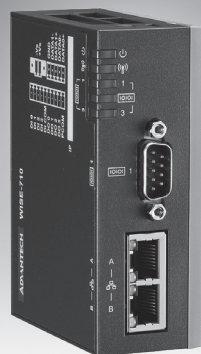


# WISE-710

## ARM Cortex™-A9 Industrial Gateway with 2 x LAN, 3 x COM Ports, 4 x DI/DO

**NEW**



### Features

- NXP® ARM® Cortex™-A9 i.MX6 processor
- 1 GB DDR3L RAM and 8 GB eMMC storage onboard
- 10/100/1000 Mbps Ethernet ports
- CANBus with programmable bit rate of up to 1 Mb/sec
- Embedded security chip for data security
- DIO wet contact & dry contact by switch support
- Isolated protection of digital input/output
- Optional mPCIe expansion slot for wireless modules
- Operating system Linux Ubuntu 16.04 (Default) and Yocto 2.1 support
- Wide operating temperature range (-20~55°C/-4~131°F)
- Advantech WISE-PaaS/Edgelinek support with more than 200 I/O drivers

### Introduction

The WISE-710 industrial IoT gateway is an open platform with Cortex A9 processor, equipped with 3 x serial ports, 2 x 10/100/1000 Ethernet ports, and 4 x DI/DO which is great solution to connect your legacy equipments to the new mesh networks. All collected data to the cloud is secured by key encryption technology from embedded security chip. With its rich I/O, and wide operating temperature design, the gateway plays a role as PLC-side protocol converter, and also data logger for multiple industrial applications.

### Specifications

#### General

- **Certification** CE, FCC
- **Mounting** Wall-Mount/ DIN-Rail
- **Power Consumption** 5W @ 24V<sub>DC</sub>
- **Power Requirements** 24V<sub>DC</sub> ± 20%, 0.5A
- **Dimension (W x H x D)** 115.58 x 73 x 36 mm (4.55 x 2.87 x 1.42 in)
- **OS Support** Linux Ubuntu 16.04 (Default) and Linux Yocto 2.1
- **Weight (Net)** 0.17 kg (0.375 lb)

#### System

- **CPU** NXP® ARM® Cortex™-A9 i.MX6 dual-core 1.0 GHz processor
- **Indicators** LEDs for Power, Wireless, LAN, Serial
- **Storage** 8GB eMMC
- **Working Memory** 1GB DDR3 RAM
- **SD Slot** 1 x Micro-SD slot
- **Real-time Clock** Yes

#### Communication

- **Serial Port**
  - COM1 1x RS232/485, DB9, 0.15~115.2kbps
  - COM2 1x RS485/CANBus (by switch), 2pin, 50~921.6kbps; CANBus, 20~1000k
  - COM3 1x RS485, 2pin, 0.15~115.2kbps
- **Ethernet Port** 2 x 10/100/1000 Base-T RJ-45 ports
- **USB Port** 1 x Micro USB Host (Support flash storage)
- **Isolated DI/DO** 4-ch digital input, 4-ch digital output, isolation protection voltage 2000 V<sub>DC</sub>
- **Expansion slot** 1x Full size mPCIe with USB signal

#### Gateway Software

- **Application Software** WISE-PaaS/Edgelinek
- **Number of IO Tag** 3000 Tags
- **Protocol Support** more than 200 drivers

#### Environment

- **Operating Temperature** -20 ~ 55 °C (-4 ~ 131 °F) with 0.7 m/s air flow
- **Storage Temperature** -40 ~ 75 °C (-40 ~ 167 °F)
- **Humidity** 10 ~ 95% RH @ 40 °C, non-condensing
- **Vibration During Operation** 2 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.
- **Shock During Operation** 10G, IEC 60068-2-27, half sine, 11 ms duration

### Ordering Information

- **WISE-710-N600A** Cortex™-A9 Processor, Linux Ubuntu 16.04, 2 x LAN, 3 x COM, 4 x Di/DO, 1 x mPCIe
- **ESRP-PCS-WISE710** WISE-710-N600A with Linux Yocto, EdgeLink 3000 Tags

### Expansion Kits

#### WISE-710-0010A

##### Analog Input

- **Channels** 4
- **Resolution** 16bits Bipolar; 15bits Unipolar
- **Sampling Rate** 10Hz (Total) with 50/60Hz Rejection
- **Accuracy** ±0.1% for Voltage Input; ±0.2% for Current Input
- **Input Range** 0~150mV, 0~500mV, 0~1V, 0~5V, 0~10V, ±150mV, ±500mV, ±1V±5V, ±10V, 0~20mA, ±20mA, 4~20mA
- **Input Impedance** >1MΩ (Voltage), 240 Ω (External resistor for current)
- **Support Data** Scaling and Averaging

##### Digital Input

- **Channels** 4 (Dry Contact)
- **Supports 200Hz Counter Input (32-bit + 1-bit overflow)**
- **Supports keep/discard counter value on power-off**
- **Support inverted digital input status**

#### WISE-710-0020A

##### Digital Input

- **Channels** 6 (Dry Contact)
- **Supports 3kHz Frequency Input**

##### Digital Output (Sink Type)

- **Channel** 2
- **Output Current** 100 mA, At 0 -> 1: 100 us, At 1 -> 0: 100 us (for Resistive Load)
- **Supports Pules Output 5 kHz**
- **Max. Load Voltage** 30V

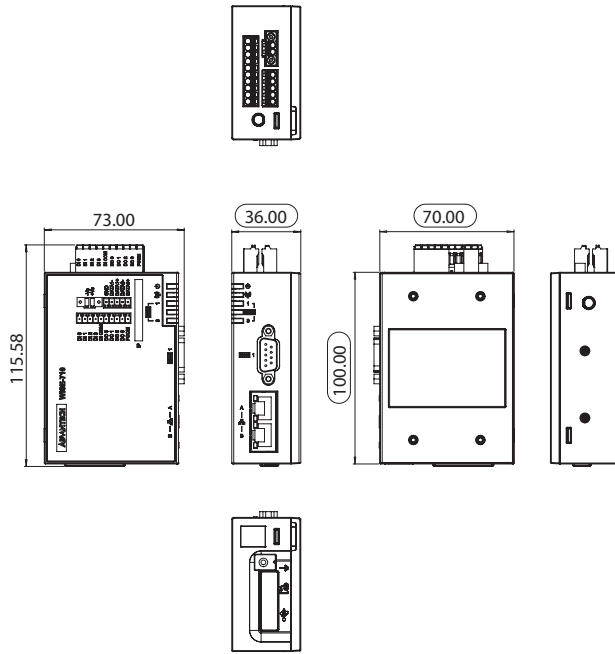
##### Serial Port

- **Port Number** 1
- **Type** RS-485
- **Data Bits** 7, 8
- **Stop Bits** 1, 2
- **Parity** None, Odd, Even
- **Baud Rate (bps)** 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
- **Protocol** Modbus/RTU (Total 32 addresses by 8 max. instructions)

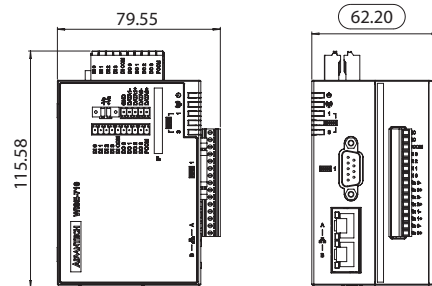
## Dimensions

Unit: mm

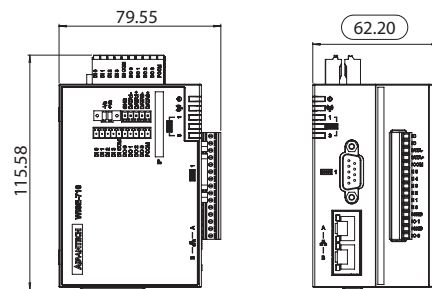
### WISE-710-N600A



### WISE-710-N600A + WISE-710-0010A



### WISE-710-N600A + WISE-710-0020A



## Optional Accessories

### WiFi Solution

- 968AD00605
- 9656EWMG00E
- 1750009036-01
- 1750008717-01

WiFi Module, 802.11 a/b/g/n (2.4&5GHz), BT5, 1T1R  
Half-size to Full-size Mini PCIe Bracket Pack  
Cable Ant. SMA/F-R-BH MHF1/113 BLK L100mm  
Support 5G Band, Dipole Ant. D.B 2.4/5G WIFI 3dBi SMA/M-R BLK

### LTE Solution

- 968AD00589
- 1750009067-01
- 1750009035-01

LTE Module, Global Band  
Dipole Ant. LTE 1.5/2dBi SMA/M BLK 144 (TELEC Certified)  
Cable Ant. SMA/F-BH MHF1/113 BLK L100mm

### Others

- 96FMMSDI-4G-ET-AT1
- 96FMMSDI-8G-ET-AT1

ATP 4G MICRO SD CARD I-GRD SLC(G)  
ATP 8G MICRO SD CARD I-GRD SLC(G)

### Power Supply

- 96PSD-A20W24-MM
- 1700029720-01
- 1700030520-01
- 1700031408-01

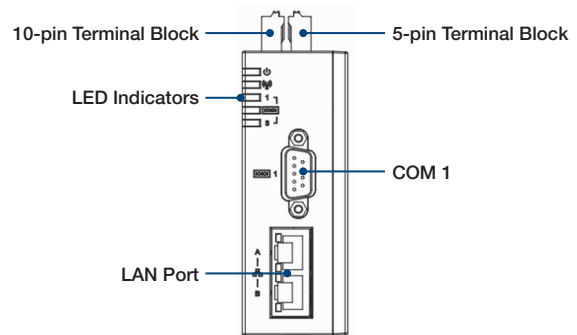
A/D 100-240V 20W 24V MDR DIN RAIL  
PSU power cord (USA), AC Conn., 3-pin, UL/CSA, 1.83M  
PSU power cord (CN), AC Conn., 3-pin, CCC, 1.5M  
PSU power cord (EU), AC Conn., 3-pin, 80CM (EU)

### Power Adaptor

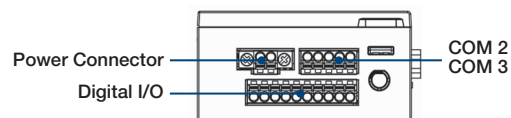
- XWISE-IPU15-108
- XWISE-AUPLUG
- XWISE-EUPLUG
- XWISE-UKPLUG

110-220V AC Adaptor, US AC Plug  
AU Type Plug for XWISE-IPU15-108  
EU Type Plug for XWISE-IPU15-108  
UK Type Plug for XWISE-IPU15-108

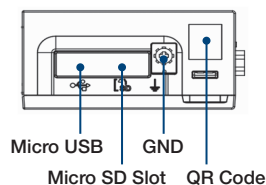
## Front I/O View



## Top I/O View



## Underside I/O View



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.