

**Programmable Terminal** 

# **NV** Series

**Compact and Simple, Extremely High Cost Performance** 



» The Best PT for Package PLCs

» A Lineup of 14 Models That Redefine "Compact"

## The Best PT for Package PLCs — NV

The NV Series of compact Programmable Terminals meet the basic needs for enhanced visibility, simplicity, and cost, and they go even further to provide superior PLC compatibility, easy operation, and cost performance.



## **V**isibility

## Beautiful, Easy-to-understand Displays

Error Displays Red

Instantly know the system status

### It is obvious in three color LED backlight

The monochrome models provide three backlight colors to perform status displays. For example, use green for normal

■ NV3W-MG-V1/NV4W-MG



**User Controls** 







**Easy Visual Recognition** 

### True Type Fonts for Flexible Screen Designs

You can use True Type fonts in a wide range of sizes from 10 to 240 dots to flexibly design beautiful screens.

\* The maximum font size depends on the model.

■ True Type Fonts

You can select the best Windows® emphasize screen



## Variation

## A Lineup of 14 Models That Form a New Standard for Small

NEW

**NV3W-V1** 

**Monochrome TFT** 

A 5-V model is available that can be powered from an OMRON PLC



- Display colors :
- Monochrome , 2 grayscale levels 240 × 96 dots
- Backlight :
- LEDs, 3 colors (green, orange, and red)



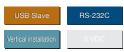






- 2 grayscale levels or 8 grayscale levels
- Backlight :

LEDs, 3 colors (green, orange, and red)



RS-232C



# stands for the three benefits

Value

Easy design work and superior PLC compatibility

Visiblity

Beautiful, easy-to-understand displays

Variation

A lineup of ten 3-inch models for easy selection

## Value

OMRON

## **Easy Designing**

The slim design of NV-series PTs requires very little installation space.

### Vertical Installation

The PT can be installed vertically to enable more applications. This enables more flexible designs.



### **Global Application**

### Multi-language Support and Safety Standard Compliance

You can switch parts labels and languages. Record up to sixteen character strings in different languages and change all labels at the same time. Switching the language during operation is also very easy. International safety standards have also been met so that you can easily export equipment or transport equipment overseas.





■ Safety Standards



**Handle Devices from Various Manufacturers** 

### Global Multivendor Support

You can connect the PT to OMRON or Mitsubishi Electric PLCs or to PLCs from many other global manufacturers. This lets you connect the NV-series PTs without changing the PLC. You can easily use a different PLC manufacturer for each project.



OMRON, Mitsubishi Electric, Keyence, Hitachi, Allen-Bradley, Siemens, etc.

### PTs

The lineup includes compact and horizontal models from 3.8-inch to 4.6-inch and QVGA models. Select the size and price that are best for each system.



- Display colors : Monochrome , 2 grayscale levels or 8 grayscale levels

  320 × 120 dots
- Backlight:
- LEDs, 3 colors (white, pink, and red)



1**V**3(

**Monochrome TFT Color TFT** 



- Display colors :
- Monochrome , 2 grayscale levels 320 × 240 dots
- Backlight: LEDs, 3 colors (white, pink, and red)



- 320 x 240 dots
- Backlight : White LED







## Easy Connection to External Devices







### **Battery-free Operation**

### Internal Storage of Required Data in the PT

An NV-series PT can be operated without a battery. No maintenance battery is required.

### ■ Data Backed Up without a Battery

- · NV Configuration
- · Recipes

· Flow Display Data

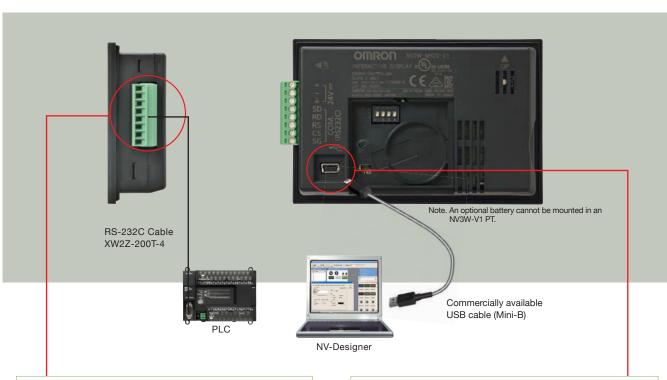
- · Base Screens
- · Keyboard Screens
- operation is backed up · Write Address Data

Data required for

### Screen Conversion

The NV-Designer version 2.0 or higher provides the function to convert NV3W screens into NV3W-V1 screens.





Serial Communications/Power Supply Connector

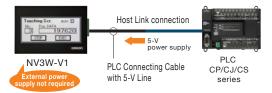
### Supply Power from the PLC NV3W-V1 Only





With 5-V NV3W-V1 models, 5-V can be supplied from the PLC via the PLC Connecting Cable. This reduces wiring work and eliminates the need for a special power supply for the PT.

### ■ Supplying 5-V from the PLC

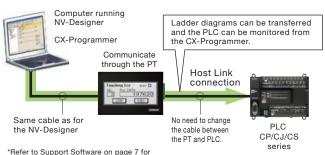


\*An XW2Z-200T-4 PLC Connecting Cable is required to supply power from the PLC. \*With 24-V PTs, power must be supplied from an external power supply.

### Tool Port / USB1.1

### Compatibility **Transfer Ladder Programs and** PT Screens without Changing the Cable

Ladder programs can be transferred, debugged, or monitored for an OMRON PLC from the CX-Programmer running on a computer connected to the NV-series PT while communicating through the NV-series PT.



## for Easy Maintenance







### **Battery-free Operation**

### Internal Storage of Required Data in the PT

An NV-series PT can be operated without a battery. No maintenance battery is required.

■ Data Backed Up without a Battery

- NV Configuration
- Recipes · Write Address Data
- · Base Screens
- · Flow Display Data · Keyboard Screens

backed up

## **Optional Battery**



Back up PLC memory in the PT with an optional battery. An optional battery can be mounted in an NV4Q PT to back up specified addresses from PLC memory. This allows you, for example, to back up memory

areas that are not held in the PLC when using a CP1E PLC without a battery.

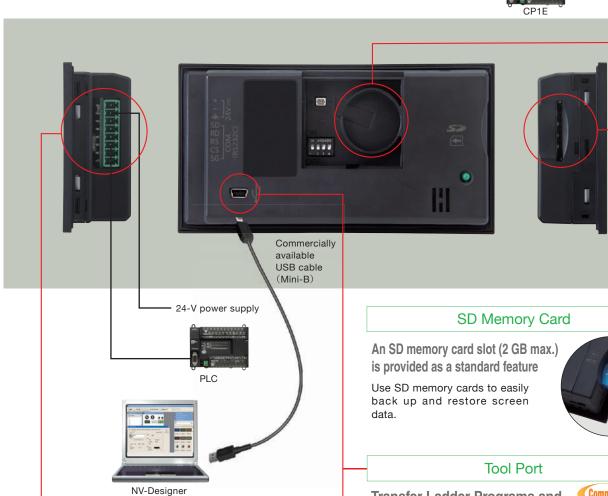
### ■ Data That Can Be Backed Up with a Battery

Up to 24 words of · Internal PT memory PLC memory

· Alarm history

Clock data · Password





Serial Communications/Power Supply Connector

This connector supplies 24 VDC.

Compatibility **Transfer Ladder Programs and** PT Screens without Changing the Cable

### **USB1.1**

### **High-speed Screen Transfers with Commercially Available USB Cable**

A USB interface is provided to effectively use computer software environments. Screens that are created on the computer can be quickly transferred to the PT using a commercially available USB cable (Mini-B).







### Battery-free Operation

### Internal Storage of Required Data in the PT

An NV-series PT can be operated without a battery. No maintenance battery is required.

■ Data Backed Up without a Battery

- · NV Configuration
- · Recipes
- · Base Screens
- · Write Address Data
- · Keyboard Screens · Flow Display Data

### Data required for operation is backed up

### **Optional Battery**



### Back up PLC memory in the PT with an optional battery.

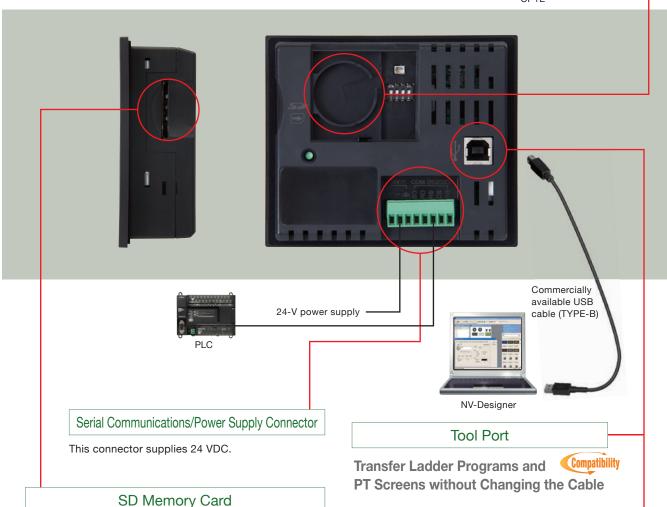
An optional battery can be mounted in an NV3Q PT to back up specified addresses from PLC memory. This allows you, for example, to back up memory areas that are not held in the PLC when using a CP1E PLC without a battery.

### ■ Data That Can Be Backed Up with a Battery

- · Up to 24 words of · Internal PT memory PLC memory · Alarm history
- · Clock data Password



words from PLC memory



An SD memory card slot (2 GB max.)\* is provided as a standard feature

Use SD memory cards to easily back up and restore screen data.

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



### **USB1.1**

### **High-speed Screen Transfers with Commercially Available USB Cable**

A USB interface is provided to effectively use computer software environments. Screens that are created on the computer can be quickly transferred to the PT using a commercially available USB cable (TYPE-B).

## **Programmable Terminals**

## **NV-series**

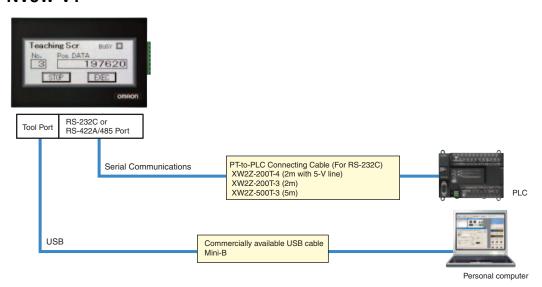
# Compact and Simple, Extremely High Cost Performance

- The lineup includes compact and horizontal models from 3.8-inch to 4.6-inch and QVGA models.
- Trur Type Fonts for Flexible Screen Designs.
- · Space-saving Installation.
- Multi-language Support and Safety Standard Compliance.

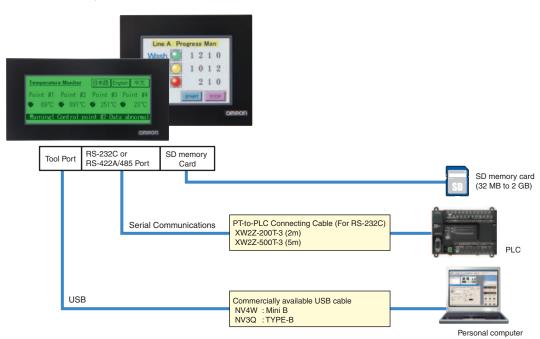


### **System Configuration**

### NV3W-V1



### NV4W/NV3Q



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### **NV-series**

### **Ordering Information**

### **Programmable Terminals**

Dun dun dun dun dun dun	Specifications					
Product name	Screen size	Number of dot Communications Power supply voltage		Backlight Model		
		240 × 96 dots	RS-232C	5 VDC	LEDs, 3 colors	NV3W-MG20L-V1
	3.8-in, TFT monochrome		RS-232C	24 VDC	(green, orange, and	NV3W-MG20-V1
NIVOW VA	Thomson one		RS-422A/485	24 VDC	red)	NV3W-MG40-V1
NV3W-V1		240 × 96 dots	RS-232C	5 VDC	LEDs, 3 colors (white, pink, and red)	NV3W-MR20L-V1
	3.8-in, TFT monochrome		RS-232C	24 VDC		NV3W-MR20-V1
			RS-422A/485	24 VDC		NV3W-MR40-V1
NV4W	4.6-in, TFT monochrome	7 1320 × 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	000 - 100 dete	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		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		RS-232C	24 VDC	White LED	NV3Q-SW21
			RS-422A/485	24 VDC		NV3Q-SW41

### **Programming Devices**

Product name	Specifications	Number of licenses	Media	Model
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
Drogramming		For the NV3W	Length: 3m	NV-TOL-3M
Programming Device Connecting Cable	USB-Serial Conversion Cable	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.		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**

Rated power supply Operating voltage range 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 femperature  Ambient operating pumidity 20% to 85% (with no condensation)  Ambient storage temperature  Ambient storage temperature  10% to 85% (with no condensation)  Dielectric strength Insulation resistance  Between the power supply terminals and the case 500 VAC for 1 min with a cutoff current of 10 mA (at initial state)  Setween the power supply terminals and the case 100 MQ (at 500 VDC) (at initial state)  Setween the power supply terminals and the case 100 MQ (at 500 VDC) (at initial state)  Setween the power supply terminals and the case 100 MQ (at 500 VDC) (at initial state)  Setween the power supply terminals and the case 100 MQ (at 500 VDC) (at initial state)  Sto 8.4 Hz, 3.5-mm single amplitude, 9 to 150 Hz, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)  Shock resistance  Noise immunity  1,000 Vp-p with pulse widths of 50 ns and 1 µs between power supply terminals (via simulator)  Fesistance to environment  Battery life expectancy:  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *	Item			Specifications		
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 demperature       0 to 50 °C       20% to 85% (with no condensation)         Ambient storage temperature       10% to 85% (with no condensation)       4.5 to 8.5 Work of a max.       4.5 to 8.5 Work	Model	NV3W-M□20-V1/M□40-V1	NV3W-M□20L-V1	NV4W-M□21/M□41	NV3Q-MR□1	NV3Q-SW□1
Current consumption Ambient operating temperature  0 to 50 °C  20% to 85% (with no condensation)  Ambient storage temperature  10% to 85% (with no condensation)  Ambient storage humidity  10% to 85% (with no condensation)  Between the power supply terminals and the case 500 VAC for 1 min with a cutoff current of 10 mA (at initial state)  Between the power supply terminals and the case 100 MΩ (at 500 VDC) (at initial state)  Sto 8.4 Hz, 3.5-mm single amplitude, 8.4 to 150 Hz, 9.8 m/s², 10 times each in X, Y, and Z directions  (1 octave/min)  Shock resistance  147m/s² 3 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  Battery life expectancy  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *	Rated power supply	24 VDC	5 VDC	24 VDC		
Ambient operating temperature  Ambient operating humidity  Ambient storage temperature  -20 to 60 °C  Ambient storage temperature  -20 to 60 °C  Ambient storage temperature  10% to 85% (with no condensation)  Between the power supply terminals and the case 500 VAC for 1 min with a cutoff current of 10 mA (at initial state)  Between the power supply terminals and the case 100 MΩ (at 500 VDC) (at initial state)  Sto 8.4 Hz, 3.5-mm single amplitude, 8.4 to 150 Hz, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)  Shock resistance  147m/s² 3 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  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *	Operating voltage range	21.6 to 26.4 VDC	4.5 to 5.5 VDC	21.6 to 26.4 VDC		
Ambient operating humidity  Ambient storage temperature  Ambient storage humidity  Dielectric strength Insulation resistance  Vibration resistance  Noise immunity  Shock resistance  Noise immunity  Dielectric strength  10% to 85% (with no condensation)  Dielectric strength  Setween the power supply terminals and the case 500 VAC for 1 min with a cutoff current of 10 mA (at initial state)  Sto 8 4 Hz, 3.5-mm single amplitude, 8.4 to 150 Hz, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)  Shock resistance  147m/s² 3 times each in X, Y, and Z directions (1 octave/min)  Shock resistance  Noise immunity  1,000 Vp-p with pulse widths of 50 ns and 1 μs between power supply terminals (via simulator)  Resistance to environment  Battery life expectancy  Battery life expectancy: 3 yr (at 25 °C) *  Battery life expectancy: 3 yr (at 25 °C) *  Battery life expectancy: 3 yr (at 25 °C) *	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 storage temperature  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)  Between the power supply terminals and the case 100 MΩ (at 500 VDC) (at initial state)  5 to 8.4 Hz, 3.5-mm single amplitude, 8.4 to 150 Hz, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)  Shock resistance  147m/s² 3 times each in X, Y, and Z directions (1 octave/min)  1,000 Vp-p with pulse widths of 50 ns and 1 μs between power supply terminals (via simulator)  For NV3Q IP65 (at initial state), For NV3W-V1, NV4W IP67 (at initial state)  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *	Ambient operating temperature	0 to 50 °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)  Between the power supply terminals and the case 100 MΩ (at 500 VDC) (at initial state)  5 to 8.4 Hz, 3.5-mm single amplitude, 8.4 to 150 Hz, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)  Shock resistance  147m/s² 3 times each in X, Y, and Z directions  1,000 Vp-p with pulse widths of 50 ns and 1 μs between power supply terminals (via simulator)  Resistance to environment  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 5 yr (at 25 °C) *	Ambient operating humidity	20% to 85% (with no condensation)				
Numidity       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/s², 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/s², 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 Y, and Z directions, 1 sweep per min         Shock resistance       147m/s² 3 times each in X, Y, and Z directions       98m/s² 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)       98m/s² 4 times each in X, Y, and Z directions         Resistance to environment       For NV3Q IP65 (at initial state), For NV3W-V1, NV4W IP67 (at initial state)       Poust proof and drip proof only from the front of the panel (using Waterproof Packing at the contact surface with the panel)       Battery life expectancy: 3 yr (at 25 °C) *       Battery life expectancy: 3 yr (at 25 °C) *	Ambient storage temperature	-20 to 60 °C				
Shock resistance   Setween the power supply terminals and the case   100 MΩ (at 500 VDC) (at initial state)	Ambient storage humidity	10% to 85% (with no condensation)				
5 to 8.4 Hz, 3.5-mm single amplitude, 8.4 to 150 Hz, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)  Shock resistance  Noise immunity  Resistance to environment  Battery life expectancy  Sto 8.4 Hz, 3.5-mm single amplitude, 9 to 150 Hz, 9.8 m/s², 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 Y, and Z directions, 1 sweep per min  10 to 55 Hz with 0.75-amplitude for 10 min each in Y, and Z directions, 1 sweep per min  10 to 55 Hz with 0.75-amplitude for 10 min each in Y, and Z directions, 1 sweep per min  10 to 55 Hz with 0.75-amplitude for 10 min each in Y, and Z directions, 1 sweep per min  Y, and Z directions, 1 sweep per min  10 to 55 Hz with 0.75-amplitude for 10 min each in Y, and Z directions, 1 sweep per min  Y, and Z directions, 1 sweep per min  10 to 55 Hz with 0.75-amplitude for 10 min each in Y, and Z directions, 1 sweep per min  Y, and Z directions, 1 sweep per min  10 to 55 Hz with 0.75-amplitude for 10 min each in Y, and Z directions, 1 sweep per min  Y, and Z directions, 1 sweep per min  Batterylife expectancy: 98m/s² 4 times each in X, Y, and Z directions  Posmys² 4 times each in X, Y, and Z directions  10 to 55 Hz with 0.75-amplitude for 10 min each in Y, and Z directions, 1 sweep per min  Y, and Z directions, 1 sweep per min  Y, and Z directions, 1 sweep per min  Batterylife expectancy: 98m/s² 4 times each in X, Y, and Z directions  10 to 55 Hz with 0.75-amplitude for 10 min each in Y, and Z directions  Y, and Z directions, 10 to 55 Hz with 0.75-amplitude for 10 min each in Y	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)				
Amplitude, 8.4 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)  Shock resistance Noise immunity  Resistance to environment  Battery life expectancy    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 9.8 m/s², 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 10 times each in X, Y, and Z directions (1 octave/min)    Amplitude, 9 to 150 HZ, 10 t	Insulation resistance	Between the power supply terminals and the case 100 M $\Omega$ (at 500 VDC) (at initial state)				
Noise immunity  1,000 Vp-p with pulse widths of 50 ns and 1 µs between power supply terminals (via simulator)  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) *	Vibration resistance	amplitude, 8.4 to 150 Hz, 9.8 m/s², 10 times each in X, Y, and Z directions		amplitude, 9 to 150 Hz, 9.8 m/s², 10 times each in X, Y, and Z directions	10 to 55 Hz with 0.75-amplitude for 10 min each in X, Y, and Z directions, 1 sweep per min	
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) *	Shock resistance	147m/s <sup>2</sup> 3 times each in X,	Y, and Z directions	1	98m/s <sup>2</sup> 4 times each in X,	Y, and Z directions
Dust proof and drip proof only from the front of the panel (using Waterproof Packing at the contact surface with the panel)  Battery life expectancy  Battery life expectancy: 5 yr (at 25 °C) *  Battery life expectancy: 3 yr (at 25 °C) *	Noise immunity	1,000 Vp-p with pulse widths of 50 ns and 1 µs between power supply terminals (via simulator)				
expectancy Battery life expectancy: 5 yr (at 25 °C) * 3 yr (at 25 °C) *	Resistance to environment	Dust proof and drip proof only from the front of the panel (using Waterproof Packing at the contact surface with the panel)				
Safety standards UL 508, EC Directives and KC UL 508 and EC Directives	Battery life expectancy	-		Battery life expectancy: 5 y	vr (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.	Weight	170 g max.		240 g max. 210 g max.		

<sup>\*</sup>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)		
	Method	Analog resistive membrane type				
Tarrela	Operating force	0.8 N max.				
Touch switches	Life expectancy	100 million operations min. (at 25 °C)				
Switches	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 communic ations		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 communic ations	USB port			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**

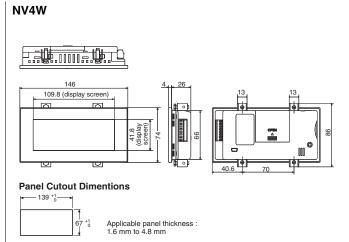
Company	Series
OMRON	CP Series
OMRON	CJ Series
OMRON	CS Series
OMRON	C Series
OMRON	CVM1/CV Series
OMRON	Temperature Controllers EJ1 Series
Yokogawa Electric	FA-M3 Series
Hitachi	EH-150EHV Series
Hitachi	EH150 Series
Hitachi	MICRO-EH Series
Hitachi	Web Controller

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	

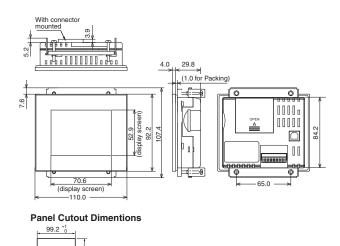
Note: Refer to "NV Series Programmable Terminals Host Connection Manual (Cat.No V105)" which is included in NV-Designer for information on combination use with each PLC Series.

Dimensions (Unit: mm)

## 



### NV3Q



Applicable panel thickness : 1.6 mm to 4.8 mm

### **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

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#### **OMRON Corporation Industrial Automation Company**

Tokyo, JAPAN

Contact: www.ia.omron.com

#### Regional Headquarters **OMRON EUROPE B.V.**

Wegalaan 67-69, 2132 JD Hoofddorp The Netherlands Tel: (31)2356-81-300/Fax: (31)2356-81-388

### **OMRON ELECTRONICS LLC**

2895 Greenspoint Parkway, Suite 200 Hoffman Estates, IL 60169 U.S.A Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

### OMRON ASIA PACIFIC PTE. LTD.

No. 438A Alexandra Road # 05-05/08 (Lobby 2), Alexandra Technopark, Singapore 119967 Tel: (65) 6835-3011/Fax: (65) 6835-2711

### OMRON (CHINA) CO., LTD.

Room 2211, Bank of China Tower, 200 Yin Cheng Zhong Road, PuDong New Area, Shanghai, 200120, China Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

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