

ITA-5231S

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



Features

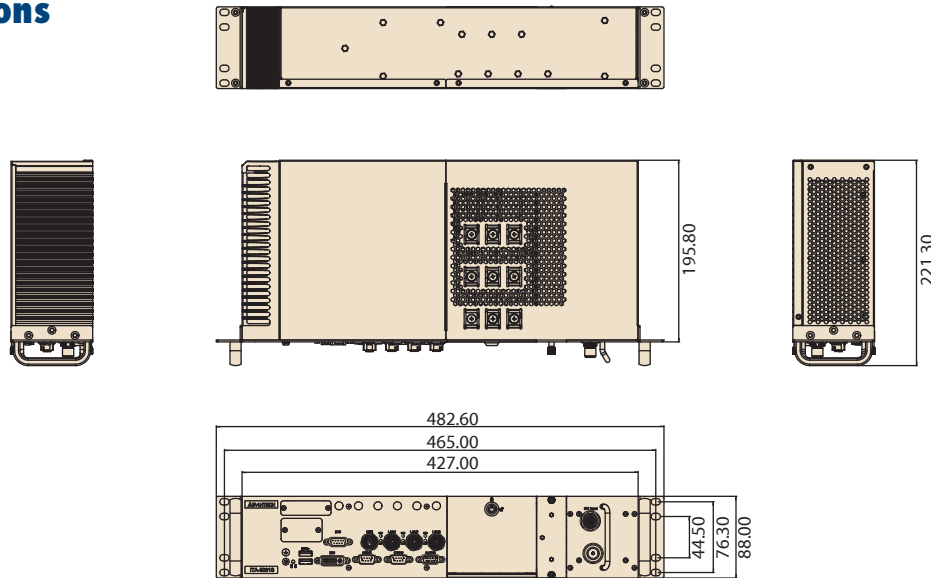
- Intel Skylake-H platform with QM170
- Fanless computer for railway vehicle applications, fully compliant with EN 50155
- Satisfies temp. standard: EN 50155 TX (-40 ~ 70° C) and IEC 61373 body mount class B
- Compliant with EN 50121-3-2/ EN 50121-4 EMC test standard
- Ruggedized connectors (M12) used for communication and power ports
- Support easy-swap 4 x 2.5" SSD/HDD (15mm) storage module with key lock
- No RED Certification

Specifications

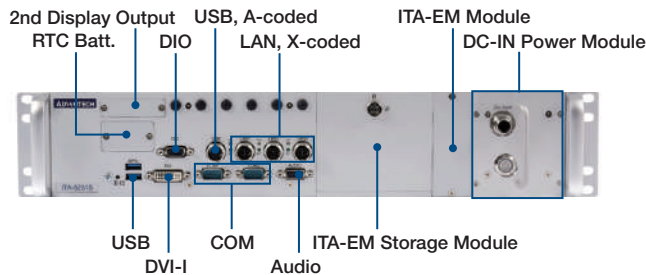
| | | | | |
|---------------------|---------------------------------|---|-----------------------|-----------------------|
| System Chipset | CPU | Intel® Core™ i7-6822EQ | i5-6442EQ | Celeron® G3902E |
| | Base Frequency/Turbo Boost | 2.0/2.8 GHz | 1.9/2.7GHz | 1.6GHz/NA |
| | L3 Cache | 8M | 6M | 2M |
| | Cores/Threads | 4C/8T | 4C/4T | 2C/2T |
| | Chipset | QM170 | | |
| Memory | BIOS | AMI SPI 128Mbyte Flash | | |
| | Technology | 8GB on board memory, DDR4 2133MHz | | |
| | SODIMM slot | 1 | | |
| Graphics | Max. Capacity | Up to 16GB | | |
| | Chipset | Intel HD Graphics 530 | Intel HD Graphics 530 | 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 | Up to 3 x M12 X-coded(F), LAN1/LAN2 with i210-IT and LAN3 with i219-LM | | |
| Storage | HDD/SSD easy-swap module | 4 x 2.5" SSD/HDD (15mm) with key latch design, supports RAID 0,1,5,10 | | |
| | 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 | | |
| Environmental | Operating | Non-operating | | |
| | Temperature | -40~70 °C with SSD/0~55 °C with HDD -40 ~ 85 °C | | |
| Mechanical | Humidity | 5% ~ 95% @ 40 °C (Non-condensing) | | |
| | 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 | | |
| Certification | Install | Rack-mounting | | |
| | EMC | CE/FCC Class A, CCC | | |
| EN 50155 Compliance | Safety | UL, CB, CCC | | |
| | 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 50121-3-2, EN 50121-4 | | | |

Dimensions

Unit: mm



Front View



Ordering Information

| Voltage (M12-S-Male) | Part Number | Processor | Memory (GB) | GbE (M12-X-F) | USB2.0 (M12-A-F) | USB3.0 (Type A) | miniPCIe | 2.5" SSD | mSATA slot | COM | DIO | Display |
|-----------------------|----------------|-----------|-------------|---------------|------------------|-----------------|----------|----------|------------|-----|---------|---------|
| 24V _{DC} | ITA-5231S-L7A1 | i7-6822EQ | 8 | 3 | 1 | 2 | 3 | Up to 4 | 1 | 2 | 4DI/4DO | DVI-I |
| | ITA-5231S-L5A1 | i5-6442EQ | 8 | 3 | 1 | 2 | 3 | Up to 4 | 1 | 2 | 4DI/4DO | DVI-I |
| 72/110V _{DC} | ITA-5231S-S7A1 | i7-6822EQ | 8 | 3 | 1 | 2 | 3 | Up to 4 | 1 | 2 | 4DI/4DO | DVI-I |
| | ITA-5231S-S5A1 | i5-6442EQ | 8 | 3 | 1 | 2 | 3 | Up to 4 | 1 | 2 | 4DI/4DO | DVI-I |
| | ITA-5231S-S0A1 | G3902E | 8 | 3 | 1 | 2 | 3 | Up to 4 | 1 | 2 | 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 |
|----------------------------|--|
| ITA-EM-SR51-00A1E | Easy-swap module, 4 x RS232/422/485 with 2KV isolation |
| ITA-EM-CN51-00A1E | Easy-swap module, 2 x CAN ports with 2KV isolation |
| ITA-EM-PE51-00A1E (Note 1) | 2 PoE: Each port max to 7.5W @ 52V _{DC} 1 PoE: Up to 15.4W @ 52V _{DC} |
| ITA-EM-NC51-00A1E | 2-Port M12 GbE module |
| ITA-EM-BA51-00A1E | 14.4V 2500mAh, discharging for 30mins @ 55 °C and charging for 3hrs @ 40 °C |

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

| Part Number | Description |
|------------------|--------------------------------|
| FRU-ITA5831-0001 | External cable USB to M12 |
| FRU-ITA5831-0002 | External cable Power to M12 |
| FRU-ITA5831-0003 | External cable Y cable DVI+VGA |
| FRU-ITA5831-0004 | External cable Audio cable |
| FRU-ARS2600-0001 | External cable RJ45 to M12 |
| Y5D5231005 | External connector LAN X-coded |
| Y5A5231004 | External connector PWR S-coded |
| Y5D5231004 | External connector USB A-coded |