

# UNO-420

## Intel® Atom™ PoE Powered Device Sensing Gateway with 3 x COM, 2 x LAN (1 x PoE), 8 x GPIO, HDMI, USB3.0, TPM2.0

NEW



### Features

- Intel Atom™ E3815 Processor with 2GB DDR3L onboard memory
- 2 x GbE (1 x PoE-IN), 1 x USB 3.0, 1 x HDMI, 1 x RS-485, 2 x RS-232/422/485, 8 x Programmable GPIO, TPM 2.0
- 32GB eMMC storage onboard
- Support dual wireless communication for WiFi/3G/4G/GPS
- Support one Ethernet cable for both data & power delivery
- Support Trusted Platform Module (TPM) 2.0 for cyber security
- Advantech WISE-PaaS/EdgeLink support
- EdgeLink support MQTT, LWM2M client for cloud communication
- EdgeLink supports more than 200 I/O Drivers
- EdgeLink supports user-defined acquisition period

### Introduction

The new UNO-420 is ruggedized fanless design with Intel® Atom™ E3815 Processor, 3x COM port, 2x LAN port (one with Power Over Ethernet (PoE) technology), and 8 x Programmable GPIO. PoE allows you to add a device in awkward or remote locations where power cable may not equipment with. It supports one Ethernet cable for both data and power delivery. Ethernet cable, which appears in many existing infrastructures is considerably less expensive than fiber over the scope of an installation. UNO-420 features optimized I/O, PoE-IN, and wide operation temperature, which is suitable for machine data gateway in many industries.

### Specifications

#### General

- Certification** CE, FCC, CB, UL, CCC
- Dimensions (W x D x H)** 125 x 125 x 50 mm
- Enclosure** Aluminum Housing
- Mounting** Wall Mount (Optional Din-Rail)
- Weight (Net)** 1.5 kg
- Power Requirement** 10 ~ 30 V<sub>DC</sub>
- Power Consumption** 12W (Typical), 20W (Max)

#### System Hardware

- BIOS** AMI EFI64 Mbit
- Watchdog Timer** Programmable 255 levels timer interval, from 1 to 255sec
- Hardware Security** TPM 2.0
- Processor** Intel Atom E3815 1.46GHz
- System Chip** Intel Atom SoC integrated
- Memory** 2GB DDR3L 1066 MHz
- Graphics Engine** Intel® HD Graphics
- Ethernet Realtek** RTL8111E GbE, 802.10av
- LED Indicators** LEDs for Power, Storage (M.2)
- Storage** Onboard 32GB eMMC
- Expansion** 1 x M.2 2242 (B key)  
1 x Full-size mPCIe slot (USB/PCIe Signal)  
1 x Half-size mPCIe slot (USB/PCIe Signal)

#### I/O Interfaces

- Serial Ports** 2 x RS-232/422/485, 0.15~115.2kbps, DB9  
1 x RS-485, 0.15~115.2kbps, terminal block
- LAN Ports** 2 x RJ45 (1x PoE-IN IEEE 802.3at & 10/100/1000 Mbps IEEE 802.3u 1000Base-T Fast Ethernet)
- Isolated GPIO** 8 x GPIO (Programmable ADC, DAC 12bit), isolated protection, 2000 V<sub>DC</sub>  
DI: logic 0: 0~1.5 V; logic 1: 3.5V~5V  
DO: logic 0: 0~0.4V; logic 1: 4~5V  
AI: 12 bit ADC (0~5V scale; Integral Nonlinearity error: 2 Bit Max)  
AO: 12 bit DAC (0~2.5V scale / 0~5V scale; Integral Nonlinearity error: 2 bit Max)
- USB Port** 1 x USB 3.0
- Display** 1 x HDMI, supports 1920 x 1080 @ 60Hz
- Power Connector** 1 x 2 Pins, Terminal Block

#### Software

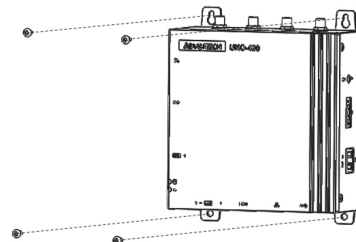
- OS Support** Advlinux/ WIN10 IoT Enterprise 2019 LTSC
- Application Software** WISE-PaaS/EdgeLink  
Max Connection: 4 for uplink protocols (MQTT x 4, Modbus x 4...etc.)  
Max Tag: 3000 Tags

#### Environment

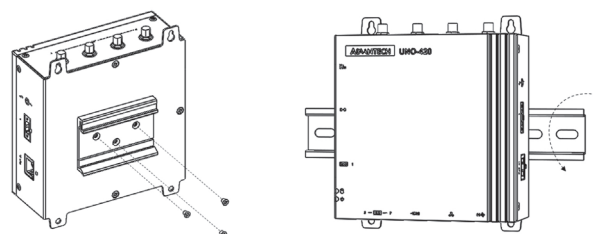
- Operating Temperature** -20 ~ 60°C (-4~140 °F) @ 5 ~ 85% RH with 0.7 m/s airflow
- Storage Temperature** -40 ~ 80°C (-40 ~ 180°F)
- Relative Humidity** 10 ~ 95% RH @ 40°C, non-condensing
- Shock Protection** Operating, IEC 60068-2-27, 50G, half sine, 11 ms
- Vibration Protection** Operating, IEC60068-2-6, 2 Grms, random, 5 ~ 500 Hz, 1hr/axis (M.2)

### Installation Scenario

#### Wall Mount Illustration

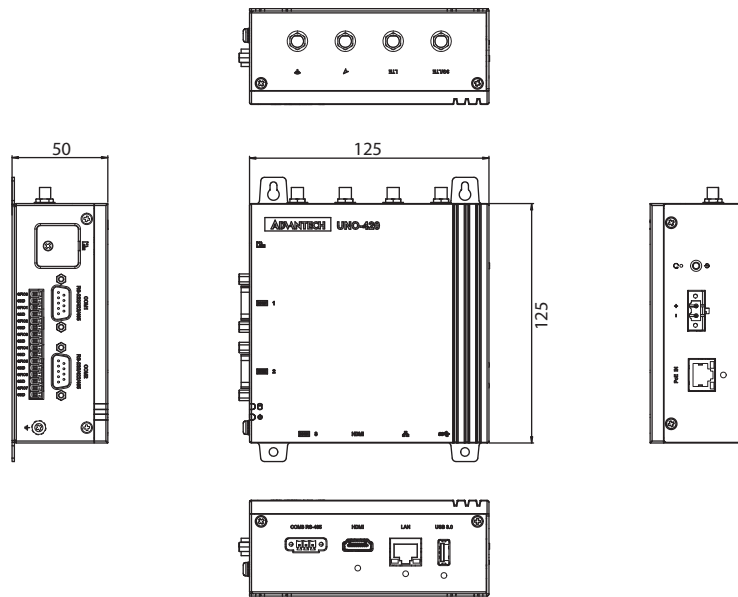


#### DIN-rail Mount Illustration (Optional)

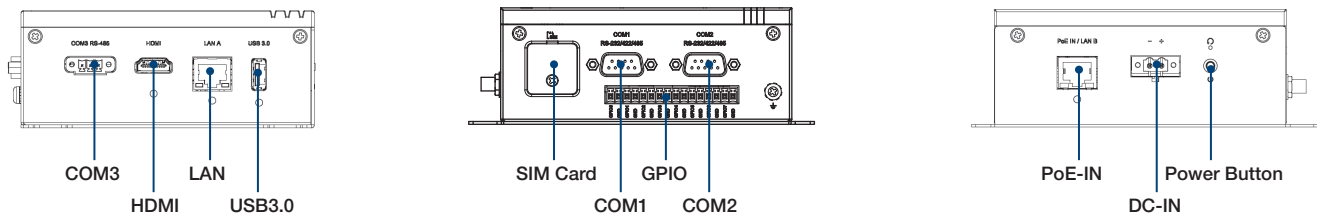


## Dimensions

Unit: mm



## Front I/O View



## Ordering Information

- **UNO-420-E0A** Intel Atom E3815 1.46 GHz, 4GB, 2 x LAN, 3 x COM, 8 x GPIO, 1 x HDMI, 1x USB3.0
- **ESRP-PCS-UNO420** UNO-420-E0A with Advlinux & EdgeLink

## Optional Accessories

- **UNO-400-DMKAE** UNO-4 series DIN rail Kit

### Wi-Fi Solution

- **EWM-W157H01E** Half size mPCIe 802.11 a/b/g/n/ac, RTL8821AE, with BT4.0
- **EWM-W135H01E** Half size mPCIe 802.11 a/b/g/n, AR9382, 2T2R, Half size Mini PCIe
- **1750002842** Antenna R-AN2450-5701RS R/P SMA.M10.9cm
- **1750009036-01** Cable Ant. SMA/F-R-BH MHF1/113 BLK L100mm

### LTE Solution

- **C-PCM-24S24G-420-1** MultiTech kit for UNO-420, LTE Cat. 4 for USA AT&T/Verizon
- **EWM-C117FL04E** LTE/HSPA+/GPRS module, w/ SIM Slot, TOBY-L210, for Europe, APAC, w/o voice function
- **EWM-C117FL06E** LTE/HSPA+/GPRS module, w/ SIM Slot, TOBY-L280H, for Taiwan, w/o voice function
- **EWM-C145FL01E** LTE/HSPA+/GPRS (WCDMA and CDMA) for China
- **1750008303-01** Antenna AN0727-64SP6BSM
- **1750009035-01** Cable Ant. SMA/F-BH MHF1/113 BLK L100mm

### LTE Solution for Japan

- **EWM-C117FL05E** LTE/HSPA+/GPRS module, w/ SIM Slot, TOBY-L210H-60S, for Japan Softbank, w/o voice function
- **EWM-C117FL07E** LTE/HSPA+/GPRS module, w/ SIM Slot, TOBY-L220H-62S, for Japan NTT DoCoMo, w/o voice function
- **1750007990-01** Antenna 4G/LTE full band
- **1750006264** Cable Ant. SMA(F)/MHF 15cm SMALFN8-3150A-00X00R

### GPS Solution

- **EWM-G109H01E** Advantech GPS module, u-blox NEO-M8N multi-GNSS (GPS, Beidou, GLONASS, Galileo, QZSS and SBAS)
- **1750006426** Antenna 2 dBi SMA-Male L=171.5mm AN8921F-92B01SM
- **1750006264** Antenna SMA(F)/MHF 15cm SMALFN8-3150A-00X00R

### Router

- **ICR-1601G** Industrial Cellular Router,GPS,EMEA,2x ETH,ACC
- **EKI-6333AC-A** IEEE 802.11 a/b/g/n/ac Wi-Fi AP

### Adapter & Power Cable

- **96PSA-A60W24T2** A/D 100-240V 60W 24V C14 CORD END TERMINAL
- **1702002600** Power Cable US Plug 1.8 M (Industrial Grade)
- **1702002605** Power Cable EU Plug 1.8 M (Industrial Grade)
- **1702031801** Power Cable UK Plug 1.8 M (Industrial Grade)
- **1700000596** Power Cable China/Australia Plug 1.8 M (Industrial Grade)

### Embedded OS

- **20703WX9ES0003** WIN 10 IoT Enterprise 2019 LTSC
- **20703LEB1S0055** Image AdvLinuxTu V2.0.3

Please note: If some optional modules are offered with the system, additional system certificates may be required in certain regions/countries. Please contact Advantech for certificate compliance.