Keeping Rail Journeys Safe and Pleasant
Reliable Computing Solutions Expressly for Rolling Stock

/ EN 50155 Certified Box PC
/ EN 50155 Certified Panel PC

ADVANTECH
Enabling an Intelligent Planet

www.advantech.com
With a growing global population, the need for intelligent transportation also grows. Railway networks, as well as other ground transportation, are adopting information technology at an incredible pace in order to serve the needs of an interconnected world. Advantech has long been devoted to designing computing solutions specifically for rolling stock—solutions with enhanced reliability that make for safe, efficient journeys for passengers and goods alike.

ARS-26 Series
EN 50155 Certified Box PC
PoE Type

ARS-25.21 Series
EN 50155 Certified Box PC

ARS-P Series
EN 50155 Certified Panel PC

EN 50155 EN 50121-3-2 EN 45545 IEC 61373
The **Power Design** of ARS allows for multiple power input voltages covering 24V/48V/72V/110V and compliant with S2 & C1 power inputs.

ARS' special **Thermal Design** ensures a wide working temperature range as extensive as TX level: -40°C to +70°C (+85°C).

ARS series complies with strict EN 50155 and IEC 61373 standards, guaranteeing **Shock & Vibration Resistance**.

The ARS series features various **Communication** options, including GPS/AGPS, WLAN, LTE/CDMA/HSDPA and GSM-R.

ARS is designed from the ground up to be **Robust**; it is fanless, and equipped with locking security connectors, for just two examples.

Multiple swappable trays enable customization with **Expansion** modules, either standard offerings such as CAN, SSD, and COM modules or made-to-order ones.
Network Video Recorder

- 2 x extended SSD modules with 2.5" 1T SSD for enlarged storage capacity and easy back up
- Dual LTE for seamless communication with bases
- GPS location tracking
- 4 x PoE LAN to provide both data connections and electrical power to IP cameras

Media & Entertainment System

- Offers marine information, including timetable, emergency, notices, and commercials
- Supports multiple displays, including touch monitors
- Offers real-time information, including timetable, passenger information system, and commercial notices
- Customized redundant functions

Passenger Information System

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Flexible Business Models

- Off-the-shelf Offerings
  - Quick fulfillment of orders
  - Offer on extensive modules provide wide flexibility
- Customer Specific Modifications
  - Modular, or whole system modifications for custom products
  - Custom speed, power, and personalized conditions
  - Further ensure overall system functionality
- Full Customization Services
  - Built from scratch, fully customized, coming from product engineering
  - Customer product with strictly limited by customer experience

ARS Series Product Selection Guide

<table>
<thead>
<tr>
<th>ARS-2620</th>
<th>ARS-2610</th>
<th>ARS-2510</th>
<th>ARS-2110</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
<td>2 x 38&quot; Full HD (1920 x 1080), with 800 nits</td>
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</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>1920 x 1080</td>
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</tr>
<tr>
<td><strong>Brightness</strong></td>
<td>800 nits</td>
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<tr>
<td><strong>CPU</strong></td>
<td>AMD® G-Series Embedded SoC GX-217GA processor, Dual Core 1.65GHz</td>
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<td><strong>Power Input Voltage</strong></td>
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<tr>
<td><strong>Vibration. Shock</strong></td>
<td>EN 50155 T1 certified to guarantee working temperature from -25°C to +55°C</td>
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</tbody>
</table>

Certifications

- Railway: EN 50121-4-2, EN 50155, EN 50121, IEC 61373
- Environmental: EN 50155 T1 certified to guarantee working temperature from -25°C to +55°C
- Vibration. Shock: EN 50155

Other Features

- Integrated solution makes for easy maintenance
- Integrated solution reduces energy cost per unit
- Offers real-time information, including timetable, passenger information system, and commercial notices

Off-the-shelf Offerings

- Quick fulfillment of orders
- Offer on extensive modules provide wide flexibility

Customer Specific Modifications

- Modular, or whole system modifications for custom products
- Custom speed, power, and personalized conditions
- Further ensure overall system functionality

Full Customization Services

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ARS Series Application Cases

- 2 x 38" Full HD (1920 x 1080), with 800 nits
- 800 nits
- 1.65GHz
- 110Vdc (±40%), M12 with 4 poles
- -25°C to +55°C
- EN 50155 T1 certified to guarantee working temperature from -25°C to +55°C
- Integrated solution makes for easy maintenance
- Integrated solution reduces energy cost per unit

Media & Entertainment System

- Offers marine information, including timetable, emergency, notices, and commercials
- Supports multiple displays, including touch monitors
- Offers real-time information, including timetable, passenger information system, and commercial notices
- Customized redundant functions

Passenger Information System

- Offers marine information, including timetable, emergency, notices, and commercials
- Supports multiple displays, including touch monitors
- Offers real-time information, including timetable, passenger information system, and commercial notices
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**Network Video Recorder**

- Flexible Business Models
- Dual LTE for seamless communication with bases
- GPS location tracking
- 4 x PoE LAN to provide both data connections and electrical power to IP cameras

**Passenger Information System**

- Offers runtime information, including timetable, emergency notices, and commercials
- Offshore applications, including transit, emergency notices, and commercials
- Passenger Information System

- **ARS-2610 on High-Speed Train**
  - Compact for TP-ODM rail solution
  - Media & Entertainment System
  - Advantages for passenger experience with smart and flexible design

**Flexible Business Models**

- **Off-the-shelf Offerings**
  - Easy maintenance of user
  - Off-site expansion modules provide scalability

- **Customer Specific Modifications**
  - Flexible, to address unique applications and needs by customer
  - Can meet special protocols or specific interfaces
  - Module or whole system modifications from standard products

- **Full Customization Services**
  - Advanced software solutions provided to customer
  - Can meet special protocols or specific interfaces
  - Module or whole system modifications from standard products

**ARS Series Application Cases**

- **ARS-2700 on Metro**
  - Advance digital solutions
  - Integrated solution makes for easy maintenance

- **ARS-P3800 on Metro**
  - Integrated solution allows implementation of new digital platforms
  - Offers real-time information, including timetable, emergency notices, and commercials

**ARS Series Product Selection Guide**

- **Computing System**
  - DDR3 1600MHz, DDR3L 1333MHz 204-pin SODIMM (up to 4GB)
  - Intel® Core™ i7-6600U Processor, Dual Core 3.40GHz
  - Embedded SoC GX-217GA processor, Dual Core 1.65GHz
  - AMD® G-Series Embedded SoC GX-217GA processor, Dual Core 1.65GHz

- **Expansion Function**
  - 2 x RS-232/422/485, with auto flow control
  - Expansion Module for 2.5" SSD drive bay (Optional)

- **Environment**
  - Working temperature from -40°C to +70°C (EN 50155 TX)
  - EN 50155 T1 certified to guarantee working temperature from -25°C to +55°C

- **Physical Characteristics**
  - Dimensions (W x H x D): 313x 135x 175 mm/ 12.3x 5.3x 6.9 in
  - Weight: 6.5 kg/ 14.3 lb

- **Certifications**
  - CE/FCC Class A. UL
  - EN 50155, EN 50121, IEC 61373
ARS Series Application Cases

Network Video Recorder

- Transportation security by providing surveillance in critical and busy rail locations

ARS-2620 on Tram

- GPS location tracking
- Dual processing high-performance computing
- Dual 2.5" SSD modules with 1TB capacity for enhanced storage
- 6th generation Intel® Core™ processor for superior performance

Passenger Information System

- Offers real-time information, including timetable, emergency notices, and commercials

ARS-2510 on Metro

- Customized redundant functions
- Customized protocol module for easy integration with existing infrastructure
- RJ45 & USB connectors for uninterrupted data transmission

AR Series Product Selection Guide

Flexible Business Models

- Off-the-shelf Offerings
  - Quick solution
  - Add-on solutions, product customization

Customer Specific Modifications

- Customized solutions to meet specific needs
  - Highly customizable: field configurable displays for passenger services

Full Customization Services

- Custom-suitable interface for configurations
  - Field configurable displays for passenger services

Media & Entertainment System

- Enhances passenger experience with interactive digital displays

ARS-3110 on High-Speed Train

- Integrated solution for easy maintenance
- EN 50155 certified to guarantee working temperature from -40°C to 70°C
- Switch support, and different IPswitches that function from -40 °C to 70 °C

ARS Series Product Selection Guide

ARS-2110 on High-Speed Train

- Customized TERA LAN connectors for uninterrupted data transmission
- Ensures protection and extended usage of digital displays

ARS-P3800 on Metro

- Integrated solution for ease-of-use in design and production
- EN 50155 T1 certified to guarantee working temperature from -25°C to 55°C
- Separated computing unit provides optimal image quality

ARS-2620 on Metro

- Enlarged storage capacity and easy backup
- Dual processing high-performance computing
- 6th generation Intel® Core™ processor for superior performance

ARS-2510 on Metro

- Customized redundant functions
- Customized protocol module for easy integration with existing infrastructure
- RJ45 & USB connectors for uninterrupted data transmission

ARS-3110 on High-Speed Train

- Integrated solution for easy maintenance
- EN 50155 certified to guarantee working temperature from -40°C to 70°C
- Switch support, and different IPswitches that function from -40 °C to 70 °C

ARS-P3800 on Metro

- Integrated solution for ease-of-use in design and production
- EN 50155 T1 certified to guarantee working temperature from -25°C to 55°C
- Separated computing unit provides optimal image quality
- Integrated solution for easy maintenance
Flexible Business Models

Off-the-shelf Offerings
- Quick solution delivery
- Off-the-shelf models provide quick flexibility

Customer Specific Modifications
- Flexible, or whole system modifications for desired products
- Can meet specific customer requirements
- Further extend overall system functionality

Full Customization Services
- Built from scratch to exactly fit client's unique business needs
- Final product delivered exactly as customer requests

ARS Series Product Selection Guide

Off-the-shelf Offerings
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Network Video Recorder
Transport safety by providing surveillance in public and private rails
- ARS-2620 on Tram
- Flexible Business Models
- 2 x extended SSD modules with 2.5” 1T SSD for enlarged storage capacity and easy backup
- Dual LTE for seamless communication with bases
- GPS location tracking
- 6th generation Intel® Core™ processor delivers superior performance

Passenger Information System
- Offers marine information, including timetable, emergency notices, and commercials
- ARS-2620 on Metro
- Customized protocol module for easy integration with existing infrastructure
- Multiple DVI interfaces
- Offers real-time information, including timetable, emergency notices, and commercials

Media & Entertainment System
- Enhances passenger experience with interactive digital media
- ARS-2610 on High-Speed Train
- Compact low TPx rail solution
- Compact media solution for entertainment
- Connected TERA LAN connectors for uninterrupted data transmission

ARS Series Application Cases

Off-the-shelf Offerings
- Quick solution delivery
- Off-the-shelf models provide quick flexibility

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