# UNO-430 EXP

## Waterproof Data Gateway with IP66 Rating and Explosion Protection

## 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
- IP66 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
- C1D2, ATEX, and IECEx certification for explosion tolerance

## Introduction

Designed for use in harsh industrial environments, UNO-430-E1H features all-around IP66-rated ingress protection and cable gland I/O connectors to provide a truly water and dust proof 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. Furthermore, with C1D2, ATEX, and IECEx certification for explosion tolerance, UNO-430-E1H is ideal for applications in the oil & gas, mining, food & beverage, and chemicals & pharmaceuticals industries.

## Specifications

### General

- **Certification** CE, FCC
  UL Listed Class I, Division 2, Groups A, B, C, D
  ATEX/IECEx Zone 2, Zone 22
  Ex ec IIC T4 Gc
  Ex tc IIIC T90°C Dc
- **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)** 3.7 kg/8.16 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

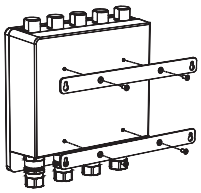
- **Serial Ports*** 2 x RS-422/485, 50 ~115.2 kbps
  (terminal block with 2500$V_{DC}$ isolation protection)
  1 x RS-232, 50 ~115.2 kbps
  (terminal block, console port)
- **LAN*** 2 x RJ45, 10/100/1000 Mbps IEEE 802.3u, 1000 BASE-T Fast Ethernet
- **Power Connector*** 1 x 3-pin terminal block
- **Cable Gland** 4 x 1/2" NPT conduit explosive atmosphere cable gland (cable size OD 6.55 ~ 14 mm/0.26 ~ 0.55 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** IP66 (IP65 for ATEX / IEC Ex)

## Installation Scenario

### Wall Mount



* Four I/O cables can be connected simultaneously via the cable gland

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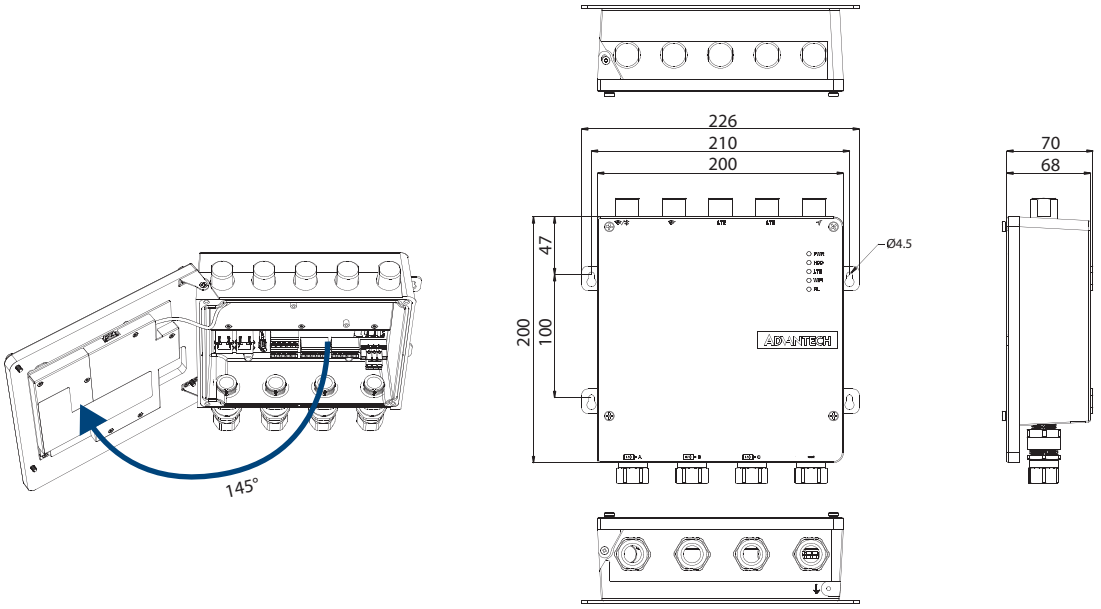
## Dimensions

Unit: mm




## Ordering Information

- **UNO-430-E1H** Intel® Atom™ E3950, 2 GHz, processor with 8GB DDR3L memory, 4 x 1/2" NPT cable glands, and C1D2, ATEX, and IECEx certification

## Embedded OS

- **20703WX9ES0035** Windows 10 IoT Enterprise LTSC x64 v6.05 B037
- **20703LEB1S0101** Image AdvLinuxTu V2.1.0 for UNO/TPC series

## Optional Accessories

### Stopping Plug (for unused cable gland)

- **1655006164-01** Stopping plug 1/2" NPT, IP67 rated

### 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
- **1751000173-01** Dipole antenna, 2.4/5G, N-jack/MHF4, 150 mm

### 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
- **1751000172-01*** LTE dipole antenna, N-jack/MHF4, 150 mm
- **1751000174-01*** GPS antenna, 1575 MHz, N-jack/MHF4, 150 mm

* C1D2 use condition only

### AT&T/Verizon Certified LTE Kit for North America

- **C-PCM-24S24G-430-2** MultiTech LTE Cat.4 modem, antennas, for UNO-430-E1H

* For GPS Function, please order additional N-Jack/MHFI antenna

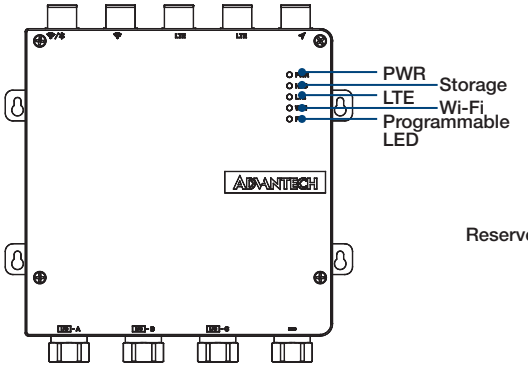
- **1751000209-01*** GPS antenna, 1575 MHz, N-jack/MHF1, 150 mm

* C1D2 use condition only

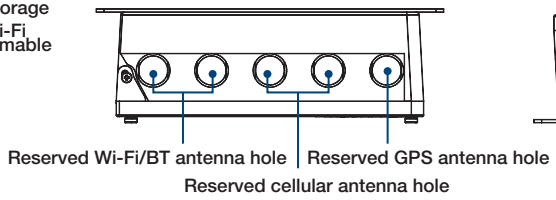
### IP67 and NEMA 4X-Rated Power Supply

- **XDMS-TEX120-112** 96W 85 ~ 264VAC power supply (-40 ~ 85 °C/-40 ~ 185°F) (C1D2 and ATEX certified)
- **1700031021-01** DC cable with TEX 120-112 connector, 2M
- **1700031022-01** AC cable with TEX 120-112 connector, 2M (EU)
- **1700031024-01** AC cable with TEX 120-112 connector, 15M (EU)
- **1700031023-01** AC cable with TEX 120-112 connector, 2M (US)
- **1700031025-01** AC cable with TEX 120-112 connector, 15M (US)

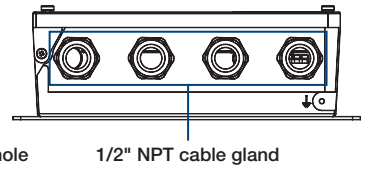
## Front LED

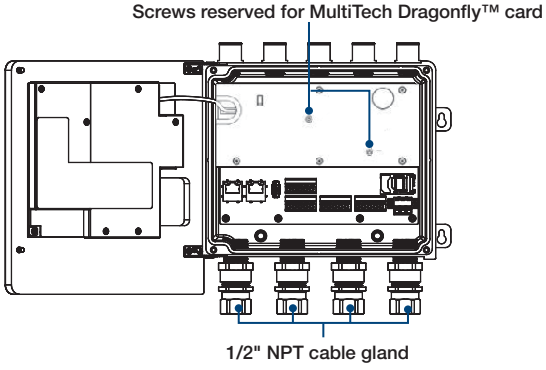
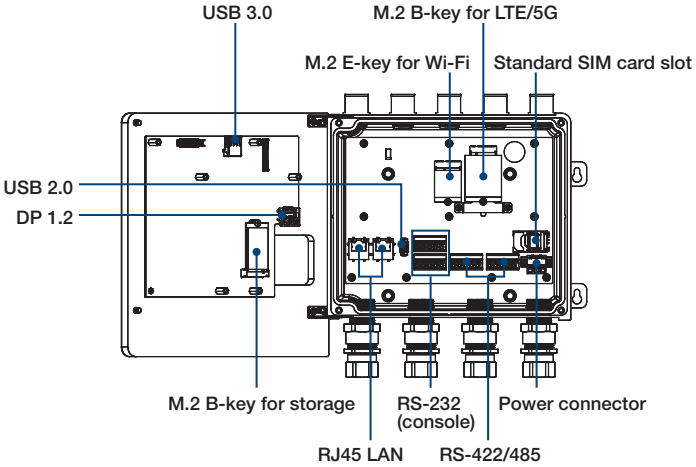



## Top I/O




## Rear I/O




## Internal I/O