Wall mount type Solution-ePC series

SPF6SQ1700

This product is a compact-sized industrial computer that is compatible with 6th-generation (Skylake) and 7th-generation (Kaby Lake) Intel® Core™ series processors and adopts the Q170 chipset. In addition to a wide range of interfaces, the product also includes four PCI bus expansion slots and one PCI Express 2.0(x8) bus expansion slot. The product adopts a reliable, Japan-made power supply (made by Nipron).

Solution-ePC is an industrial-use computer that offers BTO (Build to Order) specifications to suit the requests of customers.
Only carefully selected components offering high reliability and stable supply are used, making the product suitable for industrial use.
Various selections and options are available to meet customer requests, including OS, CPU, memory, and storage options.

*The contents in this document are subject to change without notice.
*Visit the CONTEC website to check the latest details.
*The information in the data sheets is as of January, 2025.

Features

Compatible with Intel ® Core ™ processor series Skylake/Kaby Lake
Available with a power-saving, high-performance 6th- or 7th-generation Core processor for advanced computation and drawing performance while minimizing power consumption.

Compact wall-mounted design
The compact size allows for installation in spaces as small as 254 mm (W) × 410 mm (D) × 175 mm (H).

CPU and chipset designed for embedded devices
The adoption of embedded CPUs and chipsets makes it possible to ensure supply stability.

Expandable to up to five PCI and PCI Express slots
Take advantage of four PCI bus expansion slots and one PCI Express 2.0(x8) (x4 signal) bus expansion slot.

Rich variety of interfaces for freely expandable peripherals
It has a variety of extended interface such as PCI Express 2.0(×8) (x4 signal) x 1slot, PCI x 4, DVI-I x 1, 1000BASE-T x 2, USB3.2 Gen1 (USB3.0) x 5 (Max.), USB2.0 x 2, serial (RS-232C) x 2 (Max.), serial (RS-232C/RS-422A/RS-485) x 2 (Max.).

Reliable, Japan-made power supply
The power supply—an essential component of the product—is made in Japan for superior reliability and system performance.

Supported OS

Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean)

Windows 7 Professional for Embedded Systems SP1 32bit (Japanese / English)
(*When selecting a 6th-generation CPU processor only)

Windows Embedded Standard 7 32-bit (Japanese / English / Chinese / Korean)
(*When selecting a 6th-generation CPU processor only)

Included Items

Product [SPF6SQ1700] ...1
Power Cord...1
DVI-Analog RGB Branch Cable...1
Rubber Feet...4
Pan-head Screw (#6-32UNCx5)...12
3 Three-point Sems Screw (M3 x 6)...12
Hexagon-head Screw for Mount Bracket (#6-32UNCx5)...4
COM Cable...1 *1
Mount Bracket...1
Mouse...1 *1
Keyboard...1 *1
Product Guide...1
Slot Cover...1 *2

*1 Configuration differs depending on the selection.
*2 The number of included items varies depending on the selection.

Specifications

Function specification < *1 / 2* >

Item		Description			
		Celeron Type	Core-i3 Type	Core-i5 Type	Core-i7 Type
CPU [Selection]	6th-generation (Skylake)	Intel® Celeron® Processor G3900 2.8GHz	Intel® Core™ i3 Processor 6100 3.7GHz	Intel® Core™ i5 Processor 6500 3.2GHz	Intel® Core™ i7 Processor 6700 3.4GHz
	7th-generation (Kaby Lake)	Intel® Celeron® Processor G3930E 2.9GHz	Intel® Core™ i3 Processor 7101E 3.9GHz	Intel® Core™ i5 Processor 7500 3.4GHz	Intel® Core™ i7 Processor 7700 3.6GHz
Chip set		Intel® Q170			
BIOS		BIOS (mfd. by AMI)			
Memory [Selection]		Max16GB, 288pin SO-DIMM Socket x 2, PC4-17000(DDR4 2133) DDR4 SDRAM 4GB: 4GB DDR4 SO-DIMM 2133MHz ×1 8GB: 8GB DDR4 SO-DIMM 2133MHz ×1 16GB: 8GB DDR4 SO-DIMM 2133MHz ×2			
Graphic *1		DVI-I x 1			
Controller		Intel® HD Graphics 510 (6th-generation), 610 (7th-generation)	Intel® HD Graphics 530 (6th-generation), 630 (7th-generation)		
System resolution	Analog RGB	800 x 600, 1,024 x 768, 1,152 x 864, 1,280 x 600, 1,280 x 720, 1,280 x 768, 1,280 x 800, 1,280 x 960, 1,280 x 1024, 1,360 x 768, 1,366 x 768, 1,400 x 1,050, 1,440 x 900, 1,600 x 900, 1,600 x 1,200, 1,680 x 1,050, 1920 x 1080 (16,770,000 colors)			
	DVI-D	800 x 600, 1,024 x 768, 1,152 x 864, 1,280 x 600, 1,280 x 720, 1,280 x 768, 1,280 x 800, 1,280 x 960, 1,280 x 1,024, 1,360 x 768, 1,366 x 768, 1,400 x 1,050, 1,440 x 900, 1,600 x 900, 1,600 x 1,200, 1,680 x 1,050, 1,920 x 1,080, 1,920 x 1,200 (16,770,000 colors)			
Storage [Selection]		3.5-inch bay x 1, 5-inch bay x 1 SATA III 3.5-inch HDD 2TB or 512GB 3D TLC or 1TB 3D TLC (Max. 2pcs) Install using 3.5-inch bay × 1, 3.5-inch to 5-inch conversion bracket SATA III 2.5-inch SSD 256GB (MLC) or 512GB 3D TLC or 1TB 3D TLC (Max. 2pcs), 2.5-inch SSD 16GB (SLC) (Max. 1pcs) Install using 2.5-inch to 3.5-inch conversion bracket			
Optical drive		5-inch bay × 1 *Used exclusively for 5-inch bay × 1 storage device Super Multi drive			
Audio		None			
LAN		2 ports (RJ-45 connector) LAN-1: Intel I219-LM Controller, LAN-2: Intel I210-AT Controller 1000BASE-T/100BASE-TX/10BASE-T			
USB		A-TYPE connector Front : USB2.0 x 2 ports, Rear : USB3.2 Gen1 (USB3.0) x 1 ports [Selection] USB3.2 Gen1 (USB3.0) x 4 ports * Expansion slot region (2 ports/1 slot)			
Serial [Selection]		9pin D-SUB connector(male) * Expansion slot region (2 ports/1 slot) COM1/COM2 RS-232C COM3/COM4 RS-232C/RS-422A/RS-485 (Switchable via BIOS) Baud rate : 50 - 115,200bps			
Expansion slot		PCI bus ×4 slot Usable board dimension: Max. 313.8mm(L) x 107mm(H) PCI Express 2.0(x8) bus x 1 slot (x4 signal) Usable board dimension: Max. 169.55mm(L) x 111.15mm(H) *1			
Security (TPM)		TCG TPM2.0			
Hardware monitoring		Monitoring CPU temperature, system temperature, power voltage			
RTC/CMOS		The real-time clock is accurate within ±3 minutes (at 25°C) per month, Lithium backup battery life : 7 years or more			
Power Management		Power management setup via BIOS			
Supportable OS [Selection]		Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean) Windows 7 Professional for Embedded Systems SP1 32bit (Japanese / English) *2 Windows Embedded Standard 7 32-bit (Japanese / English / Chinese / Korean) *2			

*1 If the display cable is connected after the PC turns on, Monitor may not be displayed.

Function specification < 2 / 2 >

Item		Description			
		Celeron Type	Core-i3 Type	Core-i5 Type	Core-i7 Type
Power supply					
	Rated input voltage	100 - 240VAC (50/60Hz), Capacity : 450VA or less			
	Range of input voltage	90 - 264VAC			
	Power capacity	370W (Peak)			
	Allowable momentary power outage time	20mS or less			
	External device power supply capacity	Total for all external devices : 97W (Max.) Power capacity by voltage : +5V : 56W (Max.), +3.3V : 38W (Max.) +12V : 71W (Max.), -12V : 4W (Max.), 5VSB : 3W (Max.) Allowed external devices: USB3.2 Gen1 (USB3.0) devices, USB 2.0 devices, PCI bus boards, PCI Express bus boards			
Physical dimensions (mm)		254(W)×410(D)×175(H) (No protrusions)			
Weight		About 10.5kg (Excluding attachment fittings)			

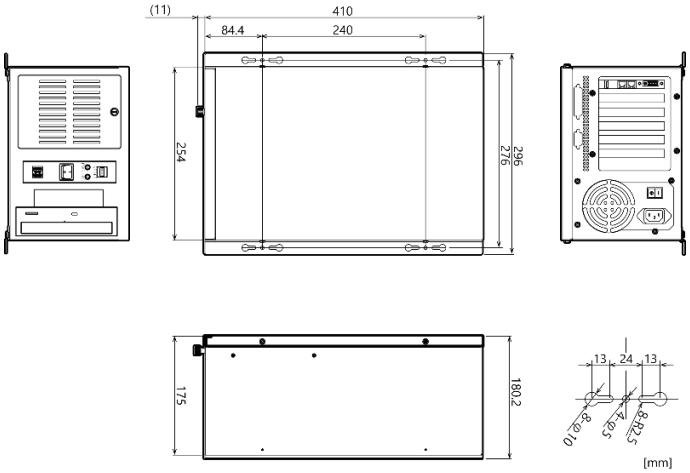
*1 When adding a USB3.2 Gen1 (USB3.0) port to ports 5 or 6, the port may interfere with the harness connector on the CPU board side depending on the size of the PCI Express board being mounted.
*2 When selecting a 6th-generation CPU processor only

Installation Environment Requirements

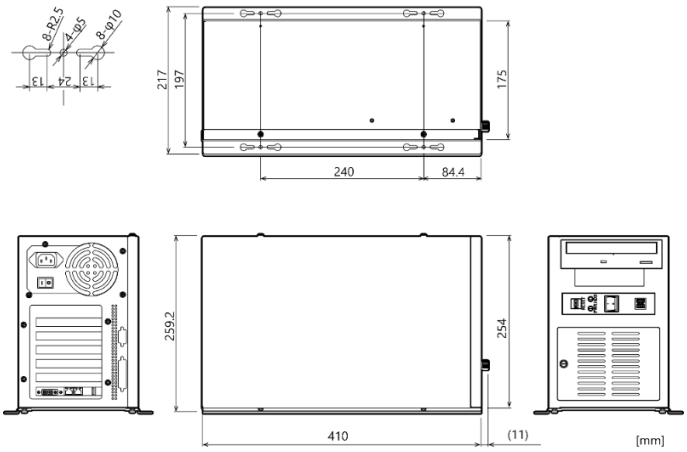
Item		Description
Operating temperature		5 - 40°C
Storage temperature		-20 - +60°C
Operating Humidity		20 - 80%RH (No condensation)
Storage Humidity		20 - 80%RH (No condensation)
Floating dust particles		Not to be excessive
Corrosive gases		None
Line-noise resistance	Line noise	AC line / ±2kV, Signal line / ±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
	Static electricity resistance	Contact discharge / ±4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Atmospheric discharge / ±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
Vibration resistance	Sweep resistance	- HDD built-in type (when current is applied) : 10 - 50Hz / 4.9m/s2 (0.5G), 25 min. each in x, y, and z directions (JIS C60068-2-6 compliant, IEC60068-2-6 compliant) * Excluding when the product is using the optical drive. - HDD built-in type (when current is not applied) and other types : 10 - 57Hz / semi-amplitude : 0.075 mm, 57 - 150Hz / 9.8m/s2 (1G), 40 min. each in x, y, and z directions (JIS C60068-2-6 compliant, IEC60068-2-6 compliant) * Excluding when the product is using the optical drive.
Impact resistance		98m/s^2 (10G) / 11ms / half-sine shock for 3 times in x, y, and z directions (JIS C60068-2-27 compliant, IEC60068-2-27 compliant) * Excluding the optical drive
Grounding		Class D grounding
Standard		VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, Low Voltage Directive, RoHS Directive), UKCA

External Dimensions

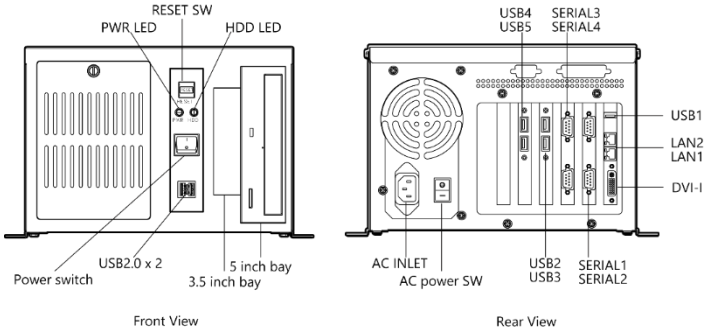
Horizontally placed



Vertically placed



Component Name



Name		Function
Front	PWR LED	Power ON display LED
	HDD LED	SATA device access display LED
	POWER SW	Power switch
	RESET SW	Reset switch
	5-inch bay	Equipped with DVD (Super multi drive) or storage (HDD, SSD) *1
	3.5-inch bay	Storage (HDD, SSD) *1
	USB2.0	USB2.0 (TYPE-A connector) 2 port (Front)
Rear	DVI-I	DVI-I 1 port
	USB 1	USB3.2 Gen1 (USB3.0) (TYPE-A connector) 1 port
	LAN 1	1000BASE-T/100BASE-TX/10BASE-T (RJ-45 connector) I219-LM: Ethernet
	LAN 2	1000BASE-T/100BASE-TX/10BASE-T (RJ-45 connector) I210-AT: Ethernet 2
	SERIAL 1/2 *1 *2 *3	RS-232C (9pin D-SUB connector (male)) 2 port COM1/COM2
	SERIAL 3/4 *1 *2 *3	RS-232C/RS-422A/RS-485 (9pin D-SUB connector (male)) 2 port COM3/COM4
	USB 2/3 *1 *2 *3	USB3.2 Gen1 (USB3.0) (TYPE-A connector) 2 port
	USB 4/5 *1 *2 *3	USB3.2 Gen1 (USB3.0) (TYPE-A connector) 2 port
	AC power SW	Main power switch
	AC INLET	AC100-240V Power input connector

*1 These may not be installed depending on the product configuration.
*2 These are exclusively used in expansion slots.
*3 SERIAL 1/2, SERIAL 3/4, USB 2/3, USB 4/5 Not all can be installed, maximum 3 slots can be installed.

Model List

SPF6SQ1700 Model Rule

Model Name **SPF6SQ1700**

Type Name **S70 - S 2 2 1 1 1 R 1 0 0 0 0 0**

No. 1 2 3 4 5 6 7 8 9 10 11 12 13

No.	Item	Type Name	Description
1	Power	**S**	Standard specification (370W mfd. by NIPRON)
2	CPU	**1**	Celeron G3900 (Skylake)
		2	Core i3 6100 (Skylake)
		3	Core i5 6500 (Skylake)
		4	Core i7 6700 (Skylake)
		5	Celeron G3930E (Kaby Lake)
		6	Core i3 7101E (Kaby Lake)
		7	Core i5 7500 (Kaby Lake)
		8	Core i7 7700 (Kaby Lake)
3	Memory	**1**	DDR4 DIMM 4GB (4GB x 1)
		3	DDR4 DIMM 8GB (8GB x 1)
		4	DDR4 DIMM 16GB (8GB x 2)
4	Storage 1	**0**	None
		2	2TB 3.5inch HDD
		A	256GB 2.5inch SSD (MLC) *2
		D	512GB 2.5inch SSD (3D TLC)
		F	1TB 2.5inch SSD (3D TLC)
5	Storage 2	**0**	None
		2	2TB 3.5inch HDD
		A	256GB 2.5inch SSD (MLC)
		C	16GB 2.5inch SSD (SLC)
		D	512GB 2.5inch SSD (3D TLC)
		F	1TB 2.5inch SSD (3D TLC)
6	Optics system drive (5inch bay)	**0**	None
		1	DVD Multi Drive
7	RAID	**0**	None
8	OS	**0**	None
		1	Windows 7 Professional for Embedded Systems SP1 32bit (Japanese / English) *1
		3	Windows Embedded Standard 7 32-bit (Japanese / English / Chinese / Korean) *1
		5	Windows 10 IoT Enterprise 2019 LTSC 64bit (Japanese / English / Chinese / Korean)
9	Mouse, Keyboard (Option)	**0**	None
		1	Mouse (USB)
		2	Japanese Keyboard (USB)
		3	Mouse (USB), Japanese Keyboard (USB)
		4	English Keyboard (USB)
		5	Mouse (USB), English Keyboard (USB)
10	COM / USB (Option)	**0**	None
		1	COM port x 2 (COM1/COM2)
		2	COM port x2 (COM1/COM2), USB3.2 Gen1 (USB3.0) port x 2
		3	COM port x2 (COM1/COM2), USB3.2 Gen1 (USB3.0) port x 4
		4	COM port x 2 (COM3/COM4)
		5	COM port x 2 (COM3/COM4), USB3.2 Gen1 (USB3.0) port x 2
		7	COM port x 4 (COM1/COM2/COM3/COM4)
		8	COM port x 4 (COM1/COM2/COM3/COM4), USB3.2 Gen1 (USB3.0) port x 2
		A	USB3.2 Gen1 (USB3.0) port x 2
		B	USB3.2 Gen1 (USB3.0) port x 4
11	Easy Assembly Service	**0**	None
12	Partitioning Service	**0**	None
		1	Yes
13	Reserved	**0**	Reserved

*1 Selectable only when 6th-generation CPUs are selected for CPU 1 to 4.
*2 Install in 3.5-inch bay

* COM1/COM2 : RS-232C, COM3/COM4 : RS-232C/RS-422A/RS-485