MPC-2070 Series

Preliminary

7-inch industrial fanless panel computers

> 7-inch panel computer
> Intel® Atom™ Processor E3826 1.46GHz
> -40 to 70°C wide-temperature design, no fan / no heater
> 1000-nit sunlight-readable LCD
> Glove-friendly, multi-touch screen
> Class 1 Division 2*, ATEX Zone 2*, and IECEx* certified
> Wide range 9 to 36 VDC power input

*Certification is underway. Please check Moxa's website for the most up-to-date certification status.
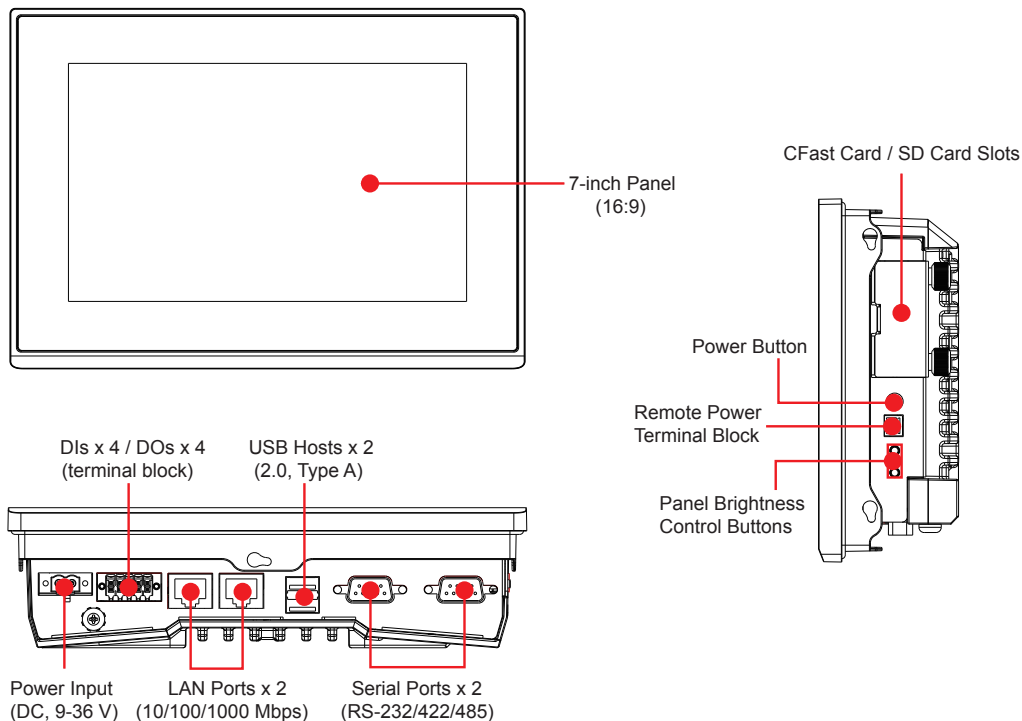
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: Introduction

The MPC-2070 7-inch panel computers with E3800 series Intel® Atom™ processor deliver a reliable and durable platform of wide versatility for use in industrial environments. With two software selectable RS-232/422/485 serial ports and two gigabit Ethernet LAN ports, the MPC-2070 panel computers support a wide variety of serial interfaces as well as high-speed IT communications, all with native network redundancy.

The MPC-2070 series panel computers are designed with a wide, -40 to 70°C temperature range, and come with a fanless, streamlined enclosure designed for highly efficient heat dissipation, making this one of the most reliable industrial platforms available for harsh, hot, outdoor environments like oil and gas fields, or drilling platforms. The MPC-2070 also features a 1000-nit LCD panel offering a sunlight-readable, projected-capacitive, glove-friendly, multi-touch screen, providing an excellent user experience for applications outdoors.

: Appearance

7-inch Panel (16:9)

CFast Card / SD Card Slots

Power Button

Remote Power Terminal Block

Panel Brightness Control Buttons

DIs x 4 / DOs x 4 (terminal block)

USB Hosts x 2 (2.0, Type A)

Power Input (DC, 9-36 V)

LAN Ports x 2 (10/100/1000 Mbps)

Serial Ports x 2 (RS-232/422/485)

: Specifications

Computer

CPU: Intel® Atom™ Processor E3826, Dual Core, 1.46 GHz
Supported OS: Windows Embedded Standard 7 32/64-bit, Windows 7 Professional 32/64-bit (the OS is not pre-installed in some models)
System Memory: 4 GB pre-installed (SDRAM)
USB: USB 2.0 hosts x 2, type-A connectors, supporting system boot up
Storage: 1 CFast slot + 1 SD card slot (storage is not pre-installed in some models)

Display

Panel Size: 7-inch viewable image size
Touch: Capacitive multi-touch with glove-friendly support
Aspect Ratio: 16:9
Pixels: 800 x 480
Pixel Pitch (RGB): 0.1905 (H) x 0.1905 (V) mm
Response Time: 5 ms (gray to gray)
Contrast Ratio: 600:1
Light Intensity: 1000 cd/m^2
Note: The brightness level of the MPC-2070 is from 0 to 10. To extend the lifetime of the display, we recommend using it with a brightness level of 8 or less at ambient temperatures above 60°C.
Viewing Angles: 140°/120°
Active Display Area: 152.4 (H) x 91.44 (V) mm
Max. No. of Colors: 16.2M (8-bit color)

Ethernet Interface

LAN: Auto-sensing 10/100/1000 Mbps ports (RJ45 port) x 2
Magnetic Isolation Protection: 1.5 kV, built-in

Serial Interface

Serial Standards: 2 RS-232/422/485 ports, software-selectable (DB9 male)

Serial Communication Parameters

Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF
Baudrate: 50 bps to 115.2 kbps

Serial Signals

RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

Digital Input

Input Channels: DI x 4
Input Voltage: 0 to 30 VDC at 25 Hz
Digital Input Levels for Dry Contacts: Logic level 0: Close to GND
Logic level 1: Open
Digital Input Levels for Wet Contacts: Logic level 1: +3 V max. Logic level 0: +10 V to +30 V (Source to DI)
Connector Type: 10-pin terminal block
Isolation: 3 kV optical isolation

Digital Output

Output Channels: DO x 4, sink type
Output Current: Max. 200 mA per channel
On-State Voltage: 24 VDC nominal, open collector to 30 VDC
Connector Type: 10-pin terminal block
Isolation: 3 kV optical isolation

Physical Characteristics

Housing: Aluminum sheet metal
Weight: 1.40 kg (3.09 lb)
Dimensions: 200 x 140 x 45 mm (7.9 x 5.5 x 1.8 in)
Mounting: VESA mount (50 x 75 mm), and panel mount
System Cooling: Fanless thermal design

Environmental Limits

Operating Temperature: -40 to 70°C (-40 to 158°F)
Storage Temperature: -40 to 70°C (-40 to 158°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-Vibration: 2 Grms, 5-500 Hz frequency, compliant with IEC 60068-2-6 standard
Anti-Shock: 20 Grms, half sine wave under system operating, 11 ms duration, compliant with IEC 60068-2-27 standard

Power Requirements

Input Voltage: 12/24 VDC (Range 9 to 36 VDC)
Power Consumption: Less than 40 W

Standards and Certifications

Safety: UL 60950-1, IEC 60950-1
EMC: EN 55032, EN 55024
EMI: CISPR 32, FCC Part 15B Class A
EMS:
IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV
IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m
IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV
IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV
IEC 61000-4-6 CS: 10 V
IEC 61000-4-8
Ingress Protection Rating: IP66 (front) / IP20 (rear)
Green Product: RoHS, cRoHS, WEEE

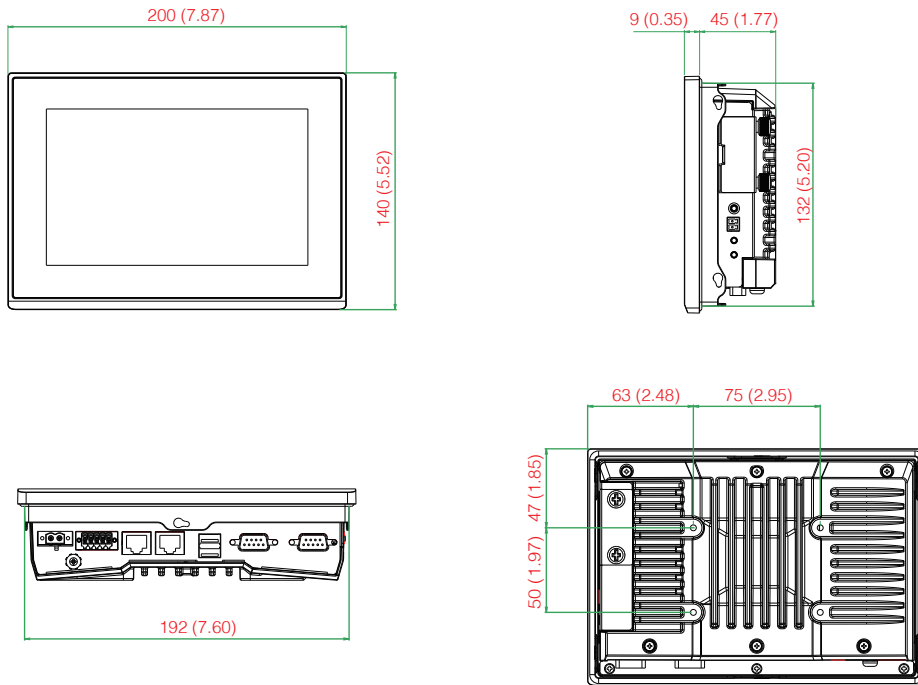### Warranty

Warranty Period:
• Computer system: 3 years
• LCD panel: 1 year
Details: See www.moxa.com/warranty

MOXA®

Dimensions

Unit: mm (inch)

200 (7.87)
140 (5.52)

9 (0.35) 45 (1.77)
132 (5.20)

192 (7.60)

63 (2.48) 75 (2.95)
47 (1.85)
50 (1.97)

Ordering Information

Model Name	CPU	RAM	Storage (pre-installed)	OS (pre-installed)	Certifications	CFast Slots	SD Slots	LANs	Serial	USB 2.0	DIO	Power Input	Operating Temp.
MPC-2070-E2-T	E3826	4 GB	–	–	CID2/ATEX/ IECEx Zone2	1	1	2	2	2	4	9-36 VDC, non-isolation	-40 to 70°C
MPC-2070-E2-T-W7E	E3826	4 GB	32 GB CFast	Windows 7 Embedded 64-bit	CID2/ATEX/ IECEx Zone2	1	1	2	2	2	4	9-36 VDC, non-isolation	-40 to 70°C

Note: Use the Moxa CTOS process to select RAM, storage, and OS options. Please contact your Moxa sales representative for details.

Package Checklist

- 1 MPC-2070 panel computer
- 1 2-pin terminal block for DC power input
- 1 10-pin terminal block for DIO
- 1 2-pin terminal block for remote power switch
- 6 panel mounting screws
- Quick installation guide (printed)
- Warranty card