

ROCK-301

Fanless IP65 System with 13th Gen. Intel® Core™ for Mission-Critical Applications



Features

- 13th Gen. Intel® core-i CPU up to i7
- Fanless Operating Temperature -40 ~71°C
- IP65 Enclosures for Water/Dust-proof
- High Speed DDR5 8GB RAM, NVMe 64GB SSD and USB 4
- M.2 2280 for Storage/AI expansion
- MIL-STD810H and E-Mark Compliances
- Off-the-Self I/O Module Expansion
- 3 Years Warranty and 10 Years Longevity



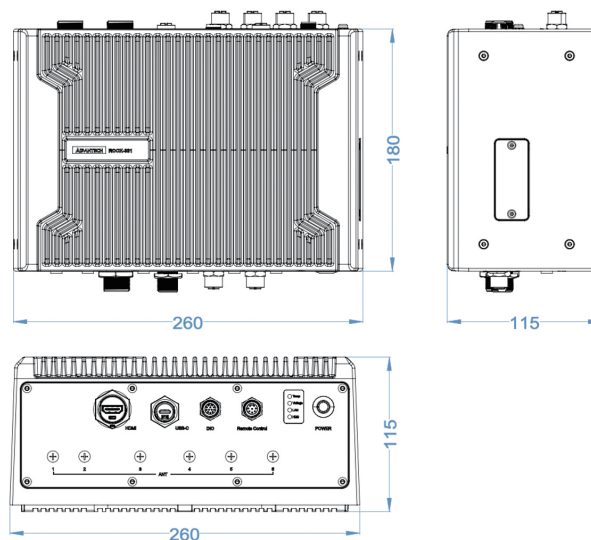
Specifications

		ROCK-301-V701DA1	
Processor	CPU	13th Gen Intel i7-1365URE (Raptor lake-U)	
	P-code Base/ Turbo Frequency	1.7/4.9 GHz	
	E-code Base/ Turbo Frequency	1.7/3.7 GHz	
	Core	10C (2P+8E)	
	Cache	12M	
Memory	Technology	DDR5, 4800 MT/S, non-ECC	
	Socket	1x 8GB DDR5 RAM 1x SO-DIMM The total memory capacity is up to 64GB (option)	
Graphics	Controller	Intel® Iris® Xe Graphics/UHD Graphics Architecture	
	Max Graphic Frequency	1.3GHz	
	3D graphic HW acceleration	DX12, Open GL 4.6, Vulkan 1.2	
	HW Acceleration	OneVPL	
Audio	Encode/Decode	H.2641/AVC. H.265/HEVC	
	In/Out/Mic-in	None	
TPM	TPM	TPM 2.0	
Watchdog Timer	Watchdog	255-level timer interval setup by software	
I/O Interface (external)	Display	2x M25 HDMI Type A, resolution up to 4096x 2160 48-60Hz with 8 kV/15 kV ESD protection 1x M12 X-code Speed: 10/ 100/ 1000M / 2.5G with 8 kV/15 kV ESD protection	
	Ethernet	4x M12 X-code 10/100 Mbps PoE (IEEE802.3af, maximum power output of 60W) with 8 kV/15 kV ESD protection * Alternatively, it can achieve speeds of up to 10/100/1000 Mbps when using only 1x M12 x-code port.	
	Serial	1x M12 A-code RS-232/422/485 with 8 kV/15 kV ESD protection	
	USB	1x M25 USB 3.0/2.0 Type A 1x M20 USB 4.0 type C with 8 kV/15 kV ESD protection	
	Button	1x Power ON/OFF button ON: green (s0), OFF: red (s5)	
	LED	4x LED Temperature (Red), Voltage (Red), 4G/5G (Green), storage (Green).	
	Remote Control (Engineering Use)	1x M12 A-code Power ON/OFF, Power ON LED light (5V), Reset, DC-out 12V/1A	
	DIO (Engineering Use)	1x M12 A-code 4DI, 4DO with 8 kV/15 kV ESD protection	
	CANbus (Engineering Use)	1x M12 A-code CANbus 2.0 A/B with 8 kV/15 kV ESD protection	
	Antenna Point	6	
	Shielding Grounding	1x screw point	
	I/O Interface (side)	SIM	1x Nano-SIM reader
		Battery	1x Holder (CR2032)
Reset BIOS Settings		1x Button	
I/O Interface (internal)	Storage	NVMe 64GB onboard	
	SATA	1x SATA and power for 2.5" SSD/HDD (option)	
	mPCIe	1x Full-size mPCIe/mSATA (PCIe, USB, SATA)	
	M.2	1x M.2 B key 3042/3052 (PCIe, USB) 1x M.2 M key 2280 (PCIe)	
	Modular I/O Expansion	1	

Specifications (Cont.)

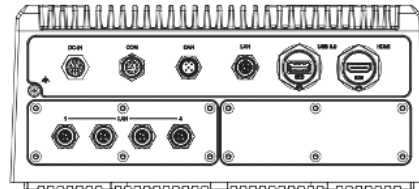
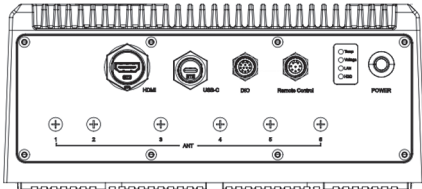
Software	Microsoft Windows	Windows 10, 11
	Linux	Ubuntu 22.04 LTS
Power	Input voltage	1x M12 L-code Nominal inputs 12V/ 24V (input range 9 to 36V, default 12V)
	Vehicle Ignition	Support power ignition selected by hardware jump or software control Ignition delay timer from 30s to 240s
	Protection	Over Voltage Protection: 38.5V Over Current Protection: 30A ESD Protection: with 8k contact/ 15kV air ESD protection Surge Protection: 1kV (line to line)
	Consumption	N/A
Environment*	IP Class (Solid Particle)	IP class 6X (operating with protected mating interfaces against water and dust incursion)
	IP Class (Water)	IP class X5 (operating with protected mating interfaces against water and dust incursion)
	Operating Temperature - Military	MIL-STD-810H Method 514.8, -40~71 °C/ -40~159.8°F (with extended temperature peripherals)
	Storage Temperature - Military	MIL-STD-810H Method 514.8, -40 ~ 85 °C/ -40~185 °F
	Storage Humidity	IEC 60068, 95% @ 40 °C (non-condensing)
	Vibration - Military	MIL-STD-810H Method 514.8 (vertical 3.98 Grms)
	Vibration - Vehicle	EN 60721-3-5 (5M3, 10~200Hz, 3 m2/S3)
	Shock - Military	MIL-STD-810H Method 516.8 (40 Grms)
	Shock - Vehicle	EN60721-3-5 Class 5M3 (100G, 6ms)
	Shock - Electronic	IEC 60068-2-27 (with a total maximum power output of PoE restricted to 30W)
Salt Fog - Military	IEC 60068-2-11:2021 Salt mist test (48 hours at 35°C/ 95°F)	
EMC*	Electronic	IEC CE/FCC class A
	Industry	EN61000-6-4, EN61000-6-2
	Military	MIL-STD-461 (CE101)
	Vehicle	ISO7637-2
Safety*	Vehicle	E-Mark (13)
	Electronic	CB, UL
Mechanical*	Enclosure	Fanless system
	Construction	Aluminum housing, Black
	Mounting	Wall-mount by mounting bracket (option)
	Side Panel Heat Sink	Yes (option)
Dimensions (W x H x D)	285 x 180 x 115 mm/ 11.22 x 7.08 x 4.52 inch with side panel heat sink	260 x 180 x 115 mm/ 10.23 x 7.08 x 4.52 inch
Other	MTBF	N/A
	Warranty	3 years
	Production	Made in Taiwan
	Weight	5.66 kg (withou wall mount)

Dimensions



Unit: mm

External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	CPU	RAM/RAM Socket	NVMe SSD	GbE	Modular I/O Expansion	Side Panel Heat Sink	Power Input	Operating Temperature
ROCK-301-V701DA1	i7-1365URE 4.9 GHz	1x 8GB DDR5 RAM 1x SO-DIMM	64 GB	1x 2.5 GbE 4x 10/100 Mbps (PoE 60W)	1	Yes	Nominal 12/ 24V (9 to 36V)	-40-71 °C (-40-159.8 °F)

Packing List

Description	QTY
ROCK-301	1
Screws (for M.2, mPCIe installation)	5
Wall mount kit	1

Customer Support Services

Part Number	Description
Extended warranty	1-to-3 year extended warranty service
Conformal coating	Services for moisture, dust and corrosion resistance

Embedded OS

Part Number	Description
20706WX1ES0118	Microsoft Windows 10 IoT 2021 image (EL)
20706WX1HS0118	Microsoft Windows 10 IoT 2021 image (HL)
20706WX1VS0118	Microsoft Windows 10 IoT 2021 image (VL)
N/A	Microsoft Windows 11 image
N/A	Ubuntu Linux 22.04 LTS image

Optional Items

Part Number	Description
96PSA-A230W24P4-3	ADP A/D 100-240V 230W 24V C14 TERMINAL BLOCK 4P
1700034872-01	M12-RJ45 cable for LAN 10/100Mbps
1700035017-01	M12-DB9 cable for CAN port
1700035018-01	M12-DB9 cable for COM port
1700035019-01	M12-terminal 10pin cable for GPIO port
1700035020-01	M12-terminal *2 5pin cable for remote control
1700035624-01	A cable Waterproof 5P(F)/PLUG-IN 4P-5.0 10cm
1652003234	PLUG-IN BLOCK 4P 5.00mm 90D(F)MC101-50004Y