

Application

RELIABILITY

- ★ Intel® Atom™ D525 Processor
- ★ -25 °C to 70 °C Operation Temp.
- ★ Fanless & Compact Form Factor
- ★ 2 DDR3 SO-DIMM, Up to 4GB
- ★ VGA & 24-bit LVDS Dual Display

VERSATILITY

- ★ External Accessible CFast Port
- ★ 3 RS-232 & 1 RS-232/422/485 with Auto Flow Control
- ★ 5 USB 2.0, 2 GbE Ports
- ★ Programmable GPIO 16-step Rotary Switch
- ★ Programmable LED Display 4 Modes/Status
- ★ PCI-104 and PC/104+ Expansion
- ★ Isolated DIO

SAFETY

- ★ DC-IN Range from 16 to 28V
- ★ Onboard EPROM for Unique ID No.
- ★ Onboard USB Dongle Key Support
- ★ DIN-rail, Wall



Order Information

Product No. Description

ARS-1000	Fanless Embedded Controller, 2 LANs, Isolated GPIO (8DI / 8DO), 4 COMs, 5 USBs, Mini PCIe, PCI-104, YCB-D15D9 included
ARS-1100	Fanless Embedded Controller, 2 LANs, Isolated GPIO (8DI / 8DO), 4 COMs, 5 USBs, Mini PCIe, 1394a, PC/104+, YCB-D15D9 included
ARS-1200	Fanless Embedded Controller, 2 LANs, Isolated GPIO (8DI / 8DO), 4 COMs, 5 USBs, Mini PCIe, 1394a, CAN, PC/104+, YCB-D15D9 included
ARS-1500	Fanless Embedded Controller, 2 LANs, Isolated GPIO (8DI / 8DO), 8 COMs, 5 USBs, Mini PCIe, PC/104+, 4 YCB-D15D9 included
ARS-1600	Fanless Embedded Controller, 2 LANs, Isolated GPIO (8DI / 8DO), 8 COMs, 5 USBs, Mini PCIe, CAN, PC/104+, 4 YCB-D15D9 included

Option Description

PWA-60WP3	60W, 24V, 100V _{AC} to 240 V _{AC} Power Adapter
SCSI-20P-100	20-pin SCSI Cable, 1M
TMB-SCSI-20P	Terminal Board with One 20-pin SCSI Connector and DIN-Rail Mounting
YCB-D15D9	Y Cable from DB15 to Two DB9

ARS-1000 series

Fanless and Compact Embedded Controller, 16 to 28V_{DC} Input, Isolated DIO, DIN-Rail Support, Programmable GPIO & LED Display, PCI-104 & PC/104+, with Intel® Atom™ D525 Processor



ARS-1000 Front Panel Layout



ARS-1100 Front Panel Layout (with Three 1394a ports)



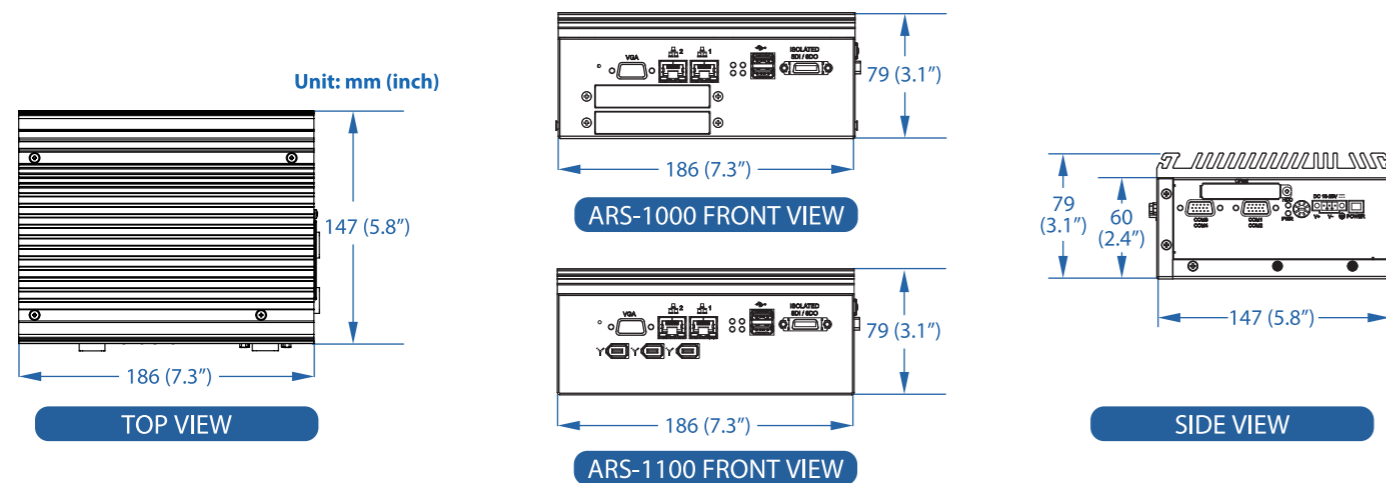
Side Panel Layout

- Intel® Atom™ D525 Processor (1M Cache, 1.8GHz)
- Rugged, -25°C to 70°C Operation Temperature
- Fanless & Compact Form Factor
- 2 DDR3 SO-DIMM, Up to 4GB
- VGA & 24-bit LVDS Dual Independent Display
- External Accessible CFast Port
- 3 RS-232 & 1 RS-232/422/485 with Auto Flow Control
- 5 USB and 2 GbE Ports
- Three 1394a Ports (ARS-1100/ ARS-1200 Model)
- Programmable GPIO 16-step Rotary Switch
- Programmable LED Display 4 Modes/Status
- PCI-104 and PC/104+ Expansion
- Supports DC-IN Range from 16 to 28V
- Onboard EPROM for Unique ID No.
- Onboard USB Dongle Key Support
- DIN-rail, Wall

ARS-1000 series is fanless embedded automation controller equipped with Intel® Atom™ D525 1M cache, 1.8GHz processor, 2 Gigabit Ethernet ports, 3 RS-232 and 1 RS-232/422/485, external accessible CFast, 5 USB, Isolated DIO, Mini PCIe socket, and supports wide range DC-IN 16 to 28 V. With fanless thermal, compact size, small footprint, and wide operating temperatures -25 ~ 70°C (-13 ~ 157°F), ARS-1000 series provides high performance, high versatility, and easy to install in field cabinets. For further expansion, ARS-1000 series supports PCI-104, 1394a and PC/104+. In addition, ARS-1000 series supports programmable GPIO 16-step rotary switch and 4 mode/status LED displays, in order to provide more adaptability for various environment requests. With rich OS and driver supports, such as Windows XP Embedded, Windows XP Pro, and even Linux, ARS-1000 Series are application-ready platforms that provide multipurpose applications. ARS-1000 series is value computing platforms for manufacturing executing systems, factory automation, and industrial applications.



Specification



System Hardware

CPU	Intel® Atom™ D525, 1M Cache, 1.8GHz Processor
Chipset	ICH8M
Memory	Single Channel Support 2 DDR3 SO-DIMM up to 4GB
Indicators	LEDs for Power, HDD / CFast
Storage	Internal 2.5" SATA / SATA II for HDD / SSD Outside Accessible CFast Slot
Mini PCIe	1
Display	Front DB15 VGA Internal LVDS 24-bit
Audio	Internal Stereo Headphone, Internal Microphone

I/O Interface

Serial Ports	3 RS-232, 1 RS-232 / 422 / 485 with Automatic Data Flow Control
LAN	2 Intel® 82574L Gigabit LANs
USB 2.0	Front: 2, Internal: 2 (ARS-1000 Model, Pin Header), Mini PCIe: 1
Programmable GPIO	Isolation Protection on GPIO-16 (8DI / 8DO) Sink / Wet Contact Source GPIO-4 (Programmable Status / Modes LED Display) 16-step Rotary Switch (States / Modes Select)
1394a	3 Ports (ARS-1100 and ARS-1200 Models)

General

Certifications	CF, FCC Class A
Dimensions(W x H x D)	186mm x 147mm x 79mm (7.3" x 5.8" x 3.1")
Enclosure	Aluminum Heat-sink and Sheet Metal Chassis with Iron-gray Color
Mounting	Wall-mounting for DIN-rail
Power Requirements	ATX : 2-pin Remote Power On / Off Switch AT : Optional by Jumper Setting On-board DC-to-DC Power Support from 16 ~ 28 V _{DC}
Weight	2.1 Kg (4.5 lb)
OS Support	Windows XP Embedded / Windows XP Pro or later Linux Fedora 11 / Ubuntu 10.04 / Cent OS 5.3 / Kernel
System Design	Top Cover Heat-sink with Internal Heat Spreader for Fanless Design

Environment

Operating Temperature	-25 ~ 70°C (-13°F ~ 157°F) Ambient Temperature with Air Flow
Storage Temperature	-40 ~ 85°C (-40°F ~ 185°F)
Operating Humidity	20~95% (Non-condensing)
Storage Humidity	0~90% RH @ 40°C (Non-condensing)
Shock Protection	IEC 68 2-27, CFast: 50G @ Wall-mount, Half Sine, 11ms, HDD: 20G @ Wall-mount, Half Sine, 11ms
Vibration Protection	IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.) CFast: 5 Grms @ 5~500Hz, HDD: 1 Grms @ 5~500Hz

*All product specifications are subject to change without prior notice.

ARS-1000



ARS-1000 model, Intel® Atom™ -powered fanless application-ready platform, which enables to equipped with Intel® Atom™ D525 1M cache, 1.8GHz processor, 2 Gigabit Ethernet ports, 3 RS-232 and 1 RS-232/422/485, external accessible CFast, PCI-104 port, 5 USB, Isolated DIO, Mini PCIe socket, and supports wide range DC-IN 16 to 28 V. With fanless thermal, compact size, small footprint, and wide operating temperatures -25°C ~ 70°C (-13°F ~ 157°F)

ARS-1100



Featuring with three 1394a ports and PC/104+ interface, ARS-1100 model also enables Intel® Atom™ D525 1M cache, 1.8GHz processor, 2 Gigabit Ethernet ports, 3 RS-232 and 1 RS-232/422/485, external accessible CFast, 2 USB, Isolated DIO, and Mini PCIe socket. PC/104+ provides ARS-1100 with compact form factor, self-staking, pin-and-socket bus connector, four-corner mounting holes, less power consumption and less heat generation, and higher compatibility to reduced development costs and fast time-to-market.

ARS-1200



Ideal industrial system solutions for machine vision and factory automation, ARS-1200 model equipped with three 1394a ports to provide greater effective data transfer rates and power distribution capabilities. ARS-1200 model also enables Intel® Atom™ D525 1M cache, 1.8GHz processor, 2 Gigabit Ethernet ports, 3 RS-232 and 1 RS-232/422/485, external accessible CFast, PC/104+, 2 CAN buses, 2 USB, Isolated DIO, and Mini PCIe socket.

ARS-1500



For the outstanding console functions and cost-efficient, ARS-1500 model has designed with 8 COM ports for various devices to communicate with microcontroller. For example, a serial port may be used as a control console for diagnostics on a server platform. ARS-1500 model not only enables Intel® Atom™ D525 1M cache, 1.8GHz processor, 2 Gigabit Ethernet ports, 3 RS-232 and 1 RS-232/422/485, external accessible CFast, PC/104+, 2 USB, Isolated DIO, and Mini PCIe socket but also 8 COMs.

ARS-1600



Collecting most industrial useful interfaces, ARS-1600 model has designed with 2 CAN buses, which allow microcontrollers communicate with devices without a host computer in industrial automation and medical equipment applications. Like all other ARS-1000 series, ARS-1600 enables Intel® Atom™ D525 1M cache, 1.8GHz processor, 2 Gigabit Ethernet ports, 3 RS-232 and 1 RS-232/422/485, external accessible CFast, 2 CAN ports, PC/104+, 2 USB, Isolated DIO, and Mini PCIe socket.

Tailored Solution with Customized Components

