

VMS-EHLR

Intel® Atom® x6425E Processor
Rugged Fanless Railway System



Features

- Intel Atom® x6425E Processor
- Intel® UHD Graphic for 10th Gen Intel® Processor
- 1-Memory Socket, Max. Up to 32GB DDR4 3200
- 2-COM Port (RS-232/422/485 by BIOS & Jumper)
- 2-Storage (Front Access 2.5" & M.2 Key-B SSD)
- 3-Display (DP 1.4 & HDMI 2.0 & VGA)
- 3-Expansion (mPCIe & M.2 Key-E/B)
- 4-M12 (DC-Input, USB 2.0, 2-LAN Port)
- 8-Bit Programmable GPIO with 2.5KV Isolated
- Default Wall Mount Kit, dTPM 2.0 onboard



EN 50155
EN 50121-3-2



EN 45545



MIL-STD
810G/H



Wide Temp.
-40~70°C



Wide Voltage
Input
9-36Vdc

Specifications

System Information

| | |
|--------------------|--|
| Processor | Intel Atom® x6425E Processor 1.5M Cache, up to 3.00 GHz |
| System Memory | 1 x 260-Pin SODIMM DDR4 3200MHz up to 32GB |
| I/O Chipset | AMI uEFI BIOS 256 Mbit SPI Flash ROM |
| Watchdog Timer | H/W Reset, 1sec. ~ 65535sec. |
| H/W Status Monitor | Horizontal battery socket Supports wide operating temperature Supports no RTC battery mode |
| TPM | TPM 2.0 (Default) |
| SBC | EBM-EHLR + EPM-1721 |

Expansion

| | |
|-------|---|
| M.2 | 1 x M.2 Key-B 2242/3042/3052 support PCIeIII x1/ USB3.1 Gen.2 and SIM slot1 (external) 1 x M.2 Key-E 2230 for Wi-Fi & BT Module (PCIeIII x1/ USB2.0) |
| mPCIe | 1 x mPCIe support PCIeIII x1/ USB2.0 and SIM slot2 (external) |

Storage

| | |
|---------------|---|
| M.2 | 1 x M.2 key-B 2242 support SATA III (share with expansion slot) |
| 2.5 Drive Bay | 1 x 2.5" drive Bay (SATA III) |

Front I/O

| | |
|---------------|--|
| USB | 2 x USB 3.2 Gen.2 (10Gbp/s) |
| Power Button | Push Button for Power on/off (w/LED) |
| Reset Button | Push Button for Reset (Hidden) |
| LED Indicator | 1 x Power LED (Blue) 1 x Storage LED (Yellow) - M.2 B-key SATA/2.5"SSD Storage 1 x LTE LED (Green) - M.2 B-key PCIe/USB3 1 x Wifi LED (Green) - M.2 E key |

| | |
|-------------|---------------------------------------|
| CAN Bus | 1 x 4-Pin CAN Bus H/L in DB-9 |
| SIM Slot | 2 x Front Access SIM Slot |
| Digital I/O | 1 x 8-Bit 2.5KV Isolated GPIO in DB-9 |
| Antenna | 3 x Antenna Mount |

Rear I/O

| | |
|-------------|---|
| USB | 1 x USB 2.0 in M12-A code connector |
| COM Port | 2 x COM RS232/422/485 (select via BIOS, auto flow control via HW) |
| LAN Port | 2 x LAN Port in M12-X code connector |
| Audio | 1 x Line-In, Line-Out and Mic-In in DB-15 |
| DP | 1 x DP 1.4 |
| HDMI | 1 x HDMI 2.0 |
| VGA | 1 x VGA |
| AC/DC Input | M12-A code (4 Poles: V+, V-, GND, IGN) |

Right I/O & Left I/O

| | |
|----------|---|
| Antenna | 2 x Antenna Mount |
| GPS | |
| Chipset | u-blox NEO-M9N GNSS LCC module with Untethered Dead Reckoning and onboard sensors |
| Protocol | BeiDou, Galileo, GLONASS, GPS / QZSS |

Display

| | |
|-----------------|--|
| Graphic Chipset | Intel® UHD Graphics |
| Resolution | DP++ 1.4: Max. resolution 4096x2304 @ 60Hz HDMI 2.0 : Max. resolution 4096 x 2304 @ 60Hz VGA: Max. resolution 1920 x 1080 @ 60Hz |

Audio

| | |
|-------------|-----------------|
| Audio Codec | Realtek ALC888S |
|-------------|-----------------|

Ethernet

| | |
|---------------|---|
| LAN Chipset | 2 x Intel® I210-IT |
| Specification | 10/100/1000 Base-T |
| LED Indicator | 4 x LED indicator (LAN for active, speed) |

Power Requirement

| | |
|---------------------|--|
| Voltage Input Spec. | Typical 24Vdc (+9~ 36Vdc) w/ Isolation TVS component for surge protection Reverse current/voltage protection |
| ACPI | Single power ATX Support S0, S3, S4, S5; ACPI 5.0 Compliant |
| Power Mode | AT/ATX (AT default), w/ignition control and power management |

Software Support

| | |
|----|----------------------|
| OS | Win 10 64bit / Linux |
|----|----------------------|

Certification

| | |
|---------------------------|--|
| Certification Information | CE, FCC Class A, UKCA, EN50155, EN50121, EN45545 |
|---------------------------|--|

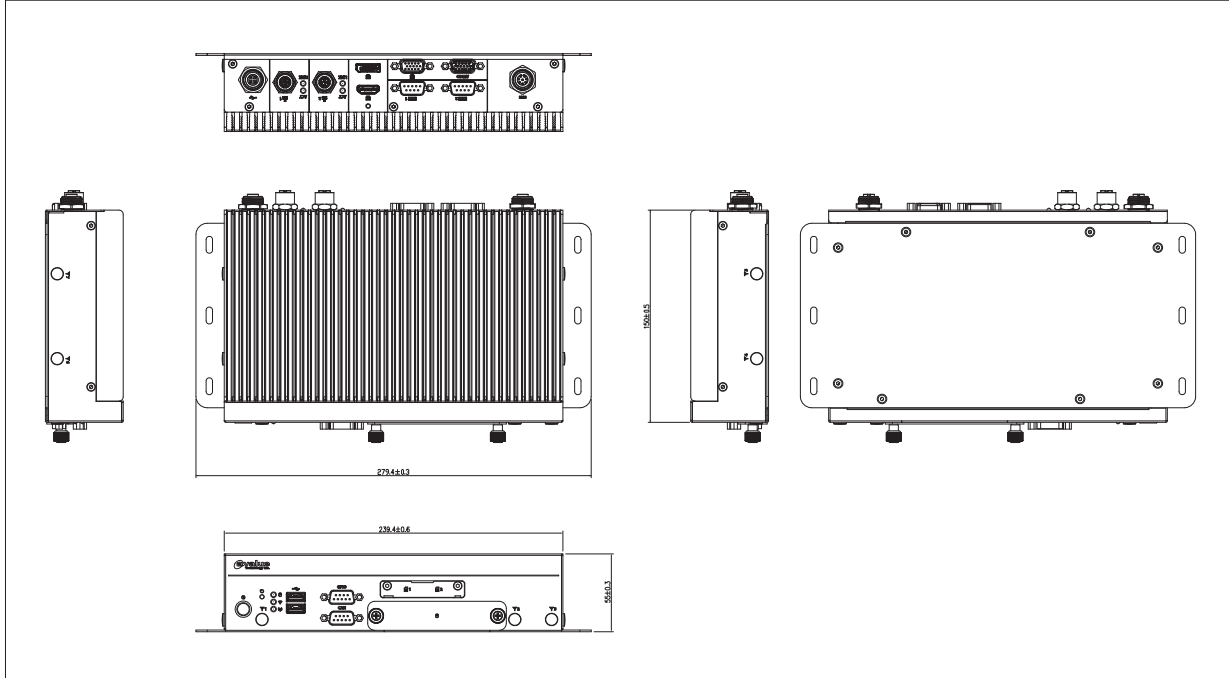
Mechanical & Environmental

| | |
|-----------------------|---|
| Operating Temp. | -40°C ~ 70°C (w/SSD) ambient w/ air flow. Follow EN50155, Class OT4 |
| Storage Temp. | -30°C ~ 70°C (-22°F ~ 158°F) |
| Operating Humidity | 40°C @ 95% Relative Humidity, Non-condensing |
| Dimension (W x L x H) | 240 x 150 x 55 mm |
| Weight | 2.2kg |
| Vibration Test | Operating with SSD : MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure |
| Shock Test | Operating with SSD: MIL-STD-810H, Method 516.8, Procedure I, functional shock=20G |
| IP Rating | IP50 |
| Mounting Kit | Wall Mount kit (Standard) |

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Mechanical Drawing



Ordering Information

| P/N | Processor | Chipset | Memory | Storage | Adapter/ PSU | Mounting Kit | Temp. |
|----------------|------------------------------|---------|-------------------------------|------------|------------------------|--------------------------------|--------------|
| VMS-EHLR-A1-1R | Intel Atom® x6425E Processor | N/A | 4GB DDR4 (Up to 32G Optional) | (Optional) | 60W Adapter (Optional) | Wall Mount (Din Rail Optional) | -40°C ~ 70°C |

Packing List

| Item | Quantity |
|---|----------|
| VMS-EHLR Intel® Elkhart Lake Atom® x6425E Processor Rugged Fanless Railway System | 1 |
| Wire tie for HDMI | 1 |
| Screw driver for chassis | 1 |
| Screw Kits for Peripheral | 1 |

Optional Items

| Item | P/N |
|--|--------------------------------------|
| 5 x M12 cable kit for VMS-EHLR Series | ACC-VMS-M12-01R |
| AC/DC adapter 12V/5A 90 Screw Type | ACC-ADP-060N-08R ACC-ADP-060N-14R |
| Terminal block to lockable DC Jack cable | E170P040031R |
| Power Cord 3P (F)-3P (M) 183cm, USA type | E1702031833R |
| Power Cord SL-6+SL-3 183cm, EU type | E1702031000R |
| Power Cord 3P (F)-3P (M) 183cm, Japan w/PSE type | E1702031834R |
| Power Cord 0P-026+SL-3 183cm, UK type | E170P060380R |
| Power Cord 3P (F)-3P (M) 183cm, Australia type | E1702031831R |
| Din Rail Kit | - |

I/O Overview



Assured Systems

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