WISE-710

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

NEW

RoHS COMPLIANT 2002/95/EC CE FCC

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
- DIO wet contact & dry contact by switch support
- Isolated protection of digital input/output
- Optional mPCIe expansion solt 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/Edgelink 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. 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_{DC}
- **Power Requirements** — 24V_{DC} ± 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 , 18.04 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 (Max. 2GB)
- **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_{DC}
- **Expansion slot** — 1x Full size mPICe with USB signal

Gateway Software

- **Application Software** — WISE-PaaS/Edgelink
- **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, 1G RAM, 2 x LAN, 3 x COM, 4 x Di/DO, 1 x mPCIe
- **WISE-710-N600B** — Cortex™-A9 Processor, Linux Ubuntu 18.04, 2G RAM, 2 x LAN, 3 x COM, 4 x Di/DO, 1 x mPCIe
- **ESRP-PCS-WISE710** — WISE-710-N600A with Linux Yocto 2.1, EdgeLink

Expansion Kits

WISE-710-0010A

Analog Input

- **Channels** — 4
- **Resolution** — 16bits Bipolar; 15bits Unipolar
- **Sampling Rate** — 10Hz (Total) with50/60Hz 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)
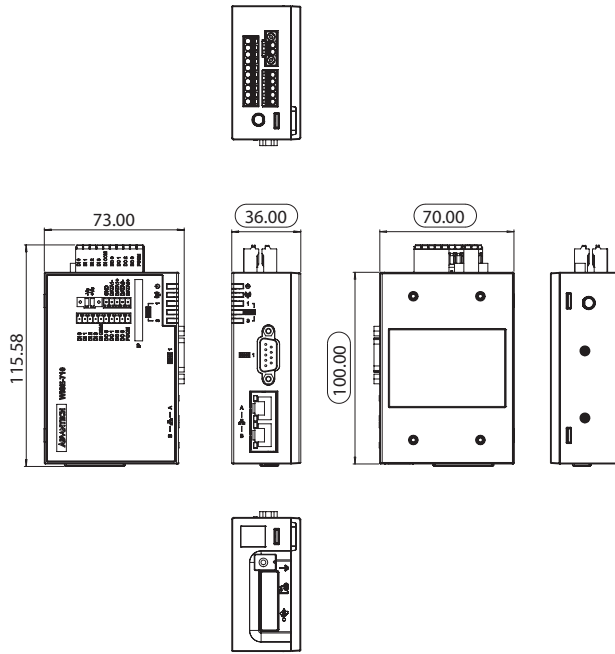- **Supports Pules Output 5 kHz**
- **Max. Load Voltage** — 30V

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
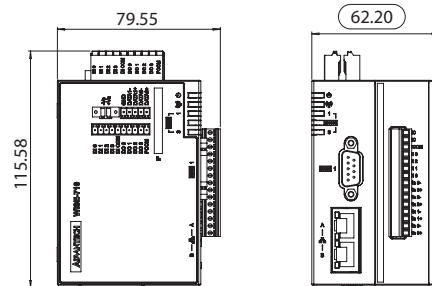- **Protocol** — Modbus/RTU (Total 32 addresses by 8 max. instructions)

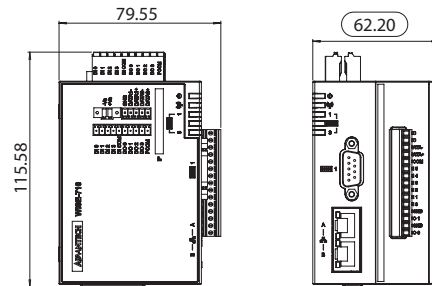**ADVANTECH** IoT Edge Gateway Solution

All product specifications are subject to change without notice. Last updated: 25-Aug-2022

Dimensions

Unit: mm

WISE-710-N600A

73.00
36.00
70.00
115.58
100.00

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

79.55
62.20
115.58

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

79.55
62.20
115.58

Optional Accessories

WiFi Solution

- **968AD00605** — WiFi Module, 802.11 a/b/g/n (2.4&5GHz), BT5, 1T1R
- **9656EWMG00E** — Half-size to Full-size Mini PCIe Bracket Pack
- **1750009036-01** — Cable Ant. SMA/F-R-BH MHF1/113 BLK L100mm
- **1750008717-01** — Dipole Ant. D.B 2.4/5G WIFI 3dBi SMA/M-RBLK for 968AD00605
- **96PD-RYWDB002A** — 968AD00605 Wifi Module with TELEC antenna and SMA cable for Japan region
- **EWM-W172H01E** — 802.11ac/a/b/g/n 2T2R Wi-fi + Bluetooth 4.2 Half, TELEC
- **1750008717-01** — Dipole Ant. D.B 2.4/5G WIFI 3dBi SMA/M-R BLK for EWM-W172H01E, TELEC

LTE Solution

- **968AD00589** — LTE Module, Global Band
- **1750009067-01** — Dipole Ant. LTE 1.5/2dBi SMA/M BLK 144
- **1750009035-01** — Cable Ant. SMA/F-BH MHF1/113 BLK L100mm

* Please contact regional distributor to purchase TELEC antenna locally.

Others

- **96FMMSDI-4G-ET-AT1** — ATP 4G MICRO SD CARD I-GRD SLC(G)
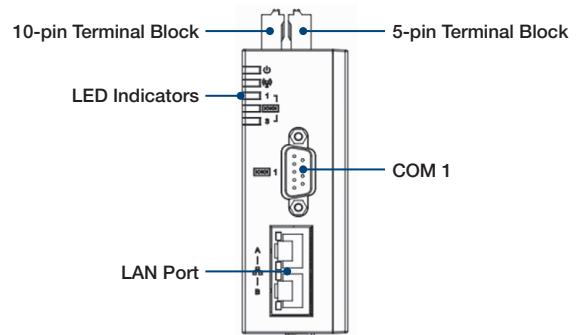- **96FMMSDI-8G-ET-AT1** — ATP 8G MICRO SD CARD I-GRD SLC(G)

Power Supply

- **96PSD-A20W24-MM** — A/D 100-240V 20W 24V MDR DIN RAIL
- **1700029720-01** — PSU power cord (USA), AC Conn., 3-pin, UL/CSA, 1.83M
- **1700030520-01** — PSU power cord (CN), AC Conn., 3-pin, CCC, 1.5M
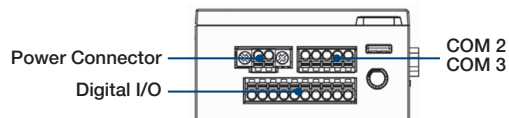- **1700031408-01** — PSU power cord (EU), AC Conn., 3-pin, 80CM (EU)

Power Adaptor

- **XWISE-IPU15-108** — 110-220V AC Adaptor, US AC Plug
- **XWISE-AUPLUG** — AU Type Plug for XWISE-IPU15-108
- **XWISE-EUPLUG** — EU Type Plug for XWISE-IPU15-108
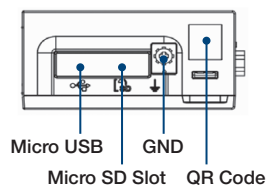- **XWISE-UKPLUG** — UK Type Plug for XWISE-IPU15-108

Front I/O View

10-pin Terminal Block
5-pin Terminal Block
LED Indicators
COM 1
LAN Port

Top I/O View

Power Connector
COM 2
COM 3
Digital I/O

Underside I/O View

Micro USB
GND
Micro SD Slot
QR Code

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.