APLUS
SYSTEME AUTOMATION

Made in European Union
France

W2U5
W2U5.2

intel CORE i3 inside
intel XEON inside
intel PENTIUM
intel CELERON inside

2U Rugged Workstation
Designed for heavy industrial applications

2U, 400mm Depth, middle range, low noise

The W2U5 series is the Compact, Low Noise, Workstation from APLUS Systeme Automation's Rugged Servers and Workstations range.

High environmental performance and low noise

The W2U5 series offers the user an exceptional performance/power consumption ratio in an ultracompact form factor. The W2U5 series is the ideal choice for all industrial or embedded applications requiring multiple monitors at low cost, combined with low power consumption and high environmental resistance.

Scalable, Versatile

The W2U5 series offers an ideal IT solution for harsh environments. It supports up to seven low-profile expansion cards or three full height, full length PCI Express 3.0 cards. The W2U5 series is powered by either DC or AC power. The power supply is either single or redundant.

Designed for mission-critical applications

The W2U5 seri es is designed to operate reliably in harsh environments. It uses locking devices to secure all expansion cards. The ventilation holes are honeycombed and the use of conductive seals optimizes the electromagnetic performance. The fans are mounted on Silentbloc and their number is multiplied to minimise the noise level.

The High Performance 2U Rugged Server is available in three grades :

Industrial Grade
I W2U5   **I** W2U5.2

Rugged Grade
R W2U5   **R** W2U5.2

Military Grade
M W2U5   **M** W2U5.2

Highlights		
Support Xeon E3-1200 V6 Series Processors	RAID Configurable data storage	Adaptive cooling to Lower Noise
Desktop or 2U Rack Mount Unit	Slim DVDRW	400W, 36-72V DC Power Supply option
Short Depth (400 mm)	Up to 3 full height or 7 Low Profile AddOn cards	350W, 90-264V AC Power Supply option, with PM Bus monitoring
Marine 316L Stainless Steel chassis	Internal Temperature & PSU Monitoring	2x300W, 90-264V AC Redundant Power Supply option, with PM bus monitoring
Up to 9 hot-swappable 2''5 Hard Drives or SSD		

Qualified AddOn Boards on Military grade servers:

- nVidia TESLA P4 GPU card
- Sunhillo Multi Protocol Server card: PCE335

- Intel Ethernet Adapters: i350T4 V2, X710T4...
- LSI Mega Raid cards: MR-SAS9341

The PCE335 is a Multi-Protocol Server card who provides 4 high speed serial lines. A wide range of protocols are available (X.25, HDLC, TA-LIB, L16 etc...).

MR-SAS9341 is a High performance with a throughput of 12 Gbit/s, PCI Express® 3.0 host interface for superior system performance.

	2U Servers & Workstations		
	Industrial grade IW2U5 / IW2U5.2	Rugged grade RW2U5 / RW2U5.2	Military grade MW2U5 / MW2U5.2
Optical drive	Yes	Yes	No
Magnetic disks	No	No	No
Silicon disks	Yes	Yes	Yes
Bonding of all internal connectors	No	Yes	Yes
All screws with low thread brake	No	Option	Yes
Tropicalized electronics	No	Option	Yes
Electronic cards ruggedized against shock & vibration	No	No	Yes
Electronic Core on stiffener	No	No	Yes
Temperature Operation	0 to +50°C	0 to +50°C	-10 to +50°C (MIL-STD-810G, method 502.5, procedure 2, 4 hours, MIL-STD-810G, method 501.5, procedure 2, 12 hours)
Temperature Storage	-20 to +70°C	-20 to +70°C	-40 to +75°C (MIL-STD-810G, method 501.5, procedure 1, 4 hours)
Humidity Operation	5 to 90% RH, non condensing at 35°C	5 to 90% RH, non condensing at 35°C	95% RH at +40°C (EN60068-2-3, test Cab: 40°C (+/-2°C), 95% RH, 10 days)
Humidity Storage	5 to 95% at 45°C	5 to 95% at 45°C	95% RH at 25 to 55°C (EN600682-30, test Db variant 2: 25°C (+/- 3°C) to 55°C (+/- 2°C), 95% (+/-4%) RH, 6 cycles, 24 hours per cycle)
Pressure (Altitude)	650 to 1100 hPa	650 to 1100 hPa	550 to 1100 hPa
Shocks	15g, 11ms 6 axis (With SSD)	20g, 11ms 6 axis (With SSD)	20g, 18ms 6 axis (With SSD) (MIL-STD-810F, method 516.5, procedure 1)
Vibrations Operation	5-100 Hz : 0.8g	5 - 300 Hz : 0.8g	(MIL-STD-167-1A) No critical frequency under 100 Hz Endurance @ 33 Hz, 1g, 2 hours.
Random Vibrations	5 - 500 Hz : 0.8g	5 - 500 Hz : 1g	(MIL-STD-810F, method 514.5, procedure 1) Freq Range: 5 to 2000 Hz Max PSD: 2.5 (m/s^2)^2/Hz RMS value: 18 m/s^2 Duration: 8 hours / axis
Acceleration – emergency landing	5g	5g	8g
Acceleration – transportation	3g	3g	4.5g
EMC	CE Mark Class B (EN 61000-6-2, EN55022, EN 55024)	CE Mark Class B (EN 61000-6-2, EN55022, EN 55024)	CE Mark Class B (EN 61000-6-2, EN55022, EN 55024)
Safety	EN 62368-1	EN-62368-1	EN-62368-1
Surge immunity	EN 61000-4-5 STANAG 1008	EN 61000-4-5 STANAG 1008	EN 61000-4-5 STANAG 1008
Radiated Susceptibility	-	-	NRS01, NRS02, NRS04 tests of AECTP-500
Radiated Emissions	-	-	NRE01, NRE02 tests of AECTP-500
Conducted Susceptibility	-	-	NCS01, NCS07, NCS08, NCS09, NCS11, NCS12, NCS13 tests of AECTP-500
Conducted Emission	-	-	NCE01, NCE02, NCE04, NCE05 tests of AECTP-500
Ground continuity - External enclosure	10 mΩ @ 1A	5 mΩ @ 5A	5 mΩ @ 10A
Ground continuity - Internal enclosure	-	-	10 mΩ @ 10A
Noise at full speed	50 dB(A)	50 dB(A)	50 dB(A)

Technical Specifications

	W2U5	W2U5.2
Processor System		
Processor	Intel® Xeon® E3, Core i3, Pentium or Celeron Processor up to 4 cores • Xeon E3-1275 V6 (3.8-4.2 GHz / 4 Cores / 8 Threads) • Xeon E3-1225 V6 (3.3-3.7 GHz / 4 Cores / 4 Threads) • Core i3-7101E (3.9 GHz / 2 Cores / 4 Threads) • Pentium G4400 (3.3 GHz / 2 Cores / 2 Threads) • Celeron G3930TE (2.7 GHz / 2 Cores / 2 Threads)	Intel® Xeon® E-2100/2200, Core i3, Pentium or Celeron Processor with up to height cores • Xeon E-2278GE (3.3 to 4.7 GHz / 8 Cores / 16 Threads) • Xeon E-2226GE (3.4 to 4.6 GHz / 6 Cores / 6 Threads) • Core i3-9100E (3.1 to 3.7 GHz / 4 Cores / 4 Threads) • Pentium G5400 (3.7 GHz / 2 Cores / 4 Threads) • Celeron G4900 (3.1 GHz / 2 Cores / 2 Threads)
Memory	4 sockets for Up to 64 GB RDIMM/UDIMM DDR4-2400 ECC or non-ECC Memory	4 sockets for Up to 128 GB RDIMM/UDIMM DDR4-2666/2400/2133 ECC or non-ECC Memory
Chipset	Intel® C236	Intel® C246
Expansion Slots (Option 1)		
PCI Express 3.0	2 x PCIe 3.0 X8 + 3 x PCIe 3.0 X4 slots for Low Profile Cards	1 x PCI-E Gen3 x16 slot (w/ x8 link) + 1 x PCI-E Gen3 x8 slot (w/ x4 link) + 2 x PCI-E Gen.3 x1 slots
PCI 32 bits 5V	2 Slots for Low Profile Cards	1 x slot
Expansion Slots (Option 2)		
PCI Express / PCI 32 bits	3 Slots for Full height Full length Cards	
Network		
Ethernet	2 x 1GbE Base-T ports	4 x 1GbE Base-T ports
TPM	Optional TPM 1.2 & 2.0 support	
Management		
IMPI	Support IPMI 2.0 via iRIS-2400 (Optional)	BMC AST2500 with dedicated RJ45 LAN
Other features	Watchdog, NMI	
Data Storage		
Hard Drive	3 x 3.5 bays for Up to 9 Hot-Swap 2.5 SATA/SAS Silicium Drives	
Optical drive	1 x DVDRW	
General I/O		
USB	2 x USB 3.0 ports in front, 4 x USB 3.0 2 x USB 2.0 at Rear	2 x USB 3.1 Gen1 in front, 4 x USB 3.1 Gen2 at rear
Graphic	Triple independent display (1 x VGA + 1 x DVI-D + 1 x HDMI 2.0)	1 x VGA + 1 x Display Port 1.2
Status LED	4 status LED in Front (Power, Disk activity, Ethernet activity, Redundant PSU Fault)	
Switches	3 Switches in Front (Power On/Off, Reset, Redundant PSU Alarm Reset)	
Security & Hardware Control		
Monitoring	Redundant or Single AC Power Supply monitoring thru PM Bus (Optional)	
Security	Top cover intrusion detection switch	
Power		
Consumption	From 80W (Celeron/Pentium) to 130W (Xeon E3-1275 V6 / Xeon E-2278GE)	
Single AC	Single 350W or 550W, 90-264V AC High Efficiency, PM Bus monitored (Optional)	
Redundant AC	Redundant 2 x 350W, 90-264V AC High Efficiency Redundant 2 x 500W, 90-264V AC High Efficiency, PM Bus monitored	
Single DC	Single 460W, 18-36V DC High Efficiency Single 460W, 500W or 550W 36-72V DC High Efficiency	
Mechanical		
Material	Marine Grade 316L Stainless Steel	
Size	Rackable 2U, 400mm Depth (EN 60297-3-100 Compliant)	
Weight	Industrial & Rugged grade: 12 Kg / Militarized grade: 13.6 kg	
Software		
OS Support	Microsoft Windows 7 SP1, Windows 8.1, Windows 10 (32 & 64 bits) Microsoft Windows Server 2008 R2 SP1, Windows 2012 R2, Red Hat (32/64 bits)	