

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	ROCK-301-V301DA1	
Processor	CPU	13th Gen Intel i7-1365URE (Raptor lake-U)	13th Gen Intel i3-1315URE (Raptor lake-U)	
	P-code Base/ Turbo Frequency	1.7/4.9 GHz	1.2/4.5 GHz	
	E-code Base/ Turbo Frequency	1.7/3.7 GHz	1.2/3.3 GHz	
	Core	10C (2P+8E)	6C (2P+4E)	
	Cache	12M	10M	
Memory	Technology	DDR5, 4800 MT/S, non-ECC		
	Socket	1x 8GB DDR5 RAM 1x SO-DIMM The total memory capacity is up to 64GB		
Graphics	Controller	Intel® Iris® Xe Graphics/UHD Graphics Architecture		
	Max Graphic Frequency	1.3GHz	1.2GHz	
	3D graphic HW acceleration	DX12, Open GL 4.6, Vulkan 1.2		
	HW Acceleration	OneVPL		
	Encode/Decode	H.2641/AVC. H.265/HEVC		
Audio	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.	1x M12 X-code Speed: 10/ 100/ 1000M / 2.5G with 8 kV/15 kV ESD protection	
	Serial	1x M12 A-code RS-232/422/485 with 8 kV/15 kV ESD protection		
	CANbus	1x M12 A-code CANbus 2.0 A/B with 8 kV/15 kV ESD protection		
	USB	1x M20 USB 3.0/2.0 yype 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	1x M12 A-code Power ON/OFF, WDT, Reset, DC-out 12V/1A		
	DIO	1x M12 A-code 4DI, 4DO 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		
	M.2	1x M.2 B key 3042/3052 1x M.2 M key 2280		
	Modular I/O Expansion	1	2	

Specifications (Cont.)

Software	Microsoft Windows	Windows 10
	Linux	Ubuntu 20.04 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 - Military	MIL-STD-810H Method 507.6, 95% @ 60 °C/ 140°F (non-condensing)
	Operating Altitude - Military	MIL-STD-810H Method 500.6
	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
Salt Fog - Military	MIL-STD-810H, Method 509.7 (96 hours at 35 °C/ 95°F)	
EMC*	Electronic	IEC CE/FCC class B
	Industry	EN61000-6-4, EN61000-6-2
	Military	MIL-STD-461 (compliance)
	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 None
Other	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
	MTBF	N/A N/A
Other	Warranty	3 years
	Production	Made in Taiwan

Dimensions

Unit: mm

N/A

External I/O Mechanical Layout/Drawing

N/A

Ordering Information

Part Number	CPU	RAM/RAM Socket	NVMe SSD	GbE	Modular I/O Expansion	Side Panel Heat Sink	Power Input	Operating Temperature
N/A	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)
N/A	i3-1315URE 4.5 GHz	1x 8GB DDR5 RAM 1x SO-DIMM	64 GB	1x 2.5 GbE	2	None	Nominal 12/ 24V (9 to 36V)	-40-71 °C (-40-159.8 °F)

Optional I/O Modules

Part Number	Description	Modular I/O Expansion 1	Modular I/O Expansion 2
N/A	4x M12 X-code 10/100Mbps PoE 60W * achieve speeds of up to 10/100/1000 Mbps when using only 1x M12 x-code port.	Support	Support
N/A	4x M12 X-code 10/100Mbps * achieve speeds of up to 10/100/1000 Mbps when using only 1x M12 x-code port.	Support	Support

Packing List

Part Number	Description
N/A	1x ROCK-301 unit
N/A	2x M25 caps 2x M20 caps
N/A	9x M12 caps (ROCK-301-V701DA1) 5x M12 caps (ROCK-301-V301DA1)

Customer Support Services

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

Optional Items

Part Number	Description
N/A	Power adapter A/D 100-240V
N/A	Wall mount kit

Embedded OS

Part Number	Description
N/A	Microsoft Windows 10 image
N/A	Ubuntu Linux 20.04 LTS image