

# ECU-1051

## Cloud enabled Intelligent Communication Gateway for IIOT application

**NEW**



### Features

- TI Cortex A8 processor
- 2 x RS-232/485 serial ports
- 2 x 10/100 Ethernet ports
- 1 x Mini-PCle 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

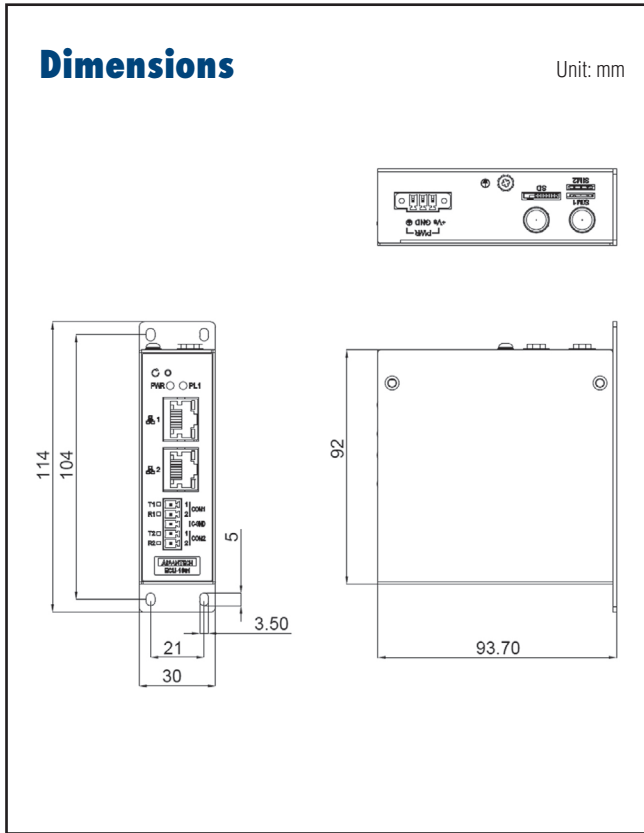


### Introduction

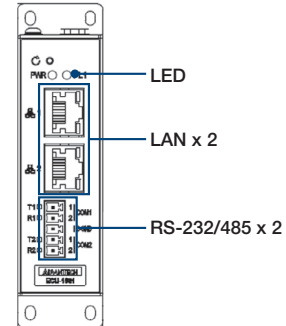
For facility monitoring, distributed solar power, smart factory sector, especially cloud based applications which require a total wireless and Ethernet communication solutions, Advantech has released the ECU-1051 RISC-based industrial communication gateway. ECU-1051 has an open platform design with Cortex 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  |
|--------------------------|---|---|------------------|---|---|
| <b>System</b>            | 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  |   |                  |   |   |
| <b>I/O Interfaces</b>    | Serial Ports  | 2 x RS-232/485 (isolation optional), 5-Pin Terminal Block, 50 ~ 115.2kpbs |                  | 2 x RS-232/485 (isolation 3000V <sub>dc</sub> )<br>5-Pin Terminal Block, 50 ~ 115.2kpbs | 2 x RS-232/485 (isolation optional)<br>5-Pin Terminal Block, 50 ~ 115.2kpbs |
|                          | 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<br>Signal: USB 2.0           |                  |   |   |
| <b>EdgeLink</b>          | Protocol Support  | <b>SouthBound</b>   |                  | <b>NorthBound</b>   |   |
|                          |   | 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<br>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) | Edge365, WISE-PaaS, Azure, AWS, Google Cloud IoT Core and more  |   |                  |   |   |
| Database Transmission    | SQL Server, MySQL, ORACLE, FTP Server   |   |                  |   |   |
| VPN                      | Open VPN  |   |                  |   |   |
| <b>General</b>           | 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 V <sub>dc</sub>   |                  |   |   |
|                          | Power Consumption   | 1.2W @ 24V <sub>dc</sub>  |                  |   |   |
|                          | Power Connector   | 1 x 3-Pin Terminal Block  |                  |   |   |
|                          | <b>Environment</b>  | Operating Temperature   | -40~70°C         |   |   |
| Storage Temperature      |   | -40~85°C  |                  |   |   |
| Relative Humidity        |   | 95% (non-condensing)  |                  |   |   |
| Ingress Protection       |   | IP30  |                  |   |   |
| Vibration Protection     |   | 2Grms, Random/Sine, 5 ~ 500Hz   |                  |   |   |

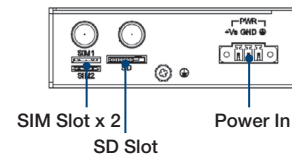


### Front View

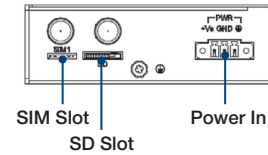


### Top View

#### 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 |             |       |       |              |         |     | 0   |     | China             |                   |

## Optional Accessory

### Cellular Module and Antenna

- 96PD-EC25EFA LTE Module Cat. 4, Mini-PCle for EU,TW,IN,KR,SEA
- 96PD-EC25JFA LTE Module Cat. 4, Mini-PCle for JP
- 96PD-EG25GGB LTE Module Cat. 4, Mini-PCle 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-RYUW131 2.4GHz Wi-Fi Full/Half Size Mini PCIe Card
- 1750000318 2dBi antenna, 11 cm
- 1750006043 SMA(M) Coaxial cable, 15 cm

#### 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

### 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