

iEP-7040E Series

Industrial IoT Controller

Preliminary



Basic SKU

PoE SKU
5LAN-WiFi SKU
5LAN-5G SKU

5G-WiFi SKU

8DIO SKU

KEY FEATURES

- Intel® 15th Gen Core™ Ultra Processor (Arrow Lake-H)
- High-Performance Intel® Arc™ Graphics
- Integrated NPU for Dedicated AI Acceleration
- Fan-less and Rugged Design
- Operating Temperature: -25°C to 50°C
- Dual 9V/19V to 36V Wide-Range DC Power Input
- 3 x Intel® i226-IT LAN
- 2 x Intel® i210-AT LAN, Supports IEEE 802.3af for PoE SKU
- 8DIs/8DOs with sink/source isolation 36V for 8DIO SKU
- Supports Intel® In-Band ECC

SPECIFICATIONS

System Core

Processor (iEP-7040E Series)	Intel® Core™ Ultra 7 255H, 16C, 2.00GHz, 28W
Processor (iEP-7041E Series)	Intel® Core™ Ultra 5 225H, 14C, 1.70GHz, 28W
Video	1 x HDMI 2.0b 1 x VGA
Memory	2 x DDR5 5600MHz SO-DIMM, up to 96GB (Support In-Band ECC)

I/O Interface

Ethernet	3 x Intel I226-IT (RJ45 connector) 2 x Intel I210-AT for PoE SKU/5LAN SKU (RJ45 connector)
PoE (Option)	2 x Intel® I210-AT (RJ45 connector), PoE output max.15.4W/ port, each port supports IEEE 802.3AF PoE. (For PoE SKU)
Serial Port	3 x RS232/422/485
USB	3 x USB 3.2 Gen2x1 1 x USB 2.0
Digital I/O	- 4DIs/4DOs, 9-pin D-sub connector, for all SKU - 8DIs/8DOs with sink/source isolation 3KV, 2x10-pin connector, for 8DIO SKU
Audio	1 x Line Out, 1 x Mic In

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	7 x SMA connector hole reserved, support for Basic/5G SKU 5 x SMA connector hole reserved, support for PoE/5LAN/8DIO SKU
M.2 Socket	1 x M.2 3042/3052 Key B (PCIe Gen3x1/USB 3.2 mode) - Support 4G LTE/5G module 1 x M.2 2230/2260 Key E (CNVi / PCIe Gen3x1 / USB 2.0 mode) - Support Wifi/BT module

Manageability / Security

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

Power Requirements

DC Input	For Basic/5LAN/5G/8DIO SKU : - 2 x 3-pin phoenix type for 9 to 36V DC input For PoE SKU : - 2 x 3-pin phoenix type for 19 to 36V DC input OVP, UVP, OCP, plus 80V surge protection
AC to DC Adapter (Option)	Adapter 120W for Basic/5LAN/5G/8DIO SKU AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A, Adapter 330W for PoE SKU only - AC input 100-240Vac, 4.2A 50-60Hz, DC output 24V, 13.75A

Storage Device

SD Slot	1 x Micro SD card slot (Support SD specification v3.0 UHS-I: SDR25/SDR50)
M.2 Socket	1 x M.2 2280 Key M (PCIe Gen4x4)

Mechanical

Dimensions	For Basic/8DIO SKU : 55(W) x 170(H) x 134(D) mm For PoE/5LAN/5G SKU : 68(W) x 170(H) x 134(D) mm
Indicator	1 x Storage LED 1 x UD LED (User Define) 2 x Diagnostic LED 2 x DC-IN LED
Function	1 x Power Button with LED
Net Weight	TBD
Mounting	For Basic/8DIO SKU : Wall mount, VESA mount, DIN-Rail For PoE/5LAN/5G SKU : Wall mount, Din Rail

Environmental

Operating Temperature	-25°C~50°C (-13°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 11ms duration with SSD)
EMC	CE, FCC Class A (EN61000-6-4/-2)
Safety	LVD

Add-on Feature / OS Support

OS Support	Windows 11 & Linux
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Order Information	SKU	Processor	WiFi	4G LTE/5G	LAN	PoE	Digital
iEP-7040E-020	Basic SKU	255H	Support	Not Support	3	Not Support	4DI/4DO
iEP-7041E-020		225H					
iEP-7040E-021	PoE SKU	255H	Support	Not Support	5	Support	4DI/4DO
iEP-7041E-021		225H					
iEP-7040E-022	5LAN-WiFi SKU	255H	Support	Not Support	5	Not Support	4DI/4DO
iEP-7041E-022		225H					
iEP-7040E-023	5LAN-5G SKU	255H	Not Support	Support	5	Not Support	4DI/4DO
iEP-7041E-023		225H					
iEP-7040E-024	5G-WiFi SKU	255H	Support	Support	3	Not Support	4DI/4DO
iEP-7041E-024		225H					
iEP-7040E-025	8DIO SKU	255H	Support	Not Support	3	Not Support	8DI/8DO
iEP-7041E-025		225H					

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