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Technologies

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

IEC 61850-3 IEEE 1613 EN 50121-4 CE cULus

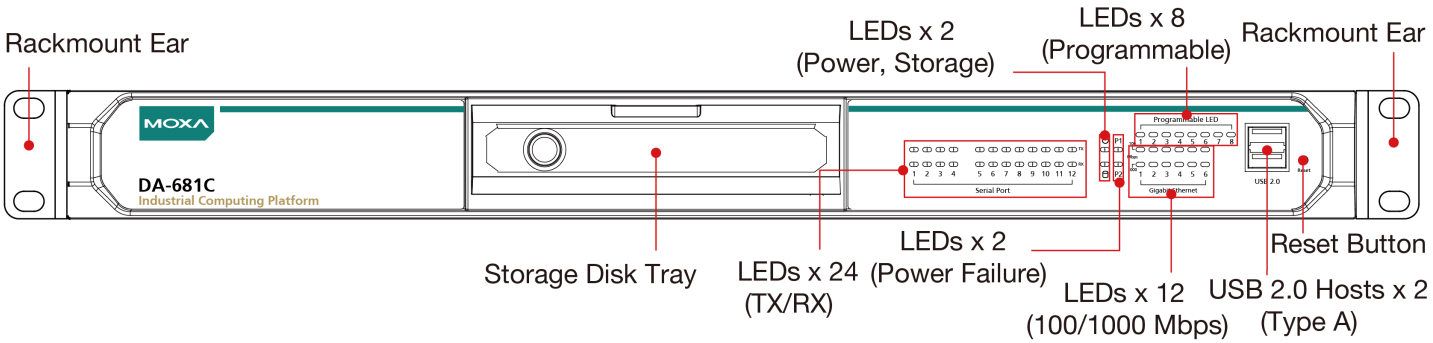
Introduction

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.

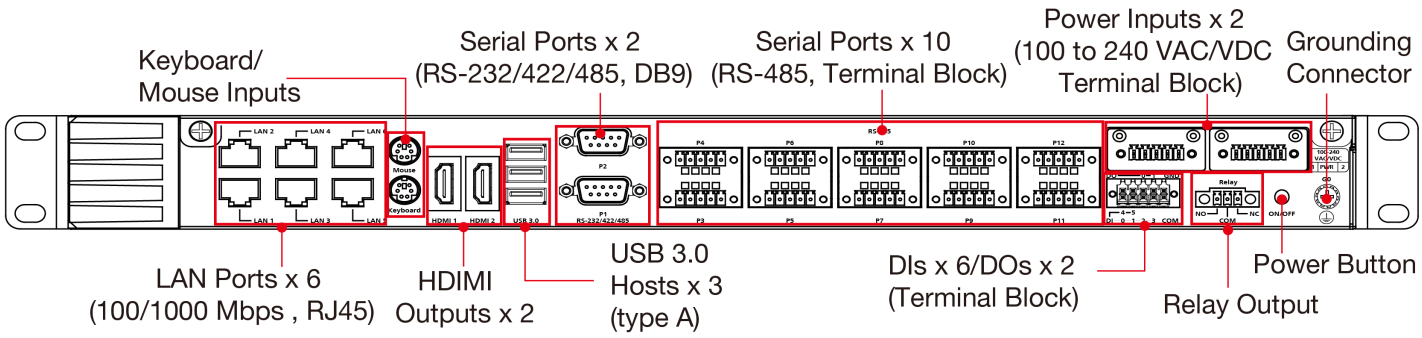
With IEC 61850-3 and IEEE 1613 compliance, the DA-681C is sure to deliver stable and reliable system operation for power applications. EN 50121-4 compliance confirms that the DA-681C can deliver stable and reliable system operations in rail wayside applications, such as station SCADA systems, wayside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

Appearance

Front View



Rear View



Specifications

Computer	
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
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 (terminal block)
Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 6
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	183 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
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

Power Parameters

Power Button	Reset button (front panel) ON/OFF (rear panel)
Power Consumption	100 W (max.)

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)
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
EMI	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

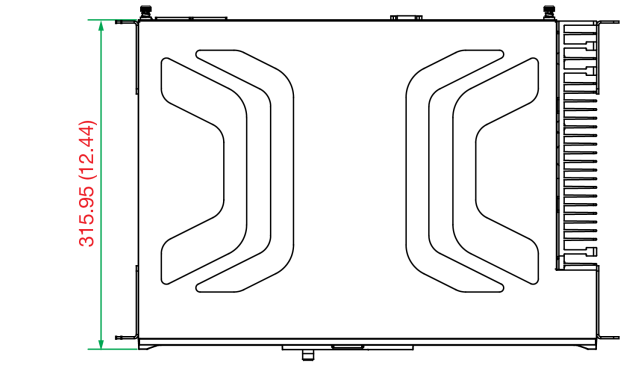
Warranty Period	3 years
Details	See www.moxa.com/warranty

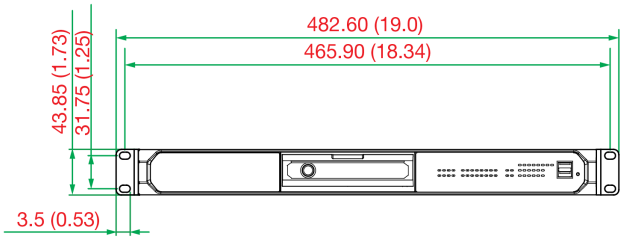
Package Contents

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 Input 100-240 VAC/VDC	Operating Temp.
DA-681C-KL1-H-T	Intel® Celeron® 3965U	Single	-40 to 70°C
DA-681C-KL1-HH-T	Intel® Celeron® 3965U	Dual	-40 to 70°C
DA-681C-KL3-HH-T	Intel® Core™ i3-7100U	Dual	-40 to 70°C

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