ITA-460G

Water-resistant Fanless In-vehicle AI Computer with Intel® 8th/9th Gen Core™ i CPU



Features

- Intel® 8th/9th Gen Core™ i CPU (LGA1151)
- 8GB memory on board, 1 x SO-DIMM
- Support MXM type GPU module
- Supports 2 x Gigabit Ethernet, 2 x USB3.0/3.1
- Supports 2 x COM (RS232/422/485)
- Supports 1 x mSATA, 2 x 2.5" HDD/SSD
- Supports 3 x mini PCIe expansion sockets for wireless communication, CAN and IO expansion
- Supports 12/24V_{DC} vehicle power with ignition
- All-around IP65 rating for protection from water and dust ingress
- No RED Certificate

E13 UL CCC CE FCC

Specifications

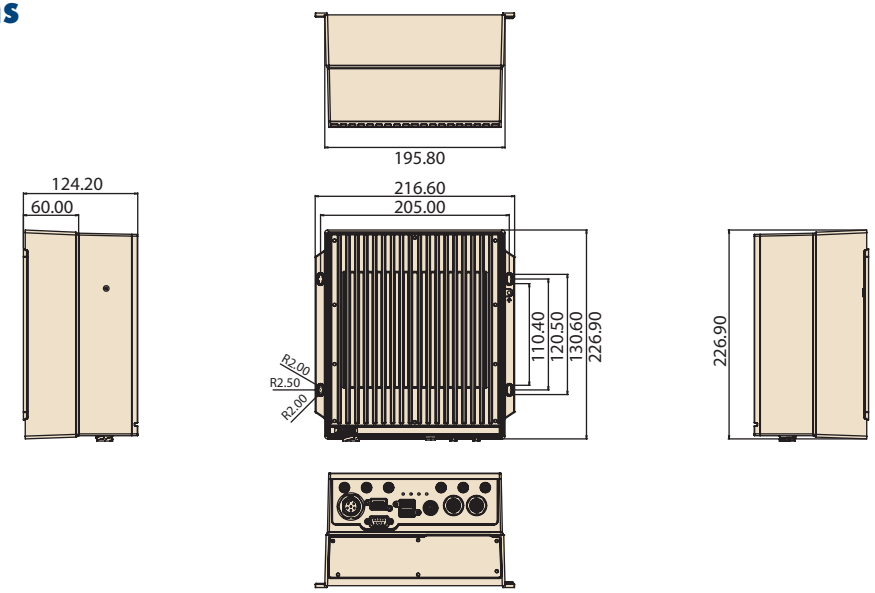
8th/9th Generation Processor (TDP 35W)	CPU	I7-9700TE	I5-9500TE	I3-9100TE	i7-8700T	i5-8500T			
	Core/Thread Number	8/8	6/6	4/4	6/12	6/6			
	Base Frequency	1.8GHz	2.2GHz	2.2GHz	2.4 GHz	2.1 GHz			
	Max Turbo Frequency	3.8GHz	3.6GHz	3.2GHz	4.0 GHz	3.5 GHz			
	L3 Cache	12MB	9MB	6MB	12MB	9MB			
	Chipset	H310							
	BIOS	AMI 256Mb SPI Flash							
8th/9th Generation Processor (TDP 65W)	CPU	I7-9700E	I5-9500E	I3-9100E	i7-8700	i5-8500	i3-8100	G5400	G4900
	Core/Thread Number	8/8	6/6	4/4	6/12	6/6	4/4	2/4	2/2
	Base Frequency	2.6GHz	3.0GHz	3.1GHz	3.2GHZ	3.0GHz	3.6GHz	3.7GHz	2.9GHz
	Max Turbo Frequency	4.4GHz	4.2GHz	3.7GHz	4.6GHz	4.1GHz			
	L3 Cache	12MB	8MB	6MB	12MB	9MB	6MB	4MB	2MB
	Chipset	H310							
	Temperature	-25 ~ 40 °C (with Industrial SSD, 0.7 m/s air flow)							
	BIOS	AMI 256Mb SPI Flash							
Memory	Technology	Dual-channel DDR4 2400 MHz (without ECC)							
	Solder-down	8GB on board (optional 16GB on board)							
	Socket	1 x 260-pin DDR4 SO-DIMM (up to 16GB per socket)							
	Maximum Capacity	16GB (optional 32GB)							
Display	Chipset	H310: Intel® HD Graphics 610, supports DirectX 12							
	HDMI	1X HDMI (HDMI1.4b: up to 4096 x 2160@30Hz)							
Ethernet	Controller	Intel® i210IT							
	Interface	2 x Gigabit Ethernet with M12 X-Coded							
MXM GPU Carrier	Socket	MXM slot x 1 (support max. 60W power consumption for GPU module)							
	Interface	Carry board support HDMI 1.4b x 4							
Storage	SATA	2 x 2.5" HDD/SSD (max. height 9.5mm)							
	mSATA	1 x mSATA slot on board							
I/O	USB	2 x USB3.0/3.1							
	Serial Port	DB9 x 1 (2 x RS-232/422/485 support software programmable)							
	Audio	M12 A-Coded x 1 (1 x line out and 1 x mic in)							
Expansion	Mini PCIe	3 x mini PCIe (PCIe Gen3 x 1, USB 2.0 with 1 SIM slot)							
LED	LED	4 (1 x power,1 x storage, and 2 x LAN)							
Power	Type	AT/ATX							
	Input Voltage	8 ~ 32 V_{DC} (9.6 ~ 28.8V_{DC} full loading)							
	Power consumption	Typical: 33W, maximum: 145W							
Watchdog Timer	Output	System reset							
	Interval	Programmable 1 ~ 255 sec/min							
Environment	Operating Temperature	35W CPU w/ industrial SSD and 60W MXM GPU							
		-25 ~ 40 °C / -13 ~ 104 °F with 0.7 m/s air flow							
	Storage Temperature	-40 ~ 85 °C							
	Humidity	95% @ 40 °C (non-condensing)							
	Vibration	MIL-STD-810G, IEC 60721-3-5 Class 5M3 (Maximum: 5G, 8 hours, per axis)							
	Shock	MIL-STD-810G (75G 11 ms), IEC-60721-3-5 Class 5M3 (Opreating: 100G 6ms)							
Mechanical	Dimensions (W x H x D)	195.8 x 124.2 x 226.9 mm (7.71" x 4.89" x 8.93")							
	Weight	6.3KG/13.89lbs							
	Installation	Desktop/wall mount							
	IP	IP65 protection from water and dust ingress (IP-67 optional)							
Certifications	EMC	CE/FCC Class A, BSMI							
	Safety	CB/UL 62368, CCC, Emark, ISO 7637-2, BSMI							
OS Support		Windows 10, Linux Ubuntu 20.04 (Canoical Ubuntu certified and provide the Ubuntu support for 5 years)							

All product specifications are subject to change without notice.

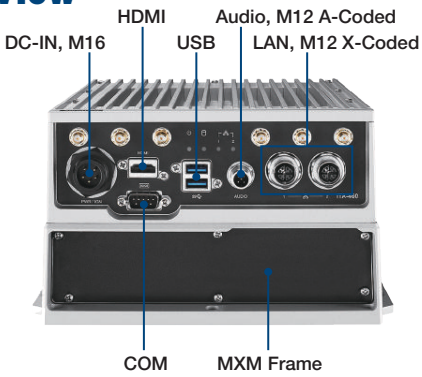
Last updated: 2-Jun-2023

Dimensions

Unit: mm



Front View



Ordering Information

Part Number	Description	HDMI	2.5" SSD slot	mSATA slot	USB3.0/3.1	LAN	COM	MXM slot	miniPCIe slot	Power
ITA-460G-L0A1	ITA-460G, 8G onboard memory, MXM barebone unit	1	2	1	2	2	2 (By Y cable)	1	3	8 ~ 32V_{DC}

Optional Accessories

Part Number	Product Description
96PSA-A150W19P4-4	ADP A/D 100-240V 150W 19V C14 TERMINAL BLOCK 4P
1702002600	Power cord (USA) UL/CSA, 3-pin, 10A, 125V, 1.83M, 180D
1702002605	Power cord (EU), 3-pin, 10A, 250V 1.83M, 90D
1700000596-11	Power cord (CCC), 3-pin, 10A, 250V, 1.83M, 180D
FRU-ITALAN-0003	External LAN cable (M12 X-Coded to RJ45)
FRU-ITAAUD-0002	External audio cable (M12 A-Coded to 2 x Audio Jack)

Accessory Box List

Accessory	Description
Power cable	M16 6P (female) to 6P twisting and tinning stranded wires, 15cm
COM cable	D-SUB 9P (female) to 2 x D-SUB 9P (male), 15cm
SSD kit	SSD bracket and 2 x SATA cable
miniPCIe kit	Inner heatsink bracket, miniPCIe bracket
Thermal pad	Pads for SO-DIMM memory, mSATA, miniPCIe

Optional MXM kit

Part Number	Description
SKY-MXM-T1000-4SHB	Quadro T1000 MXM 4GB MS Hybrid mode Type A
1970005378N011	Quadro T1000 MXM Heat Spreader
1990027179N000	Thermal Pad 63X59X0.8 K=6 GR-Hm
SKY-MXM-A2000-4SDA	Quadro A2000 MXM 4GB Discrete mode Type A
SKY-MXM-A2000-8SDA	Quadro A2000 MXM 8GB Discrete mode Type A
98R1X200000	9651X200000 Quadro RTX A1000/A2000 HS
1990027179N000	Thermal Pad 63X59X0.8 K=6 GR-Hm
SKY-MXM-A500-4SHA	Quadro A500 MXM 4GB MS Hybrid mode Type A
98R1X050000	9651X050000 Quadro A500 MXM Heatspreader
1990027179N000	Thermal Pad 63X59X0.8 K=6 GR-Hm

For sales inquiries or further information, please contact us at Rail@Advantech.com.tw