

## nMCS notebook PXIe Measurement & Control System

### HW-1643

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  
Built-in HOUWU® controller  
Built-in HOUWU® 3U 4-slot PXIe backplane  
One 3U PXIe system slot and three 3U PXIe/PXI hybrid 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  
Multi-point capacitive 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 45mm design  
Flexibly customizable IO interface with aviation connector



#### The industry's first high-performance 3U 4-slot PXIe ruggedized notebook

HW-1643 is the industry's first 15.6" PXIe ruggedized notebook with built-in high-performance CPU, embedded PXIe controller, PXIe backplane, smart lithium battery, high-definition industrial display and ruggedized chassis. This PXIe notebook adopts professional industrial appearance design, all aluminum-magnesium alloy structure reinforced compact design, integrated 15.6" high-definition industrial display, multi-point capacitive 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-1643 built in HOUWU® 3U 4-slot PXIe backplane, in compliant with PXIe/PXI bus standard specifications, with one 3U PXIe system slot and three 3U PXIe/PXI hybrid expansion slots (compatible with PXIe and PXI modules), 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-1643 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 notebook can be built with various PXIe/PXI modules to realize the test and measurement of microwave, radio frequency, high-speed digital, signal simulation, prototype validation, 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.

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<b>Operating System</b>	Windows® 7 (Option 1) Windows® 10 (Option 1, Option 2)
<b>CPU</b>	Intel® Core™ 7 <sup>th</sup> Gen i5-7300U 2.6GHz (3MB Cache, up to 3.5GHz) Dual-Core, Four-Thread (Option 1) Intel® Xeon® W-11555MLE 1.9GHz (12MB Cache, up to 4.4GHz) Six-Core, Twelve-Thread (Option 2)
<b>RAM</b>	16GB DDR4 (upgradeable to 32GB) (Option 1) 32GB DDR4 (upgradeable to 64GB/96GB) (Option 2)
<b>Storage</b>	NVMe 1TB SSD x1 (upgradeable to 2TB/4TB) (Option 1) mSATA 1TB SSD x1 (Option 2)
<b>Link Configuration</b>	PXle-9110 Controller (Option 1) PXle-9111 Controller (Option 2) 4 Link: 1 x PCIe3.0 x2 + 1 x PCIe3.0 x2 + 1 x PCIe3.0 x1 + 1 x PCIe3.0 x1 (Option 1) 4 Link: 1 x PCIe3.0 x4 + 1 x PCIe4.0 x4 + 1 x PCIe4.0 x4 + 1 x PCIe4.0 x4 (Option 2)
<b>LCD</b>	15.6" high-definition industrial display with 1920x1080 resolution
<b>Touch Screen</b>	Multi-point capacitive touch screen
<b>Backplane</b>	3U 4-slot PXle backplane, 1 PXle system slot and 3 PXle/PXI hybrid expansion slots based on PCIe Gen3.0 technology, System slot bandwidth 6GB/s, slot 2 bandwidth 2GB/s, slot 3 bandwidth 1GB/s, slot 4 bandwidth 1GB/s (Option 1) based on PCIe Gen4.0 technology, System slot bandwidth 28GB/s, slot 2 bandwidth 8GB/s, slot 3 bandwidth 8GB/s, slot 4 bandwidth 8GB/s (Option 2)
<b>IO</b>	LAN x2, USB3.0 x3, DP x1 (Option 1) LAN x2, USB3.1 x2, DP x1 (Option 2) PXle cage retracts 45mm and the aviation connector IO adapter panel area is 285mm x 86mm.
<b>Keyboard</b>	Waterproof silicone keyboard
<b>Aviation Connector</b>	Users can flexibly customize IO interfaces with aviation connectors for PXle/PXI modules
<b>Heat Dissipation</b>	The fan supports PWM operation mode, adaptive speed regulation, active heat dissipation, and complies with PXle/PXI bus standard specifications.
<b>Internal Battery</b>	Smart lithium battery 150WH (default)
<b>External Battery</b>	Smart lithium battery 300WH (optional)
<b>Power Supply</b>	9V~32V DC wide voltage input, aviation connector design With dedicated power adapter: input AC 100V~240V, output DC 24V Rated load power 200W
<b>Environment</b>	Operating temperature: 0°C ~ 50°C (normal level) Operating temperature: -10°C ~ 55°C (industrial level) Storage temperature: -40°C ~ 70°C Relative humidity: 5% ~ 95% (no condensation)
<b>Shock Resistance</b>	30G peak, half-sine, 11ms pulse
<b>Vibration Resistance</b>	2.4Grms@5~500Hz (1 hour each in X, Y, Z directions)
<b>Dimension</b>	399 x 291 x 107 mm (excluding corners and handles)

<b>Weight</b>	8.5KG (including HOUWU® PXIe-9110 / PXIe-9112 controller, 150WH smart lithium battery)
<b>Packaging</b>	Customized aviation trolley case
<b>Category</b>	nMCS, notebook 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.