



*Industrial PC*

## Spectra PowerRack 6000 /S10 SW680 High End System 2

19"-4U Industrial Workstation

### Features

- High-End 19"-Industrial PC for industrial Workstation applications
- Optimised cooling system with highly efficient power supply unit
- Long-term available Workstation Mainboard with Intel® W680 chipset
- Intel® Core™ i7-12700K and 32 GB DDR5 RAM
- 4 x PCIe 5.0/3.0, 1 x PCI
- 1 x 1 TB M.2 NVMe PCIe(x4) 4.0 SSD as System drive and  
2 x 2 TB 2.5" SATA SSD as Data drive (RAID 1)
- Nvidia RTX A4500 20GB Profi-Graphics card with 4 x mDP1.4a
- 1 x onboard Intel® 2.5Gigabit-LAN with 1 x RJ45
- 1 x onboard Intel® Gigabit-LAN with 1 x RJ45
- 3 x USB3.2 Gen2 Typ A, 1 x USB3.2 Gen2x2 Typ C



# Spectra PowerRack 6000/S10 SW680

## Technical Data

### System

CPU	<ul style="list-style-type: none"> <li>• Intel® Core™ i7-12700K (Alder Lake)</li> <li>• Socket: FCLGA1700</li> <li>• Performance Cores/Threads: 8/16 Clock Frequency: 3,6 - 4,9 GHz</li> <li>• Efficient Cores /Threads: 4/4 Clock Frequency: 2.7 - 3.8 GHz</li> <li>• Power consumption Ground/Maximal: 125/190 W</li> </ul>
CPU Cooler	<ul style="list-style-type: none"> <li>• Noctua</li> <li>• Fan: 4-pin PWM (450 - 2.000 U/min)</li> <li>• max. dB(A): 22,6</li> </ul>
Chipset	Intel® W680 (Alder Lake) Workstation chipset
DIMM-Socket	<ul style="list-style-type: none"> <li>• 4 x 288-pin DIMM</li> <li>• max. 128 GB ECC/non-ECC Unbuffered DIMM, DDR5-PC4400</li> </ul>
RAM	<ul style="list-style-type: none"> <li>• 32 GB (2 x 16 GB) DDR5 ECC UDIMM</li> </ul>
System monitoring	Temperature, Voltage, fan speed
System management	<ul style="list-style-type: none"> <li>• IAMT, vPro</li> <li>• Watchdog</li> <li>• TPM (optional)</li> </ul>

### Controllers

Graphics	<p>Add-on Graphics card PNY Nvidia RTX A4500</p> <ul style="list-style-type: none"> <li>• Interface: PCIe(x16) 4.0</li> <li>• VRAM: 20 GB GDDR6, 320-bit @ 640 GB/s</li> <li>• CUDA Cores: 7.168</li> <li>• FP32-Computing Power: 23,7 TFLOPs</li> <li>• Ray Tracing-Computing Power: 46,2 TFLOPs</li> <li>• Tensor-Computing Power: 189,2 TFLOPs</li> <li>• Connectors: 4 x DP1.4</li> <li>• Resolutions: <ul style="list-style-type: none"> <li>2 x 7680 x 4320 @ 60 Hz (8K)</li> <li>4 x 5120 x 2880 @ 60 Hz (5K)</li> <li>4 x 4096 x 2160 @ 120 Hz (4K)</li> </ul> </li> <li>• APIs: Shader Model 5.17, OpenGL 4.68, DirectX 12.07, Vulkan 1.2, CUDA, DirectCompute, OpenCL</li> <li>• Power consumption: max. 200 W</li> </ul> <p>(Onboard-Grafik Intel® UHD 770 deactivated)</p>
Network	<ul style="list-style-type: none"> <li>• 1 x 2.5 Gigabit-LAN Intel® i225V</li> <li>• 1 x Gigabit-LAN Intel® i219LM</li> </ul>
Audio	<ul style="list-style-type: none"> <li>• ALC 8885 HD 6-Channel Audio</li> <li>• S/PDIF Out</li> </ul>

### Expansion Slots

PCI-Express	<ul style="list-style-type: none"> <li>• Slot 7 (CPU): PCIe(x16) 5.0, reserved for Graphics Card</li> <li>• Slot 6: NA</li> <li>• Slot 5 (PCH): PCIe(x4) 3.0, free</li> <li>• Slot 4 (CPU): PCIe(x8 in x16) 5.0, NA (Slot 7 and 4 Optionally also configurable as x8/x8)</li> <li>• Slot 3: NA</li> <li>• Slot 2: PCIe(x4) 3.0, free</li> <li>• Slot 1: 32-bit PCI (5V)</li> </ul>
Others	<ul style="list-style-type: none"> <li>• 3 x M.2 NVMe PCIe(x4) 3.0 (2280), M-Key, RAID 0, 1, 5 (one of which reserved for system drive)</li> </ul>

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### Drives

Connectors	<ul style="list-style-type: none"> <li>• 8 x SATA-6G (RAID 0,1,5,10) (2x reserved)</li> <li>• 3 x NVMe PCIe(x4) 4.0 (1x reserved)</li> </ul>
Installed drives	<ul style="list-style-type: none"> <li>• System-drive: 1 x SSD, 1 TB, M.2 NVMe PCIe(x4) 4.0, Seq. R/W: max. 7.000/5.000 MB/s, Reliability: &gt;600 TBW</li> <li>• Data-drives: 2 x 2.5" SSD, 2 TB, SATA-6G, Seq. R/W: max. 560/530 MB/s, Reliability: &gt;1300 TBW RAID1</li> </ul>

### Interfaces

Front	<ul style="list-style-type: none"> <li>• 1 x USB 3.2 Gen 2x2 (20 Gbps), Typ-C</li> <li>• 2 x USB 3.2 Gen 1 (5 Gbps), Typ-A</li> <li>• 1x Line-in, 1 x Mic</li> </ul>
Rear	<ul style="list-style-type: none"> <li>• 1 x USB3.2 Gen2x2 (20 Gbps), Typ C</li> <li>• 3 x USB3.2 Gen2 (10 Gbps), Typ A</li> <li>• 2 x USB2.0 (480 Mbps)</li> <li>• 1 x RJ45 (2,5-GLAN)</li> <li>• 1 x RJ45 (GLAN)</li> <li>• 4 x DP1.4a</li> <li>• 1 x DP 1.4a, 1 x HDMI 2.1, 1 x DVI-D (all inactive)</li> <li>• 6 x Audio</li> <li>• AC input</li> </ul>
Internal (not activated)	<ul style="list-style-type: none"> <li>• 1 x USB3.2 Gen1 (vertical, Typ A)</li> <li>• 2 x USB2.0</li> <li>• 1 x RS-232</li> <li>• 1 x TPM-Socket</li> </ul>

### Mechanical & Environment Conditions

Chassis	<ul style="list-style-type: none"> <li>• 19"-4U Steel chassis aus Stahl</li> <li>• Removable frames for 2 x 2.5" HDD/SSD (optional for 4 x 2.5")</li> <li>• Front-Panel: 1 x Power, 1 x Reset</li> <li>• Color: Black</li> </ul>
Dimensions (WxHxD)	483 (430) x 176 x 468 mm
Weight	approx. 15 kg
Temperatures	<ul style="list-style-type: none"> <li>• Operating temperature: 0°C to +50°C</li> <li>• Relative humidity: 10% to 85%, non condensing</li> </ul>
Power supply	<ul style="list-style-type: none"> <li>• Power: 1.000 W</li> <li>• Input: 100 – 140 VAC / 7,5 A-5,2 A, 180 – 240 VAC / 4,5 A – 3,5 A, 50 - 60 Hz</li> <li>• Output: 25A@+3,3V, 25A@+5V, 83A@+12V, 0,3A@-12V, 3A@+5VSB</li> <li>• Efficiency: 80+ Titanium (96% @50% @230VAC)</li> </ul>
Operating system	Microsoft® Windows® 10 IoT Enterprise LTSC 2021, 64-bit, German/English
Warranty	24 Months
Certificates	CE, FCC Class A

### Ordering Information

Article number	168105
Description	Spectra PowerRack 6000/10 SW680 High End System 2 19"-PC, 4U, 1000W PSU, i7-12700K CPU, 32 GB RAM, 1 TB M2, 2x 2 TB SSD, Win10IoT

# Spectra PowerRack 6000/S10 SW680

## System Detail views

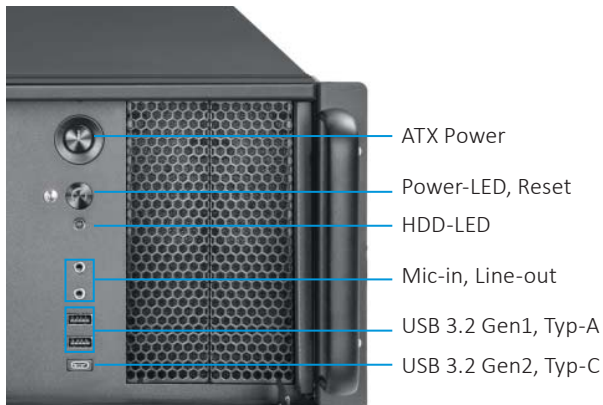
Front (Front cover open)



Rear



Front-Panel



Side (left)



Inside



Upright as Tower



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