

## Panel Mount High Performance IPC

The NY series of IPC brings industrial strength computing to the factory floor. Our screen sizes, CPU, memory, operating systems, and hard drive options support the most demanding applications such as SCADA, ERP/SAP, SQL. Design in the NYP as part of a Sysmac Solution. An optional QNX Real Time Operating system is available running embedded NJ Machine Automation technology on EtherCAT to the NX I/O system for IPC based control.



## Features

- No internal cables in the PC part eliminates faults, maximizes uptime
- Unique simplified thermal design cuts downtime
- Powerful Intel® Core™ technology for optimum performance
- 12.1 and 15.4 inch industrial display
- Multi-touch projected capacitive touchscreen
- False touch detection (palm, water)
- Operator can wear gloves \*

# Everything for your HMI running

# VICPAS® .com

## Touch.Keypad.Display

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\* When using gloves, ensure to use gloves that are functional with this touchscreen.

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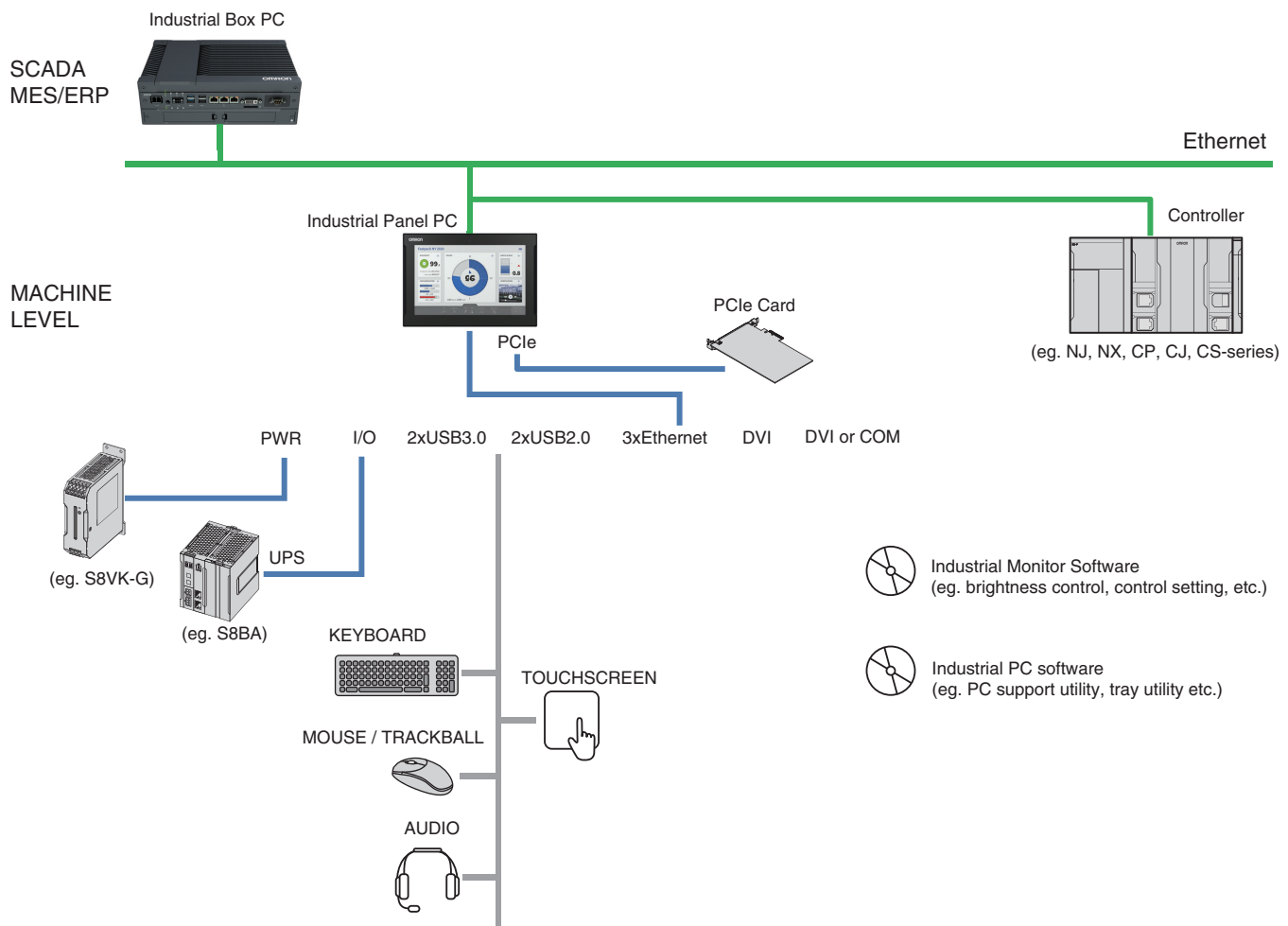
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The product photographs and figures that are used in this document may vary somewhat from the actual products.

# System Configuration



## Model Number Structure

The purpose of this model number legend is to provide understanding of the meaning of specifications from the model number. Models are not available for all combinations of code numbers.

NYP    -       -         

1      2      3   4   5   6   7      8   9   10 11 12 13 14

Item	Description	Option / Description
1	Series name	NYP: NY- series Industrial Panel PC
2	Processor	<ul style="list-style-type: none"> <li>1 7: Intel® Core™ i7-4700EQ 4th generation CPU with fan unit for active cooling</li> <li>2 5: Intel® Core™ i5-4300U 4th generation CPU with fanless cooling</li> <li>1 C: Intel® Celeron® 2980U 4th generation CPU with fanless cooling</li> </ul>
3	Main memory	<ul style="list-style-type: none"> <li>1: 2 GB, non-ECC</li> <li>2: 4 GB, non-ECC</li> <li>3: 8 GB, non-ECC</li> </ul>
4	Expansion slots	1: 1 PCIe slot
5	Operating system	<ul style="list-style-type: none"> <li>1: Windows Embedded Standard 7 - 32 bit</li> <li>2: Windows Embedded Standard 7 - 64 bit</li> </ul>
6	Storage	<ul style="list-style-type: none"> <li>8: 32 GB, SSD SLC</li> <li>9: 64 GB, SSD SLC</li> <li>C: 320 GB, HDD</li> <li>K: 128GB, SSD MLC</li> </ul>
7	Optional interface	<ul style="list-style-type: none"> <li>1: RS-232C</li> <li>2: DVI-D</li> </ul>
8	Display size (diagonal)	<ul style="list-style-type: none"> <li>12: 12.1 inch model, 1280 x 800 pixels, 24 bit full color</li> <li>15: 15.4 inch model, 1280 x 800 pixels, 24 bit full color</li> </ul>
9	Display ratio	W: Wide
10	Touchscreen	C: Projected Capacitive Touch type
11	Frame type	1: Aluminum frame, black
12	Design	0: Standard
13	Built-in options	0: None
14	Logo	<ul style="list-style-type: none"> <li>0: OMRON</li> <li>2: Customized logo *</li> </ul>

\* Please consult your OMRON representative for details.

## Ordering Information

### NYP-series Industrial Panel PC

#### Recommended models

The industrial Panel PC has extended configuration possibilities to meet your requirements, below an overview of the most used and recommended models. Selecting one of the models below will bring the benefit of faster delivery times.

In case your preferred model is not listed below, please contact your Omron representative to discuss the possibilities.

Product name	Specifications						Model
	Display size	Operating system	CPU type	RAM memory (non-ECC type)	Storage size	Interface option	
Industrial Panel PC	12.1 inch	Windows Embedded Standard 7 - 64bit	Intel® Core™ i7-4700EQ	8 GB	64 GB SSD (SLC)	RS-232C	<b>NYP17-31291-12WC1000</b>
			Intel® Core™ i5-4300U	8 GB	128 GB SSD (MLC)	RS-232C	<b>NYP25-312K1-12WC1000</b>
			Intel® Core™ i5-4300U	8 GB	64 GB SSD (SLC)	RS-232C	<b>NYP25-31291-12WC1000</b>
			Intel® Celeron® 2980U	8 GB	128 GB SSD (MLC)	RS-232C	<b>NYP1C-312K1-12WC1000</b>
	15.4 inch	Windows Embedded Standard 7 - 32bit	Intel® Celeron® 2980U	4 GB	128 GB SSD (MLC)	RS-232C	<b>NYP1C-211K1-12WC1000</b>
			Intel® Core™ i7-4700EQ	8 GB	64 GB SSD (SLC)	RS-232C	<b>NYP17-31291-15WC1000</b>
		Windows Embedded Standard 7 - 64bit	Intel® Core™ i5-4300U	8 GB	128 GB SSD (MLC)	RS-232C	<b>NYP25-312K1-15WC1000</b>
			Intel® Core™ i5-4300U	8 GB	64 GB SSD (SLC)	RS-232C	<b>NYP25-31291-15WC1000</b>
			Intel® Celeron® 2980U	8 GB	128 GB SSD (MLC)	RS-232C	<b>NYP1C-312K1-15WC1000</b>
			Intel® Celeron® 2980U	4 GB	128 GB SSD (MLC)	RS-232C	<b>NYP1C-211K1-15WC1000</b>

Product name	Specifications	Model
SD Memory Cards	Card type: SD Card Capacity: 2 GB Format: FAT16	HMC-SD291
	Card type: SDHC Card Capacity: 4 GB Format: FAT32	HMC-SD491
USB Flash Drives	Capacity: 2 GB	FZ-MEM2G
	Capacity: 8 GB	FZ-MEM8G
Storage Devices	Storage type: HDD Capacity: 320 GB	NY000-AH00
	Storage type: SSD SLC Capacity: 32 GB	NY000-AS00
	Storage type: SSD SLC Capacity: 64 GB	NY000-AS01
	Storage type: SSD MLC Capacity: 128 GB	NY000-AS02
USB Type-A to USB Type-B Cables	Cable length: 2 m USB 2.0 Minimum bend radius: 25 mm	FH-VUAB 2M
	Cable length: 5 m USB 2.0 Minimum bend radius: 25 mm	FH-VUAB 5M
DVI Cables	Cable length: 2 m Supports DVI-D Minimum bend radius: 36 mm	NY000-AC00 2M
	Cable length: 5 m Supports DVI-D Minimum bend radius: 36 mm	NY000-AC00 5M
Power Supply	Output voltage: 24 VDC	S8VK-G□□□24
UPS *	Output voltage during backup operation: 24 VDC ± 5%	S8BA
UPS Communication Cable	Cable length: 2 m Signals for <ul style="list-style-type: none"><li>• Signal output (BL, TR, BU, WB)</li><li>• Remote ON/OFF input</li><li>• UPS Stop Signal input (BS)</li></ul>	S8BW-C02

The revision number of the UPS can be retrieved from the serial number label on the product and the product packaging.

Item	Description
1	Product code
2	Product period and sequential number
3	Revision number
4	RoHS status

The following spare parts for the Industrial Panel PC are available.

**OMRON**

## Installed Support Software

Item	Specifications
Industrial PC Support Utility	The Industrial PC Support Utility is a software utility to assist in diagnosing and resolving problems of the Industrial Panel PC. It is pre-installed on the Industrial Box PC and the Industrial Panel PC.
Industrial PC Tray Utility	The Industrial PC Tray Utility is a software utility that provides information about the current state of the Industrial PC, its related devices, and associated software. It is pre-installed on the Industrial Box PC and the Industrial Panel PC.
Industrial PC System API	The Industrial PC System API allows programmers to create programs that can retrieve information or set an indicator status of the Industrial Panel PC. The API makes use of the included IPC System Service to manage the hardware. It is pre-installed on the Industrial Box PC and the Industrial Panel PC.
Industrial Monitor Utility	The Industrial Monitor Utility provides a user interface to control settings and display details of connected Industrial Monitors. It is pre-installed on the Industrial Box PC and the Industrial Panel PC.
Industrial Monitor Brightness Utility	The Industrial Monitor Brightness Utility is a small software utility that allows you to control the brightness of the screen backlight of all connected Industrial Monitors. It is pre-installed on the Industrial Box PC and the Industrial Panel PC.
Industrial Monitor API	The Industrial Monitor API allows programmers to create applications that can control the hardware features and retrieve information from connected Industrial Monitors. It is pre-installed on the Industrial Box PC and the Industrial Panel PC.

# Specifications

## Performance Specifications

Item				NYP17-□□□□□		NYP25-□□□□□		NYP1C-□□□□□		
Main system	CPU	CPU type		Intel® Core™ i7-4700EQ		Intel® Core™ i5-4300U		Intel® Celeron® Processor 2980U		
		Cores / Threads		4 / 8		2 / 4		2 / 2		
		CPU base frequency		2.4 GHz		1.9 GHz		1.6 GHz		
		Maximum turbo frequency		3.4 GHz		2.9 GHz		—		
		Cache		6 MB		3 MB		2 MB		
		Cooling details		Requires active cooling (fan)		Passive cooling (fanless)				
	Memory	Memory size		4, 8 GB		2, 4, 8 GB		2, 4, 8 GB		
		Memory type		DDR3L (non ECC)						
	Trusted platform module (TPM)			• Ensure the integrity of the platform • Disk encryption • Password protection and other uses of encryption						
	Graphics controller			Intel® HD Graphics. Up to two independent screens.						
			Intel® HD Graphics 4600		Intel® HD Graphics 4400		Intel® HD Graphics			
Watchdog			Yes							
Operating system	Windows OS			Windows Embedded Standard 7 - 32 bit Windows Embedded Standard 7 - 64 bit						
Storage devices	Drives	Hard disk drive		• HDD - 320 GB • Serial ATA 3.0						
		Solid state drive	SLC type		• SLC type - long life SSD • 32 GB and 64 GB models • Serial ATA 3.1					
			MLC type		• MLC type - industrial MLC • 128 GB • Serial ATA 3.1					
	Drive bay (HDD/SSD) *1			2		2		1		
Connectors	Power connector			• 24 VDC						
	I/O connector			2 inputs (Power ON/OFF Input and UPS Mode Input) and 1 output (Power Status Output)						
	USB connectors	USB 3.0		• 2 ports • 900 mA maximum current • 3 m maximum cable length						
		USB 2.0		• 2 ports • 500 mA maximum current • 5 m maximum cable length						
	Ethernet connectors	Number of available ports		3						
		Physical layer		10BASE-T, 100BASE-TX or 1000BASE-T						
	DVI-I connector	Video interface		Digital or analog		Digital only				
		Resolution		Up to 1,920 x 1,200 pixels at 60 Hz						
		Maximum DVI cable length		Dependent upon connected monitor type and resolution						
Optional connector (select one per system)	RS-232C		Standard SUBD9 connector (Non-Isolated)							
	DVI-D	Video interface		Digital only						
		Resolution		Up to 1,920 x 1,200 pixels at 60 Hz						
		Maximum DVI cable length		Dependent upon connected monitor type and resolution						
PCIe Card Slot	Configuration			X4 (4 lanes) up to Gen 3		X1 (1 lane) up to Gen 2				
	Card height			Standard height cards, 4.20 inches (106.7 mm) *2						
	Card length			Half length cards, 6.6 inches (167.65 mm)						
Battery	Model			CJ1W-BAT01						
	Service life			5 years at 25°C						
Fan unit	Model			NY000-AF00						
	Service life			70,000 hours of continuous operation at 40°C with 15% to 65% relative humidity						
LED				PWR, ERR, HDD, RUN						

\*1. Depending on the model one or two drives are supported.

\*2. Low profile cards, 2.536 inches (64.4 mm) are not supported.

## Display Specifications

Item			Specifications	
			12.1 Inch models	15.4 Inch models
Display	Display panel *1	Display device	TFT LCD	
		Screen size	12.1 inches	15.4 inches
		Surface treatment	Anti glare treatment	
		Surface hardness	Mohs scale: 5 - 6	
		Resolution	1,280 × 800 pixels at 60 Hz (horizontal × vertical)	
		Colors	16,770,000 colors	
		Effective display area	261 × 163 mm (horizontal × vertical)	331 × 207 mm (horizontal × vertical)
		View angles	Left: 60°, Right: 60°, Top: 60°, Bottom: 60°	
		Life	50,000,000 operations min.	
		EMC	Correct touchscreen operation is possible within allowable EMC immunity conditions	
	Touch	Technology	Projected capacitive	
		Touch resolution	Touch accuracy 1.5% (4-5 mm)	
		Multitouch	Up to 5 simultaneous touches	
Backlight	Backlight	Features	Water detection *2, hand palm rejection *3, gloves *4	
		Life	50,000 hours min. *5	
		Brightness adjustment	200 levels *6	

\*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 range: light and dark pixels 10 or less. (There must not be 3 consecutive light/dark pixels.)

\*2. If water is detected the touch functionality will not be available.

\*3. If a palm is detected that specific area is neglected.

\*4. The touchscreen can be operated when wearing gloves. Check correct usage of the gloves before using them.

\*5. This is the estimated time before brightness is reduced by half at room temperature and humidity.

The life expectancy is drastically shortened if used at high temperatures.

\*6. If the brightness is set to very dark, it causes flickering or the screen will be too dark to use.

## Electrical Specifications

Item			Specifications	
			12.1 Inch models	15.4 Inch models
Rated power supply voltage			24 VDC, non-isolated	
Allowable power supply voltage range			20.4 to 28.8 VDC	
Grounding method			Ground to less than 100 Ω	
Inrush current			At 24 VDC: 12 A / 6 ms max. for cold start at room temperature	
Overvoltage category			JIS B3502 and IEC 61131-2: Category II	
EMC immunity level			IEC 61132-2: Zone B	
RTC accuracy			At ambient temperature of 55°C: -3.5 to +0.5 min error per month At ambient temperature of 25°C: -1.5 to +1.5 min error per month At ambient temperature of 0°C: -3 to +1 min error per month	
Power button life			100,000 operations	
Battery life			5 years at 25°C (for battery CJ1W-BAT01)	
Fan life			8 years of continuous operation at 40°C	
Power consumption *	Maximum power consumption including drives and expansions	Intel® Core™ i7-4700EQ CPU	132 W	
		Intel® Core™ i5-4300U CPU	93 W	
		Intel® Celeron® 2980U CPU	84 W	
	Industrial Panel PC excluding drives and expansions	Intel® Core™ i7-4700EQ CPU	99 W	
		Intel® Core™ i5-4300U CPU	70 W	
		Intel® Celeron® 2980U CPU	63 W	
	Drives	HDD 320 GB	2 W	
		SSD SLC 32 GB	2 W	
		SSD SLC 64 GB	2 W	
		SSD MLC 128 GB	2 W	
	Expansions	USB	14 W max. ((2 x 500 mA at 5 V) + (2 x 900 mA at 5 V))	
		PCIe	Intel® Core™ i7-4700EQ CPU	
			15 W max.	
		PCIe	Intel® Core™ i5-4300U CPU	
			5 W max.	
		PCIe	Intel® Celeron® 2980U CPU	
			5 W max.	

**Note:** Refer to the *Industrial Panel PC User's Manual (W555)* for detail.

\* The total power consumption is the sum of the power consumption of all items that are installed in your Industrial Panel PC.

The required supply specifications for an Industrial Panel PC with an Intel® Core™ i7-4700EQ CPU.

Item	Minimum power requirements
Power supply	240 W
UPS	120 W

The required supply specifications for an Industrial Panel PC with an Intel® Core™ i5-4300U CPU or Intel® Celeron® 2980U CPU.

Item	Minimum power requirements
Power supply	120 W
UPS	120 W

## Components and functions

The intent behind our IPC platform is to empower engineers to become unstoppable in developing machines and factories that are better, faster and safer by giving them the freedom and flexibility to explore the opportunities provided by modern IT. In line with Omron's traditional quality standards, the Industrial Panel PC is designed to meet the demands of industrial users for maximum robustness and reliability.

### Powerful CPU options

Three powerful CPU options provide high performance for various applications.

### Fanless cooling for multiple CPU types

The Industrial Panel PC has passive cooling for multiple CPU types which means no moving parts and less maintenance effort.

### Easy access to storage devices and the PCI Express Card

Adding or changing storage devices (HDD, SSD) and the PCI Express Card is fast and simple.

### LED indicators



### DVI-I video interface

### 3 1Gbps Ethernet ports

### Built-in IO

### 4 USB ports

### Built-in SD Memory Card slot

### LCD touchscreen

### Multi-touch functionality

Up to 5 simultaneous touches are supported for complex functions.

## Operation Environment Specifications

Item	Specifications
Ambient operating temperature *1	0 to 55°C
Ambient storage temperature *1	-20 to 70°C
Ambient operating humidity *1	10% to 90% with no condensation
Ambient storage humidity *1	10% to 90% with no condensation
Operating atmosphere	No corrosive gases
Altitude	2,000 m max.
Noise resistance (during operation)	Conforms to IEC61000-4-4, 2kV (power lines)
Vibration resistance (during operation)	The vibration resistance depends on the storage device(s): <ul style="list-style-type: none"> <li>For a Panel PC with only SSD storage devices: 5 to 8.4 Hz with 3.5 mm single amplitude and 8.4 to 150 Hz with 9.8 m/s<sup>2</sup> for 10 times each in X, Y and Z directions. Conforms to IEC 60068-2-6.</li> <li>For a Panel PC with one or more HDD storage devices the Panel PC must be installed in a vibration free environment. *2</li> </ul>
Shock resistance (during operation)	Conforms to IEC 60028-2-27. 147 m/s <sup>2</sup> , 3 times in each X, Y and Z directions
Degree of protection	Front of Monitor: IP65 *3
Pollution degree	2 or less: Conforms to JIS B3502 and IEC 61131-2.
Applicable standards *4	EU Directives: EMC Directive 2014/30/EU (EN 61131-2)

\*1. The allowed ambient operating temperature and ambient humidity depend on product type, CPU type, mounting orientation, and storage device type.

\*2. A Panel PC with one or more HDD storage devices should not be used in applications subject to vibration.

Examples of applications subject to vibration:

- AGV (Automated Guided Vehicles)
- Rail vehicle
- Stacker crane
- Elevator
- Tableting machine
- Connector pin assembling machine
- Bending machine

Ensure your Panel PC with HDD does not vibrate. When in doubt use a Panel PC with SSD storage devices.

\*3. The Panel PC may not operate properly in locations subjected to oil splashes for extended periods of time.

\*4. Refer to the OMRON website ([www.ia.omron.com](http://www.ia.omron.com)) or contact your OMRON representative for the most recent applicable standards for each model.



## Storage Device Specifications

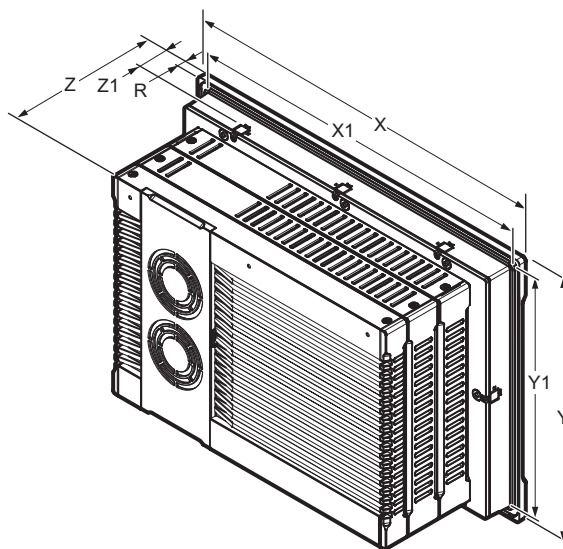
Item	Specifications			
Model	NY000-AS00	NY000-AS01	NY000-AS02	NY000-AH00 *1
Capacity	32 GB	64 GB	128 GB	320 GB
Type	SSD (SLC)		SSD (MLC)	HDD
S.M.A.R.T. support	Yes			
Rotation speed	—			5,400 r/min
Interface	Serial ATA 3.1			Serial ATA 3.0
Sustained standard read speed	Up to 160 MB/s		Up to 430 MB/s	—
Sustained standard write speed	Up to 150 MB/s		Up to 190 MB/s	—
Operating temperature	0 to 70°C			5 to 55°C
Operating humidity	10% to 95% (with no condensation)			<ul style="list-style-type: none"> <li>• 10% to 95% (with no condensation)</li> <li>• 29°C wet-bulb temperature max.</li> </ul>
Storage temperature	-40 to 100°C			-40 to 65°C
Storage humidity	10% to 95% (with no condensation)			<ul style="list-style-type: none"> <li>• 8% to 90% (with no condensation)</li> <li>• 40°C wet-bulb temperature max.</li> </ul>
Life	1,500 TB written / 11 years at a daily workload of 350 GB	3,000 TB written / 23 years at a daily workload of 350 GB	114 TB written / 3 years at a daily workload of 100 GB	Approximately 5 years or 20,000 powered-ON hours (whichever comes first) under the following conditions: <ul style="list-style-type: none"> <li>• 25°C at 101.3 kPa</li> <li>• Less than 333 powered-ON hours/month *2</li> <li>• Less than 20% operation while powered-ON *3</li> <li>• Less than <math>1.30 \times 10^6</math> seeks/month</li> </ul>

\*1. For a Panel PC with an HDD: this device can only be installed in a vibration free environment only.

\*2. Powered-ON hours include sleep and standby modes.

\*3. Operation includes seeking, writing, and reading functions.

## Dimensions



Item	Specifications	
	12.1 Inch	15.4 Inch
Panel preparation dimensions	Cutout Width X1 = $314^{+0}_{-1}$ mm Cutout Height Y1 = $216^{+0}_{-1}$ mm	Cutout Width X1 = $383^{+0}_{-1}$ mm Cutout Height Y1 = $259^{+0}_{-1}$ mm
Panel thickness range *	Panel thickness range Z1 = 1.6 to 6.0 mm	
Dimensions	Width X = 332 mm Height Y = 234 mm Depth Z = 121 mm	Width X = 401 mm Height Y = 277 mm Depth Z = 121 mm
Monitor thickness in front of panel	Rim thickness R = 8.0 mm	
Weight	6.1 kg	7.2 kg

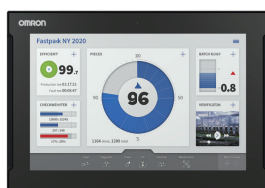
\* The minimum panel thickness depends on the panel material.

## Recommended Related Products



### Industrial Box PC NY-series

The Industrial Box PC is designed to meet the specific needs of the industrial environment. Design simplification and future-proof architecture minimize the risk of failure.



### Industrial Monitor NY-series

The Industrial Monitor is of key importance at the interface between operator and system. The Industrial Monitor is efficient, effective and highly visible with an attractive design.



### UPS S8BA-series

The OMRON S8BA UPS protects the Industrial PC from power failures, voltage variations and instantaneous voltage drops.

## Related Manuals

The following manuals are related. Use these manuals for reference.

Manual name	Cat. No.	Model numbers	Application	Description
Industrial Box PC User's Manual	W553	NYB17-□1□□□ NYB25-□1□□□ NYB1C-□1□□□	Learning all basic information about the Industrial Box PC. This includes introductory information with features, hardware overview, software overview, specifications, mounting, wiring, connecting, operating and maintaining the Industrial Box PC.	An introduction to the Industrial Box PC is provided along with the following information: <ul style="list-style-type: none"> <li>• Overview</li> <li>• Hardware</li> <li>• Software</li> <li>• Specifications</li> <li>• Installation</li> <li>• Operating Procedures</li> <li>• Maintenance</li> </ul>
Industrial Monitor User's Manual	W554	NYM15WC100□ NYM12WC100□	Learning all basic information about the Industrial Monitor. This includes introductory information with features, hardware overview, specifications, mounting, wiring, connecting, operating and maintaining the Industrial Monitor.	An introduction to the Industrial Monitor is provided along with the following information: <ul style="list-style-type: none"> <li>• Overview</li> <li>• Hardware</li> <li>• Software</li> <li>• Specifications</li> <li>• Installation</li> <li>• Operating Procedures</li> <li>• Maintenance</li> </ul>
Industrial Panel PC User's Manual	W555	NYP17-□1□□□-15WC100□ NYP17-□1□□□-12WC100□ NYP25-□1□□□-15WC100□ NYP25-□1□□□-12WC100□ NYP1C-□1□□□-15WC100□ NYP1C-□1□□□-12WC100□	Learning all basic information about the Industrial Panel PC. This includes introductory information with features, hardware overview, software overview, specifications, mounting, wiring, connecting, operating and maintaining the Industrial Panel PC.	An introduction to the Industrial Panel PC is provided along with the following information: <ul style="list-style-type: none"> <li>• Overview</li> <li>• Hardware</li> <li>• Software</li> <li>• Specifications</li> <li>• Installation</li> <li>• Operating Procedures</li> <li>• Maintenance</li> </ul>
UPS S8BA User's Manual	U702	S8BA	Learning the information that is necessary to use the Uninterruptible Power Supply (UPS) Unit.	An introduction to the UPS is provided along with the following information: <ul style="list-style-type: none"> <li>• Overview</li> <li>• Preparation</li> <li>• Installation and Connection</li> <li>• Check and Start Operation</li> <li>• Maintenance and Inspection</li> <li>• Shutdown Processing</li> <li>• I/O Signal Functions</li> <li>• Troubleshooting</li> </ul>

# Terms and Conditions of Sale

1. **Offer; Acceptance.** These terms and conditions (these "Terms") are deemed part of all quotes, agreements, purchase orders, acknowledgments, price lists, catalogs, manuals, brochures and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronics LLC and its subsidiary companies ("Omron"). Omron objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
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6. **Governmental Approvals.** Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
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8. **Financial.** If the financial position of Buyer at any time becomes unsatisfactory to Omron, Omron reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Omron may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.
9. **Cancellation; Etc.** Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Omron against all related costs or expenses.
10. **Force Majeure.** Omron shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
11. **Shipping; Delivery.** Unless otherwise expressly agreed in writing by Omron:
  - a. Shipments shall be by a carrier selected by Omron; Omron will not drop ship except in "break down" situations.
  - b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
  - c. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Omron), at which point title and risk of loss shall pass from Omron to Buyer; provided that Omron shall retain a security interest in the Products until the full purchase price is paid;
  - d. Delivery and shipping dates are estimates only; and
  - e. Omron will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
12. **Claims.** Any claim by Buyer against Omron for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Omron within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Omron in the condition claimed.
13. **Warranties.** (a) **Exclusive Warranty.** Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied. (b) **Limitations.** OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) **Buyer Remedy.** Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses 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. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty. See <http://www.omron247.com> or contact your Omron representative for published information.
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17. **Export Controls.** Buyer shall comply with all applicable laws, regulations and licenses regarding (i) export of products or information; (ii) sale of products to "forbidden" or other proscribed persons; and (iii) disclosure to non-citizens of regulated technology or information.
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1. **Suitability of Use.** Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases but the following is a non-exhaustive list of applications for which particular attention must be given:
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