



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



NV Series
NV3W
NV4W
NV3Q

Programmable Terminals

SETUP MANUAL

OMRON

NV Series

NV3W

NV4W

NV3Q




Programmable Terminals

Revised December 2009

Notice

OMRON products are manufactured for use according to proper procedures by a qualified operator and only for the purposes described in this manual.

The following conventions are used to indicate and classify precautions in this manual. Always heed the information provided with them. Failure to heed precautions can result in injury to people or damage to property.

-  **DANGER** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. Additionally, there may be severe property damage.
-  **WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. Additionally, there may be severe property damage.
-  **Caution** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or property damage.

OMRON Product References

All OMRON products are capitalized in this manual. The word “Unit” is also capitalized when it refers to an OMRON product, regardless of whether or not it appears in the proper name of the product.

The abbreviation “Ch,” which appears in some displays and on some OMRON products, often means “word” and is abbreviated “Wd” in documentation in this sense.

The abbreviation “PLC” means Programmable Controller.

The abbreviation “host” means a controller, such as an IBM PC/AT or compatible computer, that controls a PT (Programmable Terminal).

Visual Aids

The following headings appear in the left column of the manual to help you locate different types of information.

| | |
|------------------------------------|--|
| Precautions for Safe Use | Indicates precautions on handling the product to ensure that the product is used safely. |
| Precautions for Correct Use | Indicates precautions to ensure that product functions and performances are realized, to ensure that the reliability of the product is maintained, and to ensure that the product is otherwise used correctly. |
| Note | Indicates information of particular interest for efficient and convenient operation of the product. |
| Reference | Indicates supplementary information on procedures, descriptions, and settings. |
| 1,2,3... | 1. Indicates lists of one sort or another, such as procedures, checklists, etc. |
| CS1G-CPU□□-V1 | Boxes in model numbers indicate variable characters. For example, “CS1G-CPU□□-EV1” indicates the following models: CS1G-CPU42-EV1, CS1G-CPU43-EV1, CS1G-CPU44-EV1, and CS1G-CPU45-EV1. |

© OMRON, 2009

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, or by any means, mechanical, electronic, photocopying, recording, or otherwise, without the prior written permission of OMRON.

No patent liability is assumed with respect to the use of the information contained herein. Moreover, because OMRON is constantly striving to improve its high-quality products, the information contained in this manual is subject to change without notice. Every precaution has been taken in the preparation of this manual. Nevertheless, OMRON assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained in this publication.

TABLE OF CONTENTS

SECTION 1

| | |
|-------------------------------------|----------|
| Overview | 1 |
| 1-1 Features of NV-series PTs | 2 |
| 1-2 System Configuration | 5 |
| 1-3 Models | 9 |
| 1-4 Specifications | 11 |
| 1-5 Functions | 24 |
| 1-6 System Versions | 25 |

SECTION 2

| | |
|--|-----------|
| Part Names, Functions, and Internal Configuration | 29 |
| 2-1 Part Names and Functions | 30 |
| 2-2 Internal Operation | 34 |

SECTION 3

| | |
|---|-----------|
| Preparations for Operation | 37 |
| 3-1 Preparations for Operation | 38 |

SECTION 4

| | |
|---|-----------|
| Installing and Wiring the PT | 41 |
| 4-1 Installing the PT | 42 |
| 4-2 Connection Diagrams | 53 |
| 4-3 Communications/Power Connector Pin Assignments | 55 |
| 4-4 Wiring the Power Supply and Serial Communications | 58 |
| 4-5 Precautions When Grounding (24-V Models Only) | 67 |
| 4-6 Starting an NV-series PT | 68 |

SECTION 5

| | |
|---|-----------|
| System Menu | 71 |
| 5-1 Configuration Settings from the System Menu | 72 |
| 5-2 Self-diagnosis from the System Menu | 86 |

SECTION 6

| | |
|--|-----------|
| Connecting and Setting PLCs or Temperature Controllers | 89 |
| 6-1 Connecting and Setting an OMRON PLC | 90 |
| 6-2 PT Settings | 93 |
| 6-3 PLC Settings | 95 |
| 6-4 SPMA (Single Port Multiple Access) | 99 |
| 6-5 Connecting to EJ1 Temperature Controllers Using Modbus-RTU | 102 |

TABLE OF CONTENTS

SECTION 7

| | |
|--|------------|
| Maintenance and Troubleshooting | 105 |
| 7-1 Maintenance | 106 |
| 7-2 Inspection and Cleaning | 108 |
| 7-3 Troubleshooting the NV3W | 109 |
| 7-4 Troubleshooting the NV4W or NV3Q | 112 |
| 7-5 Error Codes and Countermeasures | 115 |
| Index | 123 |
| Revision History | 125 |

About this Manual

This manual describes installing and setting up the NV-series PTs and includes the sections described below.

Please read this manual carefully and be sure you understand the information provided before attempting to install or operate an NV-series PT. Be sure to read the precautions provided in the following section.

Precautions

This section provides general precautions for using the NV-series PTs and related devices.

Section 1 Overview

This section introduces the NV-series PTs, including the system configuration, available models, and specifications.

Section 2 Part Names, Functions, and Internal Configuration

This section describes the functions of the various parts of an NV-series PT and how the NV-series PTs operate internally.

Section 3 Preparations for Operation

This section outlines the steps required to prepare an NV-series PT for operation.

Section 4 Installing and Wiring the PT

This section describes how to install and wire an NV-series PT and start the PT for the first time.

Section 5 System Menu

This section describes the operations and settings that can be performed on the System Menu of an NV-series PT.

Section 6 Connecting and Setting PLCs or Temperature Controllers

This section provides information and procedures required to connect an NV-series PT to an OMRON PLC.

Section 7 Maintenance and Troubleshooting

This section describes the maintenance and inspections required for NV-series PTs and provides troubleshooting information for when problems occur with NV-series PTs.

Related Manuals

The following manuals are used for NV-series PTs. (The boxes at the end of the catalog numbers indicate the revision code.)

**This
Manual**

NV-series PT Setup Manual V103-E1-□

This manual describes how to connect an NV-series PT to an OMRON PLC, features and specifications, methods to set up communications and operation, and procedures for maintenance and troubleshooting.

Refer to the *NV-series PT Programming Manual* (V104-E1-□) for more information on PT functions and specific operating procedures.

NV-series PT Programming Manual V104-E1-□

This manual describes the software functionality of NV-series PTs, how to install the NV-Designer, and the features of the NV-Designer.

For more information on NV-Designer operating procedures, refer to the online help in the NV-Designer.

NV-series PT Host Connection Manual V105-E1-□

This manual describes how to connect an NV-series PT to a PLC produced by a manufacturer other than OMRON, including PLC memory area designations, communications settings, and connection methods.

Terminology

The following terminology is used in this manual.

| | |
|-------------|---|
| PT | In this manual, indicates an NV-series Programmable Terminal. |
| NV Series | Indicates products in the OMRON NV Series of Programmable Terminals. |
| PLC | Indicates a Programmable Controller in the OMRON SYSMAC CS/CJ/CP, C, or CVM1/CV Series of Programmable Controllers. |
| CPU Unit | Indicates a CPU Unit in the OMRON SYSMAC CS/CJ/CP, C, or CVM1/CV Series of Programmable Controllers. |
| NV-Designer | Indicates the OMRON NV-Designer. |
| Host | Indicates the PLC, IBM PC/AT or compatible computer, or personal computer functioning as the control device and interfaced with the NV-series PT. |

Introduction

● Intended Audience

This manual is intended for the following personnel, who must also have knowledge of electrical systems (an electrical engineer or the equivalent).

- Personnel in charge of introducing FA systems into production facilities.
- Personnel in charge of designing FA systems.
- Personnel in charge of installing and connecting FA systems.
- Personnel in charge of managing FA systems and facilities.

● General Precautions

- The user must operate the product according to the performance specifications described in the operation manuals.
- Do not use the PT touch switch input functions for applications where danger to human life or serious property damage is possible, or for emergency switch applications.
- Before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems, machines and equipment that may have a serious influence on lives and property if used improperly, consult your OMRON representative.
- Make sure that the ratings and performance characteristics of the product are sufficient for the systems, machines, and equipment, and be sure to provide the systems, machines, and equipment with double safety mechanisms.
- This manual provides information for connecting and setting up an NV-series PT. Be sure to read this manual before attempting to use the PT and keep this manual close at hand for reference during installation and operation.

Safety Precautions

Notation Used for Safety Information


The following notation is used in this manual to provide precautions required to ensure safe usage of the product.

The safety precautions that are provided are extremely important to safety.



Always read and heed the information provided in all safety precautions.








The following notation is used.

Definition of Precautionary Information

| | |
|--|--|
|  WARNING | Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally there may be significant property damage. |
|--|--|

Symbols

| | |
|---|---|
|  | Prohibition Indicates a general prohibition. |
|  | Caution Indicates general cautionary, warning, or danger level information. |

|  WARNING | |
|--|---|
| Always ensure that the personnel in charge confirm that installation, inspection, and maintenance were properly performed for the PT. "Personnel in charge" refers to individuals qualified and responsible for ensuring safety during machine design, installation, operation, maintenance, and disposal. |  |
| Ensure that installation and post-installation checks are performed by personnel in charge who possess a thorough understanding of the machinery to be installed. |  |
| Do not use the input functions of the PT, such as the function switches or switches on the touch panel, in applications that involve human life, in applications that may result in serious injury, or for emergency stop switches. |  |
| Do not attempt to disassemble, repair, or modify the PT. Doing so may impair the safety functions. |  |
| Do not attempt to take the Unit apart and do not touch any internal parts while the power is being supplied. Doing either of these may result in electrical shock. |  |
| The PT uses an analog touch panel. Never press more than two points on the panel at a time. Otherwise, it may activate a switch somewhere between the two points. |  |

Precautions for Safe Use

1. When unpacking the Units, check carefully for any external scratches or other damage. Also, shake the Units gently and check for any abnormal sound.
2. The PT must be installed in a control panel.
3. The mounting panel must be between 1.6 and 4.8 mm thick. Tighten the Mounting Brackets evenly to a torque of between 0.1 and 0.25 N·m for the NV3W/NV3Q and between 0.2 and 0.3 N·m for the NV4W to maintain water and dust resistance. Make sure the panel is not dirty or warped and that it is strong enough to hold the Units.
4. Do not let metal particles enter the Units when preparing the panel.
5. Do not connect an AC power supply to the DC power terminals.
6. Do not perform a dielectric voltage test.
7. Use a DC power supply that will provide a stable output even if the input is momentarily interrupted for 10 ms, and which has reinforced or double insulation.

| Model | Rated power supply voltage | Capacity |
|------------------------|--|------------|
| NV3W-M□20L | 5 VDC (allowable range: 4.5 to 5.5 VDC) | 1 W min. |
| NV4W-M□21 NV4W-M□41 | 24 VDC (allowable range: 21.6 to 26.4 VDC) | 1.7 W min. |
| NV3W-M□20 NV3W-M□40 | | 2 W min. |
| NV3Q-MR□□ | | 2.4 W min. |
| NV3Q-SW□□ | | 3.6 W min. |
| | | |

8. Use a twisted-pair cable to connect to the power terminals. Tighten the terminal screws to a torque of between 0.22 and 0.30 N·m. Make sure the screws are properly tightened.
9. To prevent malfunctions caused by noise, ground the PT correctly.
10. Do not touch the surface of the circuit boards or the components mounted on them with your bare hands. Discharge any static electricity from your body before handling the boards.
11. Turn OFF the power supply before connecting or disconnecting cables.
12. The maximum tensile load for cables is 30 N. Do not apply loads greater than this.
13. Confirm the safety of the system before turning ON or OFF the power supply.
14. Cycle the power supply after changing the DIP switch settings.
15. Do not perform the following operations while the SD memory card is being accessed (NV4W and NV3Q only):
 - Turning OFF the power supply to the PT
 - Removing the memory card
 Always follow the specified procedure when removing the memory card.
16. Start actual system application only after sufficiently checking screen data and the operation of the program in the PLC (host).
17. Do not press the touch switch with a force greater than 30 N.
18. Do not use a screwdriver or any other tool to press a touch switch.
19. Confirm the safety of the system before pressing any touch switch.
20. Do not accidentally press touch switches when the backlight is not lit or when the display does not appear. Confirm the safety of the system before pressing touch switches.
21. Before initializing screen data, confirm that existing data is backed up at the NV-Designer.

22. When changing the password with the system menu, do not reset or turn OFF the power supply until writing is finished.
23. Before using the SPMA function to change memory values in the PLC or transfer ladder programming, confirm that the PT is operating. The SPMA function cannot be used unless the PT is operating.
24. Dispose of any battery that has been dropped on the floor or otherwise subjected to excessive shock.
25. Dispose of the Units and batteries according to local ordinances as they apply.



廢電池請回收

26. When mounting the Battery, be sure to use the correct Battery and mount it correctly.
27. Do not disassemble or short-circuit the battery.
28. Do not connect a USB connector to any device that is not applicable.
29. Before connecting a USB connector to a device, make sure that the device is free of damage.
30. Do not turn OFF the power supply to the PT while downloading or uploading screen data or the system program. Doing so may corrupt the screen data or system program.
31. Periodically inspect the installation condition of the PT if it is being used in an environment subject to contact with water.
32. The whole system may stop depending on how the power supply is turned ON or OFF. Turn ON or OFF the power supply according to the specified procedure.
33. Signals from the touch switches may not be input if the switches are pressed consecutively at high speed. Confirm each input before proceeding to the next one.
34. To use numeric input functions safely, always make maximum and minimum limit settings.
35. Do not use benzene, paint thinner, or other volatile solvents, and do not use chemically treated cloths.
36. The PT uses an analog touch panel. Deterioration over time can cause the touch points to move. Calibrate the touch panel if the touch points move too much.
37. Water resistance will be lost if the front sheet is torn or is peeling off. Do not use the PT if the front sheet is torn or is peeling off.
38. The Rubber Packing will deteriorate, shrink, or harden depending on the operating environment. Inspect and replace the Rubber Packing periodically (approximately once per year).
39. To use the NV3W in an environment with strong noise, connect the following noise filter to the power supply line:
RSEL-2001W manufactured by TDK-Lambda Corp.
40. A Waterproof Packing cannot be reused. To ensure waterproof performance, replace the Waterproof Packing with a new one each time you reinstall the PT.
41. Screen burn-in will occur if the same pattern is continuously displayed for a long period of time (24 hours or longer, as a guideline). To prevent screen burn-in, use a screen saver or switch displays periodically (NV3W only).

Precautions for Correct Use

1. Do not install the PT in any of the following locations.
 - Locations subject to rapid changes in temperature
 - Locations subject to temperatures or humidity outside the range specified in the specifications
 - Locations subject to condensation as the result of high humidity
 - Locations subject to splashing chemicals or solvents
 - Locations subject to oil splashes
 - Locations subject to continuous water splashing
 - Locations subject to corrosive or flammable gases
 - Locations subject to strong shock or vibration
 - Locations outdoors subject to direct wind and rain
 - Locations subject to strong ultraviolet light
 - Locations subject to dust
 - Locations subject to direct sunlight
2. Take appropriate and sufficient countermeasures when installing systems in the following locations.
 - Locations subject to static electricity or other forms of noise
 - Locations subject to strong electromagnetic or magnetic fields
 - Locations close to power supply lines
 - Locations subject to possible exposure to radioactivity

Conformance to EC Directives

This product is EMC compliant.

● Concepts

OMRON products are electronic devices that are incorporated in machines and manufacturing installations. OMRON PTs conform to the related EMC Directives (see note) so that the devices and machines into which they are built can more easily conform to EMC directives. However, customers may use a wide variety of equipment and manufacturing installations. Therefore the customer must check whether the Directives are satisfied for the actual system. EMC-related performance will vary depending on the configuration, wiring, and other conditions of the equipment or control panel in which the PT is installed. The customer must, therefore, perform final checks to confirm that the overall machine or device conforms to EMC standards.

Note The applicable EMC (Electromagnetic Compatibility) standards for NV-series PTs are as follows:
NV3W: EN 61000-6-2, EN 61000-6-4
NV4W or NV3Q: EN 61131-2

● Conformance to EC Directives

NV-series PTs conform to EC Directives. To ensure that the machine or device in which the NV-series PT is used complies with EC Directives, the PT must be installed as follows:

- The NV-series PT must be installed in a control panel.
- You must use reinforced insulation or double insulation for the DC power supply and the DC power supply must have minimal voltage fluctuations and provide a stable output even if the power supply input is interrupted for 10 ms.
- NV-series PTs complying with EC Directives also conform to the Common Emission Standard (EN 61131-2 or EN 61000-6-4). Radiated emission characteristics (10-m regulations) may vary depending on the configuration of the control panel used, other devices connected to the control panel, wiring, and other conditions. You must therefore confirm that the overall machine or equipment complies with EC Directives.
- This is a class A product. It may cause radio interference in residential areas, in which case the user may be required to take adequate measures to reduce interference.

Read and Understand this Manual

Please read and understand this manual before using the product. Please consult your OMRON representative if you have any questions or comments.

Warranty and Limitations of Liability

WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

Application Considerations

SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

At the customer's request, OMRON will provide applicable third party certification documents identifying ratings and limitations of use that apply to the products. This information by itself is not sufficient for a complete determination of the suitability of the products in combination with the end product, machine, system, or other application or use.

The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this manual.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

Disclaimers

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

PERFORMANCE DATA

Performance data given in this manual is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

ERRORS AND OMISSIONS

The information in this manual has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

SECTION 1

Overview

This section introduces the NV-series PTs, including the system configuration, available models, and specifications.

| | | |
|-------|---|----|
| 1-1 | Features of NV-series PTs. | 2 |
| 1-1-1 | Features and Functions of NV-series PTs. | 2 |
| 1-2 | System Configuration | 5 |
| 1-2-1 | System Configuration. | 5 |
| 1-2-2 | Connectable OMRON PLCs. | 7 |
| 1-2-3 | Connectable OMRON Temperature Controllers | 8 |
| 1-3 | Models. | 9 |
| 1-3-1 | NV-series PTs. | 9 |
| 1-3-2 | Screen Design Software | 9 |
| 1-3-3 | Other Optional Products. | 10 |
| 1-4 | Specifications | 11 |
| 1-4-1 | NV3W. | 11 |
| 1-4-2 | NV4W. | 15 |
| 1-4-3 | NV3Q. | 19 |
| 1-4-4 | Battery Backup. | 23 |
| 1-5 | Functions. | 24 |
| 1-6 | System Versions | 25 |
| 1-6-1 | NV-series PT Models and System Versions | 25 |
| 1-6-2 | NV System Version Upgrade Procedure. | 25 |

1-1 Features of NV-series PTs

The NV-series Programmable Terminals (PTs) are easy to use and compact.

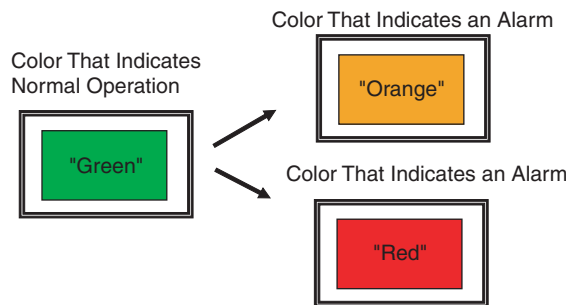
1-1-1 Features and Functions of NV-series PTs

Models Available with Color Backlight or Monochrome Backlight with Switchable Colors

- Switching the backlight of the NV3W monochrome, NV4W monochrome, or NV3Q monochrome PTs lets you determine system status from a distance.
- The NV3Q color PTs can display 4,096 colors.

| NV Series | Display color | Backlight color |
|---------------------------------------|---------------|-----------------------|
| NV3W-MG and NV4W-MG | Monochrome | Green, orange, or red |
| NV3W-MR, NV4W-MR, and NV3Q monochrome | | White, red, and pink |
| NV3Q color | 4,096 colors | --- |

Application Example That Switches the Backlight Color



Bright LEDs, Eliminate the need to Replace Backlights

Bright LED are used in the PT, eliminating the need to replace the backlights.

Each Screen Creation

The screens displayed on an NV-series PT are created on the NV-Designer. Screens can be easily created by simply selecting parts from a library and arranging them.

Parts are available to match the application that is used.

The NV3W is connected using a special RS-232C cable. The NV4W or NV3Q is connected using a commercially available USB cable.

Convert the PT Model for Screen Data

The NV model conversion function enables screen data to be converted and reused from a model with a small screen to one with a large screen.

Communicate with OMRON PLCs using Host Link

You can connect the PT to an OMRON CP-series, CS/CJ-series, C-series, or CVM1/CV-series PT using the Host Link protocol.

Communications with PLCs is possible using RS-232C or RS-422A connections.

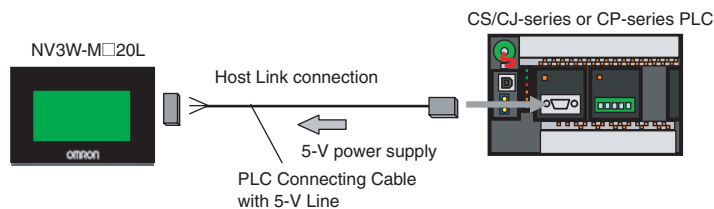
Multivendor Support with PLC Model Conversion

You can connect the PT to OMRON PLC or many other global PLC manufacturers.

Even if you are using different PLCs for different systems, you can easily convert the PLC model in the screen data.

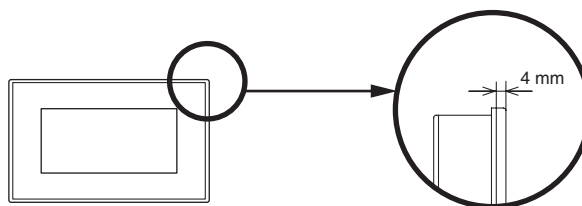
Supply Power to the PT via the PLC Connecting Cable (NV3W Only)

With 5-V NV3W models, 5 V can be supplied from the CS/CJ-series or CP-series PLC via the PLC Connecting Cable. This eliminates the need for a power supply for the PT, thereby reducing wiring work.

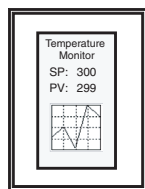


Space-saving Installation

The compact size and thin design save space when mounting. With the edge protruding only 4 mm from the panel surface, the PT is also attractive in appearance.



The NV3W or NV4W can be installed vertically for vertical screen displays.



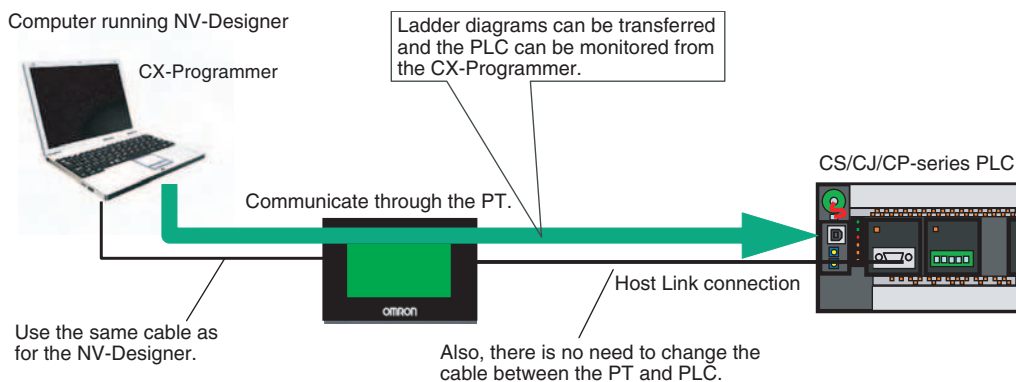
Construction with Resistance to the Environment

The NV3W and NV3Q provide IP65 protection against dust and water drops. The NV4W provides IP67 protection.

Transfer, Monitor, or Debug Ladder Diagrams from the CX-Programmer Connected to the PT

You can transfer, monitor, or debug ladder diagrams in a PLC from the CX-Programmer running on a computer connected to the PT with the convenient SPMA (Single Port Multiple Access) function while the PLC and PT are communicating with each other.

This function is effective during system installation and debugging.



Note The CX-Programmer and NV-Designer, however, cannot be connected online at the same time.

Reduce the Load on the PLC with the Write Address Function

You can use the Write Address function to execute operations to set or reset bits, set values, perform calculations, and more in PLC memory when conditions in the PLC are met. This reduces the load on the ladder program in the PLC in communicating with the PT.