

Programmable Terminal

NA series

Bringing technology to life

The NA-series Programmable Terminal transforms machine data into information, shows information and controls devices based on requirements at FA manufacturing sites.

The NA Series, together with the NJ/NX/NY-series Controller and the Automation Software Sysmac Studio, allows you to simply and flexibly create sophisticated user interfaces to suit your machines.



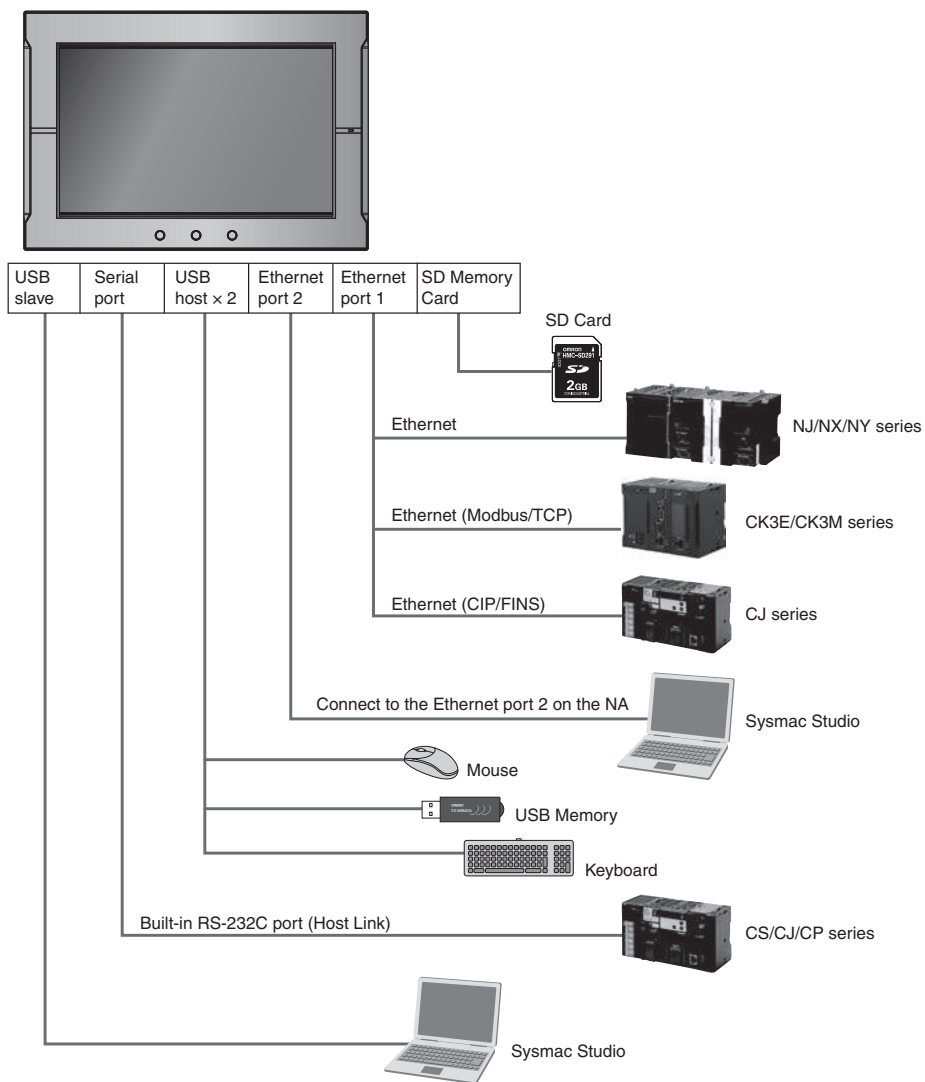
Features

- Widescreen in all models: 7, 9, 12, and 15 inches
- More than 16 million color display for all models and 1280 x 800 high resolution display for the 12 and 15-inch models
- Multimedia including video and PDF *1
- 2 Ethernet ports capable of simultaneous access from both the control device and maintenance segments by separating the segments
- Sysmac Studio providing an Integrated Development Environment
 - NJ/NX/NY variables sharing in the NA project and NA application testing with the NJ/NX/NY program via the Simulator to reduce development time
- Many security features including operation authority settings and execution restrictions with IDs
- Microsoft Visual Basic for versatile, flexible and advanced programming
- Software providing NA5-equivalent functionality on a PC or panel PC

*1. Version 1.5 or higher of pdf file is not supported.

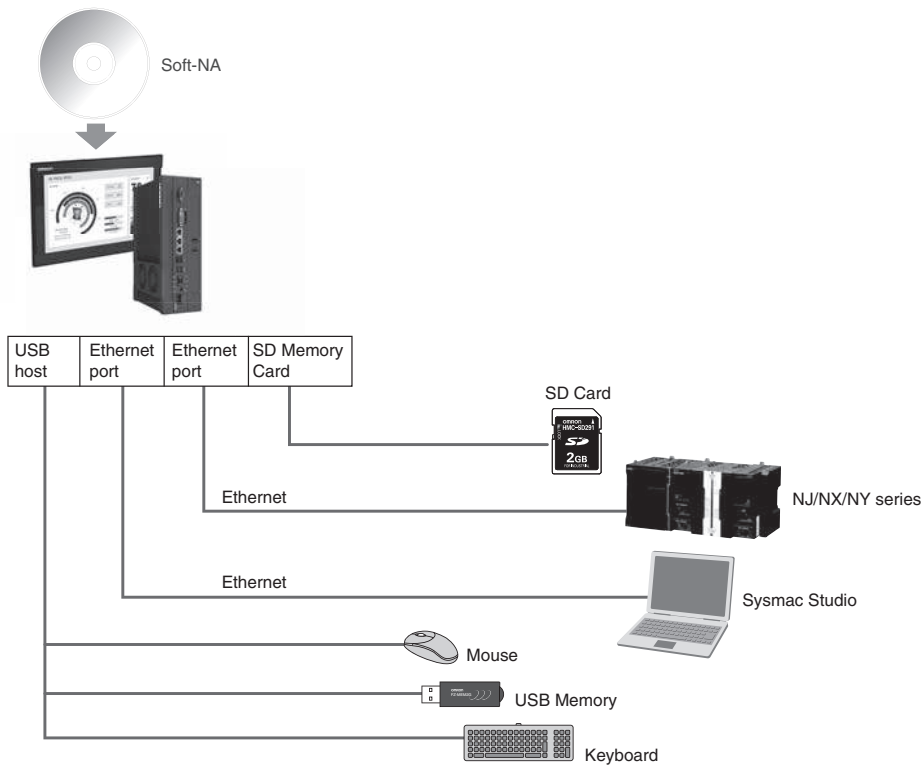
System configuration

NA5



NA series

Soft-NA



Ordering Information

NA5-□W

Product name	Specifications	Model #1
NA5-15W	15.4 inch wide screen, TFT LCD, 16,770,000 colors (24 bit full color), 1280 × 800 dots, Frame color : Silver	NA5-15W101S-V1
	15.4 inch wide screen, TFT LCD, 16,770,000 colors (24 bit full color), 1280 × 800 dots, Frame color : Black	NA5-15W101B-V1
NA5-12W	12.1 inch wide screen, TFT LCD, 16,770,000 colors (24 bit full color), 1280 × 800 dots, Frame color : Silver	NA5-12W101S-V1
	12.1 inch wide screen, TFT LCD, 16,770,000 colors (24 bit full color), 1280 × 800 dots, Frame color : Black	NA5-12W101B-V1
NA5-9W	9 inch wide screen, TFT LCD, 16,770,000 colors (24 bit full color), 800 × 480 dots, Frame color : Silver	NA5-9W001S-V1
	9 inch wide screen, TFT LCD, 16,770,000 colors (24 bit full color), 800 × 480 dots, Frame color : Black	NA5-9W001B-V1
NA5-7W	7 inch wide screen, TFT LCD, 16,770,000 colors (24 bit full color), 800 × 480 dots, Frame color : Silver	NA5-7W001S-V1
	7 inch wide screen, TFT LCD, 16,770,000 colors (24 bit full color), 800 × 480 dots, Frame color : Black	NA5-7W001B-V1
High-pressure Waterproof Attachment	This metal frame is for high-pressure waterproofing. Install it to conform to UL Type 4X standards. UL Type 4X is the rating for high-pressure wash-down applications with a flow rate of 246 liter/min.	NA-15WATW01
		NA-12WATW01
		NA-9WATW01
		NA-7WATW01

Options

Product name	Specifications	Model
SD memory card	2 GB	HMC-SD292
	4 GB	HMC-SD492
	16 GB	HMC-SD1A2
USB Memory	2 GB	FZ-MEM2G
	16 GB	FZ-MEM16G
Replacement Battery	Battery life: 5 years (at 25°C). This Battery is provided as an accessory.	CJ1W-BAT01
Anti-reflection Sheets	For the NA5-15W. Attach a Sheet to the screen to protect against diffused reflections and dirt. The entire Sheet is colorless and transparent. Five Sheets are provided in one set.	NA-15WKBA04
	For the NA5-12W. Attach a Sheet to the screen to protect against diffused reflections and dirt. The entire Sheet is colorless and transparent. Five Sheets are provided in one set.	NA-12WKBA04
	For the NA5-9W. Attach a Sheet to the screen to protect against diffused reflections and dirt. The entire Sheet is colorless and transparent. Five Sheets are provided in one set.	NA-9WKBA04
	For the NA5-7W. Attach a Sheet to the screen to protect against diffused reflections and dirt. The entire Sheet is colorless and transparent. Five Sheets are provided in one set.	NA-7WKBA04

Soft-NA

Product name	Specifications	Number of licenses	Media	Model
Soft-NA	The Soft-NA is software that displays information on FA manufacturing sites while providing safety, reliability, and maintainability as an industrial display on which operations can be performed as necessary. The Soft-NA runs on the following OS: Windows 10 Pro Version 1903 or later 64 bit	- (Media only)	DVD	NA-RTSM
		1 license	USB dongle	NA-RTL01
		3 licenses		NA-RTL03
		10 licenses		NA-RTL10

System Requirements

■When using a commercially-available PC

Item	Requirement	
OS	Windows 10 Pro Version 1903 or later 64 bit	
Processor	Intel Atom® x5-E3940 equivalent or higher processor	
RAM	4 GB or more	
Free space in the hard drive necessary for installation	1 GB or more	
Optical disk drive	DVD-ROM drive	
Communication port	USB	USB2.0 Type-A x 2
	LAN	Ethernet x 2

■When using the industrial PC platform NY-series

The supported models are shown below.

- NYB□□-□□3□□ *1
- NYB□□-□□4□□ *1
- NYP□□-□□3□□-□□□□□□□□ *1
- NYP□□-□□4□□-□□□□□□□□ *1
- NY5□□-1□□00-□□□□44□□□□ *1

*1. Need to be supported only when used on the OS installed during factory dispatch.

Automation Software

Product name	Specifications	Number of licenses	Media	Model
Sysmac Studio Standard Edition Ver.1.□□	The Sysmac Studio is the software that provides an integrated environment for setting, programming, debugging and maintenance of machine automation controllers including the NJ/NX Series, EtherCAT Slave, and the HMI.	– (Media only)	Sysmac Studio (32-bit) DVD	SYSMAC-SE200D
		– (Media only)	Sysmac Studio (64-bit) DVD	SYSMAC-SE200D-64
		1 license	–	SYSMAC-SE201L
		3 licenses		SYSMAC-SE203L
		10 licenses		SYSMAC-SE210L
		30 licenses		SYSMAC-SE230L
50 licenses	SYSMAC-SE250L			

Note: 1. For details, refer to the Sysmac Studio Ver.1.□□ datasheet, visit your local OMRON website.

USB Cable

Product name	Specifications
USB Cable	Use commercially available USB cable. Specifications: USB 2.0 cable (A connector - B connector), 5.0 m max.

Recommended Network Devices

Industrial Switching Hubs

Product name	Functions	No. of ports	Accessories	Current consumption (A)	Model
Industrial Switching Hubs	Quality of Service (QoS): EtherNet/IP control data priority 10/100BASE-TX, Auto-Negotiation	5	Power supply connector	0.07	W4S1-05D

Recommended Ethernet Communications Cables

Use STP (shielded twisted-pair) cable of category 5 or higher

Product name	Recommended manufacturer	Model
Wire Gauge and Number of Pairs: AWG24, 4-pair Cable	Cables	Hitachi Metals, Ltd NETSTAR-C5E SAB 0.5 × 4P CP
		Kuramo Electric Co. KETH-SB
	RJ45 Connectors	Panduit Corporation MPS588

Note: 1. We recommend you to use above cable and RJ45 Connectors together.

Performance Specifications

Display

Item		Specification			
		NA5-15W	NA5-12W	NA5-9W	NA5-7W
Display panel *1	Display device	TFT LCD			
	Screen size	15.4 inches	12.1 inches	9.0 inches	7.0 inches
	Resolution	1,280 × 800 dots (horizontal × vertical)		800 × 480 dots (horizontal × vertical)	
	Colors	16,770,000 colors (24 bit full colors)			
	Effective display area	331 × 207 mm (horizontal × vertical)	261 × 163 mm (horizontal × vertical)	197 × 118 mm (horizontal × vertical)	152 × 91 mm (horizontal × vertical)
	View angles	Left: 60°, Right: 60°, Top: 60°, Bottom: 60°			
Backlight *2	Life	50,000 hours min. *3			
	Brightness adjustment	200 levels			
	Type	LED			
Front panel indicators *4	RUN	Lit green: Normal operation		Lit red: Error	

*1. There may be some defective pixels in the display. This is not a fault as long as the numbers of defective light and dark pixels fall within the following standard ranges.

Model	Standard range
NA5-15W□□□□-V1	Number of light and dark pixels: 10 or less. (There must not be 3 consecutive light/dark pixels.)
NA5-12W□□□□-V1	
NA5-9W□□□□-V1	
NA5-7W□□□□-V1	

*2. The backlight can be replaced at an OMRON maintenance base.

*3. This is the estimated time before brightness is reduced by half at room temperature and humidity. The life expectancy is drastically shortened if Programmable Terminal is used at high temperatures.

*4. The brightness of the front panel indicators is also adjustable when you adjust the brightness of the backlight.

Operation

Item		Specification			
		NA5-15W	NA5-12W	NA5-9W	NA5-7W
Touch panel	Method	Analog resistive membrane type			
	Resolution	16,384 × 16,384			
	Life	1,000,000 operations			
Function keys *1		3 inputs (capacitance inputs)			

*1. Each function key has blue indicator. The brightness of the function key indicators is also adjustable when you adjust the brightness of the backlight.

Data Capacity

Item		Specification			
		NA5-15W	NA5-12W	NA5-9W	NA5-7W
User data capacity		256 MB			

External Interfaces

Item		Specifications (Same for all models.)			
Ethernet ports	Applications	Port 1: Connecting to anything other than the Sysmac Studio, e.g., device connections and VNC clients Port 2: Connecting to the Sysmac Studio in addition to the applications of port 1.			
	Number of ports	2 ports			
	Compliant standards	IEEE 802.3i (10BASE-T), IEEE 802.3u (100BASE-TX), and IEEE 802.3ab (1000Base-T)			
	Transmission media	Shielded twisted-pair (STP) cable: Category 5, 5e, or higher			
	Transmission distance	100 m			
	Connector	RJ-45 8P8C modular connector			
USB host ports *1 *2	Applications	USB Memory Device, keyboard, or mouse			
	Number of ports	2 ports			
	Compliant standards	USB 2.0			
	Transmission distance	5 m max.			
	Connector	Type-A connector			
USB slave port *1	Applications	Sysmac Studio connection			
	Number of ports	1 port			
	Compliant standards	USB 2.0			
	Transmission distance	5 m max.			
Serial port	Applications	Device Connection			
	Number of ports	1 port			
	Compliant standards	RS-232C			
	Transmission distance	15 m max.			
SD Memory Card slot	Applications	To transfer or store the project or to store log data.			
	Number of slots	1 slot			
	Compliant standards	SD/SDHC			

*1. Connection to all USB 2.0-compliant devices is not guaranteed.

*2. Use a USB memory for temporary applications such as transferring data.

Note: 1. For information on the product whose model number does not end with -V1, refer to the Programmable Terminal NA Series Datasheet (Cat. No. V413).

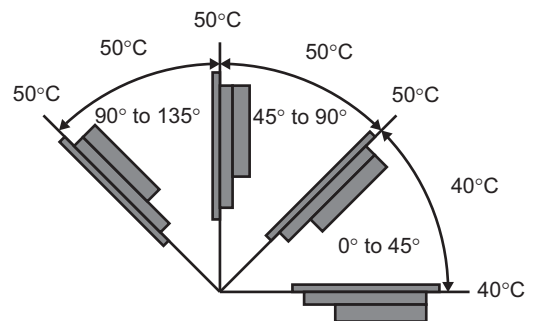
NA series

General Specifications

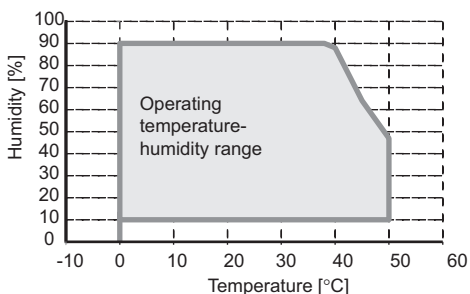
Item	Specification			
	NA5-15W	NA5-12W	NA5-9W	NA5-7W
Rated supply voltage	24 VDC			
Allowable power supply voltage range	19.2 to 28.8 VDC (24 VDC \pm 20%)			
Allowable momentary power interruption time	Operation for momentary power interruption is not specified.			
Power consumption	29 W max.	25 W max.	23 W max.	19 W max.
Ambient operating temperature	0 to 50°C *1 *2			
Ambient storage temperature	-20 to +60°C *3			
Ambient operating humidity	10 to 90% *2 Must be no condensation.			
Atmosphere	Must be free from corrosive gases.			
Pollution degree	2 or less: Meets IEC 61010-2-201.			
Noise immunity	2 kV on power supply line (Conforms to IEC 61000-4-4.)			
Vibration resistance (during operation)	Conforms to IEC 60068-2-6. 5 to 8.4 Hz with 3.5 mm half amplitude and 8.4 to 150 Hz with 9.8 m/s ² for 100 minutes each in X, Y, and Z directions (Time coefficient of 10 minutes \times coefficient factor of 10 = total time of 100 min.)			
Shock resistance (during operation)	Conforms to IEC 60028-2-27. 147 m/s ² 3 times each in X, Y, and Z directions			
Dimensions	420 \times 291 \times 69 mm (W \times H \times D)	340 \times 244 \times 69 mm (W \times H \times D)	290 \times 190 \times 69 mm (W \times H \times D)	236 \times 165 \times 69 mm (W \times H \times D)
Panel cutout dimensions	392 ⁺¹ ₀ \times 268 ⁺¹ ₀ mm (horizontal \times vertical) Panel thickness: 1.6 to 6.0 mm *4	310 ⁺¹ ₀ \times 221 ⁺¹ ₀ mm (horizontal \times vertical) Panel thickness: 1.6 to 6.0 mm *4	261 ⁺¹ ₀ \times 166 ⁺¹ ₀ mm (horizontal \times vertical) Panel thickness: 1.6 to 6.0 mm *4	197 ^{+0.5} ₀ \times 141 ^{+0.5} ₀ mm (horizontal \times vertical) Panel thickness: 1.6 to 6.0 mm *4
Weight	3.2 kg max.	2.4 kg max.	1.8 kg max.	1.4 kg max.
Degree of protection	Front-panel controls: IP65 oil-proof type, UL Type 4X (at initial state) To reinstall the NA Unit in a panel, contact your OMRON representative for replacement of the rubber packing.			
Battery life	Battery life: 5 years at 25°C The RTC will be backed up for 5 days after the battery runs low. The RTC will be backed up by a super capacitor for 5 minutes after removing the old battery. (This assumes that the power is first turned ON for at least 5 minutes and then turned OFF.)			
International standards *5	UL61010-2-201/CSA C22.2 NO.61010-2-201:14 *6 EMC Directive (2004/108/EC) EN 61131-2:2007 Shipbuilding standards LR, DNV, and NK IP65 oil-proof, UL Type 4X *7(front panel only) UL 121201, 9th Edition/CSA C22.2 NO.213-2017 EAC IEC61131-2:2007 KC Standards KN61131-2 2018 RCM EN61000-6-4:2007+A1:2011			

*1. The ambient operating temperature is subject to the following restrictions, depending on the mounting angle.

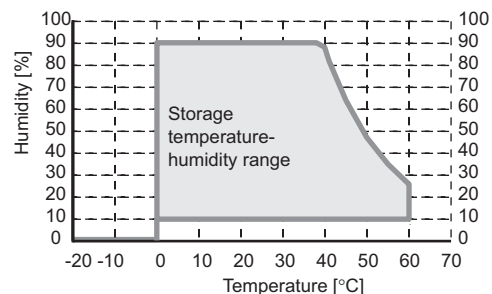
- The ambient operating temperature is 0° to 40°C when the mounting angle is 0° or more and less than 45° to the horizontal.
- The ambient operating temperature is 0° to 50°C when the mounting angle is 45° or more and 90° or less to the horizontal.
- The ambient operating temperature is 0° to 50°C when the mounting angle is 90° or more and 135° or less to the horizontal.



*2. Use the Programmable Terminal within the following temperature and humidity ranges.



*3. Store the Programmable Terminal within the following temperature and humidity ranges.



*4. When the NA-□WATW01 High-pressure Waterproof Attachment is used, the panel thickness is between 1.6 to 4.5 mm.

*5. Check with your OMRON representative or refer to the following OMRON website for the latest information on the applicable standards for each model: www.ia.omron.com.

*6. Use power supply Class 2 to conform to UL Standards.

*7. Use the NA-□WATW01 High-pressure Waterproof Attachment (sold separately) to conform to UL Type 4X.

Note: 1. For information on the product whose model number does not end with -V1, refer to the Programmable Terminal NA Series Datasheet (Cat. No. V413).

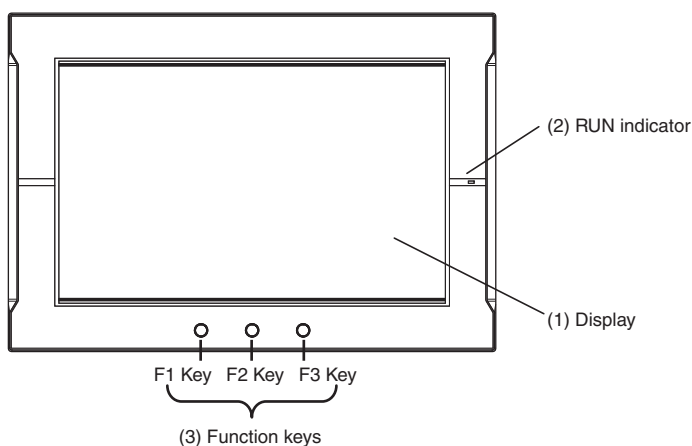
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


NA series and Programming Devices

NA series		Corresponding unit versions/version	
Model	NA system version	NJ/NX/NY-series Controller NX701-□□□□ NY512-□□□□ NX502-□□□□ NY532-□□□□ NX102-□□□□ NJ501-□□□□ NX1P2-□□□□ NJ301-□□□□ NX-CSG320 NJ101-□□□□	Sysmac studio
NA5-□□□□□□-V1	1.17 or later	NX502: 1.60 or later	1.54 or higher
	1.10 or later	NX-CSG320: 1.00 or later	1.24 or higher
	1.09 or later	NX102: 1.30 or later	1.23 or higher
	1.08 or later	NX1P2: 1.13 or later NY512: 1.12 or later NY532: 1.12 or later NX701: 1.10 or later NJ101: 1.10 or later NJ501: 1.01 or later NJ501 Database Connection: 1.05 or later NJ301: 1.01 or later	1.40 or higher

Components and Functions

Front Panel



No.	Name	Description
(1)	Display	The entire display is a touch panel that also functions as an input device.
(2)	RUN indicator	The status of the indicator changes according to the status of the NA.
(3)	Function keys	There are three function keys: F1, F2, and F3.  : F1 Key,  : F2 Key,  : F3 Key You can use the function keys as execution conditions for the actions for global or page events. You can also use the function keys for interlocks.