ECU-1270

Expandable Industrial IoT Gateway with TI AM6734 Quad Cortex A53

Features

- TI AM6734 Quad-core Cortex A53 CPU up to 1.4GHz
- LPDDR4 2/4GB up to 8GB, eMMC 16/32GB for system storage
- 2x isolated serial ports, configurable for RS232/485
- 2x 10/100/1000 Ethernet ports
- Add-on modules available for CAN FD/serial/digital I/O expansion
- Slim, robust, and fanless
- Supports SD cards and OTA firmware updates

Introduction

The ECU-1270 is an industrial-grade IoT gateway built for versatility. It serves as the critical connection point for various devices, addressing the diverse needs of industrial applications. Unlike off-the-shelf solutions that often require compromises in functionality or cost, the ECU-1270 allows for flexible expansion to meet a wide range of application demands—without long waits or custom development. Optimize your operations efficiently with the ECU-1270, the gateway that adapts to you.

Specifications

General

- **Certification** — CE, FCC, UL 62368, IEC-62368
- **Dimensions (W x D x H)** — 140 x 93 x 32mm (5.51 x 3.7 x 1.26 in.)
- **Enclosure** — Aluminum Housing
- **Mounting** — Wall-Mount, DIN-rail Mount
- **Power Requirement** — Power source from 10~36V_{DC} power adaptor:
  10~36 V_{DC} @ 0.65~0.2 A Typ.
  10~36 V_{DC} @ 1.5~0.4 A Max.
  Power source from PoE PD (Optional*):
  48 V_{DC} @ 0.32 A Max.
- **Power Connector** — 1 x 2-Pin screw terminal, 16~24 AWG

System

- **CPU** — TI AM6734, Quad-Core ARM Cortex A53, up to 1.4GHz
- **Memory** — 2/4GB (Up to 8GB) LPDDR4
- **Storage** — 16/32GB (up to 128GB) eMMC
- **Real Time Clock** — Yes
- **Watchdog Timer** — Yes
- **Display** — HDMI (Optional*)
- **FRAM** — Optional
- **LED** — 2 x LED (1 x Power, 1 x programmable)
- **Button** — 1 x Reset (optional recovery*)
- **TPM** — Optional*

I/O Interfaces

- **Serial** — 2 x Isolated RS-485/232
- **Console** — 1 x RS-232 (USB type C connector)
- **LAN** — 2 x 1,000Mbps Ethernet (RJ-45)
  Optional POE PD on LAN1 via expansion module
- **USB** — 1 x USB3.0
- **SD Card** — 1 x Micro SD card Slot
- **SIM Card** — 1 x Nano SIM card slot
- **I/O Connector** — 1 x 20pin press terminal, 16~24 AWG

I/O Expansion

- **Port A** — Optional 2x RS-485 or 2x CAN FD via add-on module
- **Port B** — Optional 2x RS-485 or 3x DI + 4x DO via add-on module
- **Expansion Slot** — 1 x Mini-PCIe full-size (Signal: USB2.0) for LTE
  1 x M.2 E-key 2230 (Signal: USB2.0, PCIe) for WIFI or storage

Serial Ports (Default & Expansion Port A, B)

- **Ports** — 2 on default unit, 2 on expansion port A and B respectively
- **Supported Mode** — Default unit: RS-232 or RS-485, software configurable
  Expansion ports: RS-485
- **Baud rate** — RS-232: 115,200 bps max.
  RS-485: 460,800 bps max.
- **Isolation protection** — 2,000 V_{DC}

CAN FD (Expansion Port A)

- **Ports** — 2
- **Protocol** — CAN 2.0 A/B, CAN FD
- **CAN 2.0 bit-rate** — 1 Mbps max.
- **CAN FD bit-rate** — Arbitration phase: 1 Mbps max.
  Data phase: 5 Mbps max.
- **Isolation Protection** — 2,000 V_{DC}

Digital I/O (Expansion Port B)

- **Digital Input** — Channels: 3, dry contact or wet contact
  Input voltage level (wet contact)
  Logic 0: 0~3V
  Logic 1: 10~40V
  Isolation protection: 2,000 V_{DC}
- **Digital Output** — Channels: 4, open collector / sink type / NPN
  Output rating: 10~30V_{DC}, 100mA per channel
  Isolation protection: 2,000 V_{DC}

Software

- **Operating System** — Yocto Linux with EdgeLink or Ubuntu, please refer to the ordering information for details

*Refer to ordering information for the product SKU detail and accessories. Please contact Advantech for further optional requests.

Environment

- **Operating temperature** Main unit: -40~70˚C (-40~158˚F)
  With wireless modules, PoE PD modules or NVMe
  SSD installed: -40~55˚C (-40~131˚F)
- **Storage temperature** -40 °C to 85 °C (-40 °F to 185 °F)
- **Operating humidity** Up to 90% RH, non-condensing
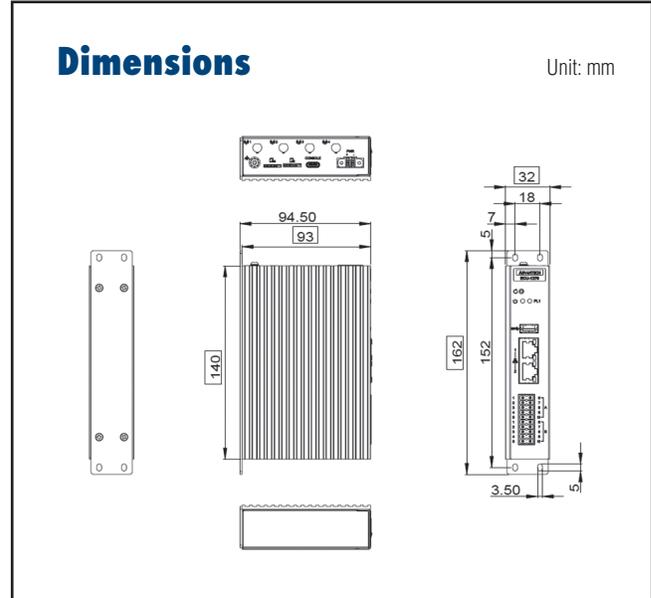- **Ingress Protection** IP30

EdgeLink*

- **Supported Protocol**

South Bound	North Bound
IEC 60870-5-101	Modbus Server
IEC 60870-5-103	IEC 60870-104 Server
IEC 60870-5-104	WASCADA (WebAccess)
DL/T 645-2007	BACnet Server
DL/T 645-1997	OPC UA Server
IEC 62056-21	Data Transfer
ODBC	SNMP
JDBC	
OPCUA Client	
BACnet IP	
BACnet MS/TP	
SNMP	
Modbus Client	

- **PLC driver support** ABB/Advantech/Allen-Bradley/BECKHOFF/ DELTA/
  FATEK/GE/Honeywell/Keyence/Mitsubishi/Omron/
  Panasonic/Schneider/Sharp/Siemens/Toyopuc/
  Wago 750/Yaskawa/Yokogawa
- **Programming** Linux C, Python
- **Configuration Tool** EdgeLink Studio
- **Data Monitoring** 20,000 Tags MAX.
- **Cloud Connectivity(MQTT)** EdgeHub, WISE-PaaS, Azure, AWS, Google Cloud
  IoT Core and more
- **Database Transmission** SQL Server, MySQL, ORACLE, FTP Server
- **VPN** Open VPN

* EdgeLink is bundled with Yocto Linux version. Please refer to EdgeLink specification for more details.

Dimensions

Unit: mm

Ordering Information

Part Number	RAM	eMMC	OS	IoT Software	HDMI	FRAM	TPM 2.0	LAN	COM	USB	Console	Country of Origin
ECU-1270-531A	2G	16G	Yocto	WISE-EdgeLink	N/A	N/A	Optional	2	2	1	USB Type C	China
ECU-1270-532AU	4G	32G	Ubuntu	N/A	N/A	N/A	Yes	2	2	1	USB Type C	Taiwan

Expansion Modules

Part Number	Description	Available in Expansion Slot
9893SH19000	2x iso. RS-485 Expansion Module for ECU-1270	A, B
9893SH20000	2x iso. CAN FD Expansion Module for ECU-1270	A
9893SH21000	iso. 3DI, 4DO Expansion Module for ECU-1270	B

Optional Accessories

Wifi 6/6E Module and Antenna (M.2 E-key)

- **AIW-170BQ-001** Qualcomm WiFi6E M.2 2230 E key
- **AIW-169BR-GX1** Wi-Fi 6E M.2 solution based on Realtek RTL8852CE
- **1751000651-01** Dipole Ant. WiFi 6E
- **1751000622-01** Cable Ant. SMA 15cm

Cellular Module and Antenna (mPCIe)

- **968AD00234** Cellular LTE 4G Mini PCIe 5030 for EU, TW, IN, KR, SEA
- **968AD00233** Cellular LTE 4G Mini PCIe 5030 for JP
- **96PD-EC20CEFAG** Cellular 4G + GNSS Mini PCIe 5130 LTE CN, IN
- **968AD00589** Cellular LTE 4G Mini PCIe LTE-FDD/TDD DC-HSDPA, Global
- **1750005865** Antenna for LTE
- **1750006264** Antenna SMA Cable, 15cm

NVMe SSD (M.2 E-key)

- **SQF-C3AV1-128GDEDE** SQF M.2 2230 720-D 128G 3D TLC BiCS5 (-40~85°C)
- **SQF-C3AV1-256GDEDE** SQF M.2 2230 720-D 256G 3D TLC BiCS5 (-40~85°C)
- **SQF-C3AV1-512GDEDE** SQF M.2 2230 720-D 512G 3D TLC BiCS5 (-40~85°C)

Power Adapter

- **PSD-A40W12** A/D 100-240V 40W 12V (DIN Rail)
- **PSD-A40W24** A/D 100-240V 40W 24V (DIN Rail)
- **96PSA-A60W24T2-3** ADP A/D 100-240V 60W 24V C14 CORD END 2PIN 62368

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Pravidelní zákazníci u nás nakupují za nižší ceny. Výše slevy se odvíjí od realizovaného obratu.

SERVIS ON-SITE A IN-TIME
K projektovým dodávkám nabízíme rozšířenou podporu a servis s garancí výměny zařízení do 48 hodin.