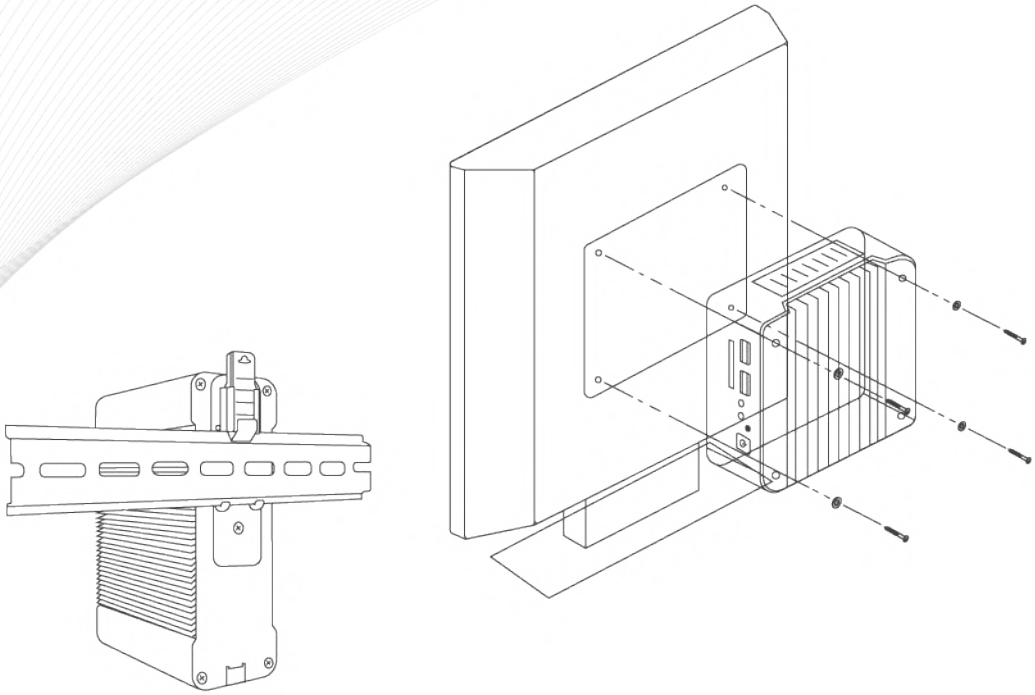
DMP



Smart System Integration Solution with Hundreds of Possibilities

-20°C ↕ +70°C
Working Temp

Green

Fanless

OEM ODM
Service

Budget

15yr+
Long Life Cycle

DMP Embedded x86 SoC

intel

NXP

Windows

android

Linux

The Processors

Braswell is the multicore system-on-a-chip based on Intel's latest microarchitecture and 14nm process technology. It's built for designs that target entry-level 2-in-1 devices, laptops, desktops, and all-in-one PCs.

Apollo Lake is the multicore system-on-a-chip which empowers real-time computing in digital surveillance, new in-vehicle experiences, advancements in industrial and office automation, new solutions for retail, medical, and more. Utilizing Intel's industry-leading 14nm process technology.

Code Name	Braswell	Braswell	Braswell	Apollo Lake	Apollo Lake	Apollo Lake
Processor Number	N3710	N3160	X5-8000	N4200	J3455	N3350
Product Collection	Pentium	Celeron	Atom	Pentium	Celeron	Celeron
Clock Speed	1.6GHz	1.6GHz	1.04GHz	1.10GHz	1.5GHz	1.10GHz
Burst Speed	2.56GHz	2.24GHz	2.0GHz	2.50GHz	2.3GHz	2.4GHz
# of Cores	4	4	4	4	4	2
OS Support	Windows 10, Windows 10 IoT, Linux					
Passmark Score	1864	1666	1568	2035	2108	879

i.MX8M Mini is NXP's first embedded multicore application processor built using advanced 14LPC FinFET process technology, providing more speed and improved power efficiency. Backed by NXP's product longevity program, the I.MX8M Mini family can be used in any general purpose industrial and IoT applications.

Code Name	NXP I.Mx8M Mini	
Core	Cortex-A53 1.6GHz	
# of Cores	4	
GPU	GCNono Ultra for 3D, GC320 for 2D	
VPU	Decode 1080p60, H.265, H.264/Encode 1080p60, H.264	
RAM, LPDDR4	1GB/2GB/4GB	
eMMC	8 ~ 64GB, SLC/MLC	
OS Support	Yocto Linux, Android	
Working Trmperature	0~60°C	-40~+80°C

Vortex86DX3 is a 32-bit x86-architecture dual-core microprocessor with the compatibility of Windows based, Linux and most popular 32-bit RTOS. It also integrates 64-Kbyte 8-way L1 cache, 512-Kbyte write through/write back 4-way L2 cache, PCIe bus at 2.5 GHz, DDR3, ROM controller, ISA, I2C, SPI, IPC (Internal Peripheral Controllers with DMA and interrupt timer/counter included), Fast Ethernet, FIFO UART, USB2.0 Host and IDE/SATA controller within a single 720-pin BGA package to form a system-on-a-chip (SOC). It provides an ideal solution for embedded system and communications products such as thin client, NAT router, home gateway, access point and tablet PC to bring about desired performance.

Code Name	Vortex86	
Processor Number	Vortex86DX3	
Clock Speed	1.0GHz	
# of Cores	2	
GPU	Yes	
OS Support	Windows 7, WES7, Win XP, Xpe, CE7, Linux, VxWorks, QNX, RTOS-32	
Performance/DIMPS		
Working Temperature	0~60°C	-20~+70°C

OS Support List

Braswell E8000/N3160	Win 10 Win 10 IoT	Win 7 WES7	Ubuntu 16.04~23.10	Debian 9~12	MX Linux		Manjaro Xfce		Linux Mint 20.2~21.2	OpenSUSE 15.3	Fedora 35~39	TinyCore 9.0~12.0	Android -x86	QNX 6.5
					21	23.1	21.1	23.04						
UEFI BIOS	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	X
Legacy BIOS	X	✓	✓	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓

NXP I.MX8M Mini	Android 10	Android 9	Yocto 4.0 (Kirkstone)	Yocto 3.3 (Hardknott)	Yocto 3.0 (Zeus)	Yocto 2.5 (Sumo)
EBOX-IMX8MM	✓	✓	✓	✓	✓	✓

Windows platform	Braswell E8000/N3160	Apollo Lake N3350/J3455	EBOX-336x EBOX-335xDX3 DIN PC-336x	EBOX-3350EX EBOX-3100-VGA	EBOX-3310MX
Windows 10	✓	✓	X	X	X
Windows 10 IoT	✓	✓	X	X	X
Windows 7	✓	X	✓	X	X
WES7	✓	X	✓	X	X
Windows XP	X	X	✓	✓	✓
WES2009	X	X	✓	✓	✓
CE 6.0	X	X	✓	✓	✓
Compact 7	X	X	✓	✓	✓

Linux platform	Default Kernel	EBOX-3100	EBOX-336x EBOX-335xDX3 DIN PC-336x	EBOX-3350EX EBOX-3100-VGA	EBOX-3310MX
Gentoo_4.2	3.1	⊗	●	N/A	N/A
Ubuntu 12.04	3.2.0	⊗	● Non PAE Image only	● Non PAE Image only	⊗
Ubuntu 10.04	2.6.32	⊗	●	●	●
Ubuntu 9.04	2.6.28-11	⊗	●	⊗/●	●
Lubuntu 18.04	4.15.18	⊗	●	●	N/A
Lubuntu 16.04	4.4	⊗	●	●	N/A
Debian 12 Xfce	6.1	⊗	●	⊗	N/A
Debian 11 Xfce	5.1	⊗	●	⊗	N/A
Debian 10	4.19	⊗	◎	⊗	N/A
Debian 9	4.9	⊗	◎	⊗	N/A
OpenSUSE 13.1	13.11.6-4	⊗	●	⊗	N/A
Fedora 18	3.6.10-4	⊗	●	⊗	⊗
Fedora 17	3.3.4-5	⊗	●	⊗	⊗
CentOS 5.5	2.6.16	⊗	○	N/A	○
TinyCore 12.0~9.0	5.10.3-4.14.10	⊗	●	●	●
OpenBSD 7.2		N/A	●	N/A	NA
QNX 6.5		⊗	●	●	●

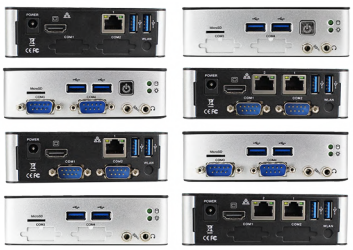
○ System needs to be transplanted from standard platform.
● The distribution can be installed from EBOX directly.
◎ BIOS required Standard IDE Compatible enabled.
⊗ Not compatible.

EBOX Braswell Intro

EB-58 Series industrial fanless PC integrates an Intel® Braswell E8000 or N3160 series processor. Memory up to 8GB DDR3L, Dual Giga LAN ports, RS-232 ports etc. Suitable platform for IoT, M2M, Industry 4.0, Home Automation Security, Point-of-sales, Public transportation and many more.

It can handle multiple tasks and applications with ease. It also features a range of connectivity options. It provide stunning graphics performance in a low-thermal envelope for superior visual computing in edge devices. From digital signs and gaming kiosks to handheld tablets in retail, clinical, and factory settings, delivering a top-quality user experience is essential to the success of new IoT usage models.

EB-58 Series



Features:
AMI UEFI BIOS (Legacy mode switchable)
M.2 2230 E Key support
Dual GLAN, Dual RS-232/485
Auto Power On/PXE Diskless Boot
Fanless design/DIN Rail support
100 x 100mm VESA support

Operating Temp.: 0~60°C
Dimensions: 115 x 115 x 35mm

Model Types	CPU	RAM	Storage	I/O	
EB-58E w/o COM	Intel® Atom x5-E8000 Quad-core 1.04GHz	4GB 8GB	SATA DOM* Micro SD	4U/HDMI Mic-in/Line-out/M.2	1GLAN
EB-58E w/o COM, w/Dual GLAN					2GLAN
EB-58E w/Dual RS-232/485			SATA DOM Micro SD	2S/4U/HDMI Mic-in/Line-out/M.2	1GLAN
EB-58E w/Dual RS-232/485, Dual GLAN					2GLAN
EB-58N w/o COM	Intel® Celeron N3160 Quad-core 1.6GHz	4GB 8GB	SATA DOM* Micro SD	4U/HDMI Mic-in/Line-out/M.2	1GLAN
EB-58N w/o COM, w/Dual GLAN					2GLAN
EB-58N w/Dual RS-232/485			SATA DOM Micro SD	2S/4U/HDMI Mic-in/Line-out/M.2	1GLAN
EB-58N w/Dual RS-232/485, Dual GLAN					2GLAN

S=RS-232/485; U=USB; GLAN=Giga Lan; *=2.5" SATA HDD/SSD

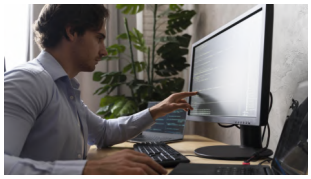
Target Applications

Internet of Things

Environmental Monitoring
Inventory management
Data collection system
Building automation
Agriculture IoT

Access control

Bio-metric access control
Database access control
Remote desktop control
Residential Security
Network access



Stand-alone PCs

General Productivity
Financial Management
Networking and Server
Data Analysis
Thin clients

Interact signage

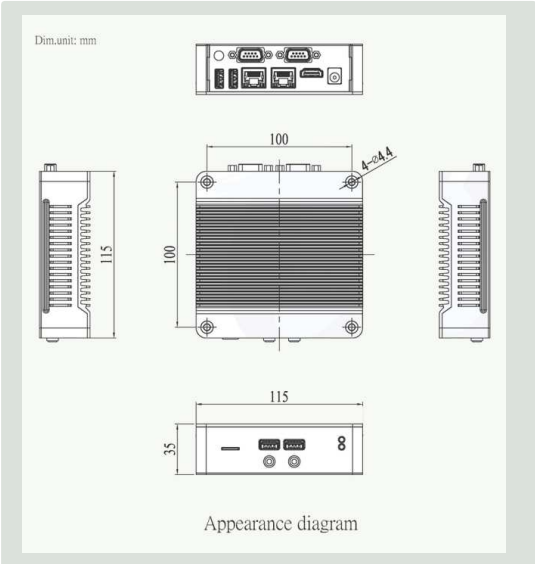
Library signage system
Maps and virtual tours
Digital menu boards
Touchscreen menu
Museum exhibits

Legacy to Modern! Compatible with multiple OSs
DOS, Win7, Win10, Win11, Linux, QNX, VxWorks, and Android-x86
with UEFI and Legacy BIOS support.
It can also function as a Micro Server, SQL Server, Web Server, and IoT Server

- IO ports
  - RS-232 x4
  - RS-232 x2 — RS-485 x2
  - RS-232 x2
  - HDMI
  - Audio out & Mic in
  - LAN x1 or LAN x2
  - USB 3.0 x4
  - M.2 E Key Socket — WiFi/BT module
  - Storages
    - 2.5" SATA HDD
    - 2.5" SATA SSD
    - SATA Slim DOM
    - Micro SD
- Others
  - TPM 2.0
  - +8V~+26V DC in
  - Auto Power On
  - PXE diskless boot
  - VESA 100x100mm
  - DIN Rail

EB-58 Series

- UEFI BIOS
  - Windows OS
    - Win 10
    - Win 10 IoT
    - Win 11
  - Linux OS
    - Ubuntu
      - ver. 23.10
      - ver. 22.04
      - ver. 21.04
      - ver. 20.04
      - ver. 18.04
      - ver. 16.04
    - Debian
      - ver. 11
      - ver. 10
      - ver. 9
    - MX Linux 23.1
    - MX Linux 21
    - Manjaro Xfce 23.04
    - Manjaro Xfce 21.1
    - Linux Mint 21.2
    - Linux Mint 20.2
    - OpenSUSE 15.3
    - Fedora 39
    - Fedora 35
  - Android-x86
- Legacy BIOS
  - Windows OS
    - Win 7
    - WES7
  - Linux OS
    - Ubuntu
      - ver. 23.10
      - ver. 22.04
      - ver. 21.04
      - ver. 20.04
      - ver. 18.04
      - ver. 16.04
    - Debian
      - ver. 11
      - ver. 10
      - ver. 9
    - TinyCore
      - ver. 12.0
      - ver. 11.1
      - ver. 10.1
      - ver. 9.0
    - MX Linux 23.1
    - Manjaro Xfce 23.04
    - Linux Mint 21.2
    - Linux Mint 20.2
    - OpenSUSE 15.3
    - Fedora 39
    - Fedora 35
  - QNX 6.5
  - Android-x86



Appearance diagram

EBOX Apollo Lake Intro

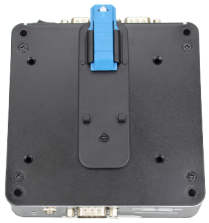
Fanless PC equipped with Intel® Apollo Lake N3350 Dual-core or J3455 Quad-core processors. With memory support up to 8GB DDR3L, this compact pc offers a wide array of features, including Multi-Display outputs, Multi-COM, and Dual GLAN connectivity.

Its real-time computing capabilities enable seamless performance in fields such as digital surveillance, advancements in industrial and office automation, energy-efficient solutions for retail and medical sectors, It's an ideal platform for IoT, M2M communication, Industry 4.0, Home Automation Security, Point-of-Sale systems, and Public Transportation management, and much more.

EBOX-AL Series

Features:
Multi-Display outputs, Dual GLAN
RS-232/485/422 switchable
Full size/Half size mPCIe
Fanless design/DIN Rail support
100 x 100mm VESA support

Operating Temp.: 0~60°C/-20~+60°C
Dimensions: 115 x 115 x 48.5mm



Model Types	CPU	RAM	Storage	I/O	
EBOX-ALN3350 w/COM	Intel® Apollo Lake N3350 Dual-core 1.1GHz	4GB 8GB	mSATA SATA DOM	4U/2GLAN/2HDMI Audio/mPCIe/SIM	VGA
EBOX-ALN3350 w/8-bit GPIO					
EBOX-ALN3350 w/COM + 8-bit GPIO					No VGA
EBOX-ALJ3455 w/COM	Intel® Apollo Lake J3455 Quad-core 1.5GHz	4GB 8GB	mSATA SATA DOM	4U/2GLAN/2HDMI Audio/mPCIe/SIM	VGA
EBOX-ALJ3455 w/8-bit GPIO					
EBOX-ALJ3455 w/COM + 8-bit GPIO					No VGA

U=USB; GLAN=Giga Lan; SIM=SIM Card slot

Target Applications

Data acquisition

Educational workstation
Bicycle rental system
Attendance system
Transit payment
Database sever

Smart City

Smart transportation
Waste management
Water management
Smart parking
Smart lighting

Healthcare automation

Patient data management
Surgeon console system
Appointment scheduling
Medicine dispensers
Dialysis equipment

Digital signage

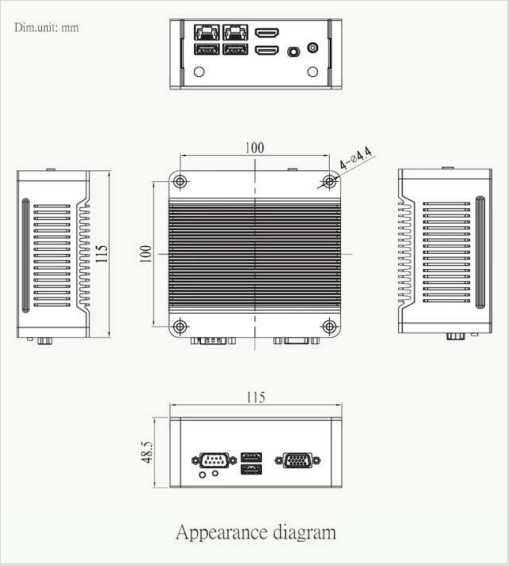
Product demonstrations
Live travel information
Display advertising
Transport schedule
Emergency alerts

Embedded with an Intel® Apollo Lake N3350 Dual-core or J3455 Quad-core CPU. Support multiple OSs includes Win10, Win10 IoT, Win11, Linux, and Android-x86. Suitable for IoT, M2M, Industry 4.0, Home Automation Security, Point-of-sales, Public transportation and many more.

- IO ports
  - Switchable RS-232/485/422 x1
  - 8-GPIO x1
  - HDMI x2
  - VGA x1
  - Mic in + Line out
  - GLAN x2
  - USB 3.0 x4; USB 2.0 x2 (pin type)
  - WiFi/BT module — Half-size Mini PCIe x1
  - Storages
    - IMSATA DOM
    - SATA DOM
- Others
  - SIM Card slot x1
  - 0~60°C/-20~+60°C (Optional)
  - +8V~+26V DC in
  - Auto Power On
  - VESA 100x100mm
  - DIN Rail

EBOX-AL Series

- UEFI BIOS
  - Windows OS
    - Win 10
    - Win 10 IoT
    - Win 11
  - Linux OS
    - Ubuntu
      - ver. 20.04
      - ver. 18.04
      - ver. 16.04
    - Debian
      - ver. 11
      - ver. 10
      - ver. 9
    - MX Linux 21
    - Manjaro Xfce 21.1.6
    - Linux Mint 20.2
    - OpenSUSE 15.3
    - Fedora 35
  - Android-x86



Appearance diagram

EBOX-IMX8MM Intro

EBOX-IMX8MM Series is a small form factor fanless embedded PC based on NXP i.MX8M Mini ARM Cortex-A53 processor. 1GB to 4GB LPDDR4 RAM, eMMC from 8GB to 64GB, WiFi/BT onboard, Rich I/O RS-232/RS-485 x2 ports, console x1 port, Dual Giga LAN, VESA mount, DIN Rail, Wide Temperature range -40~+80℃ and Auto Power On support. OS support Android 10, Android 9, Yocto 3.0 (Zeus), Yocto 2.5 (Sumo) and Mainline Linux kernel etc.

It offers high performance with low power consumption, flexible options for memory and high-speed interfaces, as well as industry-leading audio and video capabilities. It can be used in any general purpose industrial and IoT applications.

EBOX-IMX8MM Series

Features:
2GB/4GB LPDDR4, 16GB/64GB eMMC onboard
2GLAN, Dual RS-232/485
Auto Power On support
Fanless design/DIN Rail support
100 x 100mm VESA support

Operating Temp.: 0~60°C/-40~+80°C
Dimensions: 115 x 115 x 35mm

Model Types	CPU	RAM	Storage	I/O
EBOX-IMX8MM w/Dual RS-232/485	NXP i.MX8M Mini Quad-code 1.6GHz	2GB 4GB	eMMC Micro SD	2S/3U/GLAN/HDMI/CON Mic-in/Line-out/mPCIe
EBOX-IMX8MM w/Dual RS-232/485, WiFi & BT				
EBOX-IMX8MM w/Dual RS-232/485, Dual GLAN				2S/3U/2GLAN/HDMI/CON Mic-in/Line-out/mPCIe
EBOX-IMX8MM w/Dual RS-232/485, Dual GLAN, WiFi & BT				
EBOX-IMX8MM w/Wide Temp.				Available for all model types

S=RS-232/485; U=USB; GLAN=Giga Lan; CON=Console

Target Applications

Video Surveillance

Tsunami warning system
Fire alarm system
Monitoring system
Security system
Access control

Smart Home

Smart Curtains System
Security automation
Lighting automation
Remotely control
Climate control

Self-Service Kiosk

Self ordering machines
Kitchen display system
Check-in system
Payment system
POS system

Entertainment system

Gambling system
Interactive Gym
Music streamer
Gaming Kiosks
Jukebox

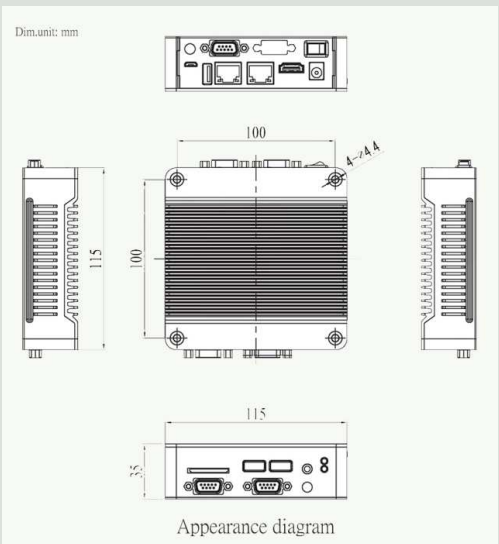
The i.MX8M Mini is NXP’s first embedded multi-core applications processor brings high-performance computing, power efficiency, enhanced system reliability and embedded security needed to drive the growth of fast-growing edge computing, streaming multimedia, and machine learning applications.

- IO ports
  - RS-232 x2
  - RS-485 x2
  - HDMI x1
  - Console x1
  - Audio out & Mic in
  - GLAN x2
  - Mini PCIe x1
  - USB 2.0 x3
  - Storages
    - eMMC 8GB~64GB onboard
    - Micro SD card
    - Micro USB
- Others
  - WiFi/BT
  - +12V~+36V DC in
  - Auto Power On
  - VESA 100x100mm
  - DIN Rail

EBOX-IMX8MM Series

EBOX-IMX8MM unboxing

- Android
  - Android 9 boot up
  - Android 9 restoration & HDMI audio setting (Win PC)
  - Android 9 restoration & HDMI audio setting (Linux PC)
  - Android 10 boot up
  - Android 10 restoration & HDMI audio apk installation & setting (Win PC)
  - Android 10 restoration & HDMI audio apk installation & setting (Win PC)
- yocto PROJECT
  - Yocto installation guide (Win PC)
  - Yocto installation guide (Linux PC)
  - Yocto 2.5 (Sumo) boot up
  - Yocto 3.0 (Zeus) boot up
  - Yocto 3.3 (Hardknott) boot up



Appearance diagram

EBOX-335xDX3 Series

Features:
Dual-core SoC onboard
GLAN, Internal SD slot (optional)
Auto Power On/PXE Diskless Boot
Fanless design/DIN Rail support
75 x 75mm VESA support
10 years life cycle

Operating Temp.: 0~60°C/-20~+70°C
Dimensions: 95 x 95 x 20mm/95 x 95 x 35mm

Model Types	CPU	RAM	Storage	I/O
EBOX-335xDX3	Vortex86DX3 Dual-core 1GHz	1GB 2GB	SD	2S/3U/LAN/VGA/ Mic-in/Line-out
EBOX-335xDX3 w/Wide Temp.				
EBOX-335xDX3 w/1G LAN				2S/3U/GLAN/VGA/ Mic-in/Line-out
EBOX-335xDX3 w/1G LAN & Wide Temp.				
EBOX-335xDX3-RCA			SATA DOM/Micro SD eMMC (optional)	3U/LAN/HDMI/VGA/Mic-in/Line-out mPCIe/RCA jack

DIN PC-336x Series

Features:
Dual-core SoC All-in-One Module
GLAN, RS-232/485/422/GPIO
Auto Power On/PXE Diskless Boot
Fanless design/DIN Rail support
10 years life cycle

Operating Temp.: 0~60°C/-20~+70°C
Dimensions: 151.7 x 103 x 53.3mm

Model Types	CPU	RAM	Storage	I/O
DIN PC-336x w/RS-232	Vortex86DX3 Dual-core 1GHz	1GB 2GB	SATA DOM* SD (Internal)	4S/2U/GLAN/LAN/VGA
DIN PC-336x w/RS-485				
DIN PC-336x w/RS-422				
DIN PC-336x w/8-bit GPIO x2				2S/2U/GLAN/LAN/VGA/16GPIO
DIN PC-336x w/Mic-in & Line-out				Available for all model types

S=RS-232/485/422; U=USB; GLAN=Giga Lan; *=2.5" SATA HDD/SSD

EBOX-336x Standard Series

Features:
Dual-core SoC All-in-One Module
Multiple RS-232/485/422/GPIO/CANbus
Auto Power On/PXE Diskless Boot
Fanless design/DIN Rail support
100 x 100mm VESA support
10 years life cycle

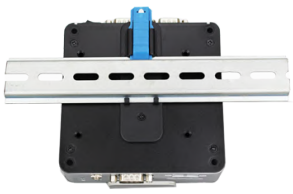
Operating Temp.: 0~60°C/-20~+70°C
Dimensions: 115 x 115 x 35mm

Model Types	CPU	RAM	Storage	I/O
EBOX-336x w/HDMI	Vortex86DX3 Dual-core 1GHz	1GB 2GB	SATA DOM* SD/mPCIe	4S/3U/GLAN/LAN/CAN/HDMI Line-out/Mic-in/mPCIe//16GPIO
EBOX-336x w/RS-232				4S/3U/GLAN/LAN/CAN/VGA Line-out/mPCIe/16GPIO
EBOX-336x w/RS-485				
EBOX-336x w/RS-422				
EBOX-336x w/RS-485 x3, x4				4S/3U/GLAN/LAN/CAN/VGA Line-out/Mic-in/mPCIe

EBOX-336x Special Series

Features:
Dual-core SoC All-in-One Module
Multiple LANs & COM ports
SATA, SD, CF, mPCIe, LPT, 4G LTE
Auto Power On/PXE Diskless Boot
Fanless design/DIN Rail support
100 x 100mm VESA support
10 years life cycle

Operating Temp.: 0~60°C/-20~+70°C
Dimensions: 115 x 115 x 35mm



Model Types	CPU	RAM	Storage	I/O
EBOX-336x w/4G LTE	Vortex86DX3 Dual-core 1GHz	1GB 2GB	SATA DOM SD	4S/3U/LAN/CAN/VGA Line-out/mPCIe/SIM
EBOX-336x w/8-bit GPIO x2			SATA DOM* SD/mPCIe	2S/3U/GLAN/LAN/CAN/VGA Line-out/mPCIe/16GPIO
EBOX-336x w/Multi LAN			SATA DOM SD/mPCIe	4S/4U/2GLAN/LAN/CAN/VGA Mic-in/Line-out/mPCIe/16GPIO
EBOX-336x w/Legacy I/O			SATA DOM SD/CF	3S/3U/GLAN/LAN/LPT/VGA/Line-out

S=RS-232/485/422; U=USB; GLAN=Giga Lan; LPT=Parallel port; SIM=SIM Card slot; *=2.5" SATA HDD/SSD