Industrial automation

Elincom Group

European Union: www.elinco.eu

Russia: www.elinc.ru

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.



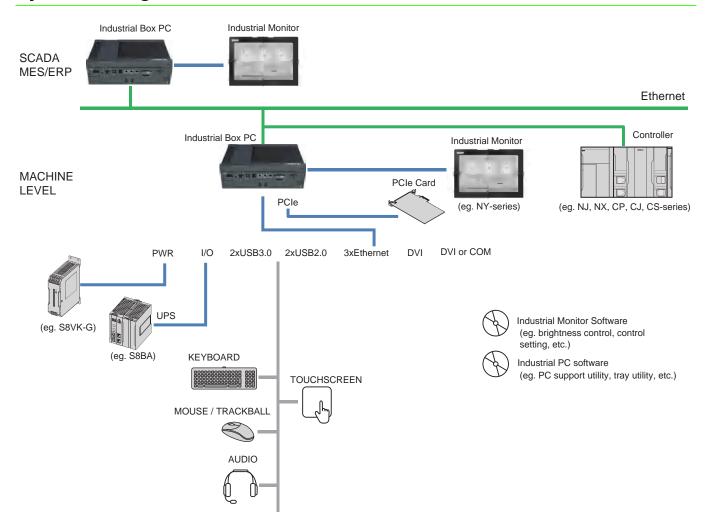
Features

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

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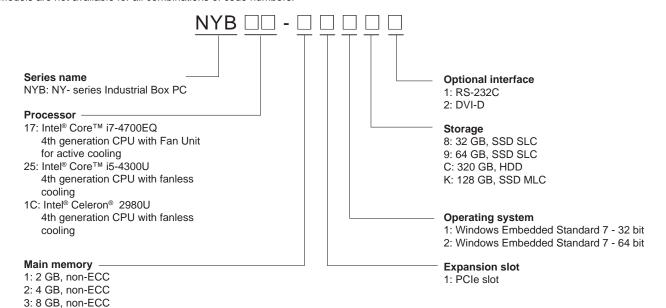
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System Configuration



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.



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.

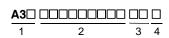
Product name	Operating system	CPU type	RAM memory (non-ECC type)	Storage size	Interface option	Model
		Intel® Core™ i7-4700EQ	8 GB	64 GB SSD type (SLC)	RS-232C	NYB17-31291
		Intel® Core™ i7-4700EQ	8 GB	320 GB HDD type	RS-232C	NYB17-312C1
	Windows Embedded Standard 7 - 64bit	Intel [®] Core™ i5-4300U	8 GB	128 GB SSD type (MLC)	RS-232C	NYB25-312K1
		Intel [®] Core™ i5-4300U	8 GB	320 GB HDD type	RS-232C	NYB25-312C1
Industrial Box		Intel® Celeron® 2980U	8 GB	320 GB HDD type	RS-232C	NYB1C-312C1
PC		Intel [®] Core™ i7-4700EQ	4 GB	64 GB SSD type (SLC)	RS-232C	NYB17-21191
	Windows Embedded Standard 7 - 32bit	Intel [®] Core™ i7-4700EQ	4 GB	320 GB HDD type	RS-232C	NYB17-211C1
		Intel® Core™ i5-4300U	4 GB	128 GB SSD type (MLC)	RS-232C	NYB25-211K1
		Intel® Core™ i5-4300U	4 GB	320 GB HDD type	RS-232C	NYB25-211C1
		Intel® Celeron® 2980U	4 GB	320 GB HDD type	RS-232C	NYB1C-211C1

Accessories

Optional Hardware

Product name	Specifications	Model
Mounting Brackets *1	Book mount	NY000-AB00
Mounting Brackets &	Wall mount	NY000-AB01
SD Memory Cards	Card type: SD Card Capacity: 2 GB Format: FAT16	HMC-SD291
SD Memory Cards	Card type: SDHC Card Capacity: 4 GB Format: FAT32	HMC-SD491
USB Flash Drives	Capacity: 2 GB	FZ-MEM2G
OSD I lasii Diives	Capacity: 8 GB	FZ-MEM8G
	Storage type: HDD Capacity: 320 GB	NY000-AH00
Storage Devices	Storage type: SSD SLC Capacity: 32 GB	NY000-AS00
Storage Devices	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	Cable length: 2 m USB 2.0 Minimum bend radius: 25 mm	FH-VUAB 2M
Cables	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
DVI Cables	Cable length: 5 m Supports DVI-D Minimum bend radius: 36 mm	NY000-AC00 5M
Industrial Monitor	 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 	NYM1□W-C100□
Power Supply	Output voltage: 24 VDC	S8VK-G□□□24
UPS *2	Output voltage during backup operation: 24 VDC ± 5%	S8BA
UPS Communication Cable	Cable length: 2 m Signals for Signal output (BL, TR, BU, WB) Remote ON/OFF input UPS Stop Signal input (BS)	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

^{*1.} Select the required type. ***2.** Revision number 04 or higher.

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. 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.

Specifications

Performance Specifications

	Ite	m		NYB17-0000	NYB25-□□□□□	NYB1C-□□□□□
		CPU type		Intel [®] Core [™] i7-4700EQ	Intel [®] Core™ i5-4300U	Intel® Celeron® Processor 29800
		Cores / Threa	ıds	4/8	2/4	2/2
	0011	CPU base fre	quency	2.4 GHz	1.9 GHz	1.6 GHz
	CPU	Maximum tur	bo frequency	3.4 GHz	2.9 GHz	_
		Cache		6 MB	3 MB	2 MB
	Cooling details		Requires active cooling (fan)	Passive cooling (fanless)		
Jain system	Memory size		4 or 8 GB	2, 4 or 8 GB	2, 4 or 8 GB	
Main system	Memory Memory type		DDR3L (non ECC)			
	Trusted platform module (TPM)		Ensure the integrity of the platform Disk encryption Password protection and other uses of encryption			
	Craphics cant	rallar		Intel® HD Graphics. Up to two independent screens.		
	Graphics cont	roller		Intel® HD Graphics 4600	Intel® HD Graphics 4400	Intel [®] HD Graphics
	Watchdog			Yes	1	<u>'</u>
Operating system	Windows OS			Windows Embedded Standar Windows Embedded Standar		
	Hard disk drive		ve	• HDD - 320 GB • Serial ATA 3.0		
Storage devices	Drives	Solid state	SLC type	SLC type - long life SSD 32 GB and 64 GB models Serial ATA 3.1		
		drive	MLC type	MLC type - industrial MLC 128 GB Serial ATA 3.1		
	Drive bays (HD	DD/SSD) *1		2	2	1
	Power connec	tor		• 24 VDC	1	'
	I/O connector			2 inputs (UPS signal and pow	er OFF control) and 1 output	(Industrial Box PC power stat
	USB 3.0			2 ports 900 mA maximum current 3 m maximum cable length		
Connectors	connectors	USB 2.0		2 ports 500 mA maximum current 5 m maximum cable length		
	Ethernet	Number of av	ailable ports	3		
	connectors	Physical laye	r	10BASE-T, 100BASE-TX or 1000BASE-T		
		Video interfa	ce	Digital or analog	Digital only	
	DVI-I connector	Resolution		Up to 1,920 x 1,200 pixels at 60 Hz		
	Connector	Maximum DV	I cable length	Dependent upon connected monitor type and resolution		
	RS-232C			Standard SUBD9 connector (Non-Isolated)		
Optional		Video interfa	ce	Digital only		
connector (select one per system)	DVI-D	Resolution		Up to 1,920 x 1,200 pixels at 60 Hz		
on by dening		Maximum DV	I cable length	Dependent upon connected monitor type and resolution		
	Configuration		X4 (4 lanes) up to Gen 3 X1 (1 lane) up to Gen 2			
PCIe Card Slot	Card height			Standard height cards, 4.20 inches (106.7 mm) *2		
	Card length			Half length cards, 6.6 inches		
	Model			CJ1W-BAT01		
Battery	Service life		5 years at 25°C			
	Model			NY000-AF00		
Fan unit	Service life				operation at 40°C with 15% to	65% relative humidity
LED	20.7.000			70,000 hours of continuous operation at 40°C with 15% to 65% relative humidity PWR, ERR, HDD, RUN		
1. Depending on the model one or two drives are supported.			, בונוג, ווסט, ונסוג			

^{*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 m	ax. for cold start at room temper	ature
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		
	Maximum power consumption including drives and expansions		114 W	75 W	66 W
	Industrial Box expansions	x PC excluding drives and	81 W	52 W	45 W
		HDD 320 GB	2 W		
Power consumption *	Drives	SSD SLC 32 GB	2 W		
	Drives	SSD SLC 64 GB	2 W		
		SSD MLC 128 GB	2 W		
		USB	14 W max. ((2 x 500 mA at 5 V) + (2 x 900 mA at 5 V))		
	Expansions	PCle	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 (standard SUBD9 connector) or DVI-D

DVI-D video

Digital, up to 1,920 x 1,200 pixels at 60 Hz (Intel® Core TM 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 PCle 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
	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
Onevetien	Altitude	2,000 m max.
Operation environment	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/s² 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 60028-2-27. 147 m/s², 3 times in each X, Y and Z directions
	Pollution degree	2 or less: Conforms to JIS B3502 and IEC 61131-2.
Applicable standard	ls *3	EU Directives: EMC Directive 2014/30/EU (EN 61131-2), KC Registration, RCM

^{*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.

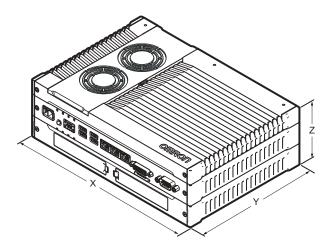
Storage Device Specifications

B	em Specifications				
Item		Specifi	cations		
Model	NY000-AS00	NY000-AS01	NY000-AS02	NY000-AH00	
Capacity	32 GB	64 GB	128 GB	320 GB	
Туре	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 condensa	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)			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: • 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 10° seeks/month	

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

^{*2.} Operation includes seeking, writing, and reading functions.

Dimensions

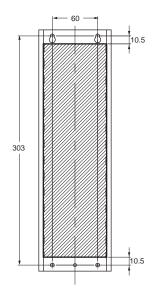


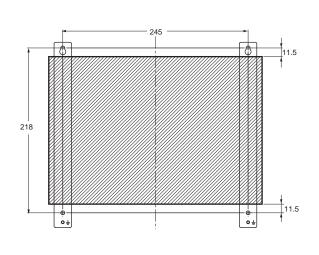
Item	Specifications	
Dimensions	Width X = 282 mm Depth Y = 195 mm. Y = 200 mm including the DVI connectors. Height Z = 88.75 mm	
Weight	3.8 kg	

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: • Overview • Hardware • Software • Specifications • Installation • Operating Procedures • Maintenance
Industrial Monitor User's Manual	W554	NYM15W-C100□ NYM12W-C100□	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: • Overview • Hardware • Software • Specifications • Installation • Operating Procedures • Maintenance
Industrial Panel PC User's Manual	W555	NYP1711-5WC100	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: 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: Overview Preparation Installation and Connection Check and Start Operation Maintenance and Inspection Shutdown Processing I/O Signal Functions Troubleshooting

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NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products.

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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.

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2016.12

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