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4,654,520	8,078,511
8,901,705	4,346,501
6,805,210	6,688,570



# IV320-RH

## Full IP65 Rugged MXM AI Edge Computer



- Full IP65 sealed enclosure for harsh, wet and dusty environments.
- Design to meet EN50155 Rolling Stock
- Support Intel® 13th Gen. Raptor Lake-H, Core i7-13800HE/HRE, 14C, 20T, 2.5/5.0GHz, 24M cache, TDP 45W
- Up to 64GB DDR5/DDR4 (option) SO-DIMM, non-ECC and ECC
- Supports NVIDIA® Quadro MXM RTX A4500 (16GB GDDR6, 5888 CUDA); RTX A1000 (4GB GDDR6, 2048 CUDA)
- Rugged waterproof M12 connectors
- IP65 2x 2.5" SATA SSD Easy Swap Tray
- Extended Operating Temperature -20°C to +60°C
- Wide range 12V~36V DC-IN
- EN50155 48VDC ( 33.6V~62.4V )
- MIL-STD-810 Anti Vibration, Shock
- Dimensions : 250 x 325 x 100 mm (WxLxH)

# Specifications

## System

CPU	Intel® 13th Raptor Lake Core i7-13800HE/HRE, 14C, 20T, 2.5/5.0GHz, 24M Cache, TDP 45W
Memory type	DDR5 4800MHz (DDR4 3200MHz option), Up to 64GB
CHIPSET	Intel® H610/Q670 Chipset
GPU	NVIDIA® MXM A4500/A1000, RTX A4000/A2000 (By option)
GRAPHICS	Intel® Iris® Xe Graphics/UHD Graphics Architecture
Expansion Slot	2x Full-size mini PCIe (1 with mSATA supported) -1 with mSATA/USB2.0/PCIeX1 support -1 with SIM/USB2.0/PCIeX1 support 1x 2280 M key (SATA only/NVMe x4 by option) 1x PCIe/104 (By Option) -4x PCIe x1, 1x PCIe x4, 5x USB2.0, 1x LPC, 1x SPI

## Display

Display	2x DP outputs from COM Express®, 1x DVI from COM Express® 4x DP outputs from GPU(Port A/B/C/D)
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## Storage

SATA	2x 2.5" SSD, Hot Swappable SSD/HDD slot
M.2	1x 2280 M key (SATA only)

## Ethernet

Ethernet	2x 10/100/1000 Ethernet Ports
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## Front I/O

X1	1x DVI/DP (option)
X2,X3	(Each) 1x Giga LAN , M12 waterproof connector
X4	1x USB , with M12 waterproof connector
X5	1x USB , with M12 waterproof connector
X6	1x COM, with M12 waterproof connector
X7	(reserved)
switch	1x IP65 power button
SSD	2x 2.5" Easy swap SSD Tray

## Rear I/O

DC-in	DC-IN (12V~36V)
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others                      Antenna

**Power**

Power input                12V ~36V DC-IN

**Operating System**

OS                            Windows® 10 64-bit / Linux (support by request)

**Physical**

Dimension                 250(W) x 325 (L) x 100 (H)mm

Weight                      (TBD)

Chassis                     Aluminum Ally

Heatsink                  Heatsink Aluminum Alloy, Corrosion Resistant

**Environmental**

Green Product             RoHS, WEEE compliance

Operating Temp.         -20°C to +60°C

Storage Temp.            -40°C to +85°C

Relative Humidity        5% to 95%, non-condensing

**MIL-STD-810 Specifications (Operating )**

Method 502.5  
Procedure 2                Low Temperature                      -20°C, 4 hours, ±3°C

Method 501.5  
Procedure 2                High Temperature                      +55°C, 4 hours, ±3°C

Method 507.5              Humidity                                  85%-95% RH without condensation,  
24 hours/ cycle, conduct 10 cycles.

Method 514.6              Vibration                                5-500Hz, Vertical 2.20Grms, 40mins x 3axis.

Method 516.6              Shock                                        20 Grms, 11ms, 3 axes.

**MIL-STD-810 Specifications (None-Operating)**

Method 502.5  
Procedure 1                Low Temp. Storage                      33°C, 4 hours, change rate: ≤ 20°C/ Hour  
-15°C, 72hours (By request)

Method 501.5  
Procedure 1                High Temp. Storage                      +71°C, 4 hours, change rate: ≤ 20°C/ Hour  
+63°C, 240 hours (By request)

Method 514.6              Vibration                                5-500Hz, Vertical 2.20Grms, 40mins x 3axis.

Method 516.6              Shock                                        20 Grms, 11ms, 3 axes.

## Ordering Information

Model	IV320-RH-A10/45	IV320-RS-R40	IV320-RS-R20
CPU	i7-13800HE/HRE	i9-13900TE	i7-13700TE
GPU	MXM A1000/A4500	RTX A4000	RTX A2000
Memory	DDR5 Up to 64GB	DDR4 up to 64GB	
Storage	2x 2.5" SATA III SSD		
I/O			
USB	2x		
LAN	2x		
COM	1x		
Power	9V~36V DC-IN	12V DC-IN	

## Dimensions

