

Edge AI Computer

RVS-T1FM / X1FM

Palm Size
145mm x 125 mm x 85.6 mm

MXM GPU
TYPE A : 82 x 70 mm



Fit Anywhere and Everywhere

-40°C ~ 50°C with GPU



RVS-X1FM



RVS-T1FM

Features

- ✓ 2x LAN
- ✓ 2x Displays (1x HDMI, 1x DP)
- ✓ 1x RS232/422/485, 1x RS232
- ✓ 8x USB (Support 6x USB3)
- ✓ 1x Mic In/Line Out
- ✓ 2x M.2 2242 M key (SATA III SSD) , support Raid 0/1
- ✓ 1x M.2 2242/3052 B key with SIM slot, support 4G/5G
- ✓ 1x Full Size Mini-PCIe with SIM slot, support 4G/5G
- ✓ 1x M.2 Key E Type 2230 for WIFI/BT/GPS
- ✓ 6~48V Wide DC In Voltage Input,
- ✓ Ignition Power Control
- ✓ Remote Control

SPECIFICATION

Product Name	RugCon-RVS-T1FM / RVS-X1FM (M12 LAN)
Generation	Intel® 13th/ 12th-Gen Core™ i9 / i7 /i5 (U_15W, P_28W, H_45W)
Memory	Max. Capacity : 64GB DDR5 with 2x SO-DIMM
Display	2x Display 1x Display Port, 4096*2304@60Hz 1x HDMI , 4096*2160@60Hz
LAN	1x 2.5 GbE, 1x GbE , M12 X-coded connector for LAN Ports (RVS- X1FM)
CAN	N//A
COM	1x RS232/422/485, 1x RS232
USB	8x USB (6x USB 3.2, 2x USB 2.0)
Audio	1x 3.5mm jack for Mic-In and Line-out
DIO	N//A
Storage	2x M.2 2242 M key (SATA III SSD) , Support Raid 0/1 , (1x M.2 2242 share with M.2 3052)
Internal Expansion	1x M.2 2242/3052 M-B key with SIM slot, support 4G/5G 1x Full Size Mini-PCIe with SIM slot, support 4G/5G 1x M.2 Key E Type 2230 for WIFI/BT/GPS
MXM Expansion	Support TYPE A : 82 x 70 mm MXM GPU Module
Mechanical	Dimension : 145(W) x 125(D) x85.6 (H) mm , Weight : 1.1 Kg , Mounting : Wall Mount
Temperature	Operating Temperature : -40° C ~ 70 °C (According to CPU) , GPU TGP 35W (50 °C) Storage Temperature : -40°C to 85°C
Humidity	Operating : 0~95%(non-condensing) Storage : 10~90%
Power	1x 3-pin pluggable terminal block for 6-48V DC Input 200V/1ms Surge Protection, Reverse-Voltage, Over-Voltage, Under-Voltage, Over-Current Protection 1x Power Button 1x 4-pin pluggable terminal block for Ignition/Remote power control
Vibration / Shock	Vibration test according to MIL-STD-810H, Method 514.8, Category 4 Shock test according to MIL-STD-810H, Method 516.8, Procedure I
EMC	CE/FCC Class A , according to EN 55032 & EN 55035 , (E-Mark / EN50155 / EN45545-2 by request)

Product Introduction

ENBIK desktop performance RugCon-**RVS-T1FM/X1FM** is a ultra-mini palm-sized edge AI computer with only 145 x 125 x 83 mm size ideal for space-constrained setups. **RVS-T1FM/X1FM** combines low power consumption Intel® 13th/ 12th generation core™ i9/i7/i5/i3 (15W/28W/45W) processor with high-performance AI computing ability which can effectively solve the problem of edge artificial intelligence deployment with limited power supply. **RVS-T1FM/X1FM** offers a wide range of I/O ports including 2x LAN(2.5GbE/GbE), 1x RS232/422/485, 1x RS232, 8x USB and Multiple M.2 internal expansion slots for 5G/4G/WIFI/GPS. **RVS-T1FM/X1FM** also has 2x M.2 2242 SATA III slots, which can install two SSD at the same time.

What is exciting is that the **RVS-T1FM/X1FM** can support MXM GPU of NVIDIA, which undoubtedly makes software developers more excited. The rich NVIDIA software ecosystem makes edge artificial intelligence deployment faster and easier to implement, effectively solves the installation and low-latency reasoning problems of various artificial intelligence models at the edge, and quickly makes various decisions and judgments at the edge. Modular GPU scalability ensures seamless upgrades to meet evolving application demands, the ENBIK's **RVS-T1FM/X1FM** is definitely the best choice for edge deployment of demanding artificial intelligence tasks, limited space and limited power in various edge applications.

Product Application

ENBIK RugCon-**RVS-T1FM/X1FM** is suitable for edge computing, AIoT, machine vision, AGV/AMR, In-Vehicle systems, rail transit, robot control and automation control, as well as various harsh and extreme edge environments with limited installation space and limited power supply.

ENBIK RugCon RVS-T1FM
Super Small : 145 x 125 x 85 mm

RugCon RVS-X1FM
M12 A-code Connectors for LAN Ports

Intel CPU Support
It can be equipped with the latest Intel® 14th/13/12th generation Core™ i9/i7/i5 (15W/28W/45W) processor can reach up to 16-core /22 threads, providing ultra-high computing performance.

M.2 Expansion for 5G/4G/LTE/WIFI / GPS
1x Full Size Mini-PCIe(PCle , USB2) with SIM slot
1x M.2 2242/3052 B key(SATAIII,PCIE) with SIM slot
1x M.2 Key E Type 2230 (PCle, USB2)

2 x M.2 2242 M key (SATA III SSD)

Ignition Control / Remote Control

6 xUSB(4x USB3.2 GEN1x1 5Gbps . 2x USB2.0)

2x RJ45 LAN
1x 2.5 GbE , 1x GbE

2x Display
1x DP, 1x HDMI

TYPEA

Back

Mic In / Line Out

1x USB3.2
USB3.2 GEN1x1 5Gbps

2x COM support
1x RS232/422/485 / 1x RS232

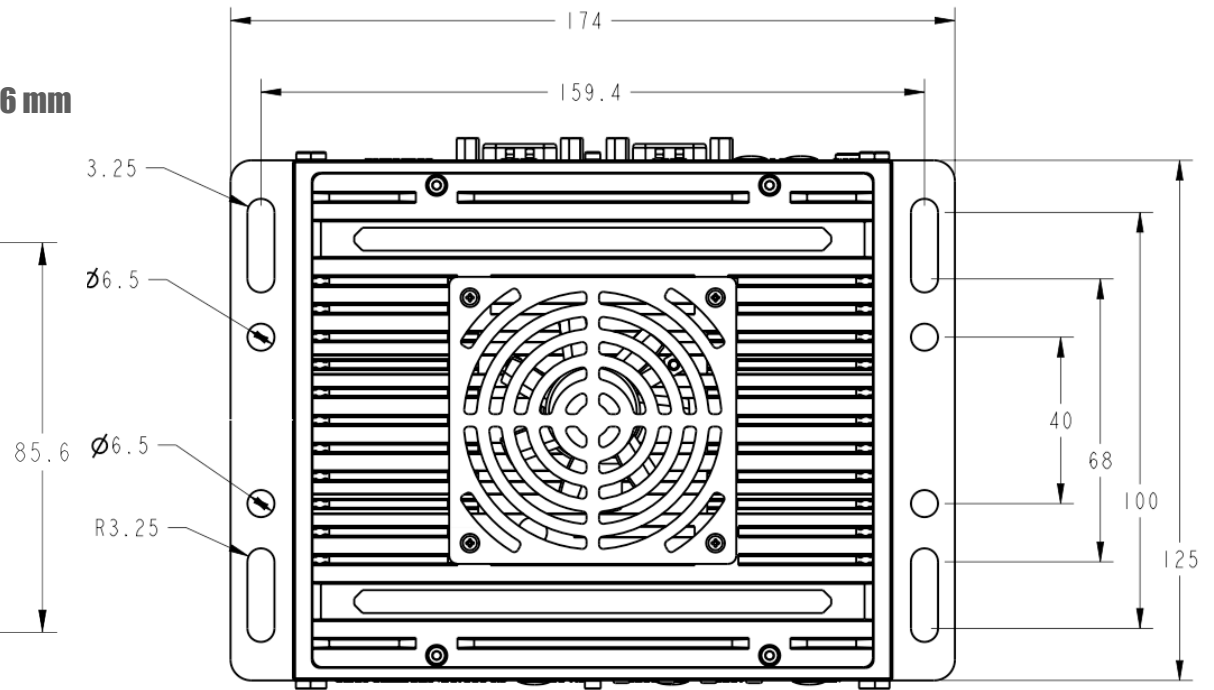
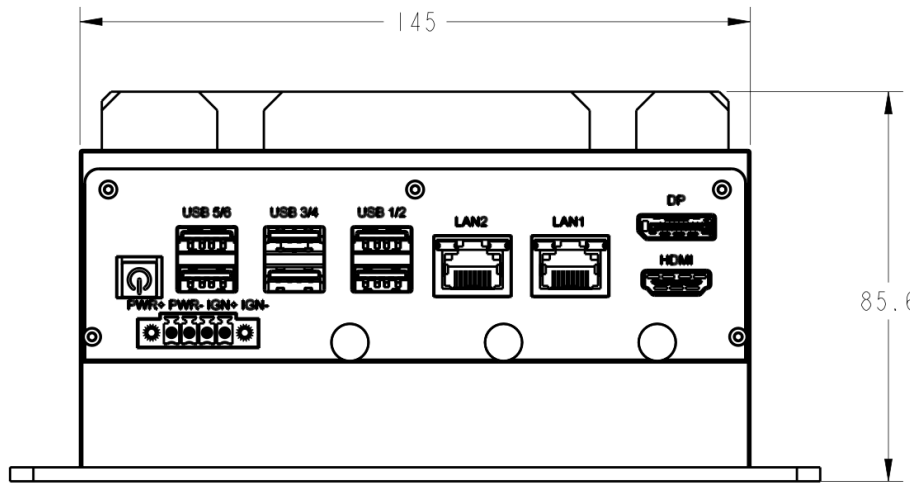
1x USB3.2
USB3.2 GEN1x1 5Gbps

6~48V DC INPUT / 180W

200V/1ms Surge Protection, Reverse-Voltage Protection, Over-Voltage Protection, Under-Voltage Protection, Over-Current Protection

AI Edge AI Computing BOX MXM GPU

Dimension : Compact Slim : 145 mm x 125 mm x 85.6 mm



CPU Support :

Intel 12th CPU Support List

12th Gen Intel® Core™ mobile processors (formerly Alder Lake–P)	
CPU Module	Description
i9-12900H	Intel® Core™ i9-12900H processor with 6 P-cores and 8 E-cores up to 5.0GHz 24MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 96 EUs Intel® code name Alder Lake-P (H-Series,45W)
i7-12700H	Intel® Core™ i7-12700H processor with 6 P-cores and 8 E-cores up to 4.7GHz 24MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 96 EUs Intel® code name Alder Lake-P (H-Series,45W)
i5-12600H	Intel® Core™ i5-12600H processor with 4 P-cores and 8 E-cores up to 4.5GHz 18MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 80 EUs Intel® code name Alder Lake-P (H-Series,45W)
i7-1260P	Intel® Core™ i7-1260P processor with 4 P-cores and 8 E-cores up to 4.7GHz 18MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 96 EUs Intel® code name Alder Lake-P (P-Series,28W)
i5-1250P	Intel® Core™ i5-1250P processor with 4 P-cores and 8 E-cores up to 4.4GHz 12MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 80 EUs Intel® code name Alder Lake-P (P-Series,28W)
i5-1235U	Intel® Core™ i5-1235U processor with 2 P-cores and 8 E-cores up to 4.4GHz 12MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 80 EUs Intel® code name Alder Lake-P (U-Series,15W)
i3-1215U	Intel® Core™ i3-1215U processor with 2 P-cores and 4 E-cores up to 4.4GHz 10MB Intel® Smart Cache Intel® UHD Graphics 64EU Intel® code name Alder Lake-P (U-Series,15W)

Intel 13th CPU Support List

13th Gen Intel® Core™ mobile processors (formerly Raptor Lake–P)	
CPU Module	Description
i9-13900HK	Intel® Core™ i9-13900HK processor with 6 P-cores and 8 E-cores up to 5.4GHz 24MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 96 EUs Intel® code name Raptor Lake-P (H-Series,45W)
i7-13800H	Intel® Core™ i7-13800H processor with 6 P-cores and 8 E-cores up to 5.2GHz 24MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 96 EUs Intel® code name Raptor Lake-P (H-Series,45W)
i5-13600H	Intel® Core™ i5-13600H processor with 4 P-cores and 8 E-cores up to 4.8GHz 18MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 80 EUs Intel® code name Raptor Lake-P (H-Series,45W)
i7-1360P	Intel® Core™ i7-1360P processor with 4 P-cores and 8 E-cores up to 5.0GHz 18MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 96 EUs Intel® code name Raptor Lake-P (P-Series,28W)
i5-1350P	Intel® Core™ i5-1350P processor with 4 P-cores and 8 E-cores up to 4.7GHz 12MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 80 EUs Intel® code name Raptor Lake-P (P-Series,28W)
i5-1335U	Intel® Core™ i5-1335U processor with 2 P-cores and 8 E-cores up to 4.6GHz 12MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 80 EUs Intel® code name Raptor Lake-P (U-Series,15W)
i3-1315U	Intel® Core™ i3-1315U processor with 2 P-cores and 4 E-cores up to 4.5GHz 10MB Intel® Smart Cache Intel® UHD Graphics 64EU Intel® code name Raptor Lake-P (U-Series,15W)

Note 1 : Embedded or other Processors also be supported , please contact our sales channel .

Select the power of artificial intelligence

	GeForce RTX Series		QUADRO
AI Chip	RTX4050-6G	MX550	A2000-8G
Generation	Ada Generation	Turing	Ampere
Chip Clock	1140MHz (Boost 1605MHz)	1260MHz (Boost 1500MHz)	1087MHz(Boost 1552MHz)
Memory	6GB GDDR6 96bit	4GB GDDR6 64bit	GDDR6 8 GB 128bit
Memory Clock	2000 MHz	1500 MHz	1375 MHz
Memory Bandwidth	192.0 GB/s	96 GB/s	176.0 GB/s
Single Precision	8.218 TFLOPS	4.5 TFLOPS	8.958 TFLOPS
TOPS	194	-	-
CUDA	2560	1024	2560
Tensor Core	80	32	80
RT core	20	16	20
TGP	35W	35W	38W/50W
Dimension	TYPE A : 82 x 70 mm	TYPE A : 82 x 70 mm	TYPE A : 82 x 70 mm

Note 2 : Embedded or other MXM GPU Module also be supported , please contact our sales channel .