

PowerView 5000 Series

Operator Interface Terminals with Serial Communication

The Nematron PowerView 5000 touch screen HMI delivers a cost effective ease-of-use solution in one flexible system. Use PowerView to maximize the combined performance of general Control System or PLC Workstation applications, Data Capture, Monitoring systems or wherever a local operator interface is required to display machine or process information graphically.



The PowerView 5000 range offers four different bright image screen sizes, 4.3", 5.6", 8.0" & 10.4" and is available with two Serial communication ports. Embedded technology accentuates ease-of-use and simplifies the development function - simply develop the application on a PC and download to the PowerView for simulation and test. Application developers can start developing straight out of the box!

Crisp interface action is delivered through the high performance RISC based architecture. The PowerView touch screen input response has proven to be amongst the quickest in the industry and makes it ideal for both discrete manufacturing and process applications.

Standard Features

- Bright TFT Displays with wide viewing angles
- Up to 1,996 screens
- Easy Recipe, Bar Graphs, Alarms, and Trend Graphs Creation
- Online and Offline Simulation modes
- Large Graphics Library including a subset of the popular Symbol Factory 2.0 object library
- Wide range of PLC support
- Multi-Language Feature
- Easy Setup and Operation
- Configuration Software: ViewBuilder software which can be downloaded free of charge from the Nematron.com web site

Hardware Features

- 4.3" to 10.4" VGA Color TFT LCD sizes
- 256 Color Displays
- High resolution Analog Resistive Touch Screens
- 200MHz 32-bit RISC Processor
- 2MB DRAM Memory for programs
- 128k Memory for recipes
- RS-232 and RS-485 serial ports
- Parallel port (ECP/EPP) on larger models
- Real-time clock
- 24VDC operation (direct input or 120VAC adapter)
- CE mark and FCC part 15 Class A
- Designed to be NEMA 4/12 and IP64 at the front panel when properly mounted in an enclosure

Features & Benefits

The **Powerview 5000 Series** is designed to bring the best value in a cost-effective HMI. PowerView 5000 is ideal for applications needing to display machine or process information graphically. A comprehensive library of drivers supports a broad range of PLCs and Motion Controllers.

I/O Connectivity Panel

- A. PLC RS-232
- B. PC RS-232
PLC RS-485
- C. Parallel printer port*

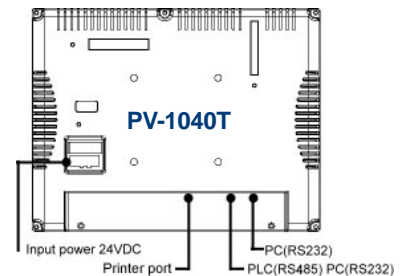
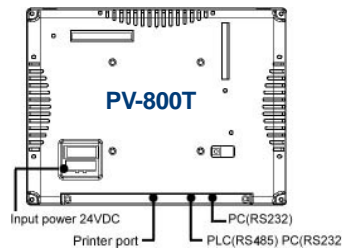
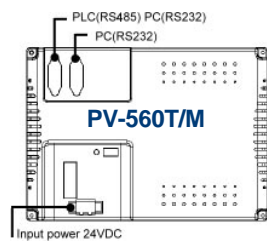
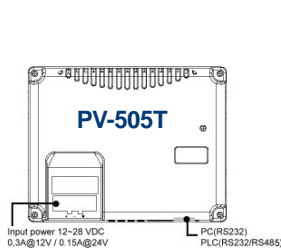
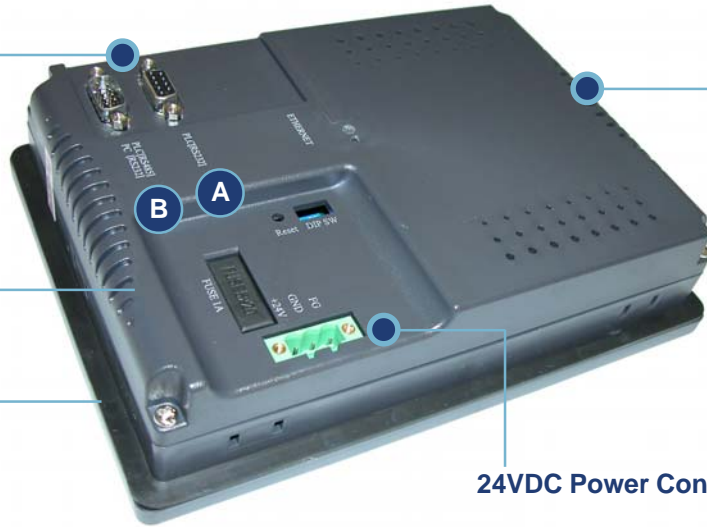
*On larger models only.
See diagrams below.

Nominal 1.26" to 2.44" Mounting Depth

24VDC Power Connector



4-wire Analog Resistive Touchscreen



PowerView Models:

Model	Display	Resolution	Colors	Cutout W x H	Depth
PV-1040T	10.4" color TFT	VGA 640x480	256 (8 bit)	10.10" x 7.80" (259mm x 201mm)	1.97" (50mm)
PV-800T	8.0" color TFT	VGA 640x480	256 (8 bit)	8.74" x 5.43" (222mm x 167mm)	1.97" (50mm)
PV-560T/M	5.6" color TFT/LED	VGA 320x234	256 (8 bit)	7.56" x 5.43" (192mm x 138mm)	1.88" (48mm)
PV-505T	4.3" color TFT	480x272	256 (8 bit)	4.69" x 3.66" (119mm x 93mm)	1.26" (32mm)

DRIVERS AND CONTROLLERS SUPPORTED

PLCs - Serial Protocols

- AB: DF1, DH485, PLC5, MicroLogix, ControlLogix
- Compumotor 6K Series
- Delta DVP
- Emerson PLC EC20
- Fatek FB
- Fuji: NB Series
- GE SNP-X
- Hitachi
- IDEC Micro
- Keyence: KV Series
- LG Glofa Cnet, K10S1, K60S, Master-K 300S CPU, Master-K Cnet
- Matsushita: FP
- Mitsubishi: A Series, Melsec FX Series
- Omron: HostLink, Omron (485 2W)
- PMAC

- PLC Direct/Koyo: K-Sequence
- SAIA PGU, S-Bus
- Samsung SPC-10
- Siemens S7/200, S7/300 HMI Adapter, S7/300 PC Adapter
- Simatic TI505
- Sharp: JW Series
- Taian TP02
- Telemecanique Unitelway
- Toshiba T Serial
- Vigor
- Yokogawa

Modbus RTU

- Modbus: RTU, Network (RTU 485 2W), Extended, RTU server

Modbus Compatible

- Entertron Industries
- Giddings & Lewis
- Industrial Control Links
- International Parallel Machines
- Motorola (MOSCAD Family)
- Sixnet (SixTrak, Versatrak)
- Watlow Electric (CAS200, CLS200, MLS300, PPC2000 Families)

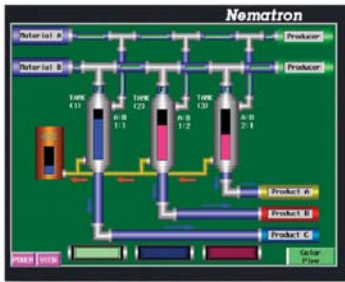
Other Serial Protocols

- ASCII

Motion Control Drivers

- Emerson PLC EC20
- IIS ESC
- Jetter Nano
- Lenze

ViewBuilder Development Environment



ViewBuilder is Nematron's programming software package for the PowerView 5000 family of touchscreen HMIs. It is an easy-to-learn and use software package that allows the user to build powerful HMI applications, whether the application is for machine or process control.

HMI screen development is done on a PC or laptop, and the application can be tested through an offline simulator that can "simulate" PLC I/O. Downloading to the HMI unit is not required for offline simulation. ViewBuilder software includes approximately 70 drivers from 31 different PLC vendors.

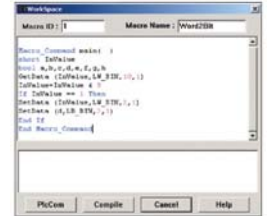
ViewBuilder can be downloaded free of charge from the Nematron.com web site.

Features

- Easy-to-use graphical interface
- Up to 1,996 display pages
- Complete set of drawing tools (lines, circles, arcs, rectangles, polygons, text, etc.)
- Supports pop-up displays
- Supports bitmapped graphics
- Displays in portrait or landscape mode
- Supports animation
- Supports multi-state objects
- Includes subset of Symbol Factory 2.0 object library (e.g. switches indicator lamps, meters, pipes, pumps, motors, valves, tanks, machines, etc.)

Drivers

- Serial drivers to all popular PLCs: A-B/Rockwell (DF1, DH485), Modicon (Modbus), GE, Siemens, Koyo, C-H, Mitsubishi, Omron, many others
- Serial ASCII driver
- Master/Slave HMI



Master/Slave Communication Support



Nematron PowerView also supports master/slave communications, allowing multiple HMIs to interface with a single PLC or Servo Controller through a shared serial connection.

Simulation



Two ways to test your HMI applications without uploading every change: use simulated I/O within the ViewBuilder software, or get real I/O by connecting to your PLC through the PowerView unit.

- Offline simulation mode (runs on PC, simulated I/O)
- Online simulation mode (runs on PC, connects to PLC)
- Support for latest generation of Nematron PowerView 5000 models

HMI Functions

- Alarm and Event Management System
- Trending with up to 16 pens
- Bar Graphs
- Recipes
- Reports
- Whiteboard (message board)
- 3 levels of access security
- Macros: BASIC-like scripting with ability to read/write to PLC registers, perform math, resolve logical expressions

For the latest ViewBuilder enhancements, view the Read Me file online at:
<http://www.nematron.com/software/ReadMeVB.txt>

Technical Specifications

MODEL	PV-505T	PV-560T	PV-800T	PV-1040X
Display	4.3"	5.6"	8.0"	10.4"
Display Colors	256 colors	256 colors	256 colors	256 colors
Display Brightness	300 cd/m ²	500 cd/m ²	400 cd/m ²	400 cd/m ²
Display Contrast	400:1	150:1	250:1	300:1
Resolution (WxH)	480 x 272	320 x 234	640 x 480	640 x 480
Backlight	LED	CCFLx1	CCFLx1	CCFLx2
Touch Accuracy	1.5mm	1.5mm	2mm	2mm
Touchscreen Type	4-wire resistive type			
Surface Hardness	4H			
CPU Type	200MHz 32-bit RISC			
Flash Memory	2MB			
Recipe Memory	N/A	128k	128k	128k
Serial Ports	PC: RS-232, PLC: RS-232/RS-485			
System Diagnostic	Power Failure Detection			
RTC	N/A	Yes	Yes	Yes
Parallel Printer port	No	No	Yes	Yes
Input Power	12~28VDC, 0.3A@12V 0.15A@24V	24 VDC /-5%	24 VDC/-5%	24 VDC/-5%
Power Consumption	24V/300mA/3.6W 12V/300mA/3.6W	370mA@24VDC	440mA@24VDC	440mA@24VDC
Dimensions (WxHxD)	5.0" x 4.0" x 1.49" 128mm x 102mm x 38mm	8.03" x 5.9" x 1.88" 204mm x 150mm x 48mm	9.09" x 6.92" x 2.16" 231mm x 176mm x 55mm	12.4" x 9.37" x 2.44" 315mm x 238mm x 62mm
Cutout (WxH)	4.68" x 3.66" 119mm x 93mm	7.56" x 5.43" 192mm x 138mm	8.74" x 6.57" 222mm x 167mm	11.88" x 8.85" 302mm x 225mm
Weight	Approx. 0.66lb (0.3kg)	Approx. 1.85lb (0.84kg)	Approx. 2.65lb (1.2kg)	Approx. 4.4lb (2.0kg)

General Specifications

CE	Complies with EN50081-2 and EN50082-2 standards
FCC	Complies with FCC Class A
Voltage Resistance	500 VAC (1 min)
Isolation Resistance	Exceed 50MO at 500 VDC
Vibration Endurance	200MHz 32-bit RISC 10 to 25 Hz (X,Y,Z direction 2G 30 minutes)
Protection Structure	IP65 front panel (O ring seal)
Storage Temperature	-20~60°C
Operating Temperature	0~45°C
Operation Humidity	10-90% RH (non-condensing)
Enclosure	Plastic

Ordering Information

Nematron products are available worldwide through our network of factory-authorized distributors. For distributor contact information in your area, please visit our website at www.nematron.com and submit a Request for Quote or call Nematron's Customer Care Center at your nearest regional sales office. ViewBuilder software can be downloaded free of charge from the Nematron website (registration required).

Contact Information

US and Canadian Office - Nematron Corporation
5840 Interface Drive
Ann Arbor, MI 48103 USA
Tel: 1.734.214.2000
Fax: 1.734.994.8074
Email: info@nematron.com

International Office - Nematron Europe Ltd
17A Somerset House, Hussar Court
Waterlooville, Hampshire PO7 7SG UK
Tel: +44 (0)23 9226 8080
Fax: +44 (0) 23 9226 8081
Email: sales@nematron.net