

AFE-R760

Intel® Core™ Ultra 7/5 Processors AMR control system

Preliminary



Features

- Intel® Core™ Ultra 7/5 Processors, up to 16 Cores, TDP 28W
- Dual Channel DDR5-5600, up to 96GB
- Support 4x GMSL through 120pin B2B connector
- Dedicate I/Os for AMR: 3x 2.5GbE, 2x USB-C, 2x USB-A, 4x COM, 2x CAN-FD, 8-bit DIO
- ESD protection : Contact 8KV, air 15KV
- Supports Ubuntu22.04/ 24.04 LTS, Windows 10/ 11 LTSC, Advantech Robotic Suite



WISE-DeviceOn SUSI API



Specifications

Processor System	Processor	Core Ultra 7, 155H	Core Ultra 5, 125H
	Max. Frequency	4.8GHz	4.5GHz
	Base Frequency (P-Core)	1.4GHz	1.2GHz
	Core/ Thread	16, 6P+8E+2LE/ 22	14, 4P+8E+2LPE/ 18
	LLC	24MB	18MB
	TDP	28W	28W
	Chipset	On-package Intel 600 Series Chipset	
	BIOS	AMI EFI 256Mbit	
Memory	Technology	DDR5 5600 MHz	
	Max. Capacity	96 GB	
	Socket	2 x 262-pin SO-DIMM	
Graphics	Chipset	Intel® ARC® Graphics	
	3D/ HW Acceleration	DX12.1, OGL4.6, OCL3.0, HW Encode/ Decode: H.265 (HEVC), H.264, AV1	
	DP	1 x DP1.4a, up to 4096 x 2160x 36bpp @60Hz	
Ethernet	LAN1/2/3	10/100/1000/2500 Mbps Intel i226-LM GbE, support Wake On Lan	
Audio	Interface	Realtek ALC888s, Line-in/Line-out/MIC	
Others	Watch dog Timer	65536 level, 0~65535 sec	
	TPM	Discrete TPM2.0, fTPM* support by request	
I/O Interface	Serial Port	4 x RS-232/422/485, max. 1Mbps	
	USB Type-C	2 x USB3.2 Gen2x1 10Gbps, support DisplayPort1.4 Alt. Mode	
	USB Type-A	2 x USB3.2 Gen2x1 10Gbps	
	GPIO	8-bit general purpose input output I/O	
	CANBus	2 x CAN-FD	
	FAN	1x FAN connector (12V1A)	
Expansions	M.2 E Key	1 x E-Key 2230 (PCIex2, USB2.0)	
	M.2 B-Key	1 x B-Key 3052 (PCIe x2/ SATA, USB2.0) w' Nano SIM	
	M.2 M-Key	2 x M-Key 2280 (PCIex4 Gen.4 NVMe)	
	GMSL	Up to 4x FAKRA, expanded through GMSL interfaced card, MIOe-GMSL. (Optional)	
	Software Support	Microsoft Windows	Windows 10/ 11
Power Requirements	Linux	Ubuntu 22.04/ 24.04	
	ROS2	Ready by Advantech Robotic Suite	
Power Consumption (CPU/Memory Only)	Power Input Voltage	12-24V _{DC}	
	Power Source	DC Battery or AC to DC 150W adapter (Optional)	
Mechanical	Typical (OS idle mode)	TBD	
	Max. (Full loading)	TBD	
	Construction	Aluminum housing	
	Mounting	DIN-Rail mounting, Wall mounting	
	Dimensions (W x H x D)	175 x 60 x 130 mm	
Environment	Weight	1.2 kg (2.6 lb)	
	Operating Temperature	with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow	
	Storage Temperature	-40 ~ 85° C	
	Relative Humidity	95% @ 40° C (non-condensing)	
	Vibration During Operation	3 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.	
	Shock During Operation	30 G, IEC 60068-2-27, half sine, 11 ms duration	
	EMC	Heavy industrial certificates, CE/FCC Class B, UKCA, CCC, BSMI	
Safety	CB, UL, UKCA, CCC, BSMI		

*1 SIM holder and M.2 slot are hardware interfaces for wireless communication integration only. System level RF certification is not available.

ADVANTECH

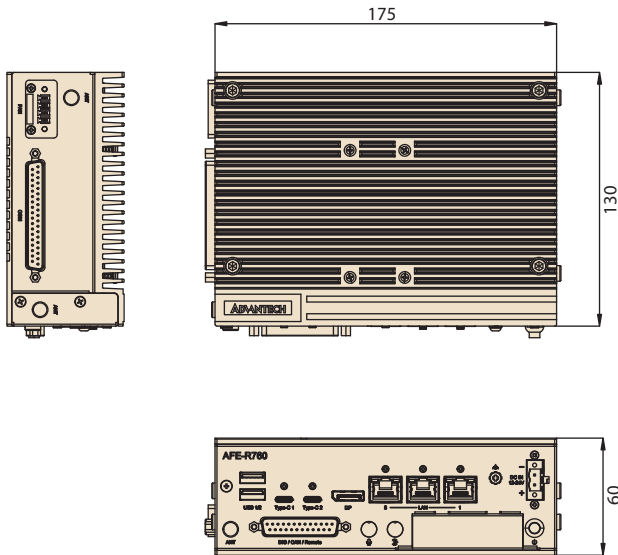
AMR CONTROLLER

All product specifications are subject to change without notice.

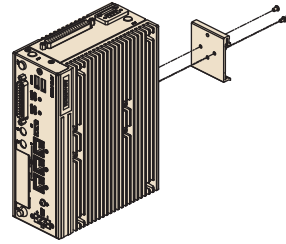
Last updated: 25-Oct-2024

Dimensions

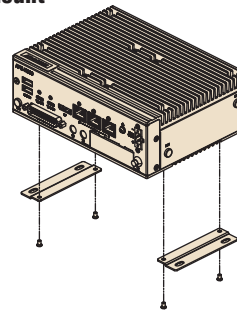
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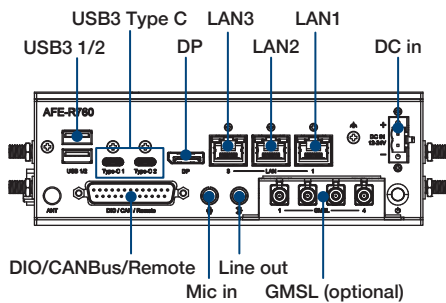
DinRail



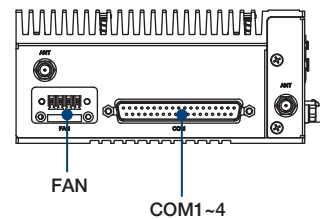
Wallmount



Front Panel I/O



Side Panel I/O



Ordering Information

Part No.	CPU	Core	DDR5	Gbe	DP	CANBus	RS-232/422/485	USB	M.2 B key	SIM	M.2 E Key	M.2 M key	GPIO	Made in
AFE-R760-Q5A1	Core Ultra 5, 125H	14C, 4P+8E+2LPE	Up to 96GB	3	1	2	4	4	1	1	1	2	8bit	China
AFE-R760-Q8A1	Core Ultra 7, 155H	16C, 6P+8E+2LPE	Up to 96GB	3	1	2	4	4	1	1	1	2	8bit	China

Note: Memory, storage, and operating system bundled by request.

Packing List

Part Number	Description
-	AFE-R760 Unit
-	User Manual (Simplified Chinese)
-	China RoHS
-	Din Rail

Embedded OS

Part Number	Description
TBD	WIN10 IoT LTSC 21H2 64bit
TBD	WIN11 IoT LTSC 21H2 64bit
TBD	Ubuntu 22.04
TBD	Ubuntu 24.04

Default SKU Option Items

Optional Item for Default SKU

Part Number	Description
96PSA-A150W24T2-4	AC to DC adapter, DC 24V 150W, -10 ~ 60 °C (10% derating @60 °C)
1702002600	Power cable 3-pin 183cm, USA type
1702002605	Power cable 3-pin 183cm, EU type
1702031801	Power cable 3-pin 183cm, UK type
1700000237	Power cable, 3-Pin 183cm, PSE type