



*Industrial PC*

## Spectra PowerBox 3100F-Series

Industrial Box-PC | Alder Lake

### Features

- Robust Box-PC in an attractive industry design
- Supports 12th Generation Intel® Xeon® & Core™ i7/i5/i3
- 1 PCIe Expansion Slots
- Sockets for various expansions (digital I/Os, Gigabit-LAN, WLAN, PoE, M12...)
- Wide range voltage: 9 – 48 V, with voltage monitoring
- Several flexible mounting and equipment possibilities (external fan, power adapter holder)

# Spectra PowerBox 3100F

## Technical Data

### Pre-defined Systems (pre-configured)

Model	Spectra PowerBox 31F Essential 2	Spectra PowerBox 31F Essential 2 Wide Temp	Spectra PowerBox 31F Advanced 2	Spectra PowerBox 31F Advanced 2 Wide Temp
Article n°	172482	172483	172484	172485
Processor	Intel® Core™ i3-12100TE	Intel® Core™ i3-12100TE	Intel® Core™ i5-12500TE	Intel® Core™ i5-12500TE
RAM	8 GB	8 GB WT	8 GB	8 GB WT
SSD	256 GB 2.5" SATA-6G	256 GB 2.5" SATA-6G WT	256 GB 2.5" SATA-6G	256 GB 2.5" SATA-6G WT
Operating system	Microsoft® Windows® 10 IoT Enterprise 2021 LTSC, 64-bit, German / English			
Operating temperature	0°C ~ +45°C	-40°C ~ +50°C	0°C ~ +45°C	-40°C ~ +50°C

### Basic Device / Barebone (unconfigured)

Motherboard with Processor Support for	12. Generation Intel® Alder Lake-S Series: <ul style="list-style-type: none"> <li>Intel® Core™ i9-12900E 16 Cores Up to 5 GHz, TDP 65W</li> <li>Intel® Core™ i7-12700E 12 Cores Up to 4.8 GHz, TDP 65W</li> <li>Intel® Core™ i5-12500E 6 Cores Up to 4.5 GHz, TDP 65W</li> <li>Intel® Core™ i3-12100E 4 Cores Up to 4.2 GHz, TDP 60W</li> <li>Intel® Core™ i9-12900TE 16 Cores Up to 4.8 GHz, TDP 35W</li> <li>Intel® Core™ i7-12700TE 12 Cores Up to 4.7 GHz, TDP 35W</li> <li>Intel® Core™ i5-12500TE 6 Cores Up to 4.3 GHz, TDP 35W</li> <li>Intel® Core™ i3-12100TE 4 Cores Up to 4.0 GHz, TDP 35W</li> <li>Intel® Pentium® G7400E 2 Cores Up to 3.6 GHz, TDP 46W</li> <li>Intel® Pentium® G7400TE 2 Cores Up to 3.0 GHz, TDP 35W</li> <li>Intel® Celeron® G6900E 2 Cores Up to 3.0 GHz, TDP 46W</li> <li>Intel® Celeron® G6900TE 2 Cores Up to 2.4 GHz, TDP 35W</li> </ul>
Chipset	Intel® R680E
Memory Socket	2 x DDR5 4800 MHz SO-DIMM, max. 64 GB

### Controllers & Interfaces

Ethernet	1 x Intel® i219 Gigabit-LAN, 1 x Intel® i210 Gigabit-LAN
Graphics	Integrated Intel® UHD Graphics 770 (Core i9/i7/i5) ; Graphics 730 (Core i3); Graphics 710 (Pentium/Celeron)
Audio	Realtek ALC888 HD
Front I/O	<ul style="list-style-type: none"> <li>2 x USB 3.2 Gen2</li> <li>1 x HDMI (3840 x 2160 @ 30 Hz)</li> <li>1 x DP (4096 x 2304 @ 60 Hz)</li> </ul>
Rear I/O	<ul style="list-style-type: none"> <li>4 x USB 3.2 Gen1, 2 x USB2.0</li> <li>2 x RJ45</li> <li>2 x RS-232/422/485, Auto Flow Control (5V/12V), DB9</li> <li>1 x VGA (1920 x 1080 @ 60 Hz), 1 x DP (4096 x 2304 @ 60 Hz)</li> <li>1 x Line-out, 1 x Mic-in, 1 x PS/2</li> </ul>

### Drives & Expansions

Storage Socket	<ul style="list-style-type: none"> <li>2 x 2.5" SATA HDD/SSD (Pre-defined System: 1 of which taken)</li> <li>3 x mSATA (over mPCIe-Slot)</li> <li>1 x M.2 2280 M-Key (PCIe Gen3 x4 NVMe or SATA 3.0 SSD)</li> <li>RAID 0/1/5/10</li> </ul>
PCI/PCIe/mPCIe Slots	<ul style="list-style-type: none"> <li>1 x PCIe (for cards max. 111 x 237 mm (Hx L))</li> <li>3 x Full-Size Mini-PCIe</li> </ul>
Other Slots	<ul style="list-style-type: none"> <li>4 x Slot (proprietary) for optional I/O Expansions</li> <li>2 x SIM</li> <li>1 x Interface for opt. Power Ignition Module</li> </ul>
Antenna cut-outs	2 x for wireless communication

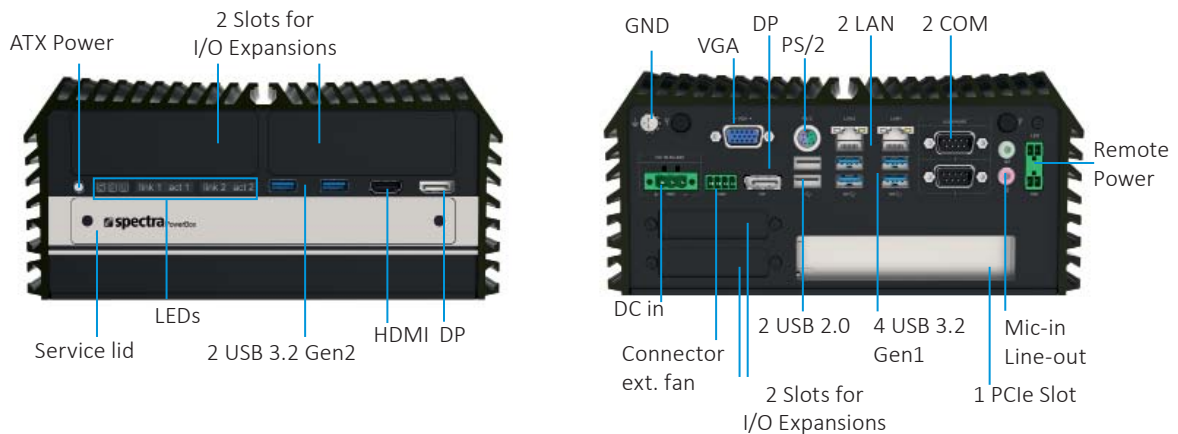
# Spectra PowerBox 3100F

## Technical Data

### Further Data

Power	AT/ATX 9~48 V DC
Temperatures	<ul style="list-style-type: none"> <li>Operating temperature           <ul style="list-style-type: none"> <li>- 35W TDP CPU: -40°C to 70°C (with extended temperature Peripherals)</li> <li>- 65W TDP CPU: -40°C to 50°C (with extended temperature Peripherals and external Fan kit)</li> </ul> </li> <li>Storage temperature -40°C to +85°C</li> <li>Relative humidity 95% @ 70°C, non condensing</li> </ul>
Dimensions (W x H x D)	227 x 108 x 261 mm
Weight (net/gross)	Basic Device: 5 kg / 5,7 kg Pre-defined System: 7,3 kg / 8,1 kg
Mounting	Wall
Warranty	24 Months
Packing List	<ul style="list-style-type: none"> <li>2 x rails for Wall mount</li> <li>Pre-defined System: Microsoft® Windows® Recovery Medium</li> </ul>

### Interfaces



### Futher models of the Spectra PowerBox 3000F-Series



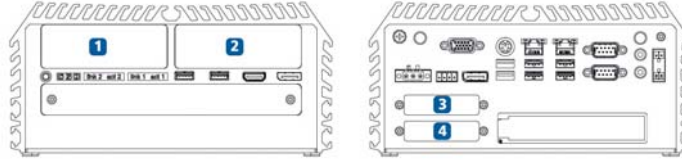
Spectra PowerBox 30F  
without PCIe Slot



Spectra PowerBox 32F  
with 2x PCIe Slots

# Spectra PowerBox 3100F

## Extended Equipment



### Multi-IO Modules

and possible assignment of the expansion slots

	1	2	3	4
4 x Intel I210 1GbE LAN, RJ45 variants: M12 A-Coded, M12 X-coded connector	✓	✓	–	–
2 x Intel X550 10GbE LAN, RJ45	✓	–	–	–
16 DIO (8 x in / 8 x out)	✓	✓	–	–
4 x RS-232/422/485, DB9*	✓	✓	–	–
4 x RS-232, DB9, isolated*	✓	✓	–	–
2 x RS-232, DB9	–	–	✓	✓
2 x LAN, RJ45	–	–	✓	✓
2 x USB 3.2 Gen 1	–	–	✓	✓

\* Max. 1 COM Module per System possible



### Further optional accessories - Ask us!

- Riser cards for 1 PCI
- External fan, 4-pin Terminal Block
- PoE Control Function, 25.5 W/Port
- Power Ignition Sensing, 12V/24V selectable
- Power Adapter: 120W 24V/5A  
or 220W 24V/9.2A (when use of PoE Function)



### Dimensions

(Unit: mm)

