

IPC Application Controller

State-of-the-art industrial computer optimized for advanced robot applications and high performance machine vision

- Built-in vision processor with 128GB SSD, optimized to process high resolution, high frame rate images
- Supports Omron "Manager" software packages (ie: Robot Vision Manager, PackManager, RecipeManager, 3D PickManager)
- Easy setup with ACE or Sysmac Studio
- Unique simplified thermal design to maximize uptime
- GigE PoE and USB 3.0 ports for increased connectivity and fast data transmission
- Supports up to 8 cameras simultaneously
- Compatible with Omron S8BA Series UPS
- Compact design minimizes panel space and allows 2 mounting orientations



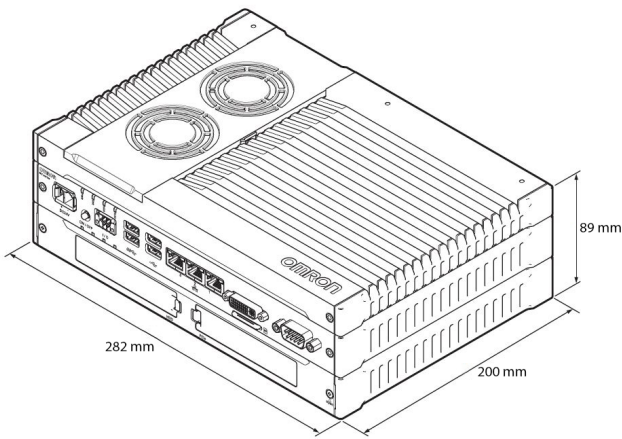
Specifications

Item		Specifications
Part Number		AC1-152000
Weight		3.8 kg
Grounding Method		Ground to less than 100 Ω
Dimensions (Height × Depth × Width)		89 × 200 × 282 mm
Main System	CPU	Intel® Core™ i5-7440EQ
	Main Memory	8 GB DDR4
	Trusted Platform Module	Available
	Graphics Controller	Intel® HD Graphics
	Watchdog	Yes
Operating System		Windows 10 IoT Enterprise LTSC - 64 bit
Storage Devices	Hard Drive	128 GB SSD Additional 3.5" hard drive slot available Additional SD memory card slot available, up to 32 GB capacity
Power Supply		20.4 to 28.8VDC
Power Consumption		97.6W (when using 2xUSB3.0 and 4xPOE Cameras)
Communications Port	Power Connector	24 VDC
	I/O Connector	2 inputs (UPS signal and power OFF control) and 1 output (Industrial Box PC power state)
	Ethernet Connector	Gigabit Ethernet x 3, Gigabit Ethernet with POE x 4 3W max power consumption per port
	USB	USB 3.0 x 4 (3m max cable length), USB 2.0 x 2 (5m max cable length)
	Display	DVI-Connector × 1 (up to 1,920 × 1,200 @60 Hz)
	RS-232C	Standard DSUB9 connector (Non-Isolated)
Battery	Part Number	CJ1W-BAT01
	Service Life	5 years at 25°C
Fan Unit	Part Number	NY000-AF00
	Service Life	70,000 hours of continuous operation at 40°C with 15% to 65% relative humidity
LED		PWR, ERR, HDD, RUN
Operation Environment	Ambient Temperature	0 to 55°C for operation, -20°C to 70°C for storage
	Humidity Range	10 to 90% (non-condensing)

Dimensions

(Unit: mm)

IPC Application Controller

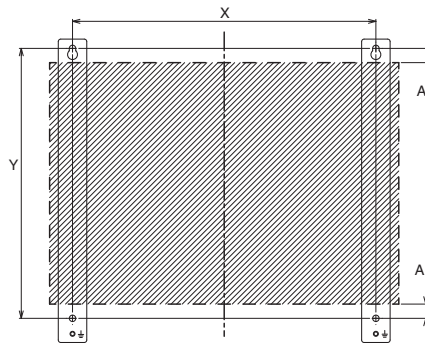
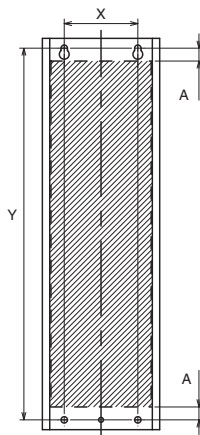


Dongle



Note: The dongle is bundled with the ACE License, which is not included in the IPC bundle. Insert the dongle into the USB port of the IPC Application Controller.

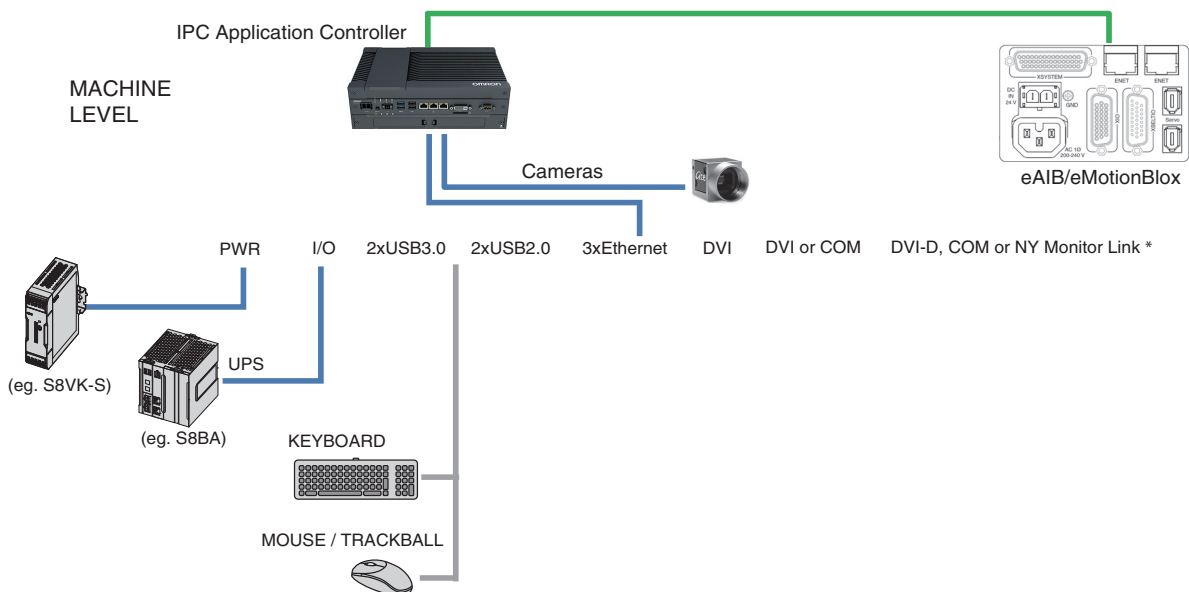
Bracket Dimensions



(Unit: mm)

Part Number	Bracket type	Drill Specifications			Product Dimensions	
		Hole Distance X	Hole Distance Y	Hole Distance A	Bracket Width	Bracket Height
NYB45-SPK	Book mount	60 mm	303 mm	11 mm	96 mm	319 mm
	Wall mount	245 mm	218 mm	12 mm	23 mm	245 mm

System Configuration



Accessories

Optional Hardware

Product name	Specifications	Part Number
Mounting Brackets	Book mount	NY000-AB00 NY000-AB04
	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: SSD, Capacity: 128 GB (same with default built in SSD)	NY000-AS04
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 part numbers 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	Output voltage during backup operation: 24 VDC \pm 5%	S8BA with revision number 04 or higher*
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. 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.

Spare Parts

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

Product name	Specifications	Part Number
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

*1. Only for part numbers with replaceable battery.

Electrical Specifications

Item	
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 *	-
Drives	-
SSD iMLC 128 GB	0.8 W
Expansions	-
USB	14 W max. ((2 x 500 mA at 5 V) + (2 x 900 mA at 5 V))
POE	3 W max.

Note: Refer to the *IPC Application Controller User's Manual (I632)* 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.

Item	Minimum power requirements	
Power supply	240 W	120 W
UPS	120 W	120 W

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 RCM, EAC	

*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 IPC Application Controller's mounting orientation and storage device type:

Mounting orientation	SSD
Book	9.8 m/s ²
Wall	

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

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