

## nMCS notebook PXIe Measurement & Control System

### HW-1693n

Compliant with PXIe/PXI bus standard specifications  
 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.  
 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  
 Active heat dissipation design  
 The fan speed can be automatically adjusted according to the internal temperature of the chassis  
 Simple and professional industrial design  
 Real-time monitoring of system power, fan, and temperature status



#### The industry's first high-performance 3U 9-slot PXIe ruggedized notebook

HW-1693n is the industry's first 15.6" PXIe ruggedized notebook with built-in Intel® Core™ 6<sup>th</sup> Gen i7 Quad-core eight-thread CPU, embedded PXIe controller, PXIe backplane, 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 and waterproof silicone keyboard, 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-1693n built in high-performance HOUWU® 3U 9-slot PXIe high-speed backplane, based on PCIe Gen2.0 technology, in compliant with PXIe/PXI bus standard specifications, with one 3U PXIe system slot and eight PXIe/PXI hybrid expansion slots (compatible with PXIe and PXI modules). The system slot bandwidth 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, 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.

HW-1693n 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.

<b>Operating System</b>	Windows® 7 (Option 1, Option 2)
	Windows® 10 (Option 1, Option 2, Option 3, Option 4, Option 5)
<b>CPU</b>	Intel® Core™ 6 <sup>th</sup> Gen i7-6822EQ 2.0GHz (8M Cache, up to 2.8GHz) Quad-Core, Eight-Thread (Option 1)
	Intel® Core™ 6 <sup>th</sup> Gen i7-6820EQ 2.8GHz (8M Cache, up to 3.5GHz) Quad-Core, Eight-Thread (Option 2)
	Intel® Xeon® Processor E3-1505M v5 2.8GHz (8M Cache, up to 3.7GHz) Quad-Core, Eight-Thread (Option 3)

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<b>RAM</b>	16GB DDR4 (upgradeable to 32GB)
<b>Storage</b>	Original dual solid state drive SSD design: 1, NVMe 500GB SSD x1 (system disk) 2, 2.5" SATA3.0 1TB SSD x1 (data disk)
<b>Link Configuration</b>	<b>PXle-9170 Controller</b> PCIe Gen3.0 Specification 2 Link: PCIe3.0 x8 + PCIe3.0 x8
<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 9-slot PXle backplane based on PCIe Gen2.0 technology 1 PXle system slot and 8 PXle/PXI hybrid expansion slots System slot bandwidth 8GB/s, slots 2 through 4 bandwidth 4GB/s , slots 5 through 9 bandwidth 2GB/s
<b>IO</b>	LAN x2, USB3.0 x4, USB2.0 x2, RS232 x1, DP x2, VGA x1, SMB x1, RESET x1, LED x4 PXle cage retracts 45mm and the aviation connector IO adapter panel area is 290mm x 134mm.
<b>Keyboard</b>	Waterproof silicone keyboard
<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>Power Supply</b>	400W, industrial grade, AC input, 90VAC~264VAC, 47Hz~63Hz, aviation connector design
<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>	395 x 29 x 200 mm(excluding corners and handles)
<b>Weight</b>	10.6KG (including HOUWU® PXle-9170 controller)
<b>Packaging</b>	Customized aviation trolley case
<b>Category</b>	nMCS, notebook PXle 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.**