

Powerful. Tough. Future-Proof.

Our NY industrial Box PC has been designed from first principles to be powerful, reliable and scalable, making it ideally suited to visualization, data handling, measuring and controlling. The latest insights in design simplification eliminates faults caused by complexity which, with other unique design features, maximizes uptime and reduces costs. The future will be IT driven: Omron's Industrial PC platform will make you part of it.



Features

- No internal cables to cut faults, maximizes uptime
- Unique simplified thermal design to reduce downtime
- Powerful Intel® Core™ technology for optimized performance
- Three Ethernet ports to increase connectivity
- USB3.0 for fast data-transmission
- Optional DVI port for dual monitor connectivity
- Optional NY Monitor Link interface for connectivity up to 100 m
- Free choice of drive technology: HDD, SSD and built-in SD card slot

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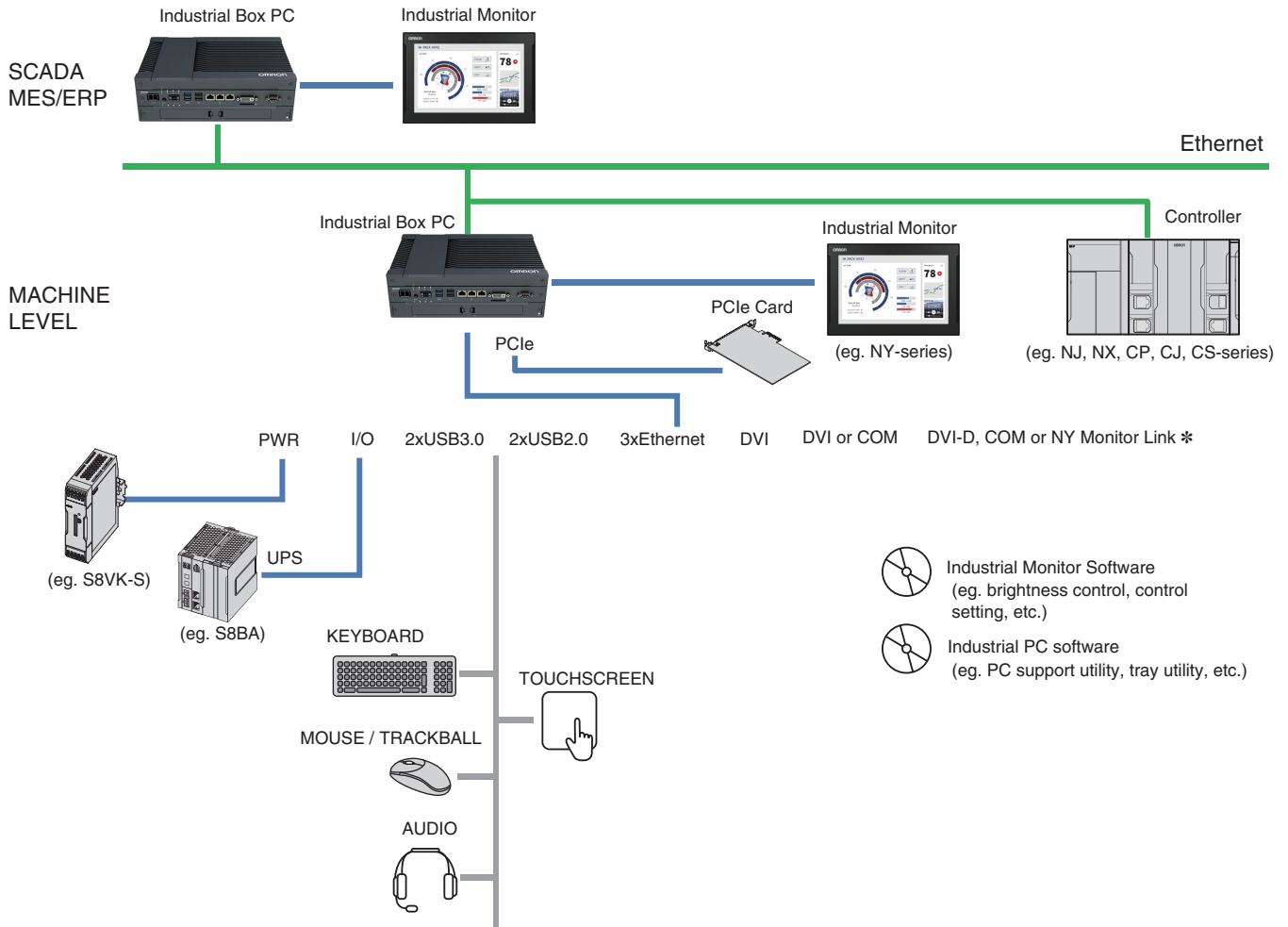
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The product photographs and figures that are used in this document may vary somewhat from the actual products.

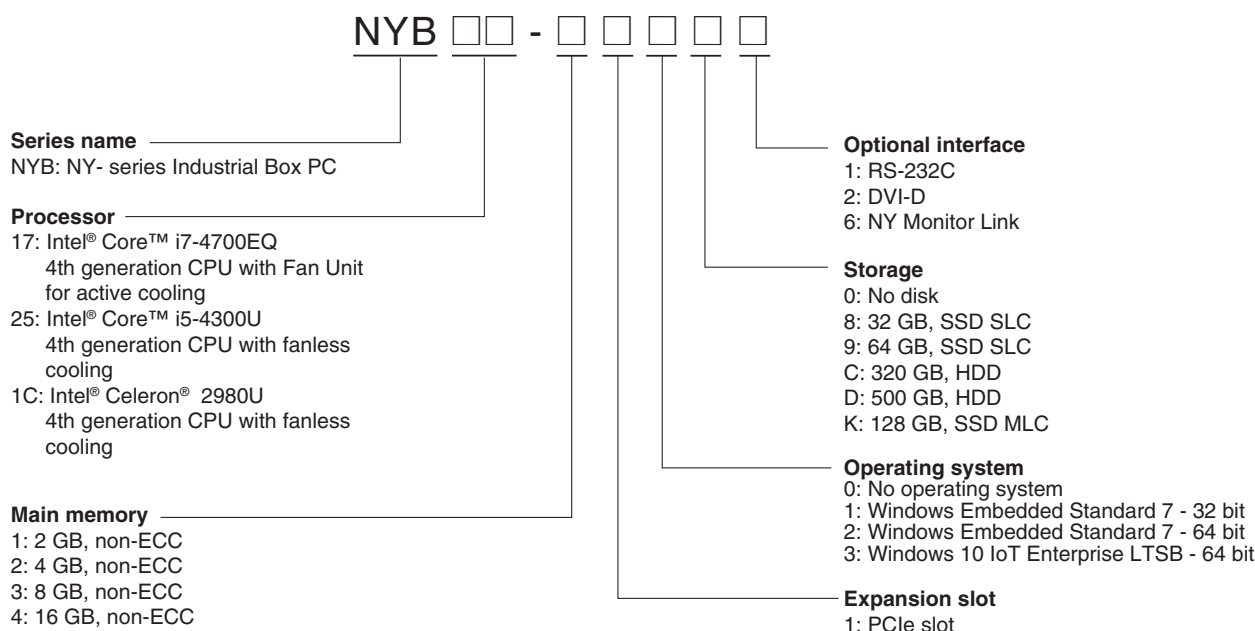
System Configuration



* NY Monitor Link option: Connect monitor up to 100 m via standard Ethernet cable.

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.



Ordering Information

NY-series Industrial PC Platform

Recommended models

The industrial Box 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	
	Operating system	CPU type	RAM memory (non-ECC type)	Storage size	Interface option		
Industrial Box PC	Windows 10 IoT Enterprise LTSB - 64 bit	Intel® Core™ i7-4700EQ	8 GB	128 GB SSD type (MLC)	RS-232C	NYB17-313K1	
				320 GB HDD type	RS-232C	NYB17-313C1	
				64 GB SSD type (SLC)	RS-232C	NYB17-31391	
		Windows 10 IoT Enterprise LTSB - 64 bit	Intel® Core™ i5-4300U	8 GB	128 GB SSD type (MLC)	RS-232C	NYB25-313K1
					320 GB HDD type	RS-232C	NYB25-313C1
					Intel® Celeron™ 2980U	8 GB	128 GB SSD type (MLC)
	320 GB HDD type	RS-232C	NYB1C-313C1				
	Windows Embedded Standard 7 - 64bit	Intel® Core™ i7-4700EQ	8 GB	128 GB SSD type (MLC)	RS-232C	NYB17-312K1	
		Intel® Core™ i5-4300U	8 GB	128 GB SSD type (MLC)	RS-232C	NYB25-312K1	
Intel® Celeron™ 2980U		8 GB	320 GB HDD type	RS-232C	NYB1C-312C1		

Accessories

Optional Hardware

Product name	Specifications	Model
Mounting Brackets *1	Book mount	NY000-AB00
	Wall mount	NY000-AB01
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: HDD Capacity: 500 GB	NY000-AH01
	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
Industrial Monitor	<ul style="list-style-type: none"> • LCD touchscreen • Multi-touch functionality • Supply voltage: 24 VDC • Up to 1,280 x 800 pixels at 60 Hz • 2 USB Type-A Connectors • Programmable brightness control • Standard and 100 m cable models are available. 	NYM1□W-C10□□
Power Supply	<ul style="list-style-type: none"> • Output voltage: 24 VDC • Push-In Plus terminal blocks 	S8VK-S□□□24
UPS *2	Output voltage during backup operation: 24 VDC ± 5%	S8BA
UPS Communication Cable	Cable length: 2 m Signals for <ul style="list-style-type: none"> • Signal output (BL, TR, BU, WB) • Remote ON/OFF input • UPS Stop Signal input (BS) 	S8BW-C02

*1. Select the required type.

*2. Revision number 04 or higher.

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

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 1 2 3 4

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

Spare Parts

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

Product name	Specifications	Model
Battery	One battery is supplied with the Industrial Box PC. The battery supplies power to the real-time clock. The battery is located inside the Industrial Box PC. Service life: 5 years at 25°C	CJ1W-BAT01
Fan Unit	The Fan Unit is available for the Industrial Box PC that has active cooling. Service life: 70,000 hours of continuous operation at 40°C with 15% to 65% relative humidity. Shelf life: 6 months This is the storage limitation with no power supplied.	NY000-AF00
Accessory Kit	Accessory Kit containing all accessories supplied with the Industrial Box PC. <ul style="list-style-type: none"> • Power connector • I/O connector • Drive bracket for drive installation • 4 mounting screws for drive installation • PCIe Card support for PCIe Card installation • PCIe Card clip for PCIe Card installation 	NY000-AK00

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 Box 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 Box 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	For the optional OMRON Industrial Monitor. 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	For the optional OMRON Industrial Monitor. 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	For the optional OMRON Industrial Monitor. 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.
Industrial PC Rescue Disk Creator	The Industrial PC Rescue Disk Creator creates a USB Rescue Disk which can be used to back-up and restore the Omron IPC Operating System. It is pre-installed on the Industrial Box PC and the Industrial Panel PC.

Specifications

Performance Specifications

Item		NYB17-□□□□□	NYB25-□□□□□	NYB1C-□□□□□	
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 or 16 GB	2, 4 or 8 GB	2, 4 or 8 GB
		Memory type	DDR3L (non ECC)		
	Trusted platform module (TPM)		<ul style="list-style-type: none"> • 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 Windows 10 IoT Enterprise LTSB - 64 bit			
Storage devices	Drives	Hard disk drive	• 320 or 500 GB	• 320 GB	
			• Serial ATA 3.0	• Serial ATA 3.0	
		Solid state drive	SLC type	• 32 GB or 64 GB • Serial ATA 3.1	
	MLC type		• 128 GB • Serial ATA 3.1		
Drive bays (HDD/SSD) *1		2	2	1	
Connectors	Power connector		• 24 VDC		
	I/O connector		2 inputs (UPS signal and power OFF control) and 1 output (Industrial Box PC power state)		
	USB2.0 Type-A	Number of ports	2		
		Maximum current	500 mA		
		Maximum cable length	5 m		
	USB3.0 Type-A	Number of ports	2		
		Maximum current	900 mA		
		Maximum cable length	3 m		
	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		
	NY Monitor Link	Video interface	Digital only		
		Resolution	1,280 x 800 pixels at 60 Hz		
		Connector type	RJ45		
Cable shielding, type and max. length		S/FTP, Cat.6A, 100 m			
USB data throughput	280 Mbps max.				
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.

Electrical Specifications

Item		NYB17-□□□□□	NYB25-□□□□□	NYB1C-□□□□□	
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 61131-2: 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		114 W	75 W	66 W
	Maximum power consumption excluding drives and expansions		81 W	52 W	45 W
	Drives	HDD 320 GB	2 W		
		HDD 500 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		15 W max.	5 W max.	5 W max.	

Note: Refer to the *Industrial Box PC User's Manual (W553)* for detail.

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

To guarantee S8BA UPS operation in combination with our IPC, the specified combination of UPS and power-supply must be used.

The required supply specifications for an Industrial Box 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 Box 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 Box PC is designed to meet the demands of industrial users for maximum robustness and reliability. All maintenance sensitive products (HDD/SDD, fan, battery, and PCIe Card) can be easily reached from the outside of the system. No need to open the electronics compartment, less risk on failure.

Optional connection

RS-232C, DVI-D or NY Monitor Link.
 NY Monitor Link allows high speed video and data communication over 100 m via standard Ethernet cable.

DVI-D video

Digital, up to 1,920 x 1,200 pixels at 60 Hz
 (Intel® Core™ i7: DVI-I (Digital or analog))

3x High speed Ethernet

10BASE-T, 100BASE-TX or 1000BASE-T

2x USB2.0

500 mA maximum current
 Maximum cable length: 5 m

2x USB3.0

900 mA maximum current
 Maximum cable length: 3 m

Indication LEDs

Robust Mechanics

Full metal housing with black industrial coating

Industrial Design

Winner of the 2016 Red Dot design award* for excellent industrial design



1x PCIe slot

Half Length Cards 6.6 inches
 Standard Height Cards 4.2 inches
 Easy PCIe mounting drawer

Intel® Core™ i7: X4 (4 lanes)
 Other CPUs: X1 (1 lane)

1x SD Memory Card slot

SDHC type (SD 2.0 specification)
 Up to 32 GB capacity

Storage

2.5 inch Solid State Drive (SSD) or Hard Disk Drive (HDD), 7 mm height

I/O (UPS connection)

Input:
 Power sequence signal
 Output:
 SPST-NO contact configuration
 24 VDC at 2 A switching capacity (resistive load)

Power switch

24 VDC Power

24 VDC non isolated
 Lockable power connector

* The Red Dot design award has been presented by the Design Zentrum Nordrhein Westfalen since 1955. It is one of the best-respected design competitions in the world, along with the iF award (Germany) and IDEA (the United States).

Environmental Specifications

Item		Specifications
Operation environment	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)	Conforms to IEC 60068-2-6. For a product with an SSD: 5 to 8.4 Hz with 3.5 mm single amplitude and 8.4 to 150 Hz with 9.8 m/s ² for 10 times each in X, Y and Z directions. For a product with a HDD the vibration resistance depends on the mounting orientation *2.
	Shock resistance (during operation)	Conforms to IEC 60068-2-27. 147 m/s ² , 3 times in each X, Y and Z directions
Installation method	Book mount, Wall mount	
Pollution degree	2 or less: Conforms to JIS B3502 and IEC 61131-2.	
Applicable standards *3	EU Directives: EMC Directive 2014/30/EU (EN 61131-2) and RoHS Directive KC Registration, RCM, cULus	

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

*2. Vibration resistance depends on the Industrial Box PC's mounting orientation and storage device type:

Mounting orientation	SSD	HDD
Book	9.8 m/s ²	2.5 m/s ²
Wall		4.9 m/s ²

*3. Refer to the OMRON website (www.ia.omron.com) or contact your OMRON representative for the most recent applicable standards for each model.

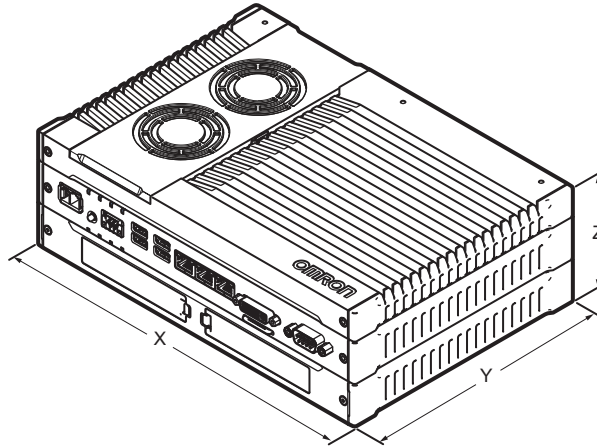
Storage Device Specifications

Item	Specifications				
Model	NY000-AS00	NY000-AS01	NY000-AS02	NY000-AH00	NY000-AH01
Capacity	32 GB	64 GB	128 GB	320 GB	500 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 190MB/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"> 10% to 95% (with no condensation) 29°C wet-bulb temperature max. 	
Storage temperature	-40 to 100°C			-40 to 65°C	
Storage humidity	10% to 95% (with no condensation)			<ul style="list-style-type: none"> 8% to 90% (with no condensation) 40°C wet-bulb temperature max. 	
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"> 25°C at 101.3 kPa Less than 333 powered-ON hours/month *1 Less than 20% operation while powered-ON *2 Less than 1.30 x 10⁶ seeks/month 	

*1. Powered-ON hours include sleep and standby modes.

*2. Operation includes seeking, writing, and reading functions.

Dimensions

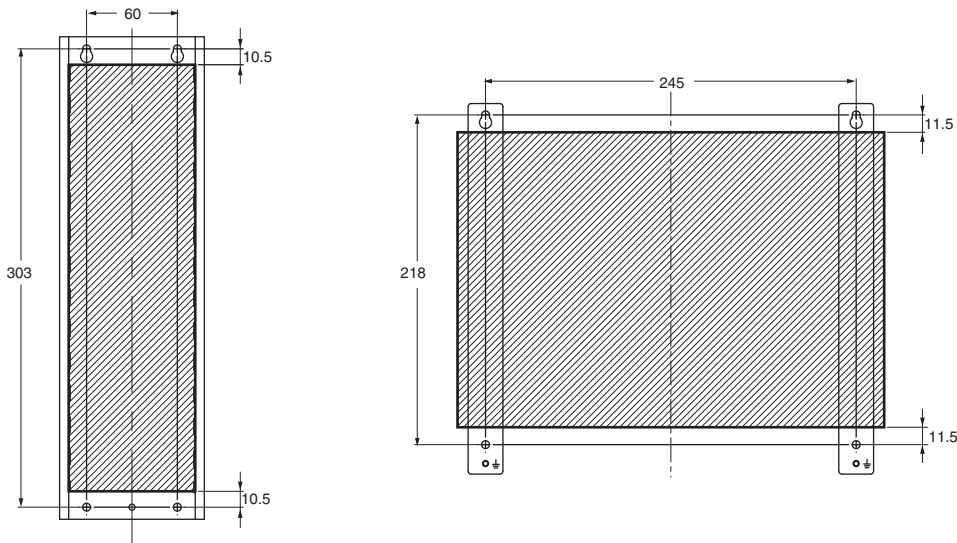


Item	Specifications
Dimensions	Width X = 282 mm Depth Y = 195 mm. Y = 200 mm including the DVI connectors. Height Z = 88.75 mm
Weight	3.8 kg

Bracket Specifications

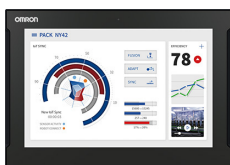
The metal mounting brackets mount your Industrial Box PC and they are the connection for the functional ground. Use metal screws with a diameter of 4 mm or 5 mm to mount the brackets.

Mounting screw locations for book mount and wall mount orientation:



(Unit: mm)

Recommended Related Products



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.



Industrial Panel PC NY-series

The Industrial Panel PC intelligently combines the functionality of the Industrial Box PC and Industrial Monitor. No cables are used between the two components, which ensures optimal signal distribution and reliable operation in industrial environments.



UPS S8BA-series

The OMRON S8BA UPS protects the Industrial Box 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"> • Overview • Hardware • Software • Specifications • Installation • Operating Procedures • Maintenance
NY-Series Industrial Box-PC without OS User's Manual	W586	NYB17-□10□□ NYB25-□10□□ NYB1C-□10□□	Learning about the Omron Industrial PC functionality without an installed Operating System	An introduction to the Industrial Box PC is provided along with the following information: <ul style="list-style-type: none"> • Overview • Hardware • Software • Specifications • Installation • Operating Procedures • Maintenance
Industrial Monitor User's Manual	W554	NYM15W-C10□□ NYM12W-C10□□	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"> • Overview • Hardware • Software • Specifications • Installation • Operating Procedures • Maintenance
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"> • Overview • Hardware • Software • Specifications • Installation • Operating Procedures • Maintenance

Manual name	Cat. No.	Model numbers	Application	Description
NY-Series Industrial Panel-PC without OS User's Manual	W587	NYP17-□10□□-15WC100□ NYP17-□10□□-12WC100□ NYP25-□10□□-15WC100□ NYP25-□10□□-12WC100□ NYP1C-□10□□-15WC100□ NYP1C-□10□□-12WC100□	Learning about the Omron Industrial PC functionality without an installed Operating System	An introduction to the Industrial Panel PC is provided along with the following information: <ul style="list-style-type: none"> • Overview • Hardware • Software • Specifications • Installation • Operating Procedures • Maintenance
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"> • Overview • Preparation • Installation and Connection • Check and Start Operation • Maintenance and Inspection • Shutdown Processing • I/O Signal Functions • Troubleshooting

Terms and Conditions Agreement

Read and understand this catalog.

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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 part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

Errors and Omissions.

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In the interest of product improvement, specifications are subject to change without notice.

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