

Programmable Terminals NV-series

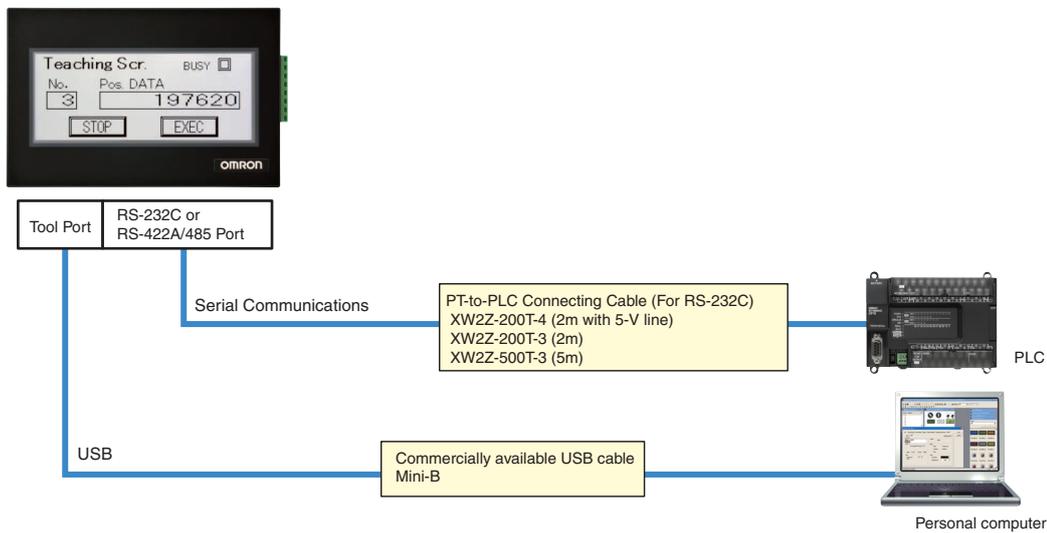
Compact and simple, extremely high cost performance

- The lineup includes compact and horizontal models from 3.8-inch to 4.6-inch and QVGA models.
- True type fonts for flexible screen designs.
- Space-saving installation.
- Multi-language support and safety standard compliance.

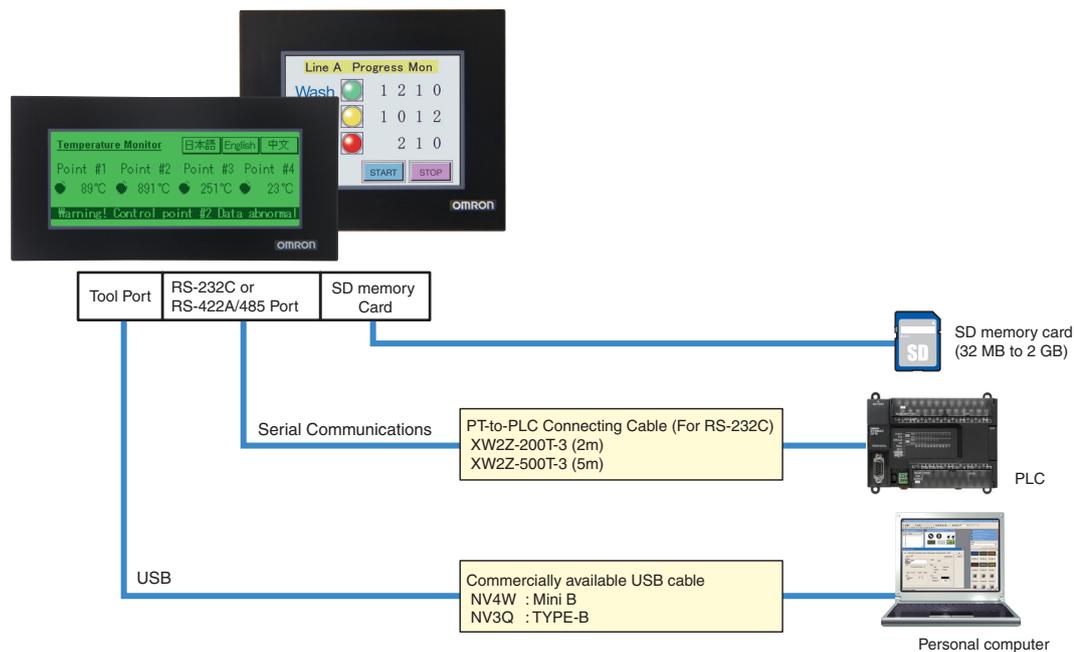


System Configuration

NV3W-V1



NV4W/NV3Q



Windows is either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Other company names and product names in this document are the trademarks or registered trademarks of their respective companies. The product photographs and figures that are used in this catalog may vary somewhat from the actual products. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

NV-series

Ordering Information

Programmable Terminals

Product name	Specifications					Model
	Screen size	Number of dot	Communications	Power supply voltage	Backlight	
NV3W-V1	3.8-in, TFT monochrome	240 × 96 dots	RS-232C	5 VDC	LEDs, 3 colors (green, orange, and red)	NV3W-MG20L-V1
			RS-232C	24 VDC		NV3W-MG20-V1
			RS-422A/485	24 VDC		NV3W-MG40-V1
	3.8-in, TFT monochrome	240 × 96 dots	RS-232C	5 VDC	LEDs, 3 colors (white, pink, and red)	NV3W-MR20L-V1
			RS-232C	24 VDC		NV3W-MR20-V1
			RS-422A/485	24 VDC		NV3W-MR40-V1
NV4W	4.6-in, TFT monochrome	320 × 120 dots	RS-232C	24 VDC	LEDs, 3 colors (green, orange, and red)	NV4W-MG21
			RS-422A/485	24 VDC		NV4W-MG41
	4.6-in, TFT monochrome	320 × 120 dots	RS-232C	24 VDC	LEDs, 3 colors (white, pink, and red)	NV4W-MR21
			RS-422A/485	24 VDC		NV4W-MR41
NV3Q	3.6-in, TFT monochrome	320 × 240 dots (QVGA)	RS-232C	24 VDC	LEDs, 3 colors (white, pink, and red)	NV3Q-MR21
			RS-422A/485	24 VDC		NV3Q-MR41
	3.6-in, TFT color	320 × 240 dots (QVGA)	RS-232C	24 VDC	White LED	NV3Q-SW21
			RS-422A/485	24 VDC		NV3Q-SW41

Programming Devices

Product name	Specifications	Specifications		Model
		Number of licenses	Media	
FA Integrated Tool Package CX-One Lite Ver.4.□	CX-One Lite is a subset of the complete CX-One package that provides only the Support Software required for micro PLC applications. *1 CX-One Lite runs on the following OS. Windows 7 (32-bit/64-bit version) / Windows 8 (32-bit/64-bit version) / Windows 8.1 (32-bit/64-bit version) / Windows 10 (32-bit/64-bit version) CX-One Lite Ver. 4.□ includes NV-Designer Ver.1.□.	1 license	DVD	CXONE-LT01D-V4
FA Integrated Tool Package CX-One Ver. 4.□	CX-One is a comprehensive software package that integrates the Support Software for OMRON PLCs and components. *2 CX-One runs on the following OS. Windows 7 (32-bit/64-bit version) / Windows 8 (32-bit/64-bit version) / Windows 8.1 (32-bit/64-bit version) / Windows 10 (32-bit/64-bit version) CX-One Ver. 4.□ includes NV-Designer Ver.1.□.	1 license *3	DVD	CXONE-AL01D-V4

Note: 1. NV-Designer version 2.0 or higher is required to use the NV3W-V1.

NV-Designer version 1.0 or higher is required to use the NV3Q.

NV-Designer version 1.1 or higher is required to use the NV4W.

2. The CX-One and CX-One Lite cannot be simultaneously installed on the same computer.

*1. CX-One Lite Ver.4.□ provides the following Support Software : Micro PLC Edition CX-Programmer Ver.9.□, CX-Integrator Ver.2.□, Switch Box Utility Ver.1.□, CX-Simulator Ver.1.□, CX-Drive Ver.2.□, CX-Designer Ver.3.□, NV-Designer Ver.1.□ or higher, CX-Thermo Ver.4.□, CX-ConfiguratorFDT Ver.1.□, Network Configurator Ver.3.□, and CX-Server Ver.4.□.

*2. For details, refer to the CX-One Catalog (Cat. No : R134).

*3. Multi licenses (3, 10, 30, or 50 licenses) and DVD media without licenses are also available for the CX-One.

Options (Sold separately)

Product name		Specifications	Model
PT-to-PLC Connecting Cable		For the NV3W with 5-V power (NV3W-MG20L-V1/MR20L-V1 only)	Length: 2m XW2Z-200T-4 *1
		For the NV3W-V1, NV4W, and NV3Q	Length: 2m XW2Z-200T-3
		For the NV3W-V1, NV4W, and NV3Q	Length: 5m XW2Z-500T-3
Programming Device Connecting Cable	USB-Serial Conversion Cable	For the NV3W	Length: 3m NV-TOL-3M
		For the NV3W Use this Cable together with the NV-TOL-3M to connect to a USB connector on the computer. Note : The enclosed USB driver must be installed.	Length: 0.5m CS1W-CIF31
Battery *2		For the NV4W and NV3Q	NV-BAT01
Display Protective Sheets		For the NV3W-V1, contains 10 sheets	NV3W-KBA04-V1
		For the NV4W, contains 10 sheets	NV4W-KBA04
		For the NV3Q, contains 10 sheets	NV3Q-KBA04
Attachment		NP3 Series to NV3Q Series	NV3Q-ATT02

Note: For NV3W-V1 and NV4W, use commercially available USB cable (Mini B).

For NV3Q, use commercially available USB cable (TYPE-B).

*1. If the XW2Z-200T-4 Cable is used with the NV3W-V1, 5 V can be supplied from the CS/CJ/CP-series PLCs instead of from an external power supply. Refer to the NV-series PT Setup Manual (Cat.No V103) for details.

*2. Cannot be used for the NV3W-V1.

NV-series

Specifications

General Specifications

Item	Specifications				
Model	NV3W-M□20-V1/M□40-V1	NV3W-M□20L-V1	NV4W-M□21/M□41	NV3Q-MR□1	NV3Q-SW□1
Rated power supply	24 VDC	5 VDC	24 VDC		
Operating voltage range	21.6 to 26.4 VDC	4.5 to 5.5 VDC	21.6 to 26.4 VDC		
Current consumption	1.9 W max. (80 mA max.)	1 W max. (200 mA max.)	1.7 W max. (70 mA max.)	2.4 W max. (100 mA max.)	3.6 W max. (150 mA max.)
Ambient operating temperature	0 to 50 °C				
Ambient operating humidity	20% to 85% (with no condensation)				
Ambient storage temperature	-20 to 60 °C				
Ambient storage humidity	10% to 85% (with no condensation)				
Dielectric strength	Between the power supply terminals and the case 500 VAC for 1 min with a cutoff current of 10 mA (at initial state)				
Insulation resistance	Between the power supply terminals and the case 100 MΩ (at 500 VDC) (at initial state)				
Vibration resistance	5 to 8.4 Hz, 3.5-mm single amplitude, 8.4 to 150 Hz, 9.8 m/s ² , 10 times each in X, Y, and Z directions (1 octave/min)		5 to 9 Hz, 3.5-mm single amplitude, 9 to 150 Hz, 9.8 m/s ² , 10 times each in X, Y, and Z directions (1 octave/min)		10 to 55 Hz with 0.75-amplitude for 10 min each in X, Y, and Z directions, 1 sweep per min
Shock resistance	147m/s ² 3 times each in X, Y, and Z directions			98m/s ² 4 times each in X, Y, and Z directions	
Noise immunity	1,000 Vp-p with pulse widths of 50 ns and 1 μs between power supply terminals (via simulator)				
Resistance to environment	For NV3Q IP65 (at initial state), For NV3W-V1, NV4W IP67 (at initial state) Dust proof and drip proof only from the front of the panel (using Waterproof Packing at the contact surface with the panel) Replace the Waterproof Packing each time you reinstall the PT.				
Battery life expectancy	-		Battery life expectancy: 5 yr (at 25 °C) *		Battery life expectancy: 3 yr (at 25 °C) *
Safety standards	UL 508, EC Directives and KC		UL 508 and EC Directives		
Weight	170 g max.		240 g max.		210 g max.

* The SRAM (internal RAM) is backed up by the battery. If backing up the data is required, purchase the NV-BAT01 Battery separately.

Performance Specifications

Item	Specifications			
Model	NV3W-MG□□(L)-V1/MR□□(L)-V1	NV4W-M□21/M□41	NV3Q-MR□1/ SW□1	
Display device	TFT monochrome LCD *8	TFT monochrome LCD *9	NV3Q-MR: TFT monochrome LCD *6 NV3Q-SW: TFT color LCD *7	
Number of dots	240 × 96 dots (H × V)	320 × 120 dots (H × V)	320 × 240 dots (H × V)	
Effective display size	88.5 × 35.4 mm (H × V)	109 × 41 mm (H × V)	70.6 × 52.9 mm (H × V)	
Service Life	50,000 hours min. *1			
Backlights	NV3W-MG-V1 : LED backlights, 3 colors (green, orange, and red) NV3W-MR-V1 : LED backlights, 3 colors (white, pink, and red)	NV4W-MG : LED backlights, 3 colors (green, orange, and red) NV4W-MR : LED backlights, 3 colors (white, pink, and red)	NV3Q-MR: LED backlights, 3 colors (white, pink, and red) NV3Q-SW: LED backlight, 1 color (white)	
Touch switches	Method	Analog resistive membrane type		
	Operating force	0.8 N max.		
	Life expectancy	100 million operations min. (at 25 °C)		
	Switches	50 max. per screen *2	100 max. per screen *2	
	Size	8 dots × 8 dots min. *3		
External memory	-	SD memory card (32 MB to 2 GB) *4 Manufacturers for which operation has been confirmed: Panasonic SD standard *5		
Host communications	COM Port	NV3W-M□20(L)-V1 : RS-232C (not isolated), Transmission distance: 15 m, Connector : 8-pin NV3W-M□40-V1 : RS-422A/485 (not isolated), Transmission distance: 500 m, Connector : 8-pin	NV4W-M□21 : RS-232C (not isolated), Transmission distance: 15 m, Connector:8-pin NV4W-M□41 : RS-422A/485 (not isolated), Transmission distance: 500m, Connector: 8-pin	NV3Q-□□21 : RS-232C (not isolated), Transmission distance: 15 m, Connector: 8-pin NV3Q-□□41 : RS-422A/485 (not isolated), Transmission distance: 500 m, Connector: 8-pin
Support Software communications	USB port	USB 1.1 Mini-B, Transmission distance: 5 m max.		USB 1.1 TYPE-B, Transmission distance: 5 m max.
Applicable Support Software	NV-Designer version 2.0 or higher (NV-Designer can be upgraded to version 2.0 by using the CX-One Auto-update.)		NV-Designer version 1.1 or higher (Included with CX-One version 4.03 or in CX-One Lite version 4.03.)	NV-Designer version 1.0 or higher (Included with CX-One version 3.2 or in CX-One Lite version 4.0.)

*1. This is the estimated time before brightness is reduced by half at room temperature and humidity. It is not a guaranteed value.

*2. The estimate applies to operation when only custom switches are placed on the screen.

*3. This value does not include 1-dot box of frame line.

*4. The capacity of the SD memory card is 32 MB to 1 GB for PT system program version 1.0□.

*5. SD memory cards are shipped pre-formatted from the factory, so there is normally no need to format them. If an SD memory card is formatted with the standard formatting utility provided with a personal computer, its file system will not conform to the SD memory card standard. Always use the formatting software provided by SD memory card makers.

*6. The display device of NV3Q-MR□1 of the Lot No. 160430 or earlier is STN, and the Lot No. 160501 or later is TFT.

*7. The display device of NV3Q-SW□1 of the Lot No. 110999 or earlier is STN, and the Lot No. 111000 or later is TFT.

*8. The display device of NV3W-MG□□(L)-V1/MR□□(L)-V1 of the Lot No. 161231 or earlier is STN, and the Lot No. 170101 or later is TFT.

*9. The display device of NV4W-M□21/M□41 of the Lot No. 170221 or earlier is STN, and the Lot No. 170222 or later is TFT.

Applicable PLCs

Company	Series
OMRON	CP Series
OMRON	CJ Series
OMRON	CS Series
OMRON	C Series
OMRON	CVM1/CV Series
OMRON	Temperature Controllers EJ1 Series
Yokogawa Electric	FA-M3 Series
Hitachi	EH-150EHV Series
Hitachi	EH150 Series
Hitachi	MICRO-EH Series
Hitachi	Web Controller

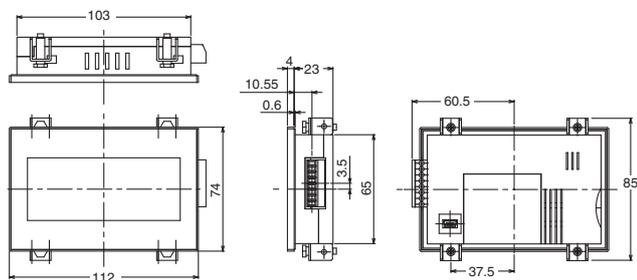
Company	Series
Mitsubishi Electric	FX Series
Mitsubishi Electric	Q Series
Mitsubishi Electric	A Series
Panasonic Electric Works	FP Series
Toshiba Machine	TC mini Series
Keyence	KV Series, KV Nano Series
Allen-Bradley Models that support DF protocol	MicroLogix
Allen-Bradley Models that support DF protocol	SLC-500 Series
Siemens	S7-200 Series
LG	MASTER-K Series
Modbus	Models that support RTU protocol

Note: Refer to "NV Series Programmable Terminals Host Connection Manual (Cat.No V105)" which is included in NV-Designer for information on combination use with each PLC Series.

Dimensions

(Unit: mm)

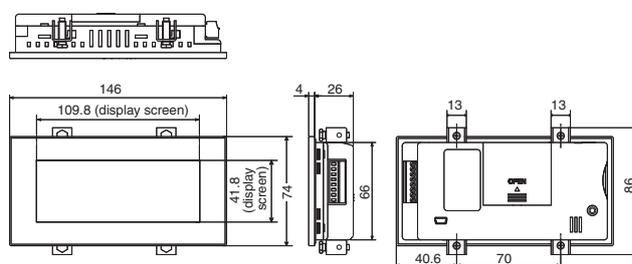
NV3W-V1



Panel Cutout Dimensions



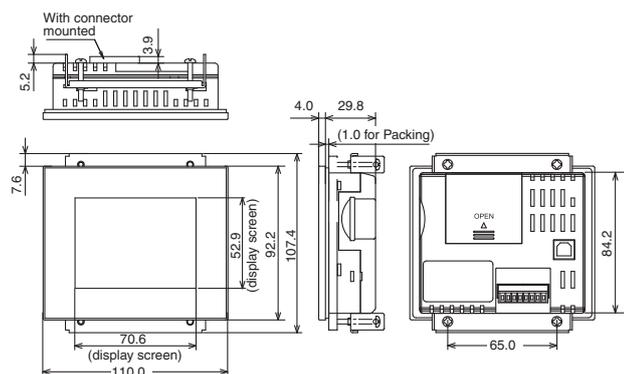
NV4W



Panel Cutout Dimensions



NV3Q



Panel Cutout Dimensions



Related Manuals

Cat. No	Model	Name
V103	NV3W-V1, NV4W, NV3Q	NV Series Programmable Terminals Setup Manual
V104	NV3W-V1, NV4W, NV3Q, NV-Designer	NV Series Programmable Terminals Programmig Manual
V105	NV3W-V1, NV4W, NV3Q	NV Series Programmable Terminals Host Connection Manual

OMRON AUTOMATION AMERICAS HEADQUARTERS • Chicago, IL USA • 847.843.7900 • 800.556.6766 • automation.omron.com

OMRON CANADA, INC. • HEAD OFFICE

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • automation.omron.com

OMRON ELECTRONICS DE MEXICO • HEAD OFFICE

Ciudad de México • 52.55.5901.4300 • 01.800.386.6766 • mela@omron.com

OMRON ELECTRONICS DE MEXICO • SALES OFFICE

San Pedro Garza García, N.L. • 81.12.53.7392 • 01.800.386.6766 • mela@omron.com

OMRON ELECTRONICS DE MEXICO • SALES OFFICE

Eugenio Garza Sada, León, Gto • 01.800.386.6766 • mela@omron.com

OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE

São Paulo, SP, Brasil • 55 11 5171-8920 • automation.omron.com

OMRON ARGENTINA • SALES OFFICE

Buenos Aires, Argentina • +54.11.4521.8630 • +54.11.4523.8483
mela@omron.com

OTHER OMRON LATIN AMERICA SALES

+54.11.4521.8630 • +54.11.4523.8483 • mela@omron.com

Authorized Distributor:

Controllers & I/O

- Machine Automation Controllers (MAC) • Motion Controllers
- Programmable Logic Controllers (PLC) • Temperature Controllers • Remote I/O

Robotics

- Industrial Robots • Mobile Robots

Operator Interfaces

- Human Machine Interface (HMI)

Motion & Drives

- Machine Automation Controllers (MAC) • Motion Controllers • Servo Systems
- Frequency Inverters

Vision, Measurement & Identification

- Vision Sensors & Systems • Measurement Sensors • Auto Identification Systems

Sensing

- Photoelectric Sensors • Fiber-Optic Sensors • Proximity Sensors
- Rotary Encoders • Ultrasonic Sensors

Safety

- Safety Light Curtains • Safety Laser Scanners • Programmable Safety Systems
- Safety Mats and Edges • Safety Door Switches • Emergency Stop Devices
- Safety Switches & Operator Controls • Safety Monitoring/Force-guided Relays

Control Components

- Power Supplies • Timers • Counters • Programmable Relays
- Digital Panel Meters • Monitoring Products

Switches & Relays

- Limit Switches • Pushbutton Switches • Electromechanical Relays
- Solid State Relays

Software

- Programming & Configuration • Runtime