

iEP-5000G Series Industrial IoT Controller

ASRock
— Industrial —



iEP-5000G-000

iEP-5000G-001/002

iEP-5000G-010

KEY FEATURES

- Latest and Powerful Intel® Atom® x6000E Processor
- Fan-less and Rugged Design, Wide Temperature Operating (-40 °C to 70 °C)
- 6-36VDC Wide Range Power Inputs
- Most Flexible IOs and Expansion for Industrial Applications
- Intel® TCC and TSN Support for Real-Time Computing
- DIN Rail or Wall Mount Options
- 5 x Intel® 1G LAN (2 Support IEEE 802.3AF PoE Ports)
- Support Intel® IN-Band ECC

SPECIFICATIONS

System Core

Processor	Intel® Atom® x6000E Processor - Intel Atom® x6425RE, 4C, 1.9GHz, 12W - Intel Atom® x6212RE, 2C, 1.5GHz, 6W
Video	1 x HDMI 2.0b, 1 x VGA
Memory	2 x DDR4 3200MHz SO-DIMM, up to 32GB (In-Band ECC)

I/O Interface

Ethernet	3 x Maxlinear GPHY215 2 x Intel® I210-AT for PoE SKU/5LAN SKU
PoE (Option)	2 x Intel® I210-AT ports, each port supports IEEE 802.3AF PoE for PoE SKU only
Serial Port	3 x RS-232/422/485 (9-pin D-sub connector)
USB	2 x USB 3.2 Gen1x1 2 x USB 2.0
Digital I/O	4DIs/4DOs (9-pin D-sub connector)
Audio	1 x Mic in 1 x Line out

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	M.2 Wi-Fi 6E module supports IEEE 802.11 a/b/g/n/ac/ax + BT 5.2 - 3 x 4G LTE antenna and 2 x Wi-Fi antenna - 4 x 5G antenna and 2 x Wi-Fi antenna
M.2 Socket	1 x M.2 3042/3052 Key B (PCIe Gen3x1 / USB3.2 Gen1x1 mode) - Support 4G LTE/5G module 1 x M.2 2230 Key E (PCIe Gen3x1 / USB2.0 mode) - Support Wifi/BT module

Manageability / Security

Manageability	WDT, Intel® In-Band Manageability
Security	TPM2.0

Power Supply

DC Input	1 x 3-pin pluggable terminal block (Phoenix type) for 6 to 36V DC input (For iEP-5000G-010 series) 1 x pluggable DC Jack for 6 to 36V DC input (For iEP-5000G-000/002 series) 1 x pluggable DC Jack for 19 to 36V DC input (For iEP-5000G-001 series) - OVP, UVP, OCP, plus 80V surge protection
AC to DC Adaptor (Option)	AC input 100-240Vac, 1.5A 50-60Hz, DC output 19V, 3.42A, 65W Adaptor (Latch type) for iEP-5000G-000/002 series.

Storage Device

SD Slot	1 x Micro SD card slot (SD Card specification version 3.01)
SATA (Option)	1 x 2.5" 9.5mm SATA3 SSD for iEP-5000G-000/010 series
M.2 Socket	1 x M.2 2280 Key M (PCIe Gen3 / SATA3 mode)

Mechanical

Dimensions	58mm (W) x 125mm (D) x 157mm (H)
Indicator	1 x SATA / NVMe Storage LED, 1 x Wi-Fi / BT LED
Function	Power on Button with LED, Clear CMOS Button
Net Weight	1.3 kg
Mounting (Option)	DIN-Rail or Wall mounting

Environmental

Operating Temperature	For iEP-5000G-000/iEP-5000G-002 : -40°C ~ 70°C (-40°F ~ 158°F) (w/ airflow 0.5~0.8m/s) For iEP-5000G-001 : -40°C ~ 50°C (-40°F ~ 122°F) (w/ airflow 0.5~0.8m/s)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Humidity	~95% @ 40°C (non-condensing)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD
ESD	Contact +/- 8 KV, Air +/- 15 KV
Shock	Operating 100 G, half sine 11 ms duration with SSD
EMC	CE and FCC Class A (EN61000-6-4/-2)
Safety	LVD

Add-on Feature / OS Support

Real-Time Enablement	TSN, TCC support under Linux
OS Support	Windows 10, Ubuntu 22.04 LTS

Order Information	Basic SKU		PoE SKU	5LAN SKU
	iEP-5000G-000	iEP-5000G-010	iEP-5000G-001	iEP-5000G-002
CPU	Intel Atom x6425RE, 4C, 1.90 GHz SoC			
DC-IN type	DC JACK	Phoenix	DC JACK	DC JACK
2.5 Storage	Support*	Support*	n/a	n/a
WiFi/BT	Support***	Support***	Support***	Support***
4G LTE	Support***	Support***	n/a	n/a
5G (w/ Sink)	Support***	Support***	n/a	n/a
PoE	n/a	n/a	Support IEEE 802.3AF PoE for Intel I210-AT	n/a
Ethernet	3 x GPHY215	3 x GPHY215	3 x GPHY215 2 x Intel I210-AT	3 x GPHY215 2 x Intel I210-AT
Adapter	1 x Adapter 65W	n/a	1 x Adapter 120W	1 x Adapter 65W

*Support by additional 2.5 storage kit

**Support by additional Wifi/BT kit

***Support by additional 4G LTE/5G kit

Assured Systems

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