iEP-6020E Series

Industrial IoT Controller

Basic SKU | POE SKU | 5G SKU | 4POE SKU

KEY FEATURES

- NVIDIA Jetson Orin NX 16GB SOM Super Mode support, up to 157 SPARSE (78 DENSE) INT8 TOPS
- NVIDIA Jetson Orin NX 8GB SOM Super Mode support, up to 117 SPARSE (58 DENSE) INT8 TOPS
- NVIDIA Jetson Orin Nano 8GB SOM Super Mode support, up to 67 SPARSE (33 DENSE) INT8 TOPS
- NVIDIA Jetson Orin Nano 4GB SOM Super Mode support, up to 34 SPARSE (17 DENSE) INT8 TOPS
- POE SKU integrates 2x POE ports. Each port supports IEEE 802.3AF
- 4POE SKU integrates 4x POE ports. Each port supports IEEE 802.3AF
- Anti Shock and Vibration
- Wide Range Operating Temperature
- 12-36V Phoenix type DC IN support
- Wall Mount or DIN-Rail for Vertical IPC Installation (All SKU)
- Wall Mount or VESA Mount for Horizontal IPC Installation (BASIC SKU only)
- Carrier board reserved 2pcs Four Lane MIPI-CSI2 connectors (Option)*

SPECIFICATIONS

Processor System

System on Module	- NVIDIA Jetson Orin NX SOM 16GB support (Basic SKU iEP-6020E-000, PoE SKU iEP-6020E-001, 4PoE SKU iEP-6020E-002, 5G SKU iEP-6020E-003) - NVIDIA Jetson Orin NX SOM 8GB support (Basic SKU iEP-6021E-000) - NVIDIA Jetson Orin Nano SOM 8GB support (Basic SKU iEP-6022E-000, PoE SKU iEP-6022E-001, 4PoE SKU iEP-6022E-002, 5G SKU iEP-6022E-003) - NVIDIA Jetson Orin Nano SOM 4GB support (Basic sku iEP-6023E-000)
Video	1 x HDMI 2.0 (Orin NX)/ 1.4 (Orin Nano)
Memory	16GB 128-bit LPDDR5 (Jetson Orin NX 16GB) 8GB 128-bit LPDDR5 (Jetson Orin NX 8GB) 8GB 128-bit LPDDR5 (Jetson Orin Nano 8GB) 4GB 64-bit LPDDR5 (Jetson Orin Nano 4GB
TPM	TPM2.0

I/O Interface

Ethernet	2x 1G LAN (LAN1 from SOM, LAN2 from Intel I210AT)
PoE (Option)	2x Intel I210AT ports, each port supports IEEE 802.3AF PoE (Orin NX SOM 16GB PoE SKU iEP-6020E-001, Orin Nano SOM 8GB PoE SKU iEP-6022E-001) 4x Intel I210IT ports, each port supports IEEE 802.3AF PoE (Orin NX SOM 16GB 4PoE SKU iEP-6020E-002, Orin Nano SOM 8GB 4PoE SKU iEP-6022E-002)
Serial Port	1 x RS-232, 1 x RS-232/422/485 (Pin9 default is N/A, +5V or +12V/1A software programmable)
USB	2 x USB 3.2 Gen 2x1 (one with Locking) 2 x USB 2.0, 1 x Micro USB 2.0 (Device mode only, for OS Flash)
Proprietary IO (DPR connector is proprietary design of DIO, Power/GND, Remote Power Button signals and power/GND pins. ISC connector is proprietary design of I2C, SPI, CANBUS Interface and Power/GND Pins.)	DPR connector: 1 x DB15 for 4*DI, 4*DO, GND, Power Pin (Default is N/A, +5V/1A software programmable), PowerOn, LED+,LED-, GND, Reset ISC connector: 1 x DB15 for Power Pin(Default is N/A, +3V/1A software programmable), 5 x GND, 1 x I2C, 1 x SPI, 1 x CANBUS

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	up to 4 x 5G/4G LTE antenna + 2 x Wi-Fi antenna for 5G SKU
M.2 Socket	1 x M.2 (Key B, 3042/3052/2280) -For PCIe Gen3 x1 / USB3.2 Gen2x1 5G module (Option) (5G SKU Only, Orin NX SOM 16GB 5G SKU iEP-6020E-003, Orin Nano SOM 8GB 5G SKU iEP-6022E-003) -For PCIe Gen3 x1 / USB3.2 Gen2x1 4G LTE module (Option) (5G SKU Only, Orin NX SOM 16GB 5G SKU iEP-6020E-003, Orin Nano SOM 8GB 5G SKU iEP-6022E-003) -For PCIe Gen3 x1 M.2 B Key 2280 SSD module (Option, Basic SKU Only, Orin NX SOM 16GB Basic SKU iEP-6020E-000, Orin NX SOM 8GB Basic SKU iEP-6021E-000, Orin Nano SOM 8GB Basic SKU iEP-6022E-000, Orin Nano SOM 4GB Basic SKU iEP-6023E-000) 1 x M.2 (Key E, 2230) for PCIe Gen3 x1 Wi-Fi and USB2.0 Bluetooth module (Option) (For all SKU except 4POE SKU Orin NX SOM 16GB 4POE SKU iEP-6020E-002,Orin Nano SOM 8GB 4POE SKU iEP-6022E-002)

Power Requirements

DC Input	DC IN source: 12V~36V DC input, 80V Surge Protection. OVP, UVP, OCP, Reverse Protection, Phoenix type connector
AC to DC Adaptor (Option)	For Basic SKU: 120W Adapter, AC input 100-240Vac, 1.8A 50~60Hz, DC output 19V, 6.32A For POE/4POE/5G SKU: 330W Adapter, AC input 100-240Vac, 4.2A 50~60Hz, DC output 24V, 13.75A

Storage Device

M.2 Socket	For Orin NX 16GB/8GB SOM Super Mode 1 x M.2(KeyM, 2280) for widetemperature PCIe Gen3 x 4 or PCIeGen4x4 SSD For Orin Nano 8GB/4GB SOM Super Mode 1 x M.2 (Key M, 2280) for wide temperature PCIe Gen3 x 4 SSD
Micro SD Card slot	1 x Micro SD Card Slot (UHS-I/SDR-50)

Mechanical

Dimensions	Basic SKU : 59(W) x 170(H) x 134(D) mm POE/4POE/5G SKU : 72(W) x 170(H) x 134(D) mm
Indicator	1 x Storage LED
Function	Power on button with LED, OS Flash Button, Reset Tact Switch Enable/Disable Auto power on Switch
Net Weight	1.7Kg
Mounting (Option)	Horizontal Wall mounting or - VESA mounting bracket (Basic SKU only) - Vertical Wall mounting or Din Rail mounting bracket (All SKU)

Environmental

Operating Temperature	For Orin NX 16GB/8GB SOM Super Mode Operating temperature is -25° C~50° C (w/ air flow 0.5~0.8m/s) for Basic/PoE/4PoE/5G sku(with 4G LTE or 5G module), SSD PCIe Gen3x4 or PCIe Gen4x4. For Orin Nano 8GB/4GB SOM Super Mode Operating temperature is -25° C~60° C (w/ air flow 0.5~0.8m/s) for Basic/PoE /4PoE/5G sku(with 4G LTE module), SSD PCIe Gen3x4. Operating temperature is -25° C~55° C (w/ air flow 0.5~0.8m/s) for 5G sku(with 5G module), SSD PCIe Gen3x4
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	~90% @ 45°C (non-condensing)
EMC	CE, FCC Class A (EN61000-6-4/-2)
Safety	LVD(TBD)
Shock	IEC 60068-2-27, Operating Shock 100G with 11 ms duration, half sine wave
Vibration	IEC 60068-2-64, Operating Random Vibration 5 Grms, 5-500 Hz, 3 axes, 30 min/axis

Add-on Feature / OS Support

Carrier board feature	Carrier board reserved 2pcs Four Lane MIPI-CSI2 connectors (Option)*
OS Support	NVIDIA JetPack 6.2

*MIPI-CSI2 camera need to be turned off before system going to sleep mode. It is current NVIDIA JetPack limitation.

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