

# DA-682A-DPP Series

*x86 2U 19-inch rackmount computers with 3rd Gen Intel® Celeron® or Core™ i3 or i7 CPU, 6 Gigabit Ethernet ports, and 2 PCI expansion slots*



## Features and Benefits

- IEC 61850-3, IEEE 1613, and IEC 60255 compliant for power substation automation systems
- EN 50121-4 compliant for railway wayside applications
- 3rd Gen Intel® Core™ processor (Ivy Bridge)
- Built-in DDR3 SDRAM and industrial DOM
- 6 Gigabit Ethernet ports for network redundancy
- 2 PCI expansion slots for expansion modules
- 1 CompactFlash socket for storage expansion
- 4 high-speed, system-bootable USB 2.0 ports
- Supports dual power inputs: 100 to 240 VAC and 100 to 240 VDC
- Optional IRIG-B expansion module available

## Certifications



EN 50121-4



## Introduction

The DA-682A-DPP computers have an x86 platform with VGA, 6 Gigabit Ethernet ports, CompactFlash, USB, and two PCI ports for DA Series expansion modules. The DA-682A-DPP comes with three different CPU options, and basic models that allow system designers to install the DOM, RAM, and operating system according to their specific requirements.

IEC-61850-3 and IEEE 1613 compliance helps ensure that the DA-682A-DPP can deliver stable and reliable system operations in power applications. Additional value and convenience are provided through a modular design with two independent slots for flexible system integration and expansion. Users have the option to add a variety of different communications modules, including an 8-port RS-232/422/485 module, 8-port RS-422/485 module, 8-port 10/100 Mbps switch module, IRIG-B time synchronization card and a universal PCI expansion module.

The DA-682A-DPP also complies with the IEC 60255 standards to enable the protection of electrical relays in a smart substation. IEC 60255 is one of the most widely used standards for testing relays and protection equipment, and compliance ensures that the DA-682A-DPP will work reliably and seamlessly with IEDs (intelligent electronic devices) as a part of the robust substation automation system.

EN 50121-4 compliance confirms that the DA-682A-DPP can deliver stable and reliable system operations in rail applications. In station ISCS (Integrated Supervisory Control System) and wayside control and monitoring systems, a powerful front-end processor is needed for controlling the local SCADA and traction power relay house. The expandable serial interfaces and Gigabit Ethernet ports enable the integration of station subsystems, including AFC, PAS, PSD, and FAS, on a single platform. For wayside applications, you can also integrate disaster prevention, traction power, and signaling and safety systems to provide an integrated view of your smart rail setup.

## Smart Recovery Function

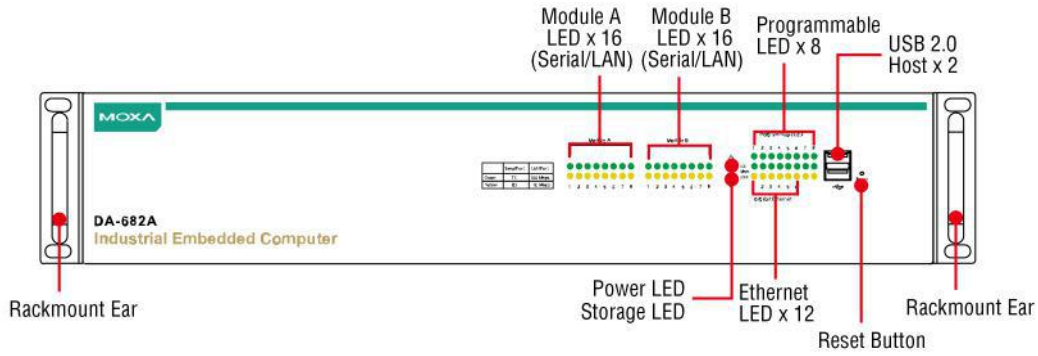
The DA-682A-DPP's Smart Recovery function minimizes downtime by making it easy to recover from operating system crashes. Engineers who are experts in a particular vertical market may not have enough computer domain knowledge to know how to fix operating system problems. Moxa Smart Recovery™ is an automated BIOS-level software recovery system that allows engineers to automatically trigger OS recovery to minimize downtime.

## Proactive Monitoring Function

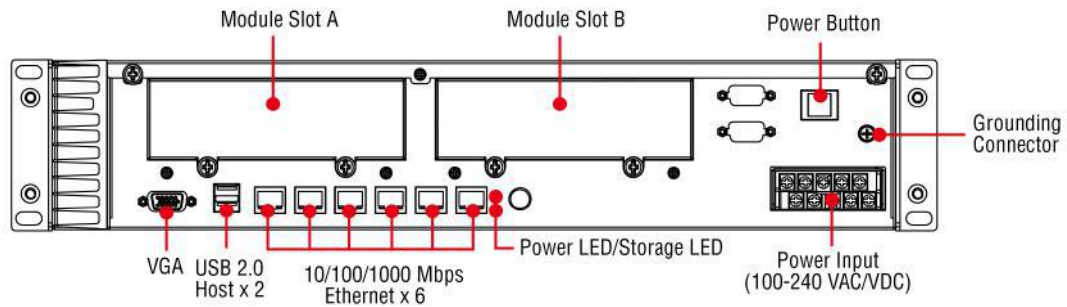
Moxa Proactive Monitoring is a small-footprint, resource-friendly, easy-to-use utility that allows users to track a number of system parameters. Users can view the current parameter values for these key parts by simply clicking on the icons corresponding to the parameters in the user interface. User-defined key part indicators (KPIs) are used to monitor the computer's key parts. Visible and/or audio alerts are triggered automatically via relay and SNMP traps when these KPIs exceed their preset threshold values, making it extremely convenient for operators to avoid system downtime by setting up predictive maintenance tasks well in advance.

# Appearance

## Front View



## Rear View



# Specifications

## Computer

CPU	DA-682A-C1-DPP Series: Intel® Celeron® Processor 1047UE (2M Cache, 1.40 GHz) DA-682A-C3-DPP Series: Intel® Core™ i3-3217UE Processor (3M Cache, 1.6 GHz) DA-682A-C7-DPP Series: Intel® Core™ i7-3517UE Processor (4M Cache, up to 2.80 GHz)
System Chipset	Mobile Intel® HM65 Express Chipset
Graphics Controller	Intel® HD Graphics
System Memory Pre-installed	DA-682A-DPP LX Series: 1 GB DDR3
System Memory Slot	SODIMM DDR3/DDR3L slot x 1
Supported OS	Linux Debian 7 Windows Embedded Standard 7 (WS7P) 32-bit Windows Embedded Standard 7 (WS7E) 32-bit
Storage Slot	2.5-inch HDD/SSD slots x 2 CFast slot x 1
Storage Pre-installed	DA-682A-DPP LX Series: 2 GB CFast

## Computer Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 6
USB 2.0	USB 2.0 hosts x 4, type-A connectors
Expansion Slots	PCI slots x 2
Video Input	VGA x 1, 15-pin D-sub connector (female)

## LED Indicators

System	Power x 1 Storage x 1 Programmable x 8
LAN	2 per port (10/100/1000 Mbps)

## Power Parameters

Operating Voltage	100 to 240 VDC, 100 to 240 VAC
Power Button	Reset button (front panel) ON/OFF (rear panel)
Power Consumption	30 W (max.)

## Physical Characteristics

Housing	Metal
Dimensions (without ears)	440 x 315 x 90 mm (17.32 x 12.40 x 3.54 in)
Weight	6,500 g (14.33 lb)
Installation	19-inch rack mounting

## Environmental Limits

Operating Temperature	-25 to 60°C (-13 to 140°F)
Storage Temperature (package included)	-40 to 80°C (-40 to 176°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

## Standards and Certifications

EMC	EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-11 DIPs IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV IEC 61000-4-5 Surge: Power: 4 kV; Signal: 4 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Power Substation	IEC 61850-3, IEEE 1613
Railway	EN 50121-4
Protection Relay	IEC 60255
Safety	EN 60950-1, IEC 60950-1, UL 60950-1
Shock	IEC 60870-2-2, IEC 61850-3 Edition 1.0
Vibration	IEC 61850-3, IEC 60870-2-2

## Declaration

Green Product	RoHS, CRoHS, WEEE
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## MTBF

Time	360,807 hrs
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## Warranty

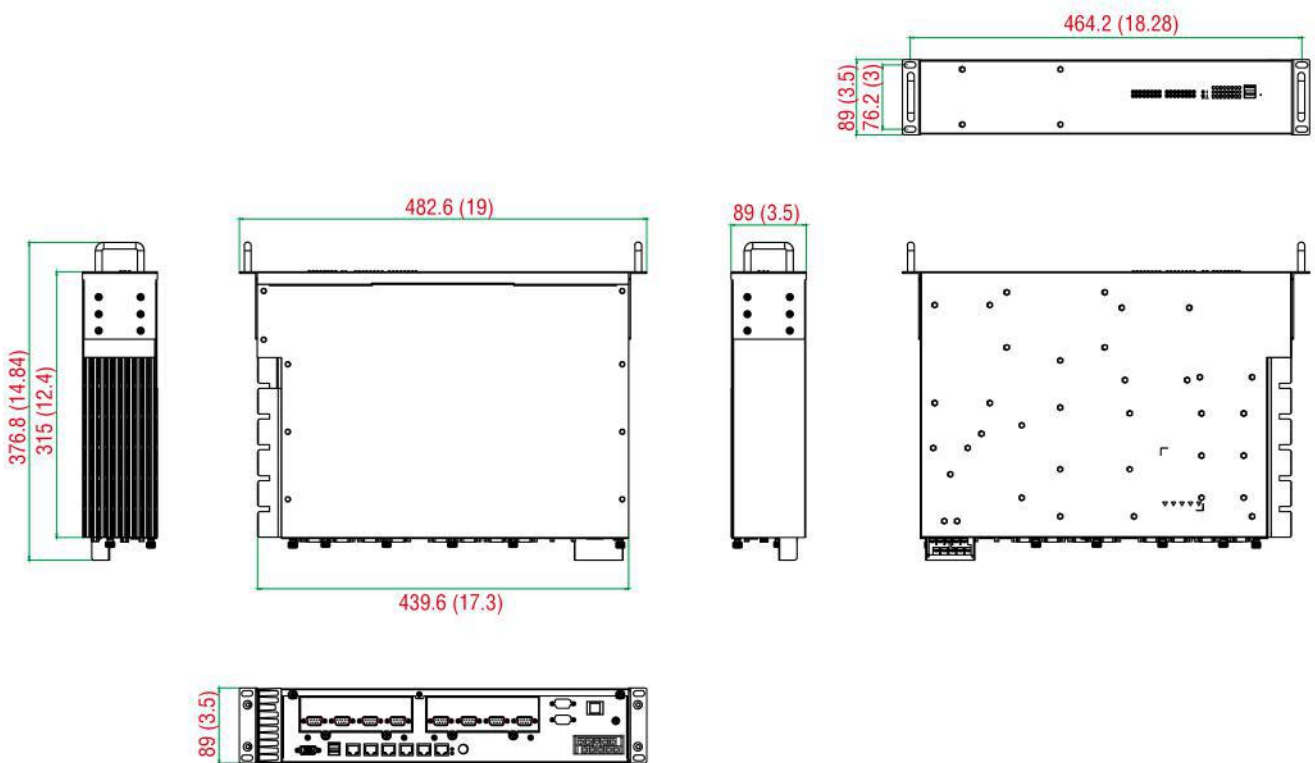
Warranty Period	3 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

## Package Contents

Device	1 x DA-682A-DPP Series computer
Installation Kit	1 x rack-mounting ear
Documentation	1 x quick installation guide 1 x warranty card
Note	This product requires additional modules (sold separately) to function.

## Dimensions

Unit: mm (inch)



## Ordering Information

Model Name	CPU	DDR3 RAM	OS Storage (CFast)	Linux Debian 7 32-bit	Power Input 100-240 VAC/VDC	Operating Temp.
DA-682A-C1-DPP	Celeron 1047UE	-	-	-	✓	-25 to 60°C
DA-682A-C1-DPP-LX	Celeron 1047UE	1 GB	2 GB	✓	✓	-25 to 60°C
DA-682A-C3-DPP	i3-3217UE	-	-	-	✓	-25 to 60°C
DA-682A-C3-DPP-LX	i3-3217UE	1 GB	2 GB	✓	✓	-25 to 60°C
DA-682A-C7-DPP	i7-3517UE	-	-	-	✓	-25 to 60°C
DA-682A-C7-DPP-LX	i7-3517UE	1 GB	2 GB	✓	✓	-25 to 60°C

## Accessories (sold separately)

### Expansion Modules

DA-SP08-I-EMC4-DB	8-port RS-232/422/485 serial module with DB9 connector and isolation; suitable for EMC Level 4 environments
DA-SP08-I-EMC4-TB	8-port RS-232/422/485 serial module with terminal block connector and isolation; suitable for EMC Level 4 environments
DA-SP08-I-DB	8-port RS-232/422/485 serial module with a digitally isolated DB9 connector
DA-SP08-DB	8-port RS-232/422/485 serial module with DB9 connector
DA-SP08-I-TB	8-port RS-422/485 serial module with digitally isolated terminal block
DA-SP38-I-TB	8-port RS-422/485 serial module with digitally isolated terminal block
DA-SW08-RJ	8-port 10/100 Mbps unmanaged switch module
DA-LN04-RJ	4-port 10/100 Mbps LAN module
DA-UPCI-DK	Universal PCI development kit
DA-FX04-MM-ST-T	4-port (100BaseFX) fiber LAN module with multi-mode, ST connector, supports IP Teaming

### Storage Kits

DA-682A HDD Kit	DA-682A HDD kit
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### USB Dongle Kits

USB Dongle Kit	Internal USB dongle kit installation package
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