UNO-430-E1A

Waterproof Outdoor Data Gateway with All-Around IP69K/IP68 Rating

Features

- Intel® Atom™ E3950 quad-core processor with 8GB of DDR3L memory
- 2 x Gigabit Ethernet, 2 x RS-422/485 with isolation protection, 1 x RS-232 console port
- All-around IP69K/68 rating for protection from water and dust ingress
- Wide operating temperature range (-40 ~ 70 °C/-40 ~ 158 °F)
- Built-in TPM 2.0 for hardware-based security
- 1 x M.2 (E-key) and 1 x M.2 (B-key) expansion sockets for integrating CE-RED-compliant Wi-Fi, LTE, and GPS wireless communication modules
- Enclosure with front door and cable gland design ensures easy installation and maintenance

Introduction

Designed for operation in harsh outdoor/industrial environments, UNO-430-E1A features all-around IP69K/68-rated ingress protection and cable gland I/O connectors to provide a truly watertight solution that can withstand the most demanding applications. The waterproof enclosure features a front door for easy access and maintenance as well as a cable gland that offers further ingress protection. This eliminates the need for a waterproof cabinet, cables, or wiring, which enables customers to use the UNO-430 gateway as a standalone data acquisition gateway. Moreover, with the provision of standard M.2 2230 Wi-Fi and M.2 3052/3042 5G/LTE sockets, the UNO-430 gateway offers expandable wireless connectivity for remote communication and data transfers.

Specifications

General

- **Certification** CE, FCC, IEC/ UL 62368-1, UL 60950-22 (Part 22: Equipment to be installed outdoors)
- **Dimensions (W x D x H)** 200 x 200 x 68 mm/7.87 x 7.87 x 2.67 in
- **Form Factor** Square
- **Enclosure** Aluminum housing
- **Mount Options** Wall mount
- **Weight (Net)** 3 kg/6.61 lb
- **Power Requirement** 10 ~ 36 V_{DC}
- **Power Consumption** 21W (typical), 27W (max.)
- **OS Support** Microsoft® Windows 10 Ent. LTSC, Advantech Linux (Ubuntu 18.04)

System Hardware

- **BIOS** AMI UEFI (64 Mbit)
- **Watchdog Timer** Programmable timer with 255 intervals (1 ~ 255 sec)
- **Hardware Security** TPM 2.0
- **Processor** Intel® Atom® E3950 quad core, 1.6GHz (up to 2GHz)
- **Memory** 8GB of DDR3L, 1600MHz
- **Graphics Engine** Intel® HD Graphics 505
- **Ethernet** Intel® i210-IT GbE, IIEEE802.1AS, 802.3az
- **LED Indicators** Power, Storage, LTE, Wi-Fi, Programmable LED
- **Storage** 1 x M.2 2242 B-key (SATA signal)
- **Communication** 1 x M.2 (E-key)(PCIe/USB2.0 signal) socket for 2230 Wi-Fi/Bluetooth module expansion
  1 x M.2 (B-key)(USB2.0/USB3.0 signal) socket for 3042/3052 LTE/5G module expansion
  1 x socket (USB signal) for MultiTech Dragonfly™ card
- **Internal Maintenance Interface** 1 x USB 3.0, 1 x USB 2.0, 1 x DP

I/O Interface

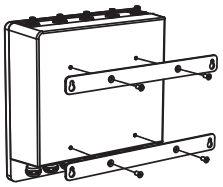
- **Serial Ports** 2 x RS-422/485, 50 ~115.2 kbps (terminal block with 2500V_{DC} isolation protection)
  1 x RS-232, 50 ~115.2 kbps (terminal block, console port)
- **LAN** 2 x RJ45, 10/100/1000 Mbps IEEE 802.3u, 1000BASE-T Fast Ethernet
- **Power Connector** 1 x 3-pin terminal block
- **Cable Gland** 2 x M32 cable gland for Ethernet cable (cable size OD 5 ~ 6.6 mm/0.19 ~ 0.25 in)
  4 x M12 cable gland for serial cable and power cable (cable size OD 4.5 ~ 6.5 mm/0.17 ~ 0.25 in)

Environment

- **Operating Temperature** -40 ~ 70 °C/-40 ~ 158 °F @ 5 ~ 85% RH with 0.7 m/s airflow
- **Storage Temperature** -40 ~ 85 °C/-40 ~ 185 °F
- **Relative Humidity** 10 ~ 95% RH @ 40 °C/104 °F, non-condensing
- **Shock Protection** Operating, IEC 60068-2-27, 50G, half sine, 11ms
- **Vibration Protection** Operating, IEC 60068-2-64, 2Grms, random, 5 ~ 500Hz, 1hr/axis
- **Ingress Protection** IP69K, IP68

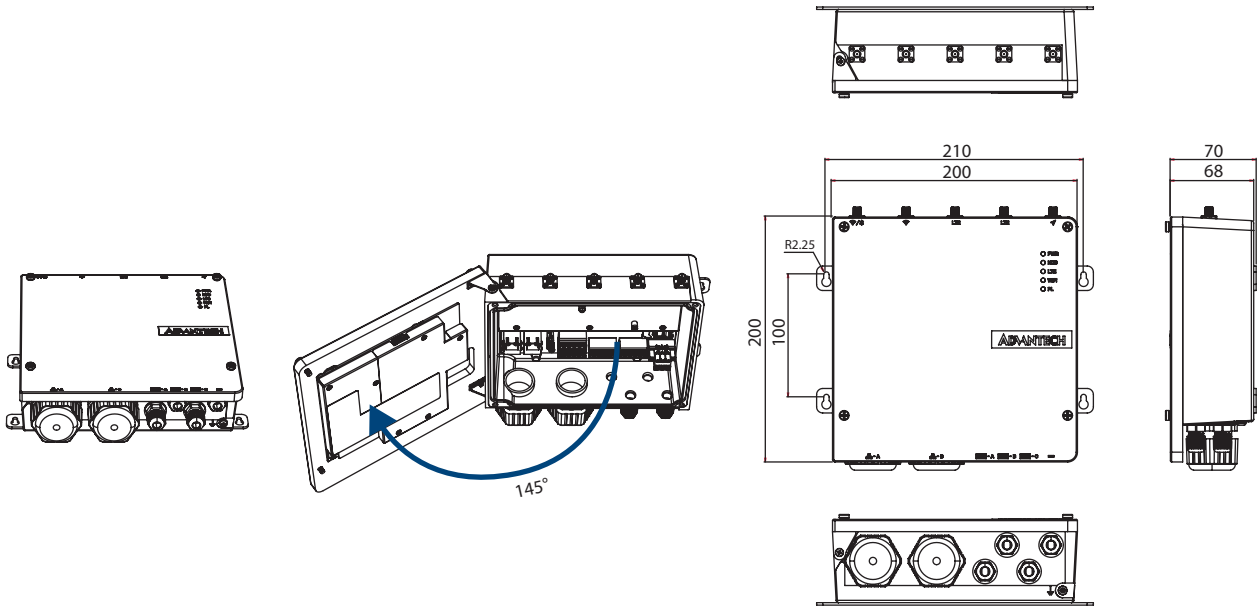
Installation Scenario

Wall Mount



Dimensions

Unit: mm



Ordering Information

- **UNO-430-E1A** Intel® Atom™ E3950, 2 GHz, processor with 8GB DDR3L memory, 2 x GbE, 3 x COM, TPM 2.0, and M32/M12 waterproof cable gland

Embedded OS

- **20703WX9ES0035** WIN10 IoT Enterprise LTSC x64 v6.05 B037
- **20703LEB1S0101** Image AdvLinuxTu V2.1.0 for UNO/TPC series

Optional Accessories

M.2 2242 SATA SSD

- **SQF-SM4M2-64G-SBE** 64GB M.2 SSD, SQFlash 640, SATA III (-40 ~ 85 °C/-40 ~ 185 °F)
- **SQF-SM4M2-128G-SBE** 128GB M.2 SSD, SQFlash 640, SATA III (-40 ~ 85 °C/-40 ~ 185 °F)
- **SQF-SM4M2-256G-SBE** 256GB M.2 SSD, SQFlash 640, SATA III (-40 ~ 85 °C/-40 ~ 185 °F)

Wi-Fi

- **EWM-W195M201E** M.2 2230 Wi-Fi module (802.11 a/b/g/n/ac with BT4.2) (-40 ~ 85 °C/-40 ~ 185 °F) with CE-RED compliance
- **1751000018-01** Dipole antenna (2.4 + 5GHz) SMA/M-R

LTE/GPS

- **968AD00426** Sierra EM7565 LTE Cat-12 M.2 module (global band)
- **968AD00590** Quectel EM06-E LTE Cat-6 M.2 module (EMEA/Brazil/APAC) with CE-RED compliance
- **1751000017-01** LTE dipole antenna (3.2/4.4dBi) SMA/M
- **1751000044-01** GPS antenna (3dBi) SMA/M

AT&T/Verizon-certified LTE kit for North America

- **C-PCM-24S24G-430-1** MultiTech LTE Cat.4 modem, antennas, for UNO-430-E1A

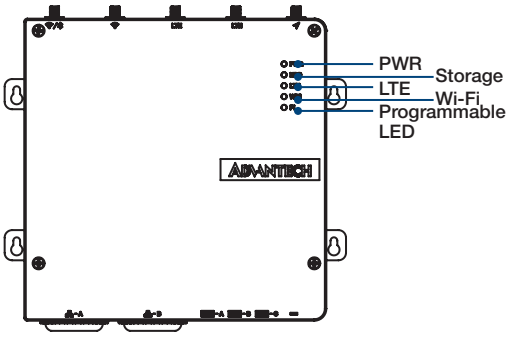
*For GPS Function, please order additional SMA cable and Antenna:

- **1751000035** Cable Ant. SMA/F-BH MHF1/113 BLK L200mm
- **1751000044-01** GPS antenna (3dBi) SMA/M

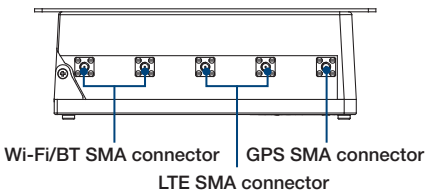
IP65-Rated Power Supply

- **XUNO-HEP-100-24A** 100W 90 ~ 305V_{AC} power supply (-55 ~ 70 °C/-67 ~ 158 °F)

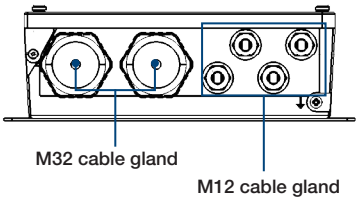
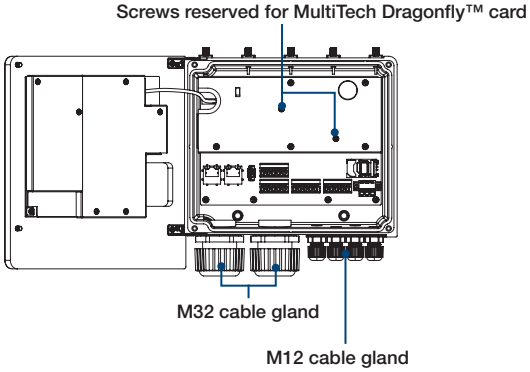
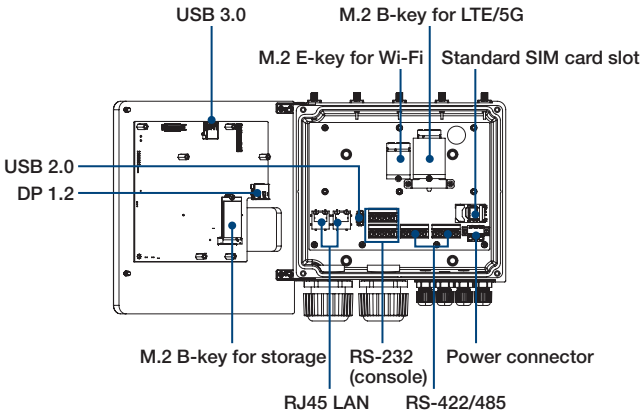
Front LED



Top I/O



Rear I/O



Internal I/O