AIC-550

The AIC-550 is multipurpose Industrial Computer with inbuilt M.2 SSD storage for data. It is based on quad core ARM Cortex-A55 64bit processor. The computer has 4G LTE/GPRS or 5G cellular modem and optional WiFi or Bluetooth.

This computer in addition to industrial use, due audio out it can be used as a media and video controller in vehicles and at bus stops, railway stations and as information kiosk controller. It also has a USB type-C port for debugging.

- General information
- Safety information

General information

Download technical specification	Technical Specification

Model Selection

Standard computer models that are in regular production. If you have requirements for a different configuration, then select a specific specification from the table "Table with model structure for ordering" in datasheet. In the standard model, the Computer has 4GB RAM, 64GB eMMC, 2 x RS485.

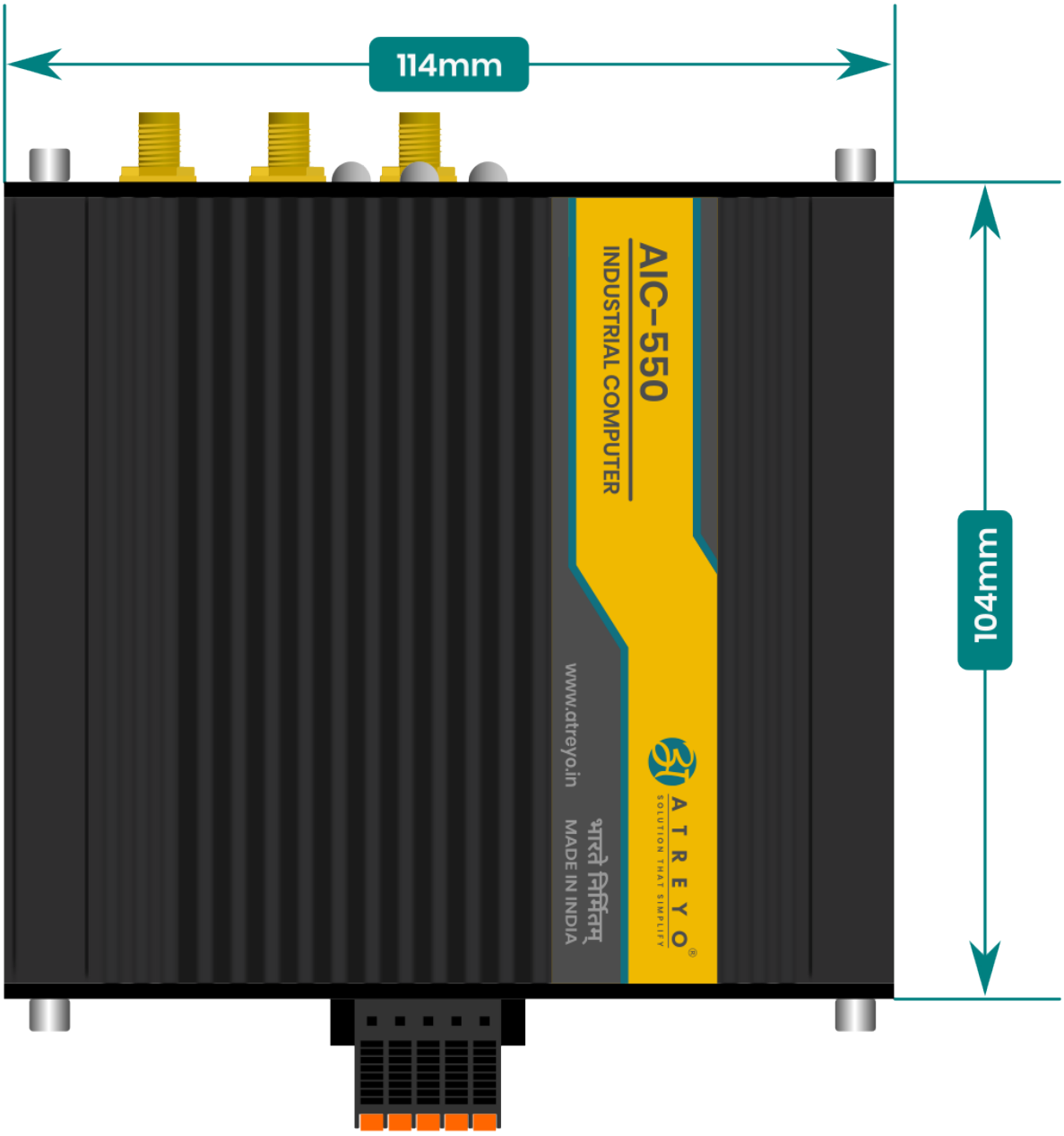
Model	Memory	RAM	Cellular Network					
	GB	GB	GPRS	3G	4G	5G	SSD	WiFi
AIC-550-64G-4G-R42-DEB	64	4						
AIC-550-64G-4G-LT-EU-R42-DEB	64	4	√		√			
AIC-550-64G-4G-IS-128-LT-EU-R42-DEB	64	4	√		√		128	
AIC-550-64G-4G-IS-128-LT-EU-WL4-R42-DEB	64	4	√	√	√		128	√
AIC-550-64G-4G-IS-128-LT-GL-WL4-R42-DEB	64	4	√	√	√		128	√

Hardware

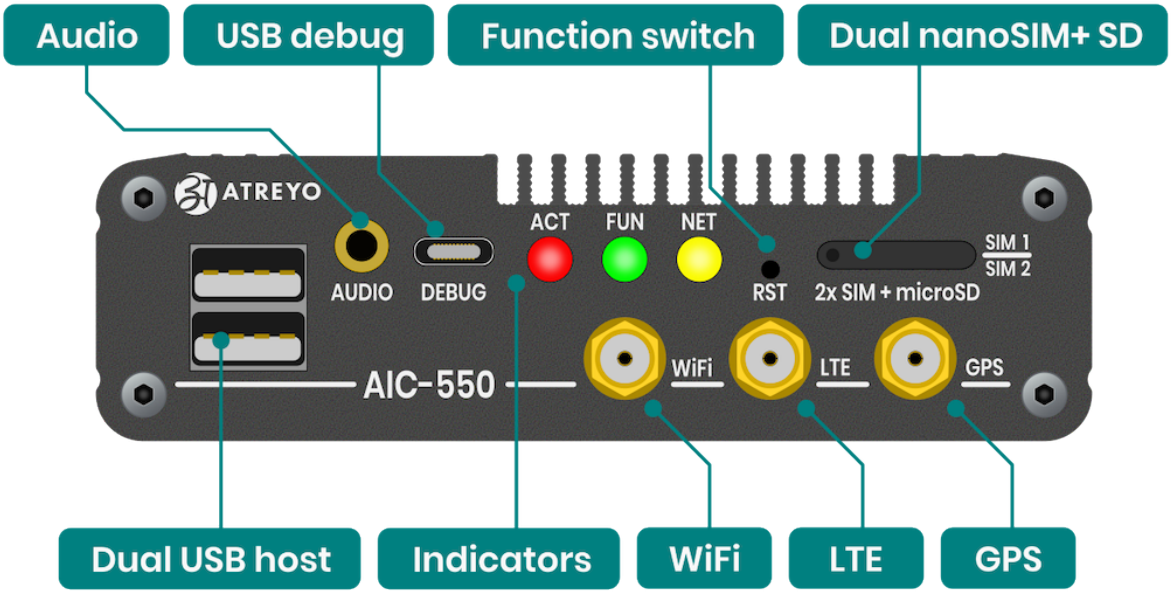
The Computer is made on one PCB, which is fitted to the aluminum housing. The housing is made of a thick, strong aluminum profile with two end plates also made from aluminum. The surface of the housing is finished by anodizing.

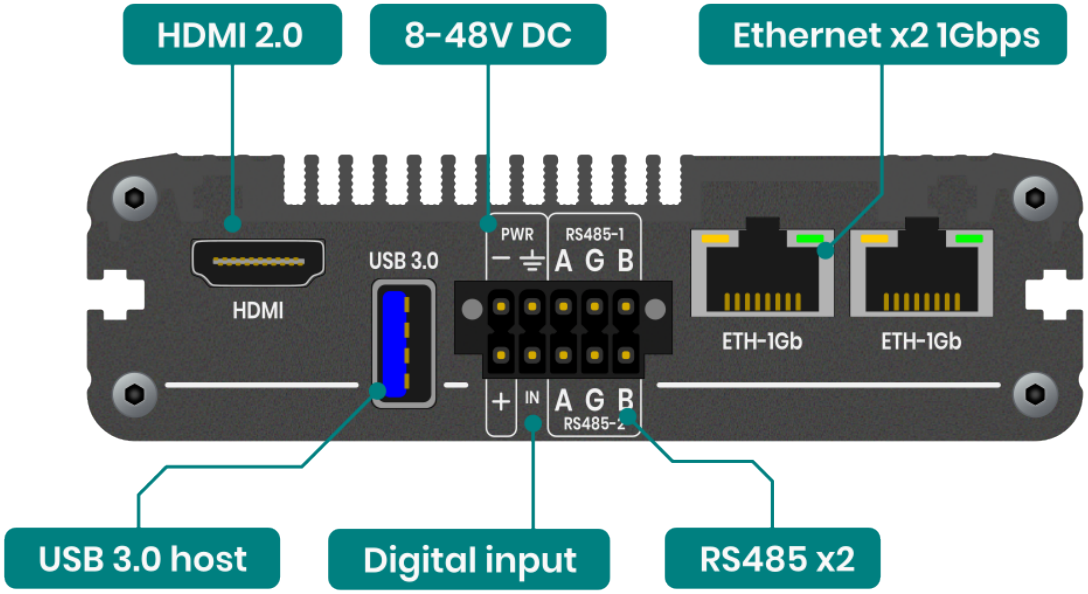
At the side of the housing there are slots through which DIN rail clamp or any other clamp can be mounted.

Top view


114mm
104mm
AIC-550
INDUSTRIAL COMPUTER
ATREYO
SOLUTION THAT SIMPLIFY
www.atreyo.in
भारते निर्मितम्
MADE IN INDIA

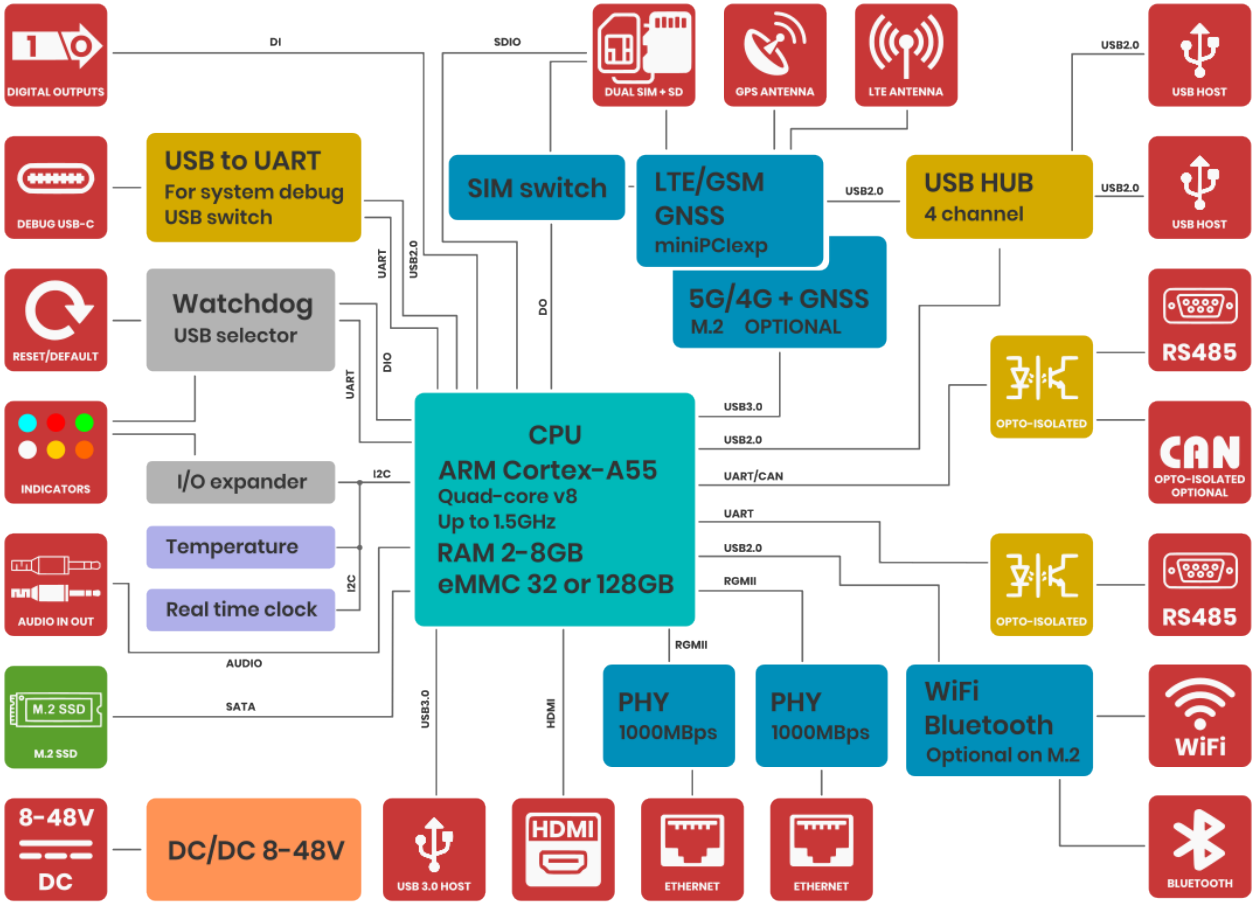
Side view





Block Diagram

For a better understanding of the operation of the computer, refer to the posted block diagram. Non-essential components have been omitted. Developers who program peripherals such as GPIOs, serial etc. will find information about them in the sections dedicated to such peripherals.


DIGITAL OUTPUTS
DI
SDIO
DUAL SIM + SD
GPS ANTENNA
LTE ANTENNA
USB2.0
USB HOST
DEBUG USB-C
USB to UART
For system debug
USB switch
SIM switch
LTE/GSM
GNSS
miniPCIexp
USB2.0
USB HUB
4 channel
USB2.0
USB HOST
UART
USB2.0
DO
5G/4G + GNSS
M.2 OPTIONAL
RESET/DEFAULT
Watchdog
USB selector
RS485
UART
DIO
OPTO-ISOLATED
USB3.0
INDICATORS
CPU
ARM Cortex-A55
Quad-core v8
Up to 1.5GHz
RAM 2-8GB
eMMC 32 or 128GB
USB2.0
CAN
OPTO-ISOLATED
OPTIONAL
I/O expander
I2C
UART/CAN
UART
Temperature
USB2.0
OPTO-ISOLATED
RS485
AUDIO IN OUT
I2C
Real time clock
RGMII
AUDIO
RGMII
M.2 SSD
SATA
USB3.0
HDMI
PHY
1000MBps
PHY
1000MBps
WiFi
Bluetooth
Optional on M.2
WiFi
M.2 SSD
8-48V
DC
DC/DC 8-48V
USB 3.0 HOST
HDMI
ETHERNET
ETHERNET
BLUETOOTH

Safety information

Operating environment

- The device is designed to be installed in clean, dust-free and insect-free places
- Operating temperature: -25 ~ 75°C (-13 ~ 167°F).
- Humidity range is 10% to 95% (non-condensing). Use the device in a dry environment.
- Away from heat sources and direct sunlight.
- It must not be exposed to acid fumes, salts and other chemicals.
- The device must not be used in places where there is a risk of gas explosion.

> Use in inappropriate conditions may damage the device or shorten its life.

Electrical and power supply safety

- The device is powered with a voltage in the range of 8-57V. Voltage up to 24V is considered safe. Be especially careful when supplying them with higher voltages.
- Use only approved accessories
- Use the supplied power adapter or a good quality certified power adapter with the correct supply voltage range and sufficient power.
- Only use approved accessories like antenna etc.

> Only a person with qualification and appropriate knowledge should install the device.

Malfunctioning and damaged device

- Do not disassemble the device.
- Only qualified personnel must service or repair the device or its accessories.
- If water or other liquid has got into the device, or if it looks mechanically damaged, do not connect the device, but take it to an authorized service center.

Radio frequency exposure

This device has been designed and manufactured not to exceed radio frequency energy emission limits set by regulatory agencies. To comply with RF exposure guidelines, the device must be used at least 20 cm away from a person's body. Failure to follow these instructions may result in exceeding the applicable RF exposure limits. This only applies to models with a built-in LTE modem.

What to do and what not to do

- You are solely responsible for the use of the device and any consequences of its use.
- Do not store or use the device in harsh environments such as dust, gases, oils, chemical vapors and damp places.
- Do not throw the device and its accessories. Handle with care.
- The device heats up during operation. Ensure proper ventilation.
- If you need to dispose of your device, check your local regulations for recycling and disposal of electronics.
- Route power, Ethernet, and antenna cables properly so that they cannot be accidentally pulled out.
- The device should be used and kept away from small children.