

iEP-5020G Series Industrial IoT Controller

ASRock
— Industrial —

Preliminary



Basic SKU

PoE SKU
5LAN SKU

DIO SKU

KEY FEATURES

- Latest and Powerful Intel® Atom® x7433RE Processor (Amston Lake)
- Fan-less and Rugged Design
- -40°C to 70°C Wide Operating Temp. for Basic SKU
- -40°C to 50°C Wide Operating Temp. for PoE SKU
- 6-36VDC Wide Range Power Inputs for Basic SKU
- 19-36VDC Wide Range Power Inputs for PoE SKU
- Most Flexible IOs and Expansion for Industrial Applications
- Intel® TCC and TSN Support for Real-Time Computing
- DIN Rail or Wall Mount Options
- 4 x Intel 1G LAN (2 Support IEEE 802.3AF PoE Ports)
- 1 x Intel 2.5G LAN
- Support Intel® IN-Band ECC

SPECIFICATIONS

System Core

Processor	Intel® Atom® x7000RE Processor (Amston Lake Platform) - Intel® Atom® x7433RE, 4C, 1.5GHz, 9W
Video	1 x Type-C, 1 x DP1.4a
Memory	1 x DDR5 4800MHz SO-DIMM, up to 16GB (In-Band ECC)

I/O Interface

Ethernet	2 x Intel® I210-IT (1GbE) 1 x Intel® I226-IT (2.5GbE, support TSN) 2 x Intel® I210-AT for PoE SKU/5LAN SKU
Ethernet/PoE (Option)	2 x Intel® I210AT, each port supports IEEE 802.3AF PoE for PoE SKU
Serial Port	2 x RS-232/422/485 (9-pin D-sub connector)
USB	2 x USB 3.2 Gen2 1 x USB2.0 1 x Type-C USB3.2 Gen2
Digital I/O	8DIs/8DOs with sink/source isolation 3KV for DIO SKU
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 2230/2260 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	2 x 3-pin terminal block (Phoenix type) for 6 to 36V DC input (For Basic/5LAN/DIO SKU) 2 x 3-pin terminal block (Phoenix type) for 19 to 36V DC input (For PoE SKU) - 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 (For Basic/5LAN/DIO SKU) AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A, 120W Adaptor (For PoE SKU)

Storage Device

SD Slot	1 x Micro SD card slot (SD Card specification version 3.01)
M.2 Socket	1 x M.2 2280 Key M (PCIe Gen3x2)

Mechanical

Dimensions	58mm (W) x 125mm (D) x 157mm (H)
Indicator	1 x NVMe Storage LED 1 x Wi-Fi / BT LED 2 x Diagnostic LED 2 x Power LED
Function	Power on Button with LED
Net Weight	TBD
Mounting (Option)	DIN-Rail or Wall mounting

Environmental

Operating Temperature	For Basic/5LAN/DIO SKU: -40°C ~ 70°C (-40°F~158°F) (w/ airflow 0.5~0.8m/s) For PoE SKU: -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 100G, half sine 11 ms duration with SSD
EMC	CE (EN61000-6-4/-2) and FCC Class A
Safety	LVD

Add-on Feature / OS Support

Real-Time Enablement	TSN, TCC support under Ubuntu (only LAN1)
OS Support	Windows®, Linux

Order Information	SKU	Processor	Storage	Wi-Fi*	4G LTE/5G*	LAN	PoE	DIO/DO
iEP-5020G-020	Basic SKU	x7433RE	M.2 Key M	Support	Support	3	Not Support	Not Support
iEP-5020G-021	PoE SKU			Support	Support	5	Support	Not Support
iEP-5020G-022	5LAN-WIFI			Support	Not Support	5	Not Support	Not Support
iEP-5020G-023	5LAN-5G			Not Support	Support	5	Not Support	Not Support
iEP-5020G-024	DIO SKU			TBD	TBD	3	Not Support	Support

*The Wi-Fi, 4G LTE and 5G module kits are purchased separately.

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