# **DA-681C Series**

Intel® 7th Gen Core™ CPU, IEC-61850, 1U rackmount computers with 6 Gigabit Ethernet ports, 12 isolated serial ports

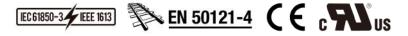




#### **Features and Benefits**

- IEC 61850-3, IEEE 1613, and IEC 60255 compliant for power substation automation systems
- EN 50121-4 compliant for railway wayside applications
- 7th Generation Intel® Core™ Processor
- · DDR4 memory slot; up to 32 GB capacity
- Redundant power supply (100 to 240 VAC/VDC)

#### **Certifications**



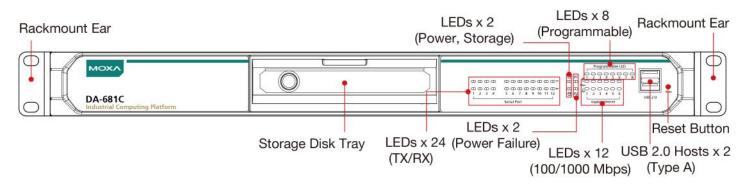
#### Introduction

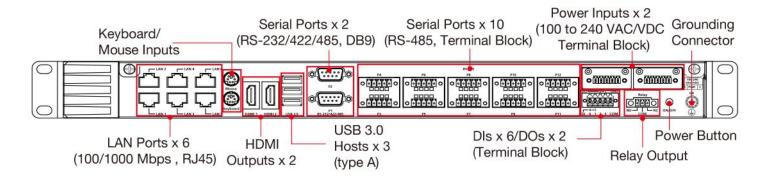
The DA-681C computer is built around an Intel® Celeron® or Intel® Core™ i3 CPU and comes with dual display ports (2 x HDMI), 5 USB ports, 6 Gigabit LAN ports, two 3-in -1 RS-232/422/485 serial ports, 10 RS-485 serial ports, 6 digital input ports, and 2 digital output ports. Additionally, one 2.5" HDD/SSD slot and one mSATA slot are included to enable storage expansion for industrial applications that require large storage space for edge data acquisition.

With IEC 61850-3 and IEEE 1613 compliance, the DA-681C is sure to deliver stable and reliable system operation for power applications. EN 50121-4 compliance confirms that the DA-681C can deliver stable and reliable system operations in rail wayside applications, such as station SCADA systems, wayside disaster prevention, traction power, and signaling and safety systems, to provide an integrated view of your smart rail setup.

#### **Appearance**

#### **Front View**





## **Specifications**

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CPU	Intel® Core™ i3-7100U Processor (2M Cache, 2.4 GHz) Intel® Celeron® 3965U Processor (2M Cache, 2.2 GHz)		
System Memory Slot	SODIMM DDR4 slot x 2		
DRAM	32 GB max. capacity (SODIMM x 2, each supporting 2400 MHz and 16 GB maximum per module)		
Graphics Controller	Intel® HD Graphics 630		
Storage Slot	2.5-inch HDD/SSD slots x 1 mSATA slots x 1		
Supported OS	Windows 10 Embedded IoT Ent 2019 LTSC 64-bit Linux Debian 9 Note: OS available by CTOS		
Computer Interface			
USB 2.0	USB 2.0 hosts x 3, type-A connectors 2 ports on the front panel, 1 port inside the computer		
USB 3.0	USB 3.0 hosts x 3, type-A connectors 3 ports on the rear panel		
Video Output	HDMI x 2, HDMI connector (type A)		
Serial Ports	RS-232/422/485 ports x 2, software selectable (DB9 male) RS-485 ports x 10, software selectable (terminal block)		
Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 6		
Secure Boot	UEFI		
TPM	TPM v2.0		
Digital Inputs			
Connector	Screw-fastened Euroblock terminal		
I/O Mode	DI		
Isolation	3k VDC		
Sensor Type	Dry contact Wet contact (NPN)		



Dry Contact	Logic 0: Close to GND Logic 1: Open	
Wet Contact (COM to DI)	Logic 0: 10 to 30 VDC Logic 1: 0 to 3 VDC	
Digital Outputs		
Connector	Screw-fastened Euroblock terminal	
Current Rating	200 mA per channel	
I/O Type	Sink	
Voltage	0 to 30 VDC	
Isolation	3k VDC	
LED Indicators		
System	Programmable x 8 Storage x 1 Power x 1	
LAN	2 per port (10/100/1000 Mbps)	
Serial	2 per port (Tx, Rx)	
Serial Interface		
Baudrate	50 bps to 115.2 kbps	
Connector	Terminal block	
ESD	8 kV (level 4)	
Isolation	2 kV	
Serial Standards	RS-232/422/485	
Surge	2 kV	
Serial Signals		
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND	
RS-422	Tx+, Tx-, Rx+, Rx-, GND	
RS-485-2w	Data+, Data-, GND	
Power Parameters		
Input Current	100 to 240 VAC, 50/60 Hz, 1.6 A (max) 100 to 240 VDC, 0.8 A (max)	
Power Button	Reset button (front panel) ON/OFF (rear panel)	
Physical Characteristics		
Housing	Metal	
Dimensions (without ears)	440 x 316 x 44 mm (17.32 x 12.44 x 1.73 in)	
Weight	9,000 g (21.82 lb)	
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Installation

19-inch rack mounting

Environmental Limits	
Operating Temperature	-40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Standards and Certifications	
EMC	EN 55032/35
ЕМІ	CISPR 32, FCC Part 15B Class A
EMS	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: 20 A/m IEC 61000-4-11
Power Substation	IEC 61850-3 IEEE 1613
Protection Relay	IEC 60255
Shock	IEC 61850-3 Edition 2.0, IEC 60068-2-27, IEC 60255-21-2
Safety	UL 62368-1
Declaration	
Green Product	Rohs, Crohs, Weee
MTBF	
Time	285,419 hrs
Standards	Telcordia SR332
Warranty	
Warranty Period	3 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x DA-681C Series computer
Installation Kit	1 x rack-mounting ear
Documentation	1 x quick installation guide 1 x warranty card

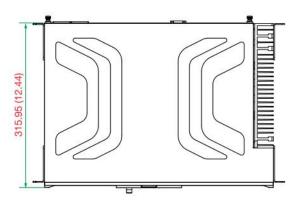


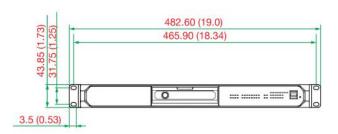
Note

This product requires additional modules (sold separately) to function.

### **Dimensions**

Unit: mm (inch)





## **Ordering Information**

Model Name	CPU	Power Input10100-240 VAC/VDC	Operating Temp.
DA-681C-KL1-H-T	IntelR CeleronR 3965U	Single	-40 to 70°C
DA-681C-KL1-HH-T	IntelR CeleronR 3965U	Dual	-40 to 70°C
DA-681C-KL3-HH-T	IntelR Core? i3-7100U	Dual	-40 to 70°C

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