

# ITA-5231

## Intel® 6th Generation Core™ i Processor Fanless System; EN 50155 Compliant for Railway Applications



### Features

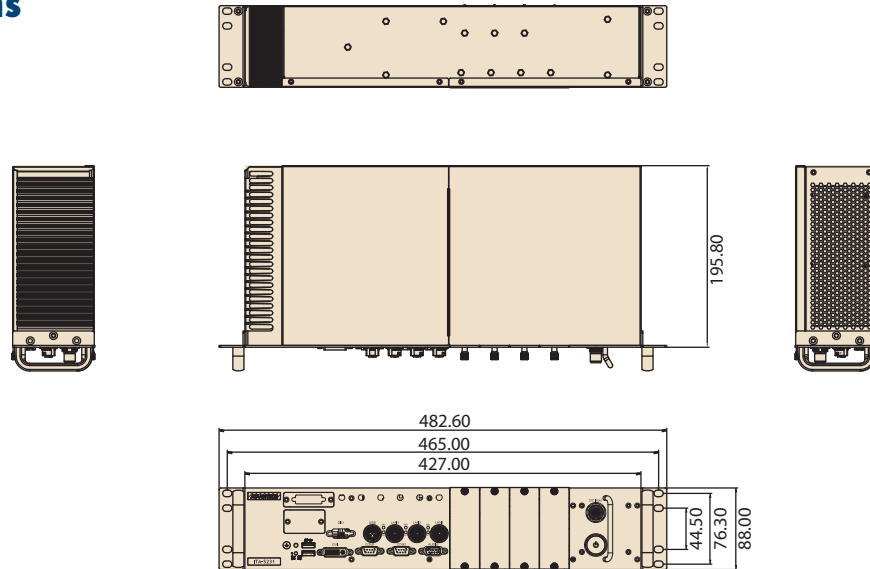
- H-series, 6th generation Intel® Core™ i3/i5/i7 platform with QM170
- Fanless computer for railway vehicle applications, fully compliant with EN 50155
- Satisfies temp. standard: EN 50155 TX (-40 ~ 70 °C) and IEC 61373 body mount class B
- Compliant with EN 50121-3-2/ EN 50121-4 EMC test standard
- Ruggedized connectors (M12) used for communication and power ports
- Supports easy-swap storage module and I/O module

### Specifications

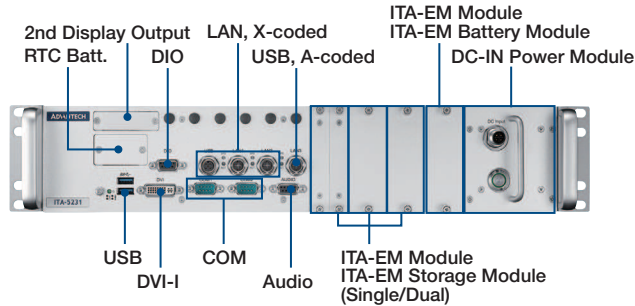
System Chipset	CPU	Intel® Core™ i7-6822EQ	i5-6442EQ	Celeron® G3902E
	Base Frequency/Turbo Boost	2.0/2.8 GHz	1.9/2.7GHz	1.6GHz/NA
	L3 Cache	8M	6M	2M
	Cores/Threads	4C/8T	4C/4T	2C/2T
	Chipset	QM170		
	BIOS	AMI SPI 128Mb		
Memory	Technology	8GB on board memory, DDR4 2133MHz		
	SODIMM slot	1		
	Max. Capacity	Up to 16GB		
Graphics	Chipset	Intel® HD Graphics 530, Celeron with Intel® HD Graphics 510		
	VRAM	Shared with system memory up to 512MB		
	Display	DVI-I: 1920x1200 @ 60Hz		
I/O	USB	2 x USB3.0 with Type A 1 x USB2.0 with M12 A-coded(F) 4-pin		
	Serial Port	2 x DB9, RS-232/422/485 with 2KV Isolation, supports auto-flow control		
	DIO	1 x DB9, 4-bit DI/ 4-bit DO with 2KV Isolation		
	Main Display	1 x DVI-I (Optional to DVI-D+VGA via Y cable)		
	Audio	1 x DB9, 1 x Speaker-out with 2 x 4W amplifier, 1 x Mic-in		
Ethernet	Controller	Intel i210-IT /i219LM (Industrial)		
	Interface	10/100/1000 Mbps		
	Connector	3 x M12 X-coded(F), LAN1 with i219LM and LAN2/LAN3 with i210-IT		
Storage	HDD/SSD easy-swap module	1 x ITA-EM-ST51-00A1E, supports 2 x 2.5" SSD (Default setting) Max to 4 x 2.5" SSD (7mm/9.5mm)		
	mSATA	1 x mSATA slot on board		
Others	Mini PCIe	3 x Mini PCIe Socket (Full size)		
	SIM card	2 x SIM slot		
LED & Button	LED	1 x power, 1 x storage, 1 x alert, 1 x BATT		
	Button	1 x power on/off switch 1 x reset button		
Power	Input Voltage	DC 24V input compliant with EN50155 class S2/C2 (optional DC 48/72/110V input)		
	Connector	1 x M12 S-coded(M) 4-pin		
Watchdog Timer	Output	System reset		
	Interval	Programmable 1~255 sec/min		
Environment	Temperature	Operating (with Industrial/Wide-temperature SSD/mSATA) -40 ~ 70 °C		Non-operating -40 ~ 85 °C
	Humidity	5% ~ 95% @ 40 °C (Non-condensing)		
Mechanical	Dimension (W x H x D)	427 x 88 x 195.8 mm (16.81" x 3.46" x 7.71")/482.6 x 88 x 221.3 mm (19" x 3.46" x 8.71") with mounting kits		
	Install	Rack-mounting		
Certification	EMC	CE/FCC Class A, CCC		
	Safety	UL, CB, CCC		
EN 50155 Compliance	Ambient Temperature	EN 50155 TX (-40 ~ 70 °C)		
	Shock and Vibration	IEC 61373 body mount class B		
	Interruptions of Voltage Supply	Class S2		
	Supply Change Over	Class C2		
	EMC	EN 50121-4		

## Dimensions

Unit: mm



## Front View



## Ordering Information

Voltage (M12-S-Male)	Part Number	Processor	Ethernet (M12-X-Female)	USB2.0 (M12-A-Female)	USB3.0 (Type A)	mini-PCIe	2.5" SSD	mSATA slot	COM	DIO	Display
24V <sub>DC</sub>	ITA-5231-L7A1E	i7-6822EQ	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I
	ITA-5231-L5A1E	i5-6442EQ	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I
48V <sub>DC</sub>	ITA-5231-L0A1E	G3902E	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I
	ITA-5231-M7A1E	i7-6822EQ	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I
72/110V <sub>DC</sub>	ITA-5231-S7A1E	i7-6822EQ	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I
	ITA-5231-S5A1E	i5-6442EQ	3	1	2	3	Up to 4	1	2(Default)	4DI/4DO	DVI-I

ITA-5231 Series supports various I/O expansion. For more specifications, please contact your distributor or sales representative.

## Optional List

Part Number	Description	P/N	Description
ITA-EM-SR51-00A1E	Easy-swap module, 4 x RS232/422/485 with 2KV Isolation	1700025295-31	USB cable: M12 A-code-> USB Type A,10cm
ITA-EM-CN51-00A1E	Easy-swap module, 2 x CAN ports with 2KV Isolation	1700026432-21	LAN cable: M12 x-code-> RJ45,10cm
ITA-EM-PE51-00A1E <sup>Note1</sup>	2 PoE: Each port max to 7.5W @ 52V <sub>DC</sub> 1 PoE: Up to 15.4W @ 52V <sub>DC</sub>	1700025857-21	Power cable: M12 S-code-> 2pin Terminal Block,10cm
ITA-EM-ST51-00A1E	Easy-swap storage tray, support 2 x 2.5" SSD (7mm/9.5mm)	1700004713	Y cable: DVI 29P(M) -> DVI 29P(F)+D-SUB 15P(F), 18cm
ITA-EM-ST51-10A1E	Easy-swap storage tray, support 1 x 2.5" SSD (7mm/9.5mm/15mm)		

Note1: Only supports EN 50155 T2 class: -40 ~ 55 °C

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