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In-vehicle Computing

RBOX-1001-M12X Series



Intel Atom® x7835RE with 24-110VDC Galvanic Isolation Power Input Railway Computer

- Intel Atom® x7000RE Amston Lake Processor
- 24-110VDC Galvanic Isolation Power Input for Railway Application
- Compliant with Railway Regulation EN 50155
- Removable Cover for Easy Expansion and Maintenance
- 2 x 2.5GbE Supports Industrial Temperature Environment

Specifications

System

Processor

- Intel Atom® x7835RE 8-core processor up to 3.6 GHz
- Intel Atom® x7433RE 4-core processor up to 3.4 GHz

Graphics

- Processor-integrated GPU - Intel® UHD Graphics

Memory

- 1 x DDR5-4800 SO-DIMM up to 16 GB

Security

- TPM 2.0

Watchdog

- Auto reset for unresponsive system
(custom 1-255 sec/min settings in BIOS)

Interface

Video

- 1 x HDMI® up to 3840 x 2160 @ 60Hz as specified in HDMI 2.1

Audio

- 1 x Line-out

Ethernet

- 2 x 2.5GbE (Intel® I226-IT) via M12 X-code

USB

- 2 x USB 3.2
- 2 x USB 2.0

DIO

- 8 x DI (DC 5-48V), 4 x DO (DC 12V/100mA)

COM

- 2 x RS-232/422/485

Internal Expansion

M.2

- 1 x M.2 3042/3052 Key B for WWAN w/ dual Nano SIM support
- 1 x M.2 2230 Key E for Wi-Fi/BT

Storage

Type

- 1 x M.2 2280 Key M for NVMe SSD
- 1 x M.2 2280 Key M for NVMe/SATA SSD

Certification / Compliance

- CE, FCC Class A, UKCA, EN 50155, EN 45545-2 (R25)

Power

Power Input

- DC 24-110V (Galvanic Isolation) via M12 K-code

Power Protection

- OCP, OVP, surge protection, reversed polarity protection

Power Management

- Ignition detection, Smart Power Management

RTC Battery

- Removable top cover for RTC coin cell battery

Software

Operating System

- Windows 11 IoT Enterprise LTSC
- Ubuntu 24.04 LTS

Environmental

Operating Temp.

- -40°C ~ 75°C (-40°F ~ 167°F) with 0.6 m/s airflow
- *Operating temperature varies by accessories installed.

Storage Temp.

- -40°C ~ 80°C (-40°F ~ 176°F)

Relative Humidity

- 10% RH ~ 90% RH (non-condensing)

Vibration

- IEC 60068-2-64, random, 2.5G@5~500Hz, 1hr/axis
- MIL-STD-810H, Method 514.8, Procedure I, Category 4

Shock

- MIL-STD-810H, Method 516.8, Procedure I,
trucks and semi-trailers=15G (11ms)

Mechanical

Construction

- Aluminum Alloy

Antenna

- 7 x SMA connector mounting hole

Mounting

- Rack/Wall mounting

Net Weight

- TBD

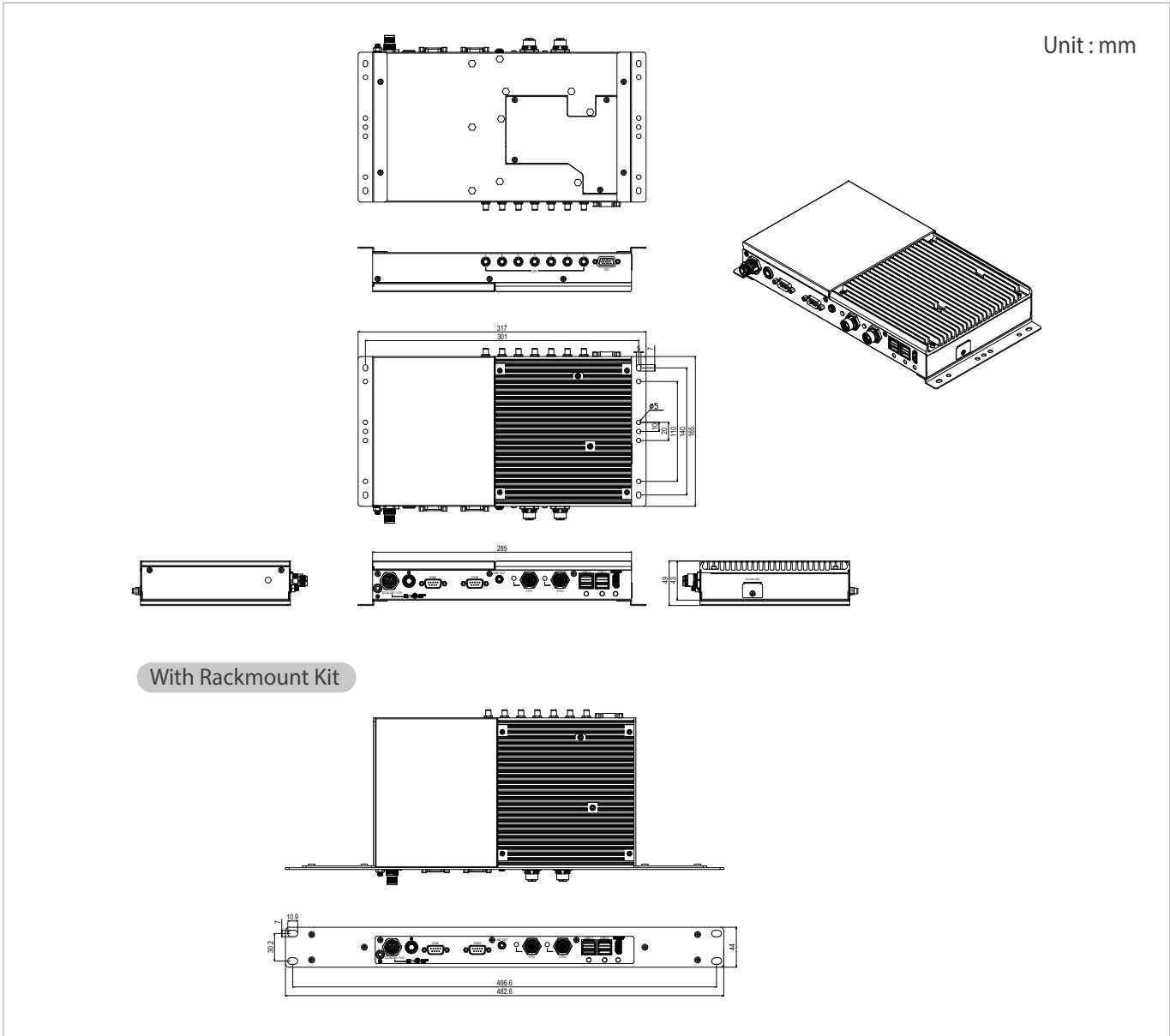
Dimensions (L x W x H)

- 285 x 165 x 43 mm (11.22 x 6.50 x 1.70 in.)

Ingress Protection

- IP40

Dimensions



Ordering Information

Model Number	RBOX-1001-M12X-zz (zz=A8=Atom® x7835RE, zz=A4=Atom® x7433RE)
Description	Intel Atom® x7835RE with 24-110VDC Galvanic Isolation Power Input Railway Computer
State of Origin	Made in Taiwan

Optional Accessories

Memory	DDR5-5600 SO-DIMM, 8 GB to 16 GB, -40°C ~ 85°C
Storage	M.2 2280 Key M NVMe SSD, -40°C ~ 85°C M.2 2280 Key B-M SATA SSD, -40°C ~ 85°C
Wi-Fi	M.2 2230 Key A-E Wi-Fi module, -40°C ~ 85°C
WWAN	M.2 3042/3052 Key B WWAN module, -40°C ~ 85°C
GNSS	M.2 2242 Key B GNSS module, -40°C ~ 85°C
Power Adapter	AC/DC 100-240V/12V 60W C14 DC plug power adapter
Mounting	1U rackmount kit