DA-682C Series
Quick Installation Guide

x86 Rackmount Embedded Computers

Version 1.1, January 2021

MOXA®

Overview

The DA-682C Series is built around a Intel® Celeron, Intel® Core™ i3, i5 or i7 CPU and comes with dual display ports (2 x HDMI), 5 USB ports, 6 gigabit LAN ports, 2 3-in-1 RS-232/422/485 serial ports, 6 digital Input ports, and 2 digital output ports. The DA-682C is equipped with two hot-swappable 2.5" HDD/SSD slots and supports the Intel® RST RAID 0/1 functionality. 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 and 4-port 10/100/1000 Mbps LAN module.

With IEC 61850-3 and IEEE 1613 compliance, the DA-682C is sure to deliver stable and reliable system operation for power applications. The DA-682C also complies with the IEC 60255 standards, which cover 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 with the standard ensures that the DA-682C will work reliably and seamlessly with IEDs as part of a robust substation automation system.
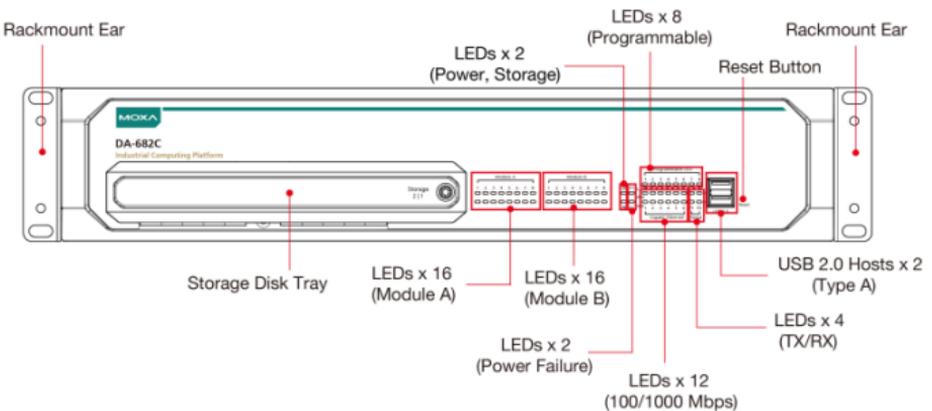
Package Checklist

Each basic system model is shipped with the following standard items:
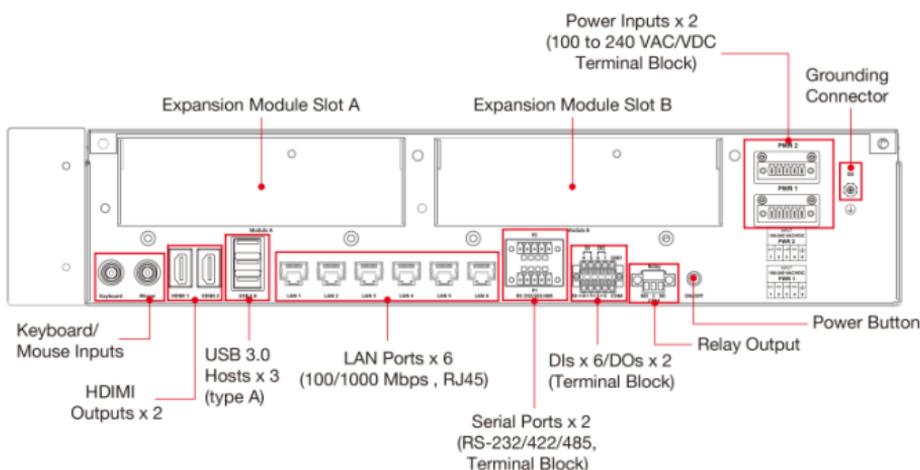
- DA-682C rackmount computer
- Rack-mounting kit
- Quick Installation Guide
- Warranty card

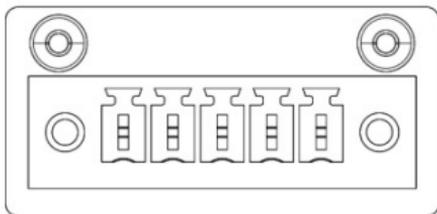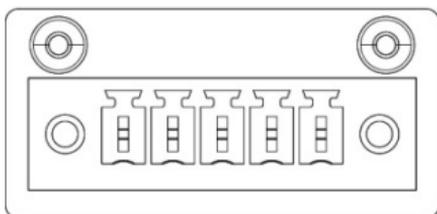## Hardware Installation

Front View

Rear View

Connecting the Power

The DA-682C provides single or dual power inputs using a terminal block, which is located on the rear panel. Connect the power cord wires to the screws, and then tighten the screws. The **Power** LED will light up to indicate that power is being supplied to the DA-682C, after which the BIOS will initialize the flash disk module, causing the **Storage** LED to blink. It should take about 30 to 60 seconds for the operating system to complete the boot up process. A grounding connector is also provided for power surge protection.
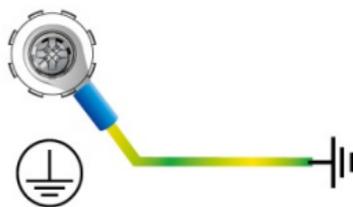

PWR 1

PWR 2

G0

INPUT 100-240 VAC/VDC PWR 1				
+/L	NA	−/N	NA	⏚
1	2	3	4	5

INPUT 100-240 VAC/VDC PWR 2				
+/L	NA	−/N	NA	⏚
1	2	3	4	5

In addition, a power button on the rear panel allows users to power on the computer when it is in the sleep or hibernate mode.

For detailed power connection and surge protection information, refer to the *DA-682C Hardware User's Manual*.

Front-panel LEDs

There are 60 LED indicators on the front panel. The LEDs are described in the following table:

LED	Color	Description
Power	Green	Power is on
	Off	No power input
Storage	Yellow/Blinking	Data is being written to or read from the storage unit
	Off	Storage unit is idle
Power 1 Failure	Off	The 1st power supply is on
	Red	Error in the 1st power supply
Power 2 Failure	Off	The 2nd power supply is on
	Red	Error in the 2nd power supply
Gigabit LAN LEDs 1 to 6	Green	100 Mbps Ethernet mode
	Orange	1000 Mbps (Gigabit) Ethernet mode
Serial Port P1/P2 (TX/RX)	Green	Tx: Serial data is being transmitted
	Yellow	Rx: Serial data is being received
Programmable LEDs 1 to 8	Green/Blinking	Can be used to indicate statuses or for debugging, as defined by users.
Module LEDs 1 to 8 (Module A/Module B)	Green/Orange/Blinking	Reserved for LAN-port and serial-port expansion cards.

Connecting to Displays

The DA-682C comes with two HDMI interfaces on the rear panel, allowing users to connect two displays

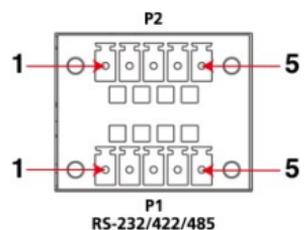**NOTE** For highly reliable video streaming, use premium certified HDMI cables.

Connecting to a Keyboard and Mouse

Connectors for the keyboard and a mouse are located on the rear panel of the computer. Both connectors are PS/2 interfaces; you can directly connect a keyboard and a mouse using these connectors.

Serial Ports

The DA-682C comes with two software-selectable RS-232/422/485 serial ports on the rear panel. The ports use terminal blocks. Refer to the following table for the pin assignments:

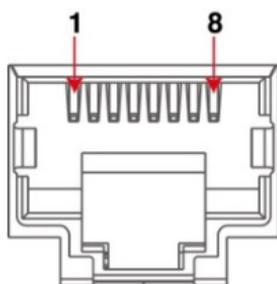| Pin	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	TxD	TxD(+)	TxD(+)	–
2	RxD	TxD(-)	TxD(-)	–
3	RTS	RxD(+)	RxD(+)	Data(+)
4	CTS	RxD(-)	RxD(-)	Data(-)
5	GND	GND	GND	GND

P2
P1
RS-232/422/485

USB Ports

The DA-682C comes with two USB 2.0 ports on the front panel and three USB 3.0 ports on the rear panel. The USB ports can be used to connect peripherals, such as flash drives, to expand the systems storage capacity.

Ethernet Ports

The DA-682C has 6 100/1000 Mbps RJ45 Ethernet ports on the rear panel. Refer to the following table for the pin assignments:
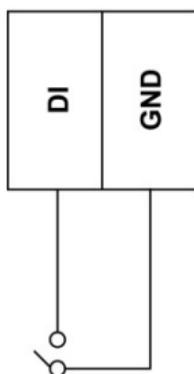
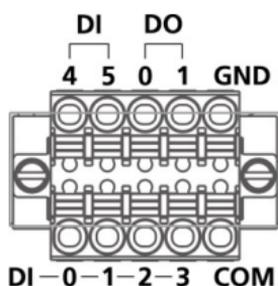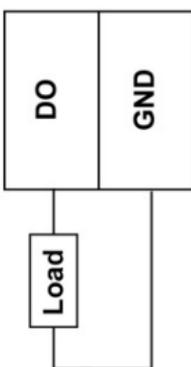| Pin	100 Mbps	1000 Mbps
1	Tx+	TRD(0)+
2	Tx-	TRD(0)-
3	Rx+	TRD(1)+
4	–	TRD(2)+
5	–	TRD(2)-
6	Rx-	TRD(1)-
7	–	TRD(3)+
8	–	TRD(3)-

Digital Inputs/Digital Outputs

The DA-682C comes with six digital inputs and two digital outputs in a terminal block. Refer to the following figures for the pin definitions and wiring methods.
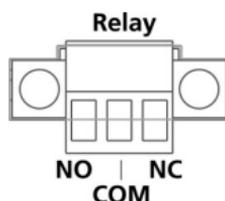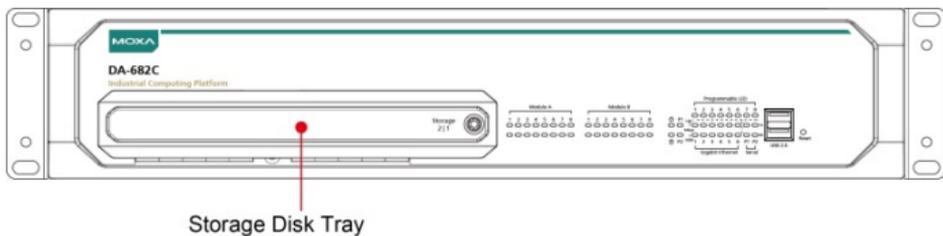
Relay Output

The DA-682C provides a relay output located on the rear panel of the computer. Refer to the figure on the right for detailed pin definition of the relay output connectors.

Installing Storage Disks

The DA-682C comes with two storage sockets, allowing users to install two disks for data storage. Unfasten the screw on the right side of the storage disk tray cover and pull down the cover. Slide out the tray to install the disks. Refer to the *DA-682C Hardware User's Manual* for details.

Storage Disk Tray

There are two slots for installing two SSD disks. The installation sequence of the disks is indicated in the diagram on the right.

```
Storage
 2 | 1
```

Installing Expansion Modules

The DA-682C comes with two expansion module sockets on the rear panel. You can install Moxa's LAN or serial connectivity expansion module using this socket. For additional details, refer to the *DA-682C Hardware User's Manual*.

> ⚠️ **WARNING**
>
> Power off the computer before installing the expansion modules to avoid damage to the computer.