APLUS
SYSTEME AUTOMATION

Made in European Union
France

S4U5
W4U5.2

High Performance 4U Rugged Server
High Performance 4U Rugged Workstation

Designed for mission-critical applications

4U, 400mm Depth, Rugged Server
4U, 400mm Depth, Rugged Workstation

The S4U5, High performance Dual Processor Server, and W4U5.2, Short Depth and low noise Workstation are 4U members of APLUS Système Automation's Rugged Servers and Workstations range.

Industry-Leading Performance, Reliable, Rugged

Featuring two last generation Intel scalable Xeon Processors, the S4U5 provides the user with exceptional processing performance in an ultra-short depth. The S4U5 is the ideal choice for all Industrial or embedded applications that require robust computing power necessary to drive sophisticated applications, but also high environmental strength.
On the same form factor, the W4U5.2 offers the user an exceptional performance/power consumption ratio.

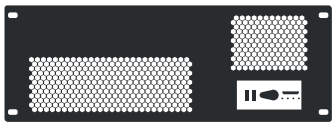
Scalable, Versatile

The S4U5 & W4U5.2 offers the ideal computing solution for Industrial, Heavy Industrial or Military field. The user is able to choose the options which best fit the application's needs. The S4U5 & W4U5.2 supports up to seven Full length & Full heigh Add-on cards. Depending of application need, various power supplies are available: Single PSU 36 to 72V DC, Single PSU 90 to 264V AC or Redundant PSU 90 to 264V AC.

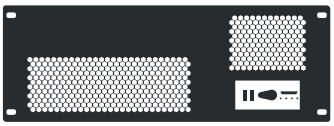
Designed for mission-critical applications

APLUS Système Automation S4U5 & W4U5.2 Servers or Workstations are designed to operate reliably in harsh environments. S4U5 & W4U5.2 uses support brackets to secure all add-on expansion cards, honeycomb openings, slave and silentblock mounted fans for optimal temperature stability and minimal noise. S4U5 & W4U5.2 Servers are also designed to mitigate electric and electromagnetic interference, up to Military class.

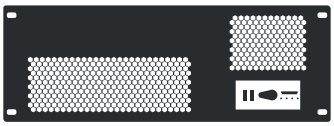
The High Performance 4U Rugged Server & 4U Rugged Workstation, are available in three grades :



Industrial Grade
I S4U5 I W4U5.2



Rugged Grade
R S4U5 R W4U5.2



Military Grade
M S4U5 M W4U5.2

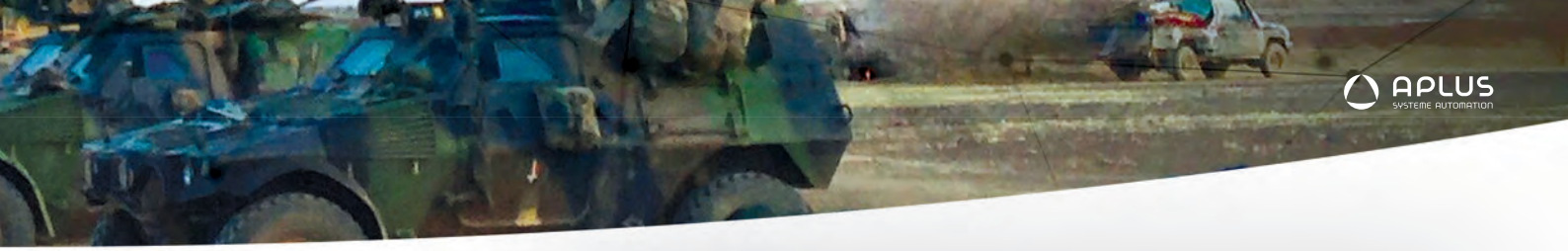
Highlights		
Support the latest Intel® Xeon® Scalable Processors	RAID Configurable data storage	Adaptive cooling to Lower Noise
Desktop or 4U Rack Mount Unit	DVD-R/W	550W, 36-72V DC Power Supply option
Short Depth (400 mm)	Up to 7 Low Profile AddOn cards	Up to 1200W, 90-264V AC Power Supply option, with PM Bus monitoring
Marine 316L Stainless Steel chassis	Internal Temperature & PSU Monitoring	Up to 2x1200W, 90-264V AC Redundant Power Supply option, with PMbus monitoring
Up to 9 hot-swappable 2''5 Silicium Disks		

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.



	4U Servers & Workstations		
	Industrial grade IS4U5 / IW4U5.2	**Rugged grade RS4U5 / RW4U5.2**	**Military grade MS4U5 / MW4U5.2**
Optical drive	Yes	Yes	No
Magnetic disks	Yes	Yes	No
Silicon disks	Option	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, procedure1, 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 93% at 45°C	5 to 93% 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 at 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 at 1A	5 mΩ at 5A	5 mΩ at 10A
Ground continuity - Internal enclosure	-	-	10 mΩ at 10A
Noise at full speed	66 dB (S4U5) / 50 dB(A) (W4U5.2)		

Environmental performance specifications, obtained following tests or analyzes with representative systems.

Technical Specifications		
	S4U5	**W4U5.2**
Processor System		
Processor	Up to two Intel® Xeon® Scalable Processors with up to twenty six cores per socket • 2 x Gold 6230R (2.1 GHz / 26 Cores) • 2 x Gold 6252N (2.3 GHz / 24 Cores) • 2 x Gold 6230T (2.1 GHz / 20 Cores) • 2 x Gold 5218T (2.1 GHz / 16 Cores) • 2 x Silver 4209T (2.2 GHz / 8 Cores)	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	6 sockets per processor for Up to 768 GB RDIMM/ LRDIMM DDR4-2666 ECC Memory	4 sockets for Up to 128 GB RDIMM/UDIMM DDR4-2666/2400/2133 ECC or non-ECC Memory
Chipset	Intel® C621 PCH	Intel® C246
Expansion Slot		
PCI Express 3.0	4 Slots PCI Express 3.0 x16 3 Slots PCI Express 3.0 x8	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
Other		PCI 32 bits 5V 1 x slot
Network		
Ethernet	2 x 1000 Base-T ports (Intel® i350-AM2)	2 x 1000 Base-T ports
TPM	Optional TPM 1.2 & 2.0 support	
Management		
BMC Controler	AST2500 BMC with iKVM, IPMI and Redfish Support	BMC AST2500 with dedicated RJ45 LAN
Other features	Watchdog, NMI	
Data Storage		
Hard Drive / SSD	3 x 3.5 bays for Up to 9 Hot-Swap 2.5 SATA/SAS Hard Drives or Silicium Drives	
Optical drive	1 x DVDRW (only for IW4U5.2 & ISW4U5.2)	
General I/O		
USB 3.0	2 x USB 3.0 ports in front 4 x USB 3.0 at Rear	2 x USB 3.1 Gen1 in front, 4 x USB 3.1 Gen2 at rear
Graphic	1 x VGA at Rear Up to 1920x1200	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	
Security	Top cover opening detection switch / Security PIN	Top cover intrusion detection switch
Power Supply		
Consumption	From 180W (Dual Xeon SP 4209T) up to 260W (Dual Xeon 6252N)	From 80W (Celeron/Pentium) up to 130W (Xeon E-2278GE)
Single AC	Single 350W, 550W or 1200W, 90-264V AC High Efficiency, PM Bus monitored (Optional)	
Redundant AC	Redundant 2 x 350W, 90-264V AC High Efficiency Redundant 2 x 1200W, 2 x 800W or 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 4U, 400mm Depth (EN 60297-3-100 Compliant)	
Weight	15.8 kg (IS4U5) 15.8 kg (RS4U5) 17.2 kg (MS4U5)	14.8 kg (IS4U5) 14.8 kg (RS4U5) 16.2 kg (MS4U5)
Software		
OS Support	Microsoft Windows Server 2012 R2, 2016 or 2019 1809 / Red Hat (32/64 bits) / VMWare ESXi	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)

CONTACT

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2022/05