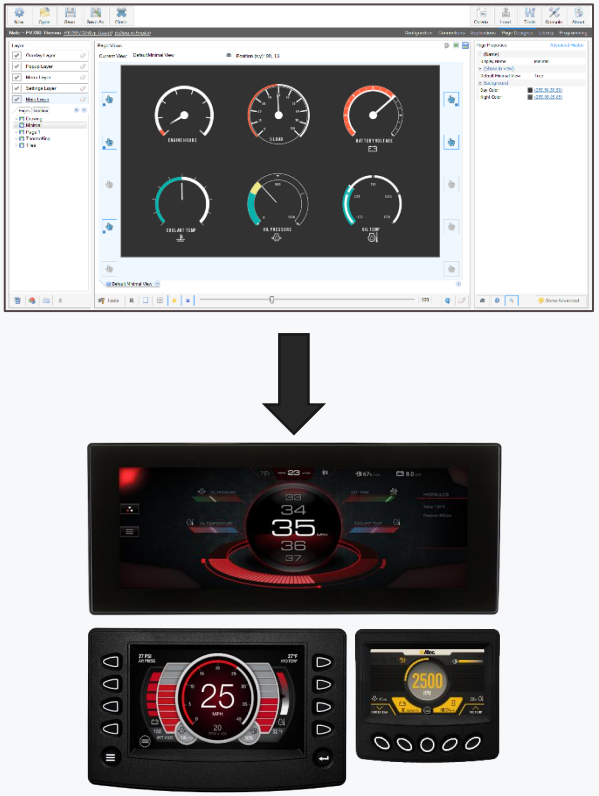
THE FULL HMI EXPERIENCE WITH POWERVIEW DISPLAYS

Designed for Custom Software

- Work with Enovation Controls' partners and in-house software experts to design custom software built to your application's requirements and users.
- Or, build on your own with **PowerVision Configuration Studio® software**. Our library of **tutorials, examples and video** will help you quickly develop software that gives your customers the ultimate interface experience with total machine control.

Features and Benefits of PowerVision Configuration Studio

- Drag-and-drop page designer and programming interface
- Program logic using state machines, activity programs and C-based scripting
- Full support for NMEA 2000 & SAE J1939 messaging, DM1, and DM2
- Includes built-in applications for data logging, machine hours, and external radio head control
- Common development platform makes it easy to move your configuration work from one display to another
- Connect directly to displays for reprogramming over USB
- Multi-language programming support for 10+ languages
- Available for download through the SPARK® Software Management cloud with annual per-user licensing



APPENDIX 1: INGRESS PROTECTION RATINGS

IP66 Powerful water jets	**IP67** Immersion (depth up to 1 meter)	**IP68** Immersion (1 meter or more depth)	**IP69K** Powerful high temperature water jets
PV1200 PV1100 PV780B PV700 PV500 PV485 PV450 PV380 (with panel gasket) PV350 (with panel gasket)	PV1200 PV1100 PV780B PV500 PV485 PV450 PV380 PV350	PV101	PV700 PV101-HAZ

Unless otherwise noted, to meet ratings, displays must have plugs in all connectors

APPENDIX 2: VIBRATION AND SHOCK

3-Axis Vibration Tested	
PV1100 PV1200	3.9 Grms (10 – 350Hz)
PV780B PV700 PV485 PV450 PV380 PV350	7.86 Grms (5–2000Hz)
PV500	8.17 Grms (5–2000Hz)

All Displays: Shock tested ±50G in 3 axes

APPENDIX 3: WIDE TEMPERATURE RANGES

Display	Max. Cold Temp
PV1200 PV1100 PV780B PV700 PV500 *(Storage)* PV485 PV450 PV380* PV350* PV101*	-40° C (-40° F) * *With Heater*
PV500 *(Operation)*	-30° C (-22° F)

Display	Max. Hot Temp
PV1200 *(Storage)* PV1100 *(Storage)* PV780B PV700 PV500 PV485 PV450 PV380 PV350 PV101	+85° C (+185 F)
PV1200 *(Operation)* PV1100 *(Operation)*	+70° C (+158 F)

Unless otherwise noted, temperatures cover maximum storage and operating ranges

APPENDIX 4: VOLTAGE RANGE

Display	Minimum VDC	Maximum VDC
PV1200 PV1100 PV780B PV700 PV500 PV380 PV350	6	36
PV485 PV450	6	32
PV101	8	32

Reverse Polarity Protected

THANK YOU

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