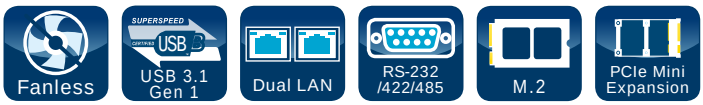
ITG-100-AL

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

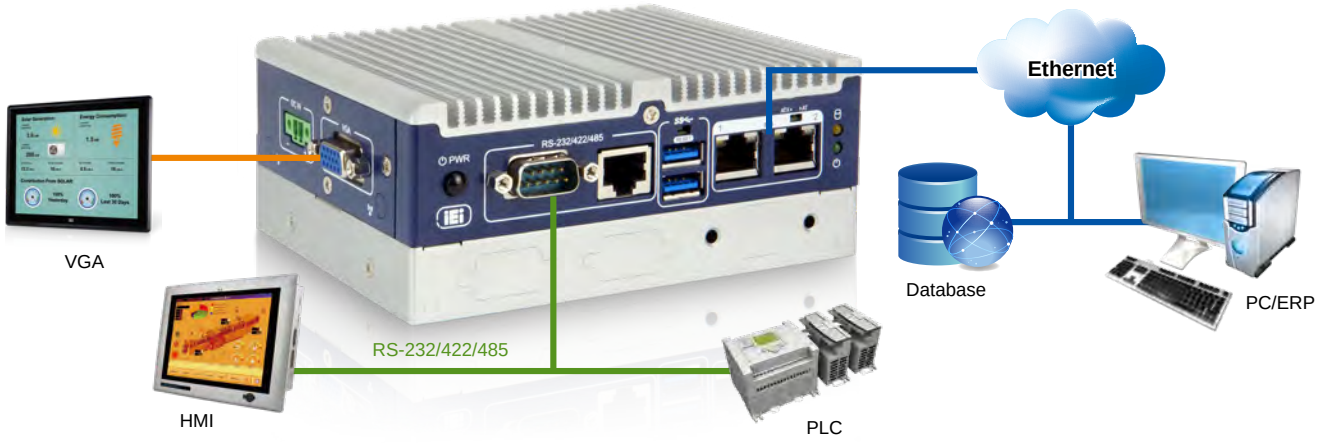
Features

- Intel®Atom™ x5-E3930 1.3GHz (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.



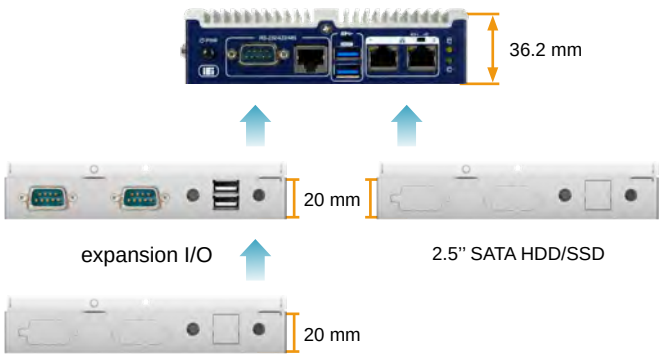
A Wide Range of Applications

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.

Full-size PCIe Mini

M.2 A key

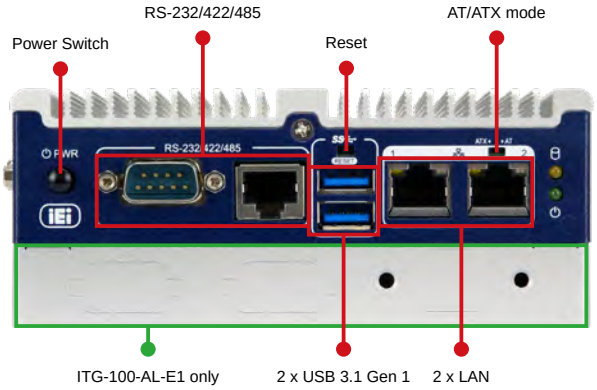
Ultra-compact Size

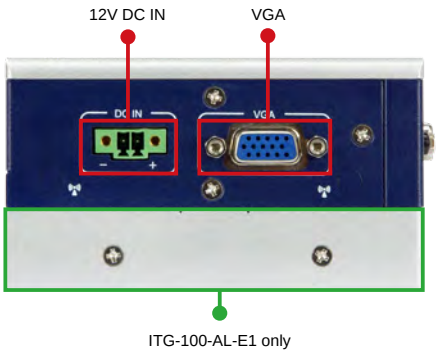
Space limitation is one of the constraints commonly seen in today's industrial environment. Under tight restrictions, the ITG-100-AL not only provides palm-sized design to meet the space requirement, but also comes with adequate basic I/O interfaces for various applications.

Specifications

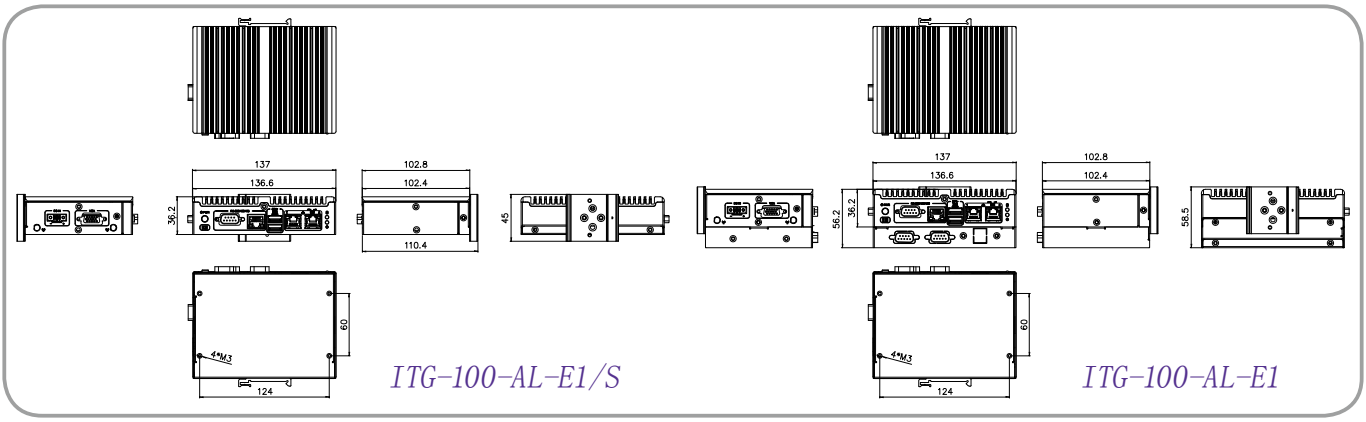
Model Name		ITG-100-AL-E1/S	ITG-100-AL-E1
Chassis	Color	Blue & Silver	
	Dimensions (WxDxH)(mm)	137 x 102.8 x 36.2	137 x 102.8 x 56.2
	System Fan	Fanless	
	Chassis Construction	Extruded aluminum alloy	
Motherboard	CPU	Intel® Atom™ x5-E3930 1.3 GHz (up to 1.8GHz, dual-core, TDP=6.5W)	
	Chipset	SoC	
	System Memory	1x 204-pin DDR3L SO-DIMM slot (system max. 8 GB) (ITG-100-AL-E1/2GB/S-R10 sku is pre-installed with 2 GB memory)	1x 204-pin DDR3L SO-DIMM slot (system max. 8 GB) (ITG-100-AL-E1/2GB-R10 sku is pre-installed with 2 GB memory)
Storage	Hard Drive	N/A	1 x 2.5" SATA 6Gb/s HDD/SSD bay
	eMMC	1 x eMMC 5.0 support (up to 32GB optional)	
	Micro SD	1 x Micro SD Slot(optional)	
I/O Interfaces	USB 3.1 Gen 1 (5Gb/s)	2	
	USB 2.0	2 by pin-header (optional)	
	Ethernet	2 x RJ-45 PCIe GbE by I211-AT controller	
	COM Port	2 x RS-232/422/485 (DB-9/RJ45) 2 x RS-232 by pin-header (optional)	
	Digital I/O	8-bit digital I/O, 4-bit input/4-bit output by pin-header (optional)	
	Display	1 x VGA	
	Resolution	Up to 1920x1080@60Hz	
	Wireless	1 x 802.11a/b/g/n/ac (optional)	
	Others	1 x Power Button.1 x Reset Button, 1 x AT/ATX Switch, 1 x LED for HDD (Yellow),1 x LED for Power (Green)	
Expansions	M.2	1 x M.2 2230 (A key, PCIe by 1, USB2.0)	
	PCIe Mini	1 x Full-size PCIe Mini slot (supports mSATA, colay with SATA)	
Power	Power Input	2-pin terminal block: 12 V DC	
	power consumption	12V @ 1A (Intel® Atom™ E3930 with 2GB memory)	
Reliability	Mounting	DIN-rail / Wall mounting	
	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, IEC68-2-27	
	Operation Vibration	MIL-STD-810G 514.6C-1 (SSD)	
	Weight (Net/Gross)	0.67 kg/1.03 kg	0.86 kg/1.22 kg
	Safety / EMC	CE/FCC	
	Watchdog Timer	Programmable 1~255 sec/min	
OS	Supported OS	Microsoft® Windows 10 / Linux	

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 1.3GHz (up to 1.8GHz, 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 1.3GHz (up to 1.8GHz, 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 1.3GHz (up to 1.8GHz, 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 1.3GHz (up to 1.8GHz, 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;0º~85º;RoHS
8GB Memory	79B00-G008-XXX-RS*	DDR3L (204 PIN);8GB;1.35V;0º~85º;RoHS
Wi-Fi Module	27319-000007-RS**	Wireless Lan Module;WiFi+Bluetooth;Sparklan;R970181001;IEEE802.11a/b/g/n/ac;2.400GHz~2.484GHz,5.15GHz~5.85GHz;M.2 2230;3.3V;22*30*2.0mm;Qualcomm Atheros QCA6174A-5;2x2 MIMO;Dual Band;WNFQ-258ACN(BT) [W];CCL;RoHS
Antenna	32505-000900-100-RS**	External Antenna;WLAN;RG 178;108MM;TANK-700-QM67-R10;PEAK GAIN 2.0DBI;Exceltek;2.4-2.5GHz/5.15-5.85GHz;REVERSE SMA PLUG;RoHS
RF Cable	32501-004000-100-RS**	RF;RF CABLE;LINE DIAMETER:0.81mm;250MM;;;50Ω;Sparklan;0-6GHz;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