

# 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



WISE-DeviceOn



### 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
- System is certified for compatibility with Ubuntu Core, WISE-DeviceOn, Edgelink and WISE IoT Edge
- 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) (SATA)  
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  
1 x USB 3.0  
1 x HDMI, supports 1920 x 1080 @ 60Hz  
1 x 2 Pins, Terminal Block
- USB Port**
- Display**
- Power Connector**

#### Software

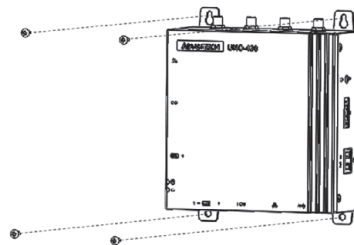
- Operating System** Windows10 LTSC, Ubuntu 20.04, Ubuntu Core 20
- Application Software** WISE-PaaS/EdgeLink  
Max Connection: 4 for uplink protocols (MQTT x 4, Modbus x 4...etc.)  
Max Tag: 3000 Tags

#### Environment

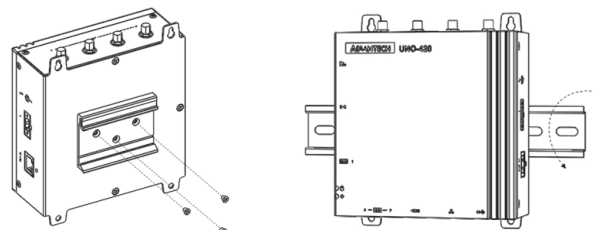
- Operating Temperature** -20 ~ 60°C (-4~140 °F) @ 5 ~ 85% RH with 0.7 m/s airflow
- Storage Temperature** -40 ~ 80°C (-40 ~ 180°F)
- Relative Humidity** 10 ~ 95% RH @ 40°C, non-condensing
- Shock Protection** Operating, IEC 60068-2-27, 50G, half sine, 11 ms
- Vibration Protection** Operating, IEC60068-2-6,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

### Installation Scenario

#### Wall Mount Illustration

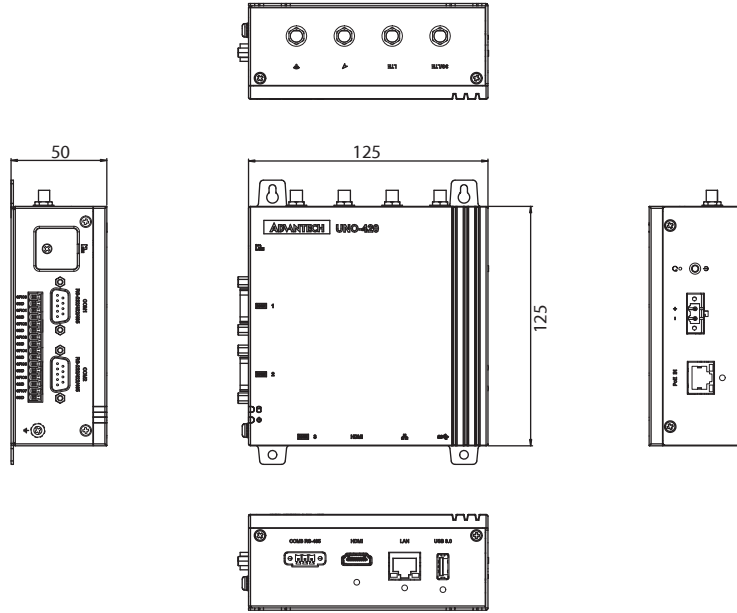


#### DIN-rail Mount Illustration (Optional)

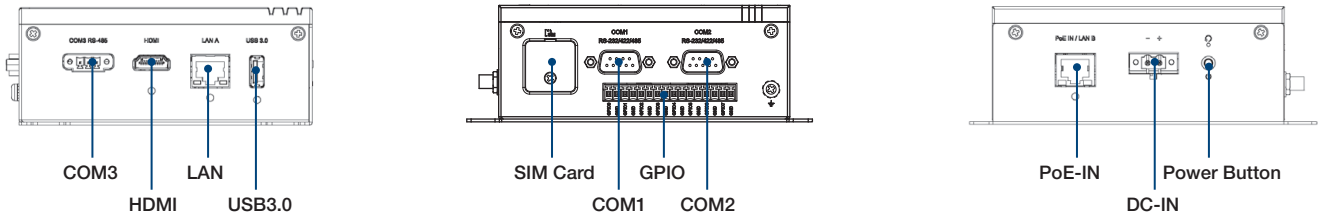


## Dimensions

Unit: mm



## Front I/O View



## Ordering Information

- **UNO-420-E0A** Intel Atom E3815 1.46 GHz, 2GB, 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-W193H01E** half size mPCIe module, 802.11 a/b/g/n/ac, Realtek, 2T2R, with BT4.2
- **1750002842** Antenna R-AN2450-5701RS R/P SMA.M10.9cm
- **1750009036-01** Cable Ant. SMA/F-R-BH MHF1/113 BLK L100mm

### LTE Solution

- **968AD00589** Quectel EG25G CAT4 LTE module
- **1750008303-01** Antenna AN0727-64SP6BSM
- **1750006264** Antenna cable SMA(F)/MHF 15cm

### LTE Solution for US

- **C-PCM-24S24G-420-1** MultiTech kit for UNO-420, LTE Cat. 4 for USA AT&T/Verizon

### 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-A60W24T2-3** 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 (Ubuntu 18.04)
- **20704U20DS0001** Image AdvLinuxTu V3.0.4 (Ubuntu 20.04)
- **20703U20CS0000** Ubuntu Core 20