

# SPC-4000 Series

Intel Atom® x7-E3950/x5-E3930 Processor (Apollo Lake)  
Ultra-compact Fanless Embedded Box PC

- Quad Core Intel Atom® x7-E3950/x5-E3930 SoC (Apollo Lake-I) supports lower power consumption
- Fanless, -40°C to 75°C Operating Temperature
- Supports Lockable HDMI and VGA Dual Display, up to 4K resolution
- DDR3L 1866MHz memory supports up to 8GB
- 2 GigE LAN support IEEE 1588 (PTP)
- 4 COM RS-232/422/485 with 2 Isolated
- 16 Isolated DIO, 4 USB, 1 SIM Socket
- 3 Mini PCIe, 1 SATA III, 1 M.2
- 12V DC Power Input, optional supports 9V to 36V wide range DC power input
- TPM 2.0 supported



Robotic Control



Infotainment System



Factory Automation



Intelligent Control



# Specifications

## System

Processor	Intel Atom® x7-E3950/x5-E3930 Processor (Apollo Lake-I)
BIOS	AMI
SIO	IT8786E
Memory	1 DDR3L 1866MHz SO-DIMM, up to 8GB
OS	Windows 10, Linux

## I/O Interface

Serial	<b>SPC-4020/SPC-4020A</b> : 4 COM RS-232/422/485 with 2 Isolated <b>SPC-4010</b> : 2 Isolated COM RS-232/422/485 <b>SPC-4010C</b> : 2 COM RS-232/422/485
USB	- 2 USB 3.0 (External) - 4 USB 2.0 (2 External, 2 Internal)
DIO	16 Isolated DIO : 8 DI, 8 DO (SPC-4020/SPC-4020A)
LED	Power, HDD, Wireless
SIM	1 Internal SIM Card Socket

## Expansion

Mini PCIe	3 Mini PCIe Socket : - 1 Mini PCIe for PCIe/USB/SIM Card - 1 Mini PCIe for PCIe/USB/Optional mSATA - 1 Mini PCIe for PCIe/USB (SPC-4020/SPC-4020A)
M.2	1 M.2 Key B Socket (SPC-4020/SPC-4020A)

## Graphics

Graphics Processor	Intel® HD Graphics 505/500
Interface	- HDMI : Up to 3840 x 2160 @30Hz - VGA : Up to 1920 x 1440 @60Hz

## Storage

SATA	1 SATA III (6Gbps)
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	1 2.5" SSD/HDD Bracket (Internal)

## Audio

Audio Codec	Realtek ALC888S-VD, 7.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out

## Ethernet

LAN 1	Intel® I210 GigE LAN supports IEEE 1588
LAN 2	Intel® I210 GigE LAN supports IEEE 1588

## Power

Power Input	- Single 12V DC Power Input - Optional supports 9V to 36V DC Power Input (SPC-4020A only)
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Remote Switch	2-pin Terminal Block

## Others

TPM	Optional Infineon SLB9665 supports TPM 2.0, LPC Interface
Watchdog Timer	Reset: 1 to 255 sec./min. per step
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.

## Mechanical

Dimensions	<b>SPC-4020A</b> : 155mm x 111mm x 84mm (6.1" x 4.4" x 3.3") <b>SPC-4020</b> : 155mm x 111mm x 68mm (6.1" x 4.4" x 2.7") <b>SPC-4010/4010C</b> : 155mm x 111mm x 44mm (6.1" x 4.4" x 1.7")
Weight	<b>SPC-4020</b> : 1.1 kg (2.43 lb) <b>SPC-4010/4010C</b> : 0.8 kg (1.84 lb)
Mounting	- Wallmount by mounting bracket - DIN Rail Mount (Optional)

## Environment

Operating Temp.	-40°C to 75°C (-40°F to 167°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, Non-condensing
Relative Humidity	95% at 75°C
EMC	CE, FCC, EN50155, EN50121-3-2

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# Order Information

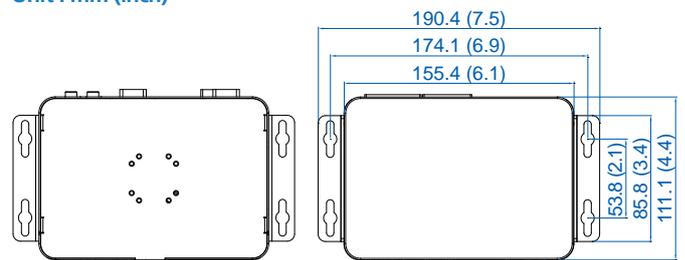
Model Name	CPU	GigE LAN	USB	COM (Isolated)	SIM	Mini PCIe	M.2	Isolated DIO	DC-in
SPC-4020A	Intel Atom® x7-E3950	2	4	4 (2)	1	3	1	16	9 - 36V
SPC-4020		2	4	4 (2)	1	3	1	16	12V
SPC-4010		2	4	2 (2)	1	2	-	-	12V
SPC-4010C	Intel Atom® x5-E3930	2	4	2 (0)	1	2	-	-	12V

## Accessories

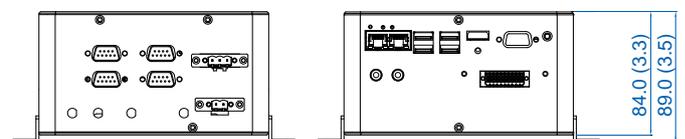
DDR3L8G	Certified DDR3L-1866/1600 8G RAM
DDR3L4G	Certified DDR3L-1866/1600 4G RAM
PWA-160W-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-135W-WT-12V	135W, 12V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-120W	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-100W-12V	100W, 12V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-60WP3	60W, 24V/2.5A 90V AC to 264V AC Power Adapter with 3-Pin 3.5mm Terminal Block
PWA-60WP3-WT	60W, 24V/2.5A 90V AC to 264V AC Power Adapter with 3-Pin 3.5mm Terminal Block, Wide Temperature -30°C to +70°C
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna

# Dimensions & Drawing

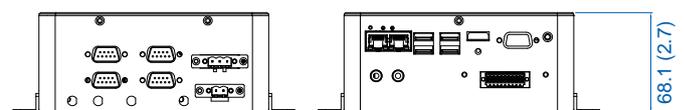
Unit : mm (inch)



## SPC-4020A



## SPC-4020



## SPC-4010/4010C

