

iEP-7050E Series

Industrial IoT Controller

Preliminary



Basic SKU PoE SKU 5G-WIFI SKU 8DIO SKU CANBus SKU OOB SKU

KEY FEATURES

- Intel® Core™ Ultra Processor (Series 3) - Panther Lake-H
- High-Performance Intel® Graphics
- Integrated NPU for Dedicated AI Acceleration
- Fan-less and Rugged Design
- Operating Temperature: -25°C to 60°C
- Dual 9V to 36V Wide-Range DC Power Input
- 3 x Intel® i226-IT LAN (One support vPro)
- 3 x Intel® i210-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
- 2 CANBus for CANBus SKU
- Intel® TCC and TSN Support for Real-Time Computing
- Support Out-of-Band (OOB) remote management for OOB SKU
- Support Intel® IN-Band ECC
- Support chassis intrusion detection

SPECIFICATIONS

System Core

Processor	Intel® Core™ Ultra X7 Processor 358H
Video	1 x HDMI 2.1b
Memory	2 x DDR5 7200MHz SO-DIMM, up to 128GB (Support In-Band ECC)

I/O Interface

Ethernet	3 x Intel I226-IT (RJ45 connector) 3 x Intel I210-IT (RJ45 connector), for Basic/5G/8DIO/CANBus SKU 4 x Intel I210-IT (RJ45 connector), for OOB SKU
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	1 x RS232/422/485
USB	2 x USB 3.2 Gen2x1
GPIO	4DIs/4DOs, 9-pin D-sub connector
Digital I/O (Option)	8DIs/8DOs with sink/source isolation 3KV, 2x10-pin connector, for 8DIO SKU
CANBus (Option)	2 x CANBus, DB9 connector, for CANBus SKU

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/8DIO/CANBus 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 Chassis intrusion detection

Power Requirements

DC Input	For Basic/5G/8DIO/CANBus/OOB 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 AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A,

Storage Device

SD Slot	1 x Micro SD card slot (Support SD specification v3.0 UHS-I: SDR25/SDR50)
M.2 Socket	1 x 2280 Key M (PCIe Gen5x4)

Mechanical

Dimensions	For Basic/8DIO/CANBus/OOB SKU : 60(W) x 170(H) x 150(D) mm For PoE/5G SKU : 78(W) x 170(H) x 150(D) mm
Indicator	1 x Power LED 2 x Diagnostic LED 2 x DC-IN LED 1 x Storage LED 1 x WWAN LED
Function	1 x Power Button with LED
Net Weight	TBD
Mounting	For Basic/8DIO/CANBus/OOB SKU : Wall mount, VESA mount, DIN-Rail For PoE/5G SKU : Wall mount, Din Rail

Environmental

Operating Temperature	-25°C~60°C (-13°F~140°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 & Ubuntu 26.04 LTS (Kernel 7.0)
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Order Information	SKU	Processor	WIFI	4G LTE/5G	LAN	Digital	CANBus	OOB
iEP-7050E-020	Basic SKU	358H	Support	Not Support	6	4DI/4DO	Not Support	Not Support
iEP-7050E-021	PoE SKU	358H	Support	Not Support	8	4DI/4DO	Not Support	Not Support
iEP-7050E-022	5G-WIFI SKU	358H	Support	Support	6	4DI/4DO	Not Support	Not Support
iEP-7050E-023	8DIO SKU	358H	Support	Not Support	6	8DI/8DO	Not Support	Not Support
iEP-7050E-024	CANBus SKU	358H	Support	Not Support	6	4DI/4DO	Support	Not Support
iEP-7050E-025	OOB SKU	358H	Support	Not Support	7	4DI/4DO	Not Support	Support

*The WI-FI, 4G LTE and 5G module kits are purchased separately