

# ITG-100-AL

- Ultra Compact Size
- Fanless DIN-Rail Embedded System
- Intel® Atom® x5-E3930 1.3 GHz (up to 1.8 GHz) Solution



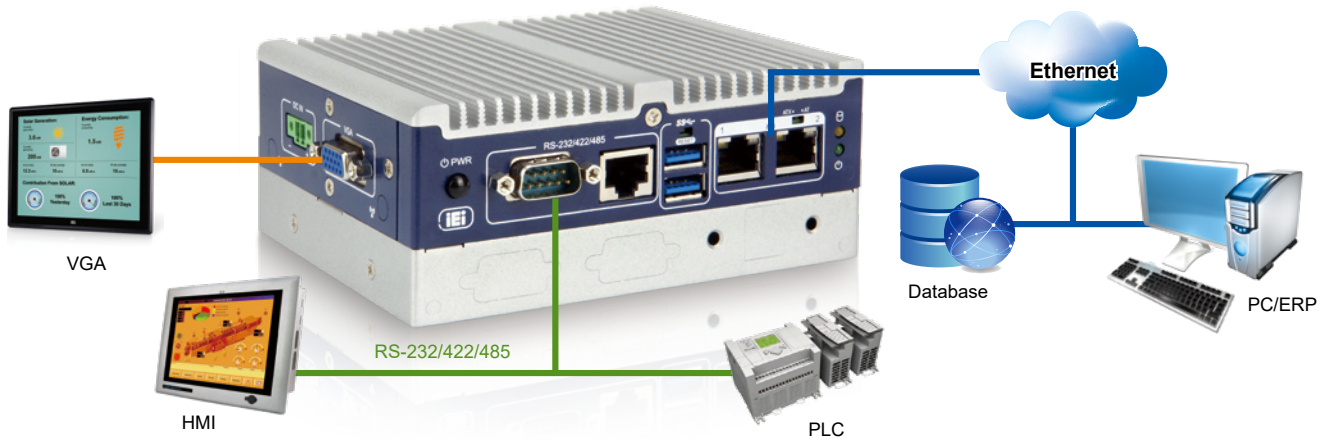
## Features

- Intel® Atom® x5-E3930 1.3 GHz (up to 1.8 GHz)
- Two GbE LAN ports
- Two RS-232/422/485
- Full-size PCIe Mini slot and M.2 A-key slot for expansion



## Intelligent Gateway

The ITG-100-AL equips with basic I/O ports and supports a wide range of operating temperature, making it suitable for acting the role as a data collection gateway in smart factory environments.



## A Wide Range of Applications

Given its practical features, the ITG-100-AL can be applied to a variety of application fields, such as military, industrial automation, and traffic control.

Military

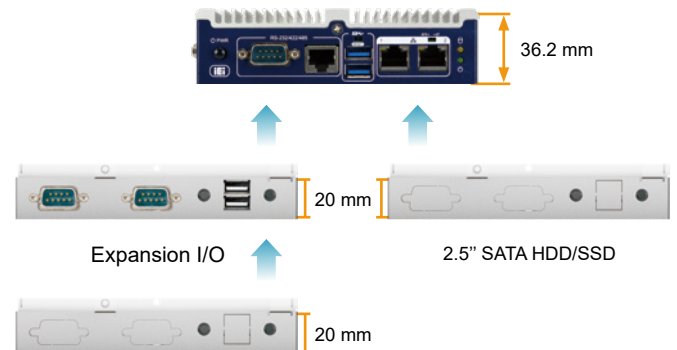
Industrial Automation

Traffic control



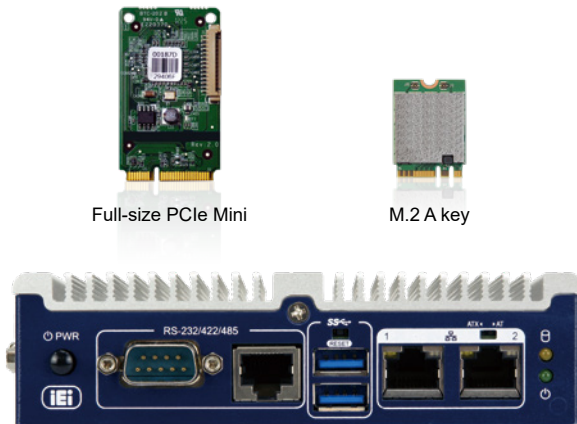
## Multi-layer Feature

Additional block layers can be assembled to achieve I/O interface expansion and data storage requirement. With choices of adding a 2.5" SATA HDD/SSD bay, a knockout-hole layer with selectable I/O interface, or both of above-mentioned options, the ITG-100-AL could be modularized to what best fit users' preferences and still remaining its compact size.



### Functionality Expansions

In order to respond the demand of adding more functions to the system, the ITG-100-AL is designed with a full-size PCIe Mini slot reserved for 3G/4G and a M.2 A-key slot reserved for Wi-Fi to provide function expansions with easy access.



### Ultra-compact Size

Space limitation is one of the constraints commonly seen in today's industrial environment. Under tight restrictions, the ITG-100-AL not only provides palm-sized design to meet the space requirement, but also comes with adequate basic I/O interfaces for various applications.

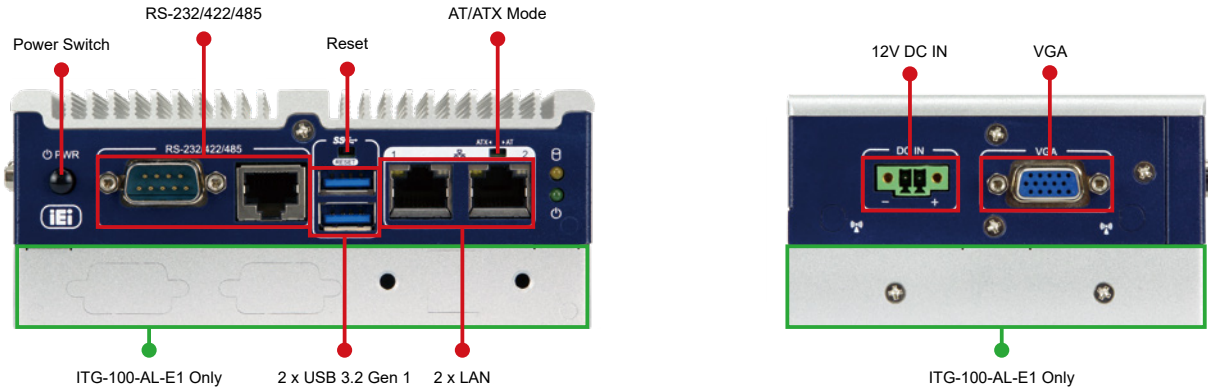


### Specifications

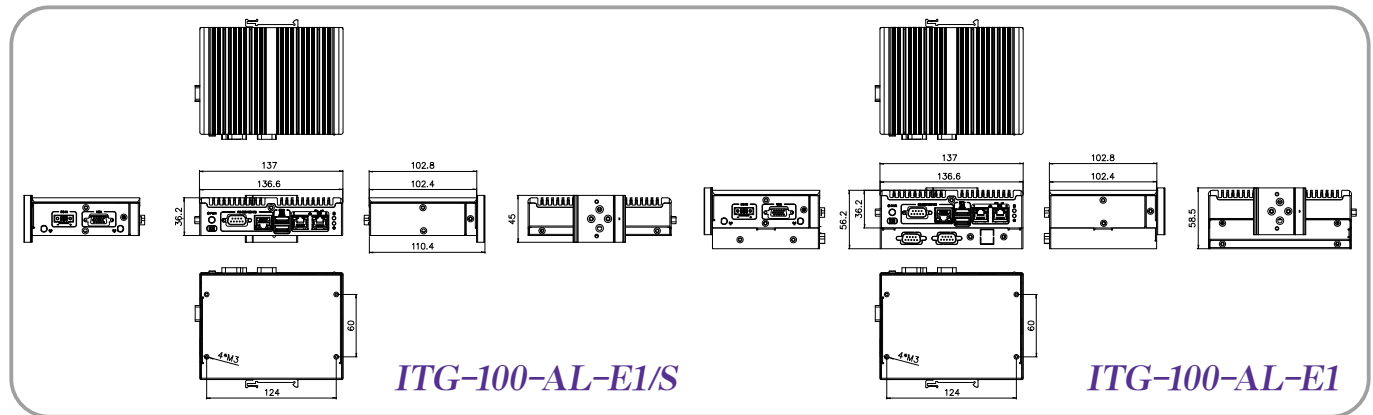
Model Name		ITG-100-AL
Chassis	Color	Blue & Silver
	Dimensions (WxDxH) (mm)	Single layer: 137 x 102.8 x 36.2 Dual layer: 137 x 102.8 x 56.2
	System Fan	Fanless
	Chassis Construction	Extruded aluminum alloy
Motherboard	CPU	Intel® Atom® x5-E3930 1.3 GHz (up to 1.8 GHz, dual-core, TDP 6.5W)
	Chipset	SoC
	System Memory	1 x SO-DIMM DDR3L 1600/1867 (2GB pre-installed)(up to 8GB)
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD/SSD bay
	eMMC	1 x eMMC5.0 (up to 32GB)(optional)
	Micro SD	1 x Micro SD slot (optional)
I/O Interfaces	USB	2 x USB 3.2 Gen 1 2 x USB 2.0 (optional)
	Ethernet	2 x RJ-45: 2 x GbE by Intel® I211
	COM Port	2 x RS-232/422/485 with AFC (DB9/RJ-45) 2 x RS-232 (optional)
	Digital I/O	8-bit Digital I/O (4-in/ 4-out)(optional)
	Display	1 x VGA (up to 1920 x 1080@60Hz)
	Wireless	1 x 802.11a/b/g/n/ac (optional)
	Other	1 x Power Button, 1 x Reset Button, 1 x AT/ATX Switch, 1 x LED for Power (Green), 1 x LED for HDD (Yellow)
Expansions	PCIe Mini	1 x Full-size (PCIe/USB 2.0/SATA)
	M.2	1 x 2230 A-key (PCIe x 1/USB 2.0)
Power	Power Input	Terminal block: 12 V DC (9 ~ 36V DC BOM optional) <sup>1</sup>
	Power Consumption	12V @ 1A (Intel® Atom® E3930 with 2GB memory)
Reliability	Mounting	DIN-Rail/ Wall-mount
	Operating Temperature	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-30°C ~ 70°C with air flow (SSD), 10% ~ 90% non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/Gross)	Single layer: 0.67 g/ 1.03 kg Dual layer: 0.86 g/ 1.22 kg
	Safety/EMC	CE/ FCC
Watchdog Timer	Programmable 1 ~ 255 sec/min	
OS	Supported OS	Microsoft Windows 10 / Windows 11, Linux

1. By order production, MOQ:100

Fully Integrated I/O



Dimensions (Unit: mm)



Ordering Information

Part No.	Description
ITG-100-AL-E1/S-R10	Fanless embedded system, Intel® Apollo Lake x5-E3930 1.3 GHz (up to 1.8 GHz, dual core), VGA, M.2, COM, 12V DC and RoHS
ITG-100-AL-E1/2GB/S-R10	Fanless embedded system, Intel® Apollo Lake x5-E3930 1.3 GHz (up to 1.8 GHz, dual core), 2GB DDR3L pre-installed memory, VGA, M.2, COM, 12V DC and RoHS
ITG-100-AL-E1-R10	Fanless embedded system, Intel® Apollo Lake x5-E3930 1.3 GHz (up to 1.8 GHz, dual core), VGA, M.2, COM, 12V DC, flexible I/O expansion and RoHS
ITG-100-AL-E1/2GB-R10	Fanless embedded system, Intel® Apollo Lake x5-E3930 1.3 GHz (up to 1.8 GHz, dual core), 2GB DDR3L pre-installed memory, VGA, M.2, COM, 12V DC, flexible I/O expansion and RoHS

Options

Item	Part No.	Description
4GB Memory	79B00-G004-XXX-RS*	DDR3L (204 PIN);4GB;1.35V;0° ~ 85°;RoHS
8GB Memory	79B00-G008-XXX-RS*	DDR3L (204 PIN);8GB;1.35V;0° ~ 85°;RoHS
Wi-Fi Module	27319-000009-RS**	Wireless LAN Module;Wireless LAN & Bluetooth M.2 Module;Sparklan;R9701810011;IEEE802.11a/b/g/n/ac;2.412 GHz~2.4835 GHz, 5.15 GHz~5.85 GHz;M.2 2230;;3.3V;22*30*2.15mm;QCNFA364A;QCA6174A-5;2x2 MIMO;Dual Band;WCBN808A-Q2;CCL;CCL;RoHS
Antenna	32505-000900-100-RS**	External Antenna;WLAN;RG 178;108MM;TANK-700-QM67-R10;PEAK GAIN 2.0DBI;Exceltek;2.4-2.5 GHz/5.15-5.85 GHz;REVERSE SMA PLUG;RoHS
RF Cable	32501-004000-100-RS**	RF;RF CABLE;LINE DIAMETER:0.81mm;250MM;;50Ω;Sparklan;0-6 GHz;VSWR≤1.3;I-PEX MHF-4 Plug;REVERSE SMA JACK;NUT*1;WASHER*1;;RoHS
DIO Cable	32231-000300-100-RS	FLAT CABLE;DIO CABLE;;2;50MM;28AWG;(A)D-SUB 9P FEMALE;(B)DU PONT 2*5P P=2.0 FEMALE, RoHS
COM Cable	32205-007500-200-RS	FLAT CABLE;RS-232/422/485;COM CABLE;;2;50mm;28AWG;(A)D-SUB 9P MALE;(B)DU PONT 2*5P P=2.0 FEMALE, RoHS
USB Cable	32001-000800-300-RS***	ROUND CABLE;USB CABLE;;2;150MM;28AWG;(A)DOUBLE LAYER USB A TYPE FEMALE(WITH EAR);(B)DU PONT 2*4P P=2.0 FEMALE, RoHS
HDD Drive Bay	ITG-HB-R10***	HDD Bay for ITG-100 only
Exp. Chassis	ITG-EXP-R10	Expansion Chassis for ITG-100 only
Adapter	63040-010036-210-RS****	Adapter Power;FSP;FSP036-RHBN3;9NA0362707;;Vin:90 ~ 264VAC;36W;Dim:37.8*89.8*27.0mm;Plug=7.5mm;Cable=1500mm;Erp( NO LOAD 0.075W);Vout:12VDC;Φ2.5/Φ5.5/lock;CCL;RoHS
Power Cable	32102-045700-100-RS ****	WIRE CABLE;POWER CABLE;;2;200mm;18AWG;(A)DC JACK 5.5*2.5;(B)TERMINAL BLOCK 2P P=3.5 180°, RoHS
Power Cord	32702-000400-200-RS	European power cord
OS:Windows Embedded 10	ITG-100-W10E64-E-R10	OS Image with Windows® 10 IoT Enterprise Entry 64-bit for ITG-100-AL Series, with DVD-ROM, RoHS

\* It is just a general P/N. Please contact your sales representatives to assist you in ordering.  
 \*\* Each Wi-Fi module needs two antennas and two RF cables to fully support Wi-Fi function.  
 \*\*\* This USB cable cannot be used at the layer where the HDD drive bay is located.  
 \*\*\*\* It is required to order Power Cable together with Adapter for power usage.

Packing List

1 x SATA cable & SATA power cable (for ITG-100-AL-E1 only)	1 x Screw kit	1 x Mounting bracket	1 x RJ-45 to DB-9 COM port cable
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