EKI-1652WT Series
EN50155 Industrial M12 WiFi/LTE Router

NEW

Features

- Supports IEEE802.11ac MIMO 2T2R
- Supports WWAN connectivity
- Provides secure access with WEP, 802.1x, WPA/WPA2-Personal, WPA/WPA2-Enterprise
- Enables web-based configuration
- Facilitates dual band 2.4/5GHz selection
- Flexible design supports LTE/WiFi
- Anti-vibration M12 design
- Wide range power input 24/48/72/96/110 V_{DC}

CE FCC RoHS COMPLIANT 2002/95/EC

Introduction

EKI-1652WT industrial WiFi/LTE router is designed for railway applications such as rolling stock. EKI-1652WT supports AP/Bridge/Client modes and is designed with LTE Module for WWAN connectivity. This router provides IEEE 802.11 dual band a/b/g/n/ac with M12 connectors for reliable wireless connectivity in industrial environments. EKI-1652WT features high wireless connectivity performance for devices in remote locations where cable connections are impractical. Advantech's EKI-1652WT can produce ample bandwidth for a range of applications including video.

Specifications

Ethernet Communications

- **Port Type** — M12 D-Code or X-Code
- **No. of Ports** — 2
- **Speed** — 2 x 100Mbps(D-Code) or 1000Mbps(X-Code)

Wireless LAN Communications

- **Compatibility** — IEEE 802.11a/b/g/n/ac
- **Date Rates** — 11b: 11M, 5.5M, 2M, 1Mbps
  11a/g: 54M, 48M, 36M, 24M, 18M, 12M, 9M, 6Mbps
  11n: HT20 MCS0 ~ 7 / HT40 MCS0 ~ 7
  11ac: VHT20 MCS0 ~ 8 / VHT40 MCS0 ~ 9 / VHT80 MCS0 ~ 9
- **Antenna Connector** — 2 x RP-SMA connectors (female)
- **No. of Antenna** — 2 (supports 2T2R)
- **Free Space Range** — Open space 100 m (328 ft)
- **Wireless Security** — Open system , shared Key, legacy 8021X, WPA/WPA2, WPA-PSK (TKIP), WPA2-PSK (AES)

GNSS Specifications

- **Antenna** — 50ohm - active
- **Protocols** — NMEA 0183
- **GNSS Systems** — GPS, GLONASS, BeiDou, Galileo, QZSS
- **Frequency** — GPS/Galileo/QZSS: 1575.42 ± 1.023MHz
  GLONASS: 1597.5 – 1605.8MHz
  BeiDou: 1561.098 ± 2.046MHz
- **Sensitivity (autonomous)** — Tracking: -157dBm
  Reacquisition: -157dBm
  Cold start: -146dBm
- **Acquisition time (autonomous)** — Hot start: 2.5 s
  Warm start: 26 s
  Cold start: 35 s
- **Accuracy** — < 1.5 m (4.9 ft)

Cellular Interface

- **LTE Bit rate** — 150 Mbps (DL), 50 Mbps (UL)
- **LTE FDD** — B1/B3/B5/B7/B8/B20
- **LTE TDD** — B38/B40/B41
- **WCDMA** — B1/B5/B8
- **No. of SIM Slots** — 2
- **SIM Card type** — Micro SIM 1.8V and 3V
- **ANT Connector** — 2 x SMA female connector

Software

- **Operation Modes** — Access Point/Bridge/Client mode
- **Management** — Web UI
- **Wireless** — Radio on/off, WMM/Regatta Mode, Output Power Control, Fragmentation Length, Beacon interval, RTS/CTS threshold, DTIM interval
- **Protocol** — ARP, ICMP, IPv4, IPv6, TCP, UDP, DHCP Client, DNS, HTTP, SNTP, DHCP Server, NAT, DNS proxy, QoS, Load balancing, OpenVPN, IPsec, GRE
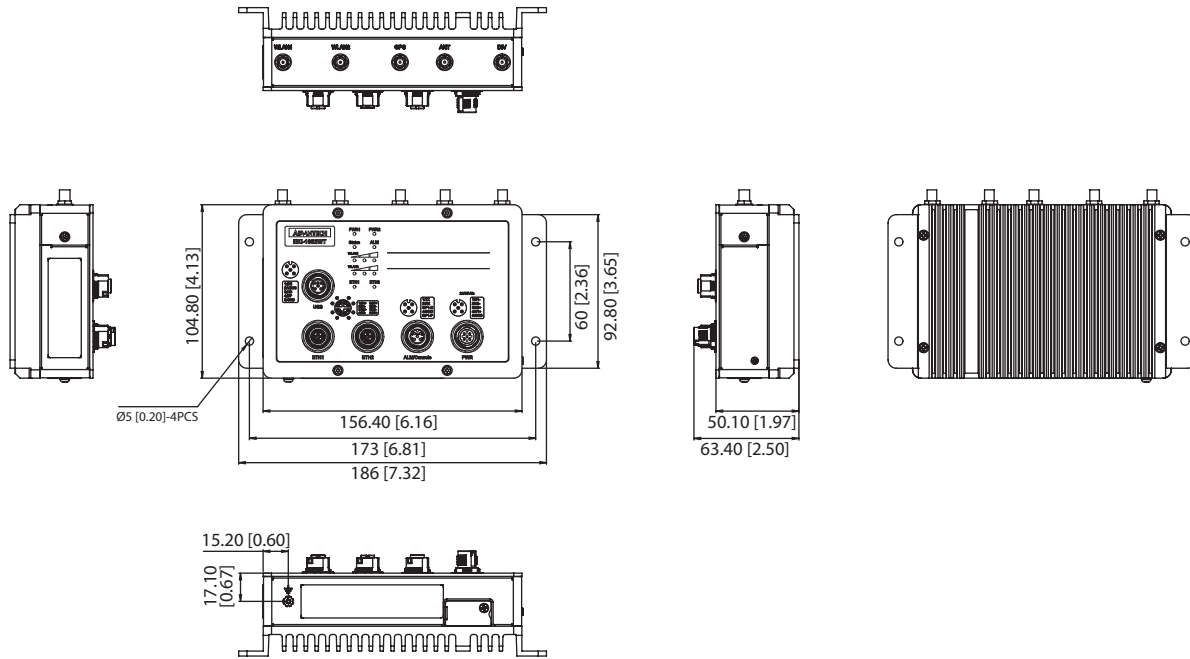
Mechanics

- **Enclosure** — Metal shell with solid mounting kits
- **Mounting** — Wall
- **Dimensions (W x H x D)** — 186 x 50.1 x 104.8 mm (7.32 x 1.97 x 4.13 in)
- **Weight** — 1.5 kg (3.3 lb)

Interface

- **Console Port** — M12 A-Code female
- **USB Port** — M12 A-Code female
- **Power Connector** — M12 A-Code male (5-pin)

Dimensions

Unit: mm [inch]

Panel Cut-out Dimensions: 50.1 x 104 x 186 mm (1.97 x 4.13 x 7.32 in)

Channel Support

- **IEEE 802.11b/g/gn**   HT20
  FCC: CH1 ~ CH11; ETSI: CH1 ~ CH13
- **IEEE 802.11gn**   HT40
  FCC: CH3 ~ CH9; ETSI: CH3 ~ CH11
- **IEEE 802.11a/an/ac**   FCC: 5.15~5.25GHz;5.725~5.85GHz
  ETSI: 5.15~5.25GHz;5.47~5.725GHz

Wireless Transmission Rates

- **Transmitted Power**   802.11b 20dBm
  802.11a 18dBm @ 6 Mbps, 15dBm @ 54 Mbps
  802.11g 21dBm @ 6 Mbps, 18dBm @ 54 Mbps
  802.11n HT20 21dBm @ MCS0/8, 16dBm @ MCS7/15
  802.11n HT40 20dBm @ MCS0/8, 16dBm @ MCS7/15
  802.11ac VHT20 18dBm @ MCS0; 13dBm @ MCS8
  802.11ac VHT40 18dBm @ MCS0; 13dBm @ MCS9
  802.11ac VHT80 18dBm @ MCS0; 13dBm @ MCS9

Receiver Sensitivity

- **802.11b Sensitivity**   -95 dBm @ 1 Mbps; -80 dBm @ 11 Mbps
- **802.11a/g Sensitivity**   -94 dBm @ 6 Mbps; -80 dBm @ 54 Mbps
- **802.11n HT20**   -93 dBm @ MCS0; -76 dBm @ MCS7
- **802.11n HT40**   -92 dBm @ MCS0; -73 dBm @ MCS7
- **802.11ac VHT20**   -93 dBm @ MCS0; -71 dBm @ MCS8
- **802.11ac VHT40**   -90 dBm @ MCS0; -66 dBm @ MCS9
- **802.11ac VHT80**   -88 dBm @ MCS0; -65 dBm @ MCS9

Power Requirements

- **Power Input**   24-48V_{DC} (LV model), 72/96/110V_{DC} (HV model)
- **Power Consumption**   14W (LV model)/ 21W (HV model)
- **Power Type**   Dual Power

Environment

- **Operating Temperature**   -20 ~ 60 °C (-4 ~ 140 °F)
- **Storage Temperature**   -40 ~ 80 °C (-40 ~ 176 °F)
- **Operating Humidity**   10 ~ 95% RH

Regulatory Approvals

- **EMC**   CE, FCC Part 15 Subpart B (Class B)

Ordering Information

EN50155 Industrial M12 WiFi/LTE Router

- **EKI-1652WTDL-CA**   D-Code, LV Model for CN
- **EKI-1652WTXL-EA**   X-Code, LV Model for EU

Accessories

- **1750008001-01**   5dBi Wi-Fi Omni Antenna 2.4/5GHz(not included)
- **1750009236-01**   698~2690MHz LTE Antenna