



The Sol hardware comes in two variants:

- the SolAero, a low SWaP certified up to DAL A computer for airborne applications, and
- the SolRack, a 19" inch rackmount dual computer certified to DAL B for ground stations of certified aircraft.

These computers bring unique capabilities for Urban Air Mobility, such as 4G/LTE and wifi in a DAL A computer for UAM CONOPS. There is also the option to have over 1 terrabyte of real-time DAL A storage for full flight data recording. With DO-160 environmental.

But above all, all computers have a powerful internal processor, low power consumption, a separate safety processor, aerospace I/O, and an extremely secure operating system optimized to take advantage of it all.

The SolAero is highly configurable. Below the spec sheet of a number of variants. Contact us for more details or other variants.

	SolAero A	SolAero ABC	SolAero D	SolAero E	SolRack A Duo
Core	(base model)	Autonomy, Big data & Communications	DVI	Edge	1U 19" rackmount
CPU	Quad-core ARM Cortex A53 @ 1.5Ghz	Quad-core ARM Cortex A53 @ 1.5Ghz	Quad-core ARM Cortex A53 @ 1.5Ghz	Quad-core ARM Cortex A53 @ 1.5Ghz	2x Quad-core ARM Cortex A53 @ 1.5Ghz
Avionics Coprocessor	Yes	Yes	Yes	Yes	Yes
Programmable Safety CPU	ARM Cortex R5 @ 600Mhz	ARM Cortex R5 @ 600Mhz	ARM Cortex R5 @ 600Mhz	ARM Cortex R5 @ 600Mhz	2x ARM Cortex R5 @ 600Mhz
RAM	4 GB DDR4 (64bit + ECC)	4 GB DDR4 (64bit + ECC)	4 GB DDR4 (64bit + ECC)	4 GB DDR4 (64bit + ECC)	2x 4 GB DDR4 (64bit + ECC)
eMMC Flash Storage	128 GB eMMC	128 GB eMMC	128 GB eMMC	128 GB eMMC	2x 128 GB eMMC
SDD Flash Storage	-	1 TB SDD	-	-	optional
SD Card	micro SDXC	micro SDXC	micro SDXC	micro SDXC	2x micro SDXC
Independent Safety Processor	Yes	Yes	Yes	Yes	Yes
Certification					
Software Platform	SolOS 6	SolOS 6	SolOS 6	SolOS 6	SolOS 6
DO-254 (avionics hardware certification)	DAL A	DAL A	DAL A	DAL A	DAL A
ISO 26262 (automotive)	ASIL D	ASIL D	ASIL D	ASIL D	ASIL D
DO-326A & DO-356A (airworthiness security)	✓	✓	✓	✓	✓
IPC Class	3	3	3	3	3
Video					
DVI Output	-	-	2	-	-
DVI Input	-	-	2	-	-
Displayport Output	-	-	-	-	2x 1
Wireless					
4G/LTE cat. 1/4	-	✓	-	-	2x optional
Wifi 802.11 AC	-	✓	-	-	2x ✓
Other Input/Output					
Gigabit Ethernet	2	2 + 1	2	2	2x 2
ARINC 664 Part 7	1	1	1	1	2x 1
Optical Ethernet/Serial	-	optional	-	optional	-
ARINC 429 Rx	4	4	4	4+6	2x 4
ARINC 429 Tx	2	2	2	2+4	2x 2
CAN	2	2 + 1	2	2+8	2x 2
RS-485/RS-422	2	2 + 3	2	2+8	2x 4
RS-232	4	4 + 1	4	4	2x 4
Discrete I/O	12	12 + 6	12	12+100	2x 12
Analog Input	-	-	-	40	2x 8
Analog Output	-	-	-	10	-
SWaP					
Size (width x depth x height)	119 mm x 100.5 mm x 34.1 mm	119 mm x 100.5 mm x 64.1 mm	119 mm x 100.5 mm x 64.1 mm	119 mm x 100.5 mm x 94.1 mm	482.6 mm x 200 mm x 44.45 mm
Weight	415 gram	566 gram	566 gram	930 gram	
Power Input	Redundant 18-30VDC	Redundant 18-30VDC	Redundant 18-30VDC	Redundant 18-30VDC	Redundant 110/230V
Max. Power Consumption	15W (0.53A)	18W (0.65A)	18W (0.65A)	18W (0.65A)	30W (1.2A)
Cooling	passive cooled sealed box	passive cooled sealed box	passive cooled sealed box	passive cooled sealed box	passive cooled
DO-160G					
Sect. 4 - Operating Temperature	-40°C to +85°C (above Cat. B4)	-40°C to +85°C (above Cat. B4)	-40°C to +85°C (above Cat. B4)	-40°C to +85°C (above Cat. B4)	-40°C to +85°C (above Cat. B4)
Sect. 4 - Storage Temperature	-55°C to +85°C (Cat. B4)	-55°C to +85°C (Cat. B4)	-55°C to +85°C (Cat. B4)	-55°C to +85°C (Cat. B4)	-55°C to +85°C (Cat. B4)
Sect. 4 - Altitude	55,000 ft (Cat. F)	55,000 ft (Cat. F)	55,000 ft (Cat. F)	55,000 ft (Cat. F)	15,000 ft
Sect. 5 - Temperature Variation	5°C/min (Cat. B)	5°C/min (Cat. B)	5°C/min (Cat. B)	5°C/min (Cat. B)	5°C/min (Cat. B)
Sect. 6 - Humidity	Severe Humidity (Cat. B)	Severe Humidity (Cat. B)	Severe Humidity (Cat. B)	External Humidity (Cat. C)	-
Sect. 7.2 - Operational Shock	Standard Shock (Cat. B)	Standard Shock (Cat. B)	Standard Shock (Cat. B)	Standard Shock (Cat. B)	-
Sect. 7.3 - Crash Safety	Standard Crash Safety (Cat. B)	Standard Crash Safety (Cat. B)	Standard Crash Safety (Cat. B)	Standard Crash Safety (Cat. B)	-
Sect. 8 - Vibration	Sine on Random (Cat. U)	Sine on Random (Cat. U)	Sine on Random (Cat. U)	Sine on Random (Cat. U)	-
Sect. 10 - Waterproofness	Condensing (Cat. Y)	Condensing (Cat. Y)	Condensing (Cat. Y)	Drip condensation (Cat. W)	-
Sect. 11 - Fluids Susceptibility	Cat. F	Cat. F	Cat. F	Cat. F	-
Sect. 12 - Sand & Dust	Cat. D	Cat. D	Cat. D	Cat. D	-
Sect. 13 - Fungus Resistance	Cat. F	Cat. F	Cat. F	Cat. F	Cat. F
Sect. 14 - Salt Spray	Cat. S	Cat. S	Cat. S	Cat. S	-
Sect. 15 - Magnetic Effect	0.3<D>= 1m (Cat. A)	0.3<D>= 1m (Cat. A)	0.3<D>= 1m (Cat. A)	0.3<D>= 1m (Cat. A)	-
Sect. 16 - Power Input	28VDC (Cat. A)	28VDC (Cat. A)	28VDC (Cat. A)	28VDC (Cat. A)	110/230VDC
Sect. 17 - Voltage Spike	Cat. B	Cat. B	Cat. B	600Vpeak (Cat. A)	-
Sect. 18 - Audio Freq. Susceptibility	Cat. B	Cat. B	Cat. B	Cat. Z	-
Sect. 19 - Induced Signal Susceptibility	Cat. ZC	Cat. ZC	Cat. ZC	Cat. ZC	-
Sect. 20 - RF Susceptibility	Cat. W	Cat. W	Cat. W	Cat. W	-
Sect. 21 - RF Emission	Cat. M	Cat. M	Cat. M	Cat. Q	-
Sect. 22 - Lightning Induced Transient Susc.	Cat. A3J3M3	Cat. A3J3M3	Cat. A3J3M3	Cat. A5J5M5	-
Sect. 24 - Icing	-	-	-	Cat. A	-
Sect. 25 - ESD	Cat. A	Cat. A	Cat. A	Cat. A	-
Sect. 26 - Fire, Flammability	Cat. C	Cat. C	Cat. C	Cat. C	-
Reliability					
MTBF	> 200,000 FH	> 200,000 FH	> 200,000 FH	> 200,000 FH	-
First Fit Rejection Rate	< 10000 ppm	< 10000 ppm	< 10000 ppm	< 10000 ppm	-