ECU-1051

Cloud enabled Intelligent Communication Gateway for IIOT application



Features

- TI Cortex A8 processor
- 2 x RS-232/485 serial ports
- 2 x 10/100 Ethernet ports
- 1 x Mini-PCIe for WIFI/Cellular/4G
- Support web service for remotely on-line monitoring
- Supports SD cards and OTA firmware updates
- EdgeLink IoT software for data acquisition and cloud communication
- Wide Operating temperature: -40 ~ 70°C

EdgeHub

Introduction

For facility monitoring, distributed solar power, smart factory sector, especially cloud based applications which require a total wireless and Ethernet communication solutions, Advantech has released the ECU-1051 RISC-based industrial communication gateway. ECU-1051 has an open platform design with Cortex A8 processor, two 10/100 Ethernet ports and operating temperature range of -40~70°C.With Linux operating system and EdgeLink IoT software, ECU-1051 enable system integrators to develop applications which precisely fit their need.

Specifications

		ECU-1051TL-R10AAE	ECU-1051TL-R10AB	ECU-1051TL-R10ABU	ECU-1051E-R10AAE
System	CPU	TI Cortex A8, 600MHz			TI Cortex A8, 300MHz
	RAM	DDR3L 256MB			DDR3L 128MB
	Storage	512MB NAND			
	SD Slot	1 x Micro-SD			
	SIM Slot	2 x Nano SIM			1 x Nano SIM
	LED Indicators	Power, LAN (LINK, ACT), Programmable			
	Real Time Clock	Yes			
	Watchdog Timer	Yes			
	TPM	NA			
I/O Interfaces	Serial Ports	2 x RS-232/485 (isolation optional), 5-Pin Terminal Block, 50 ~ 115.2kbps		2 x RS-232/485 (isolation 3000Vdc) 5-Pin Terminal Block, 50 ~ 115.2kbps	2 x RS-232/485 (isolation optional) 5-Pin Terminal Block, 50 ~ 115.2kbps
	LAN Ports	2 x 10/100 Base-T Ethernet (RJ45)			
	USB Ports	NA	1 x USB 2.0		NA
	Displays	NA			
	Mini-PCIE	1x Mini-PCIe (Full-size) for Wireless Module Signal: USB 2.0			
EdgeLink	Protocol Support	**SouthBound**		**NorthBound**	
		IEC 61850 MMS Client* IEC 61850 GOOSE Client*		IEC 61850 MMS Server* IEC 61850 GOOSE Server*	
		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			
		JDBC			
		OPCUA Client			
		BACnet IP			
		BACnet MS/TP			
		SNMP			
		Modbus Client			
	PLC driver support	200+ PLC drivers ABB/Advantech/Allen-Bradley/BECKHOFF/ DELTA/FATEK/GE/Honeywell/Keyence/Mitsubishi/Omron/Panasonic/Schneider/Sharp/Siemens/Toyopuc/Wago 750/Yaskawa/Yokogawa			
	Programming Support	IEC 61131-3, Linux C, Python			
	Configuration Tool	EdgeLink Studio			
	Data Monitoring	2000 Tags MAX.			500 Tags MAX.
	Cloud Connectivity(MQTT)	EdgeHub, IoTSuite, Azure, AWS, Google Cloud IoT Core and more			
	Database Transmission	SQL Server, MySQL, ORACLE, FTP Server			
	VPN	Open VPN			
Gerneral	Certification	CE, FCC, UKCA			
	Dimensions (W x D x H)	93.7 x 92 x 30mm			
	Form Factor	Small Size			
	Enclosure	SGCC			
	Mounting	Wall-Mount/DIN-Rail			
	Weight(Net)	0.6kg			
	Power Requirement	10 ~ 30 Vdc			
	Power Consumption	1.2W @ 24Vdc			
	Power Connector	1 x 3-Pin Terminal Block			
Environment	Operating Temperature	-40~70°C			
	Storage Temparature	-40~85°C			
	Relative Humidity	95% (non-condensing)			
	Ingress Protection	IP30			
	Vibration Protection	2Grms, Random/Sine, 5 ~ 500Hz			

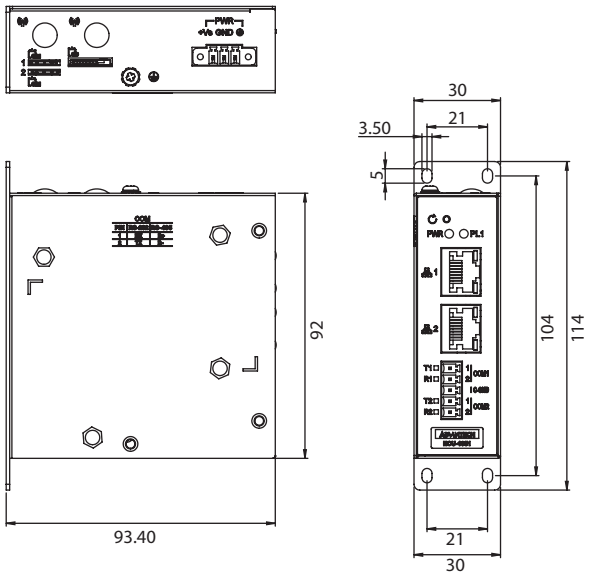
* Please refer to the EdgeLink specification for further details. Activation of the IEC-61850 protocol requires an additional fee.

All product specifications are subject to change without notice.

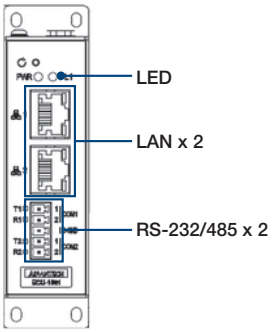
Last updated: 9-Apr-2025

Dimensions

Unit: mm

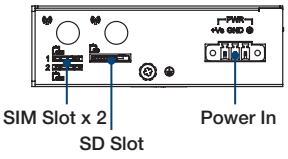


Front View

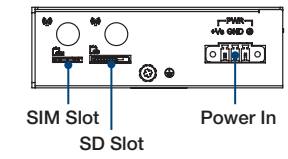


Top View

ECU-1051



ECU-1051E



Ordering Information

Part Number	CPU	RAM	NAND	OS	IoT Software	TPM 2.0	LAN	COM	USB	Console	Country of Origin
ECU-1051TL-R10AAE	TI Cortex A8, 600MHz	DDR3L 256MB	512MB	Yocto	EdgeLink	N/A	2	2	0	3pin COM on board	China
ECU-1051TL-R10AB									1		China
ECU-1051TL-R10ABU									1		Taiwan
ECU-1051E-R10AAE	TI Cortex A8, 300MHz	DDR3L 128MB							0		China

Optional Accessory

Celluar Module and Antenna

- **96PD-EC25EFA** LTE Module Cat. 4, Mini-PCIe for EU,TW,IN,KR,SEA
- **96PD-EC25JFA** LTE Module Cat. 4, Mini-PCIe for JP
- **96PD-EG25GGB** LTE Module Cat. 4, Mini-PCIe for Global
- **1750006264** SMA(F) Cable, 15 cm
- **1750005865** Dipole Antenna, 11 cm
- **96PD-MDG200AU0** AMIC 4G.Cat4 Socket Modem(US)
- **1750006264** SMA(F) Cable, 15 cm
- **1750008303-01** Antenna, 13cm

Wifi Module and Antenna

WIFI

- **96PD-RYUW131A1** WiFi 4 2.4GHz mPCIe with Antenna and cable

WIFI+BT:

- **EWM-W172H01E** 802.11ac/a/b/g/n 2T2R Wi-fi + Bluetooth 4.2 Half
- **1750008717-01** WiFi 2.4GHz+5GHz dipole antenna
- **1750006043** SMA(M) Coaxial Cable, 150 mm
- **9656EWMG00E** Half-size miniPCIe to miniPCIe bracket set

Micro SD Card

- **96FMMSDI-4G-ET-AT1** ATP 4G MICRO SD CARD I-GRD SLC(G)
- **96FMMSDI-8G-ET-AT1** ATP 8G MICRO SD CARD I-GRD SLC(G)

DIN-Rail Power Supply

- **96PSD-A20W24-MM** A/D 100-240V 20W 24V Power Supply
- **PSD-A40W24 DIN RAIL** A/D 100-240V 40W 24V Power Supply

Adapters and Power Cables

- **96PSA-A60W24T2-3** AC100-240V to DC24V, 60W Adapter, C14 CORD END 2PIN
- **1702002600** Power cable (US) 1.8 M
- **1702002605** Power cable (EU) 1.8 M
- **1702031801** Power cable (UK) 1.8 M
- **1700000596** Power cable (China/Australia) 1.8 M