

pMCS portable PXIe Measurement & Control System

HW-1693BAT

Built-in ultra-long-life smart lithium battery
Optional high-capacity external smart lithium battery to realize long-term operation of equipment
Compliant with PXIe/PXI bus standard specifications
HW-1693BAT(G3) and HW-1693BAT(G2) are available for selection

HW-1693BAT(G3)

Built-in HOUWU® PXIe-9180 controller
Built-in HOUWU® 3U 9-slot PXIe Gen3.0 high-speed backplane
One 3U PXIe system slot
Seven 3U PXIe/PXI hybrid expansion slots and one 3U PXIe timing slot
System slot bandwidth 24GB/s
Each expansion slot has a dedicated bandwidth 8GB/s

HW-1693BAT(G2)

Built-in HOUWU® PXIe-9170 controller
Built-in HOUWU® 3U 9-slot PXIe backplane
One 3U PXIe system slot and eight 3U PXIe/PXI hybrid expansion slots
System slot bandwidth 8GB/s
Three 4GB/s expansion slots and five 2GB/s expansion slots

Compatible with PXIe/PXI modules such as data acquisition, modular instruments, aviation bus, FPGA, etc.
Built-in system status monitoring and management software HMCSP
Built-in smart lithium battery monitoring and management software HBSSM
All aluminum magnesium alloy reinforced compact design
Special impact resistant corners and reinforced silicone handle design
15.6" high-definition industrial display with 1920x1080 resolution
Industrial resistive touch screen, industrial touch pad and waterproof silicone keyboard
9V~32V DC power supply wide voltage input (with dedicated 24V power adapter)
Power input with aviation connector design
PXIe cage retracted 140mm design
Flexibly customizable IO interface with aviation connector



HW-1693BAT方案

The industry's first 15.6" built-in smart lithium battery 3U 9-slot PXIe ruggedized portable computer

HW-1693BAT is the industry's first 15.6" ruggedized portable computer with built-in embedded PXIe controller, PXIe backplane, smart lithium battery, high-definition industrial display and ruggedized chassis. This platform adopts professional industrial appearance design, all aluminum-magnesium alloy structure reinforced compact design, integrated 15.6" high-definition industrial display, industrial resistive touch screen, industrial touch pad, waterproof silicone keyboard and smart lithium battery, etc. It has the characteristics of high integration, robustness, portability, and is suitable for various harsh indoor and outdoor environments or complex working conditions where test equipment needs to be portable and mobile.

HW-1693BAT(G3)

Built-in HOUWU® Intel® Xeon® eight-core, sixteen-thread CPU embedded PXIe controller, 3U 9-slot PXIe backplane, based on PCIe Gen3.0 technology, in compliant with PXIe/PXI bus standard specifications, with one PXIe system slot, seven PXIe/PXI hybrid expansion slots (compatible with PXIe and PXI modules) and one PXIe timing slot. The system slot bandwidth is 24GB/s, each expansion slot has a dedicated bandwidth 8GB/s.

HW-1693BAT(G2)

Built-in HOUWU® Intel® Core™ 6th or 9th or 11th Gen i7 Quad-core eight-thread CPU embedded PXIe controller, 3U 9-slot PXIe backplane, based on PCIe Gen2.0 technology, compliant with PXIe/PXI bus standard specification, with one PXIe system slot and eight PXIe/PXI hybrid expansion slots (compatible with PXIe and PXI modules). The system slot bandwidth

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is 8GB/s, providing three dedicated 4GB/s bandwidth PXIe/PXI hybrid expansion slots and five dedicated 2GB/s bandwidth PXIe/PXI hybrid expansion slots.

HW-1693BAT is compatible with PXIe/PXI modules such as high-speed data acquisition, high-speed digitizer, digital multimeter, aviation bus, FPGA, RF and switch modules. The machine has built-in system status monitoring and management software, HMCSP, which can monitor the voltage of each power supply, chassis internal temperature and fan speed in real time, and supports PWM fan speed control, According to the high and low temperature inside the chassis, the fan speed is adaptively adjusted to dissipate heat for the controller and modules. The machine has built-in smart lithium battery monitoring and management software HBSSM, which can monitor all status parameters of the smart lithium battery in real time, including battery voltage, charging and discharging current, real-time power, battery life, charging and discharging times, etc.

HW-1693BAT makes full use of the characteristics of PXIe/PXI bus, such as stability, reliability, good compatibility, solid structure, large data throughput, high performance. According to the different project applications, this PXIe portable computer can be built with various PXIe/PXI modules to realize the test and measurement of microwave, radio frequency, high-speed digital, signal simulation, prototype verification, voltage, current, temperature, frequency, stress, strain, vibration, shock, audio, video and various aviation bus, etc. Users can quickly build various measurement, test and control system on this portable measurement & control platform, which is suitable for military defense, aerospace, weapons, electronics, ships and other field actual combat applications and scientific experimental research occasions.

Operating System	Windows® 7 Windows® 10
CPU	<p>HW-1693BAT(G3) Intel® Xeon® Processor D-1548 2.0GHz (12M Cache, up to 2.6 GHz) Octa-Core, Sixteen-Threads</p> <p>HW-1693BAT(G2) Intel® Core™ 6th Gen i7-6822EQ 2.0GHz (8MB Cache, up to 2.8GHz) Quad-Core, Eight-Thread (Option 1) Intel® Core™ 6th Gen i7-6820EQ 2.8GHz (8MB Cache, up to 3.5GHz) Quad-Core, Eight-Thread (Option 2) Intel® Core™ 9th Gen i7-9850HL 1.9GHz (9MB Cache, up to 4.1GHz) Six-Core, Twelve-Thread (Option 3) Intel® Core™ 9th Gen i7-9850HE 2.7GHz (9MB Cache, up to 4.4GHz) Six-Core, Twelve-Thread (Option 4) Intel® Core™ 11th Gen i7-11850HE 2.6GHz (24MB Cache, up to 4.7GHz) Octa-Core Sixteen-Thread (Option 5)</p>
RAM	<p>HW-1693BAT(G3) 16GB DDR4 (upgradeable to 32GB/48GB)</p> <p>HW-1693BAT(G2) 16GB DDR4 (upgradeable to 32GB/64GB)</p>
Storage	<p>HW-1693BAT(G3) SATA3.0 1TB SSD x1 (upgradeable to 2TB)</p> <p>HW-1693BAT(G2) Original dual solid state drive SSD design: 1, NVMe 250GB SSD x1 (system disk) (upgradeable to 1TB/2TB/4TB) 2, SATA3.0 1TB SSD x1 (data disk) (upgradeable to 2TB/4TB/8TB)</p>
Link Configuration	<p>HW-1693BAT(G3) with PXIe-9180 Controller PCIe Gen3.0 Specification 2 Link : PCIe3.0 x16 + PCIe3.0 x8</p> <p>HW-1693BAT(G2) with PXIe-9170 Controller PCIe Gen3.0 Specification 2 Link : PCIe3.0 x8 + PCIe3.0 x8</p>
LCD	15.6" high-definition industrial display with 1920x1080 resolution
Touch Screen	Industrial resistive touch screen

Backplane	HW-1693BAT(G3) 3U 9-slot PXIe backplane based on PCIe Gen3.0 technology 1 PXIe system slot, 7 PXIe/PXI hybrid expansion slots and 1 PXIe timing slot System slot bandwidth 24GB/s, each expansion slot has a dedicated bandwidth 8GB/s
	HW-1693BAT(G2) 3U 9-slot PXIe backplane based on PCIe Gen2.0 technology 1 PXIe system slot and 8 PXIe/PXI hybrid expansion slots System slot bandwidth 8GB/s, slots 2 through 4 bandwidth 4GB/s, slots 5 through 9 bandwidth 2GB/s
IO	HW-1693BAT(G3) LAN x2, USB3.0 x4, USB2.0 x2, RS232 x2, DP x2, SMB x1, LED x2
	HW-1693BAT(G2) LAN x2, USB3.0 x4, USB2.0 x2, RS232 x1, DP x2, VGA x1, SMB x1, RESET x1, LED x4 The PXIe cage retracts 140mm and the aviation connector IO adapter panel area is 239mm x 147mm
Keyboard	Waterproof silicone keyboard
Aviation Connector	Users can flexibly customize IO interfaces with aviation connectors for PXIe/PXI modules
Heat Dissipation	The fan supports PWM operation mode, adaptive speed regulation, active heat dissipation, and complies with PXIe/PXI bus standard specifications
Internal Battery	Smart lithium battery 150WH (default)
External Battery	Smart lithium battery 300WH (optional)
Power Supply	9V~32V DC wide voltage input, aviation connector design With dedicated power adapter 330W: input AC 100V~240V, output DC 24V / 13.75A Rated load power 200W
Environment	Operating temperature: 0°C ~ 50°C (Commercial Grade) Operating temperature: -20°C ~ 60°C (Industrial Grade) Storage temperature: -40°C ~ 70°C Relative humidity: 5% ~ 95% (No Condensation)
Shock Resistance	30G peak, half-sine, 11ms pulse
Vibration Resistance	2.4Grms@5~500Hz (1 hour each in X, Y, Z directions)
Dimension	421 x 318 x 226 mm (excluding corners and handles)
Weight	HW-1693BAT(G3) 14.5KG (including HOUWU® PXIe-9180 controller)
	HW-1693BAT(G2) 14.25KG (including HOUWU® PXIe-9170 controller)
Packaging	Customized aviation trolley case
Category	pMCS, portable PXIe Measurement & Control System

[Note: Due to regular product upgrades, for more updated and accurate specifications and configuration information, please contact HOUWU TECHNOLOGY at +86-755-29982022.](#)