

# Operator Interfaces/HMIs NS



## Complete System Navigation with Fault Reset Capabilities

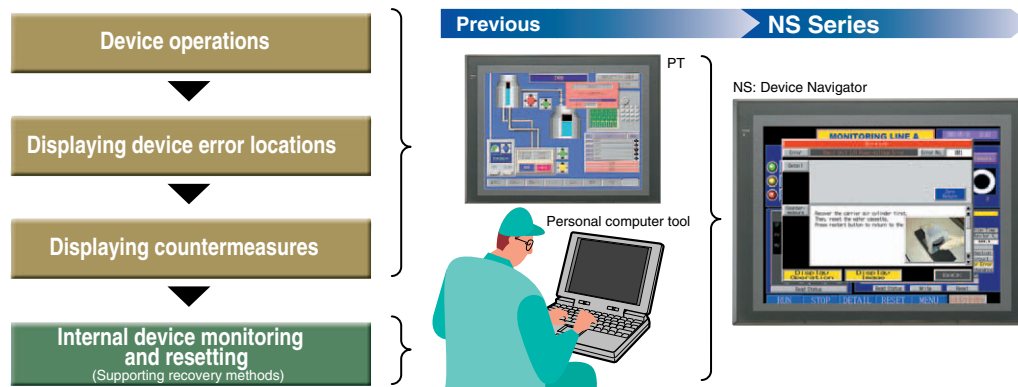
The NS advanced operator interfaces have brilliant display screens that maximize visualization of graphics. They support Omron's Smart Platform for small and medium size manufacturing operations with fully integrated design, programming, operation, monitoring and troubleshooting accessed from a single operator interface. This affordable solution brings the benefits of high-end interoperability within reach to give you a competitive production advantage on the plant floor.



Class I Div 2, Groups A, B, C, and D.

## Direct Device Access

Omron's NS-Series touch screen HMIs offer built-in Ethernet communications, exceptional alarming/recipe/data logging capabilities and live video input/display capabilities. By allowing direct resetting of faults, these HMIs save time and effort in troubleshooting and quickly return your lines to production. The NS-Series achieves flexible data access to a variety of devices. It enables operators to reach the devices on the network including special I/O units, intelligent devices, and PLCs.



## Reduced Design Time and Costs

We cut your screen project design time from days to a few hours by preprogramming function blocks that easily drag-and-drop into a program. All you do is specify values for key parameters. Omron already invested the hours and expert know-how programming each function block so you concentrate on the unique aspects of your application. The built-in Smart Active Parts library lets you establish communications and parameters for a wide range of Omron products. Just select the product and drag its icon into your project and it automatically sets the correct protocols.

## Specifications

| Series                               | NS8   | NS10                                 | NS12                                 |
|--------------------------------------|---|--------------------------------------|--------------------------------------|
| Dimensions (W x H x D mm)            | 232 x 177 x 48.5                                | 315 x 241 x 48.5                     | 315 x 241 x 48.5                     |
| Effective display area               | 8.4 inch  | 10.4 inch                            | 12.1 inch                            |
| Display device                       | High-definition TFT                             |                                      |                                      |
| Resolution                           | 640 x 480 pixels                                | 640 x 480 pixels                     | 800 x 600 pixels                     |
| View angle                           | ±65° left/right, 50° top, 60° bottom            | ±60° left/right, 35° top, 65° bottom | ±60° left/right, 45° top, 75° bottom |
| Maximum screen capacity              | 60 MB   | 60 MB                                | 60 MB                                |
| Number of switches                   | 768   | 1200                                 | 1900                                 |
| Display colors                       | Basic colors (objects, background, etc.)        | 256 colors                           | 256 colors                           |
|                                      | Image data (BMP or JPG images) Images displayed | 32,768 colors                        | 32,768 colors                        |
| Screen data capacity via video input | 260,000 color                                   | 260,000 colors                       | 260,000 colors                       |
| Backlight life expectancy            | 50,000 hours min.                               |                                      |                                      |
| Memory card capacity                 | 64 Mbytes                                       |                                      |                                      |
| Expansion interface                  | Controller Link and video input board           |                                      |                                      |

| Series                               | NS5   |                                      |                                      |
|--------------------------------------|---|--------------------------------------|--------------------------------------|
| Dimensions (W x H x D mm)            | 195 x 142 x 54                                  |                                      |                                      |
| Effective display area               | 5.7 inch  |                                      |                                      |
| Display device                       | STN (monochrome)                                | STN (color)                          | TFT (color)                          |
| Resolution                           | 320 x 240 pixels                                |                                      |                                      |
| View angle                           | ±45° left/right, 20° top, 40° bottom            | ±50° left/right, 45° top, 50° bottom | ±70° left/right, 70° top, 50° bottom |
| Maximum screen capacity              | 20 MB   |                                      |                                      |
| Number of switches                   | 300   |                                      |                                      |
| Display colors                       | Basic colors (objects, background, etc.)        | Monochrome/16 gray scale levels      | 256 colors                           |
|                                      | Image data (BMP or JPG images) Images displayed | Monochrome/16 gray scale levels      | 4,096 colors                         |
| Screen data capacity via video input | —   |                                      |                                      |
| Backlight life expectancy            | 50,000 hours min.                               |                                      |                                      |
| Memory card capacity                 | 64 Mbytes                                       |                                      |                                      |
| Expansion interface                  | —   |                                      |                                      |

## Ordering Information

### NS-Series HMI Terminals

| Description                | Size                  | Resolution    | Memory size   | Features      | Model        |
|----------------------------|-----------------------|---------------|---------------|---------------|--------------|
| Full system navigation HMI | 5-inch STN monochrome | 320 x 240     | 20 MB onboard | —             | NS5-MQ00B-V2 |
|                            |                       |               |               | Ethernet      | NS5-MQ01B-V2 |
|                            | —                     |               |               | NS5-SQ00B-V2  |              |
|                            | Ethernet              |               |               | NS5-SQ01B-V2  |              |
|                            | 5-inch TFT            | 640 x 480     | 60 MB onboard | —             | NS5-TQ00B-V2 |
|                            |                       |               |               | Ethernet      | NS5-TQ01B-V2 |
|                            | 8-inch TFT            | 640 x 480     | 60 MB onboard | —             | NS8-TV00B-V2 |
|                            |                       |               |               | Ethernet      | NS8-TV01B-V2 |
| 10-inch TFT                | 640 x 480             | 60 MB onboard | —             | NS10-TV00B-V2 |              |
|                            |                       |               | Ethernet      | NS10-TV01B-V2 |              |
| 12-inch TFT                | 800 x 600             | 60 MB onboard | —             | NS12-TS00B-V2 |              |
|                            |                       |               | Ethernet      | NS12-TS01B-V2 |              |

## Software

| Software name | Description  | Quantity    | Model         |
|---------------|--|-------------|---------------|
| CX-One        | Programming and configuration management software that lets you build, configure and program networks, PLCs, HMIs, motion control systems, temperature controllers and sensors | 1 license   | CXONE-AL01C-E |
|               |  | 3 licenses  | CXONE-AL03C-E |
|               |  | 10 licenses | CXONE-AL10C-E |

## Accessories

| Item                           | Description  | Specifications  | Model       |
|--------------------------------|--|---|-------------|
| Video input unit               | Enables HMI to display machine vision and CCTV camera images | Inputs 4 channels of NTSC/PAL to display on NS8, NS10 and NS12 HMIs | NS-CA001    |
|                                |  | Inputs 2 channels of NTSC/PAL to display on NS8, NS10 and NS12 HMIs | NS-CA002    |
| Vision system console cable    | Allows manipulation of vision system parameters from HMI     | 2 m cable   | F150-VKP 2M |
|                                |  | 5 m cable   | F150-VKP 5M |
| Controller link interface unit | Establishes HMI as a node for Controller Link communications | Attaches to port on back of HMI                                     | NS-CLK21    |
| RS-422A adapter                | Enables monitoring of multiple PLCs                          | 500 m total transmission distance                                   | NS-AL002    |
|                                |  | 50 m total transmission distance                                    | CJ1W-CIF11  |
| Anti-reflection sheets         | For NS10 and NS12 models                                     | 5 sheets; applied to screen surface                                 | NS12-KBA04  |
|                                | For NS8 models   |   | NS7-KBA04   |
|                                | For NS5 models   |   | NT30-KBA04  |
| Protective covers              | For NS10 and NS12 models                                     | 5 covers; protects screen surface                                   | NS12-KBA05  |
|                                | For NS8 models   |   | NS7-KBA05   |
|                                | For NS5 models   |   | NT31C-KBA05 |
| Chemical resistant covers      | For NS5 models   | 5 covers  | NT30-KBA01  |
| Memory card                    | Store screen data and firmware; requires Memory Card Adapter | 30 MB   | HMC-EF372   |
|                                |  | 64 MB   | HMC-EF672   |
| Memory card adapter            | Enables use of Memory Cards                                  | —   | HMC-AP001   |
| Battery                        | Backs up HMI memory  | —   | CJ1W-BAT01  |

## Cables

| Function                         | Connections                        | Applicable models                               | Cable length | Model                               |
|----------------------------------|------------------------------------|---|--------------|-------------------------------------|
| Connect NS HMIs to printer       | USB to USB                         | NS8, NS10, NS12                                 | 2 m          | NS-US22                             |
|                                  |                                    |   | 5 m          | NS-US52                             |
| Converts USB to RS-232C          | USB to 9-pin D-sub                 | NS5, NS8, NS10, NS12                            | 0.5 m        | CS1W-CIF31                          |
| Connect NS-V2 HMIs to Omron PLCs | 9-pin to PLC mini-peripheral port  | CPM2C, CQM1H, CJ1, CS1                          | 10 cm        | CS1W-CN118                          |
| Connect NS-V2 HMIs to Omron PLC  | 9-pin to 9-pin PLC peripheral port | CPM1A, CPM2A, CQM1, C200H/C200HE/ C200HG/C200HX | 50 cm        | C200H-CN510-EU                      |
|                                  |                                    |   | 3 m          | C200H-CN320-EU                      |
|                                  |                                    |   | 5 m          | C200H-CN520-EU                      |
| Connect NS-V2 HMIs to a PC       | RS-232C serial port 9-pin to 9-pin | All NS-V2 models                                | 2 m          | C200H-CN229-EU<br>CBL-202 in Canada |
|                                  | USB, commercially available        | Connects slave port on all NS-V2 models         | Various      | —                                   |

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To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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