

S1U5
W1U5



Ultra compact 1U Rugged Server
Ultra compact 1U Rugged Workstation
Designed for mission-critical applications

1U, 300mm Depth, Rugged Server 1U, 300mm Depth, Rugged Workstation

The S1U5 and W1U5 series are the Ultra Compact and High performance members of APLUS Système Automation's Rugged Servers and Workstations range.

Industry-Leading Performance, Reliable, Rugged

Featuring a last generation Intel Xeon® D Processors up to 12 cores, the S1U5 provides the user with an exceptional performance/power consumption ratio in an ultra-compact foot print. The S1U5 is the ideal choice for all Industrial or Military applications that require high computing power associated with a very low consumption, but also high environmental strength. On the same form factor, the W1U5 offers the user the services of a low cost rugged computer.

Scalable, Versatile

The S1U5 & W1U5 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. Depending of application need, various power supplies are available: Single PSU 36 to 72V DC, Single PSU 18 to 36V DC or Single PSU 90 to 264V AC.

Designed for mission-critical applications

APLUS Système Automation S1U5 & W1U5 Servers or Workstations are designed to operate reliably in harsh environments. S1U5 & W1U5 uses support brackets to secure add-on card, honeycomb openings, slave and silentblock mounted fans for optimal temperature stability and minimal noise. S1U5 Server & W1U5 Workstation are also designed to mitigate electric and electromagnetic interference, up to Military class.



The Ultra Compact 1U Rugged Server is available in three grades:



Industrial Grade
I S1U5 I W1U5



Rugged Grade
R S1U5 R W1U5



Military Grade
M S1U5 M W1U5

Highlights

Support the latest Intel® Xeon® D	Up to 3 hot-swappable 2"5 Silicium Disks	250W, 18-36V DC Power Supply
Desktop or 1U Rack Mount Unit	Optional RAID data storage	300W, 36-72V DC Power Supply
Very Short Depth (300 mm)	Adaptive cooling to Lower Noise	300W, 90-264V AC Power Supply
Marine 316L Stainless Steel chassis		

Qualified AddOn Boards on Military grade servers:

- Sunhillo Multi Protocol Server card: PCE335

- Intel Ethernet Adapters: i350T4 V2, X710T4...

- LSI Mega Raid cards: MR-SAS9341

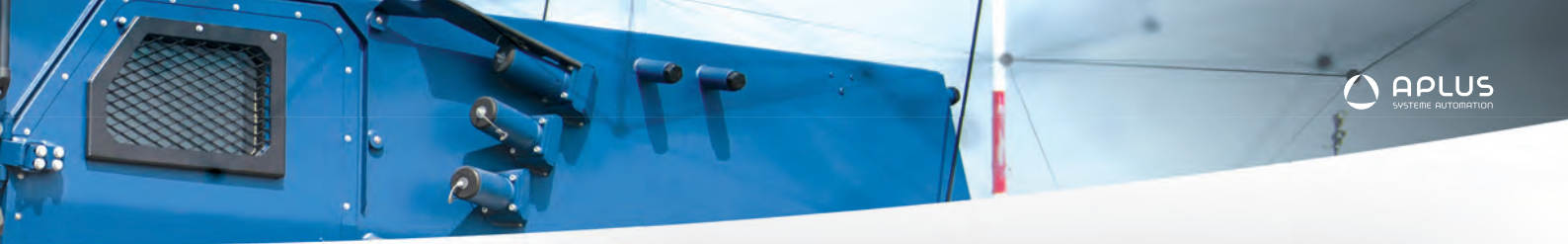


The PCE335 is a Multi-Protocol Server card who provides 4 high speed serial lines. A wide range of protocols are available (X.25, HDLC, TA-LIB, L16 etc...).



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





	1U Servers & Workstations		
	Industrial grade IS1U5 / IW1U5	Rugged grade RS1U5 / RW1U5	Military grade MS1U5 / MW1U5

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, 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 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)/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	61 dB(A)	61 dB(A)	61 dB(A)



Technical Specifications

S1U5

W1U5

Processor System		
	<ul style="list-style-type: none"> Intel® Xeon® D-2143 (8 Cores; Max speed 3.00Ghz) Intel® Xeon® D-2163 (12 Cores; Max speed 3.00Ghz) 	<ul style="list-style-type: none"> Intel® Core i7-9700TE (8 Cores; Max speed 3.8Ghz) Intel® Core i5-9500E (6 Cores; Max speed 4.2Ghz) Intel® Core i5-9500TE (6 Cores; Max speed 3.6Ghz) Intel® Core i3-9100E (4 Cores; Max speed 3.7Ghz) Intel® Core i3-9100TE (4 Cores; Max speed 3.2Ghz)
Memory	Up to 256GB DDR4 ECC REG	Up to 64GB DDR4 (Q370 / H310) / Up to 64GB DDR4 ECC (C246)
Chipset	Integrated on Xeon® D	Intel® Q370 / H310 / C246
Expansion Slot		
Interface	1 x PCI Express 3.0 x 16	
Network		
Ethernet	2 x 10Gb Ethernet (RJ-45)	2 x Gb Ethernet (RJ-45)
TPM	TPM 2.0 support	
Management		
BMC Controller	ASPEED AST2500: IPMI 2.0 with ikvm (1 x RJ-45 dedicated port)	
Other features	Watchdog, NMI Programmable via Software from 1 to 255 seconds	
Data Storage		
Hard Drive	Up to 3 Hot-Swap 2.5" SATA/SAS Disks	
General I/O		
USB	2 x USB 3.0	4 x USB 3.1 4 x USB 2.0
Graphic	1 x VGA	Triple display LVDS / VGA / DP++
Status LED	4 status LED in Front (Power, Disk activity, Ethernet activity)	
Switches	Switches in Front (Power On/Off, Reset)	
Security & Hardware Control		
TPM	TPM 2.0 support	
Detection	Top cover opening detection switch / Security PIN	
Power Supply		
AC	300W, 90V until 264V AC Full range, Frequency 47~63HZ	
DC	250W, 18-36V DC / 300W, 36-72V DC	
Mechanical		
Material	Marine Grade 316L Stainless Steel	
Size	Rackable 1U, 300mm Depth (EN 60297-3-100 Compliant)	
Weight	6.8kg	
Software		
OS Support	Microsoft Windows Server 2012 R2/2016 / Red Hat (64 bits) / VMWare ESXi / Win Hyper-V server	Microsoft Windows 10 IoT entreprise 64bits / Linux

CONTACT

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