HMC4043A-M Series
QUICK START GUIDE



Product Description:

HMC4043A-M: 4.3”, 480 x 272 pixels, WQVGA color TFT with 4-wire analog resistive touch screen with 2 serial ports*, one USB Device port, one USB Host port, one Ethernet port and SD card slot. It supports 1 expansion module.

* Refer to the communication section for more details.

Contents:

1ea HMC4043A-M (bagged and sealed)
1ea Mounting kit (2ea mounting clips)
1ea Input Power connector plug
1ea Quick Start Guide

GETTING STARTED

Perform the following steps to configure and use the HMC4000 Series unit:

1. Install MAPware-7000 software.
2. Create your project.
3. Connect a programming cable (USB or Ethernet).
4. Save your project.
5. Download project to HMC4043 (note: you must select the Download Firmware option for the initial download).
6. The HMC4000 unit is ready to use in the system.

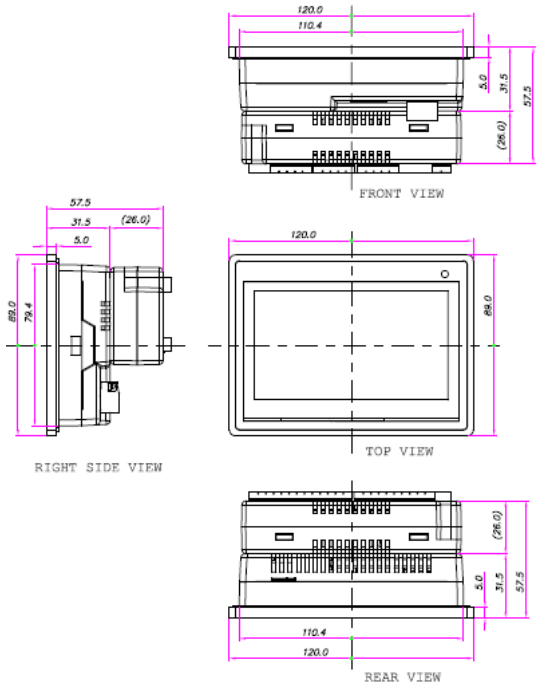
For More Information, visit
https:\\www.maplesystems.com

SPECIFICATIONS

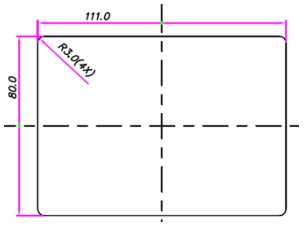
Power (Base)	24VDC(+20%, -15%), 160mA, 3.84W
Power (With 1 Expansion)	24VDC(+20%, -15%), 210mA, 5.04W
Display	4.3” WQVGA color TFT with 4-wire analog resistive touch screen
LEDs	1
RAM Memory	512MB
User Application	Up to 1GB that includes user application, data log, alarms, retentive memory and logic memory
eMMC	4GB
RTC	Built-in, date and time function
Expansion	Supports 1 expansion slot
Weight	Approx. 400gm
Panel Cutout	111(W) x 80.00(H) mm
Product Dimensions	120(W) x 89(H) x 31.5(D) mm
Communication	
Serial Port*	1 x RS232, RS485
USB Ports	1 USB Type C & 1 USB Host
Ethernet	1 Ethernet Port
SD Card	Micro SD [High Capacity (4GB to 32GB)] Speed Class: C10 U1 *[While inserting and removing SD card, please make sure to TURN OFF the power to the unit.]*
Environment & Approvals	
Operating Temperature	0° to 50°C
Storage Temperature	-20° to 85°C
Humidity	10 to 90% (Non-Condensing)
Shock	IEC 60068-2-27 25g, 11ms, 6 shocks per axis, total 18 shocks (X, Y, Z)
Vibration	IEC 60068-2-6 5 to 150Hz, 3g peak (X, Y, Z)
EMC	EN 55011 : 2009/A1 : 2010 EN 61131-2 : 2007 EN 61000-6-2 : 2005/AC : 2005 EN 61000-6-4 : 2007/A1 : 2011
Protection	IP66 for front panel mounting
APPROVALS	CE, UL (Class1 Div2) & RoHS

*[*** Note:** HMC4043A-M support one DE9 port that supports RS232 & RS485 levels on different pins. “Y” type cable can be used for separate RS232 and RS485 levels simultaneously.]*
(Part No.: 7431-0122)

PRODUCT DIMENSIONS



PANEL CUTOUT DIMENSIONS



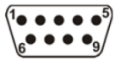
Panel Cutout Dimensions: 111.00(W) x 80.00(H) mm
Panel Thickness: Maximum 6mm
Mounting Clamps: 2
Tighten the mounting screws evenly to a torque approximately 0.4N/m to maintain water and dust resistance.

COMMUNICATION

This section provides information regarding communication interfaces supported by this product.

Serial Port

1 Physical Port : Com1-RS232, Com2-RS485

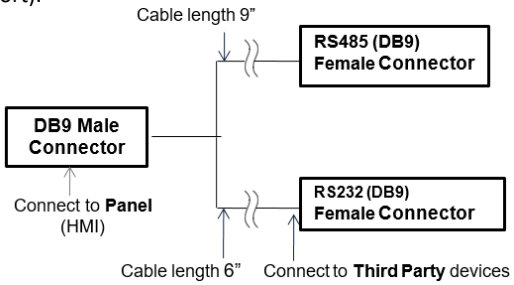


DE9 Female

Pin number	Signal
1	TX+
2	TXD
3	RXD
4	RX+
5	SG
6	NC
7	NC
8	TX-
9	RX-

Y Type Cable

Special "Y" cable for HMC unit (two communication levels on one port).





(DB9 Male connector)



(RS485 Female connector)

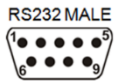


(RS232 Female connector)

Pin number	Signal	Pin number(RS485)	Pin number(RS232)
1	TX+	1	1
2	TXD	2	2
3	RXD	3	3
4	RX+	4	4
5	SG	5	5
6	NC	6	6
7	NC	7	7
8	TX-	8	8
9	RX-	9	9

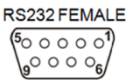
Cable Diagrams:

PC to unit programming cable: RS232 Pinout



RS232 MALE

RS232 pinout



RS232 FEMALE

Pin number	Signal	Pin number	Signal
2	TXD	3	RXD
3	RXD	2	TXD
5	GND	5	GND

2 Wire RS485 connections:

2-wire RS485 pinout

Signal	Pin number	Signal
A (TX+ / RX+)	1	TX+
B (TX- / RX-)	4	RX+
GND	5	GND and Shield
	8	TX-
	9	RX-

4 Wire RS485 connections:

Pin number	Signal	Pin number	Signal
YELLOW	RX+	1	TX+
GREEN	TX+	4	RX+
BLACK	GND	5	GND and Shield
WHITE	RX-	8	TX-
BLUE	TX-	9	RX-

USB Type C Port

1.USB Type C, compliant with USB 2.0 specification, self-powered device.
2. Connector used: USB Type C Female connector.

USB Host Port

1. USB Host, compliant with USB 2.0 specification.
2. USB Host can handle only USB memory stick devices and can source current up to 150mA only.
3. Connector used: Standard USB Type A Female connector.

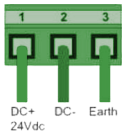
Ethernet Port

1. Fully compliant with IEEE 802.3 / 802.3u standards.
2. 10/100Mbps support.
3. Connector used: Standard shielded RJ-45 female jack with in-built speed and link activity indication LEDs.

Pin number	Signal
1	TX+
2	TX-
3	RX+
4	NC
5	NC
6	RX-
7	NC
8	NC

Grounding

The optimum method for grounding electronic equipment is to ground it separately from other high-power systems and to ground more than one unit of electronic equipment with a single-point ground. The Grounding marked terminal (see below) is provided on the unit.



*[**Note:** Do not use a ground that has an unstable impedance, such as painted screws or a ground subject to vibration.]*

UL APPROVAL

CONTROL DRAWING NO# CNTL/DWG/1011-4043AM

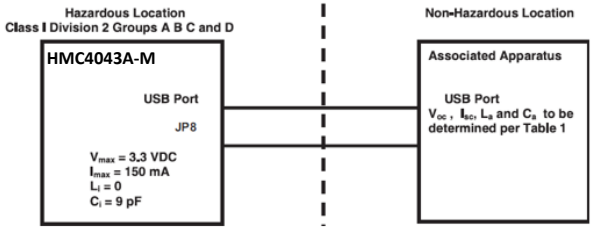


TABLE 1:

Nonincendive. Equipment		Associated Apparatus
V max (or Ui)	≥	Voc or Vt (or Uo)
I max (or Ii)	≥	Isc or It (or Io)
Ci + Ccable	≤	Ca (or Co)
Li + Lcable	≤	La (or Lo)

Capacitance and inductance of the field wiring from the nonincendive equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown in Table 1.
Where the cable capacitance and inductance per foot are not known, the following values shall be used: Ccable = 60 pF/ft., Lcable = 0.2 µH/ft.
Wiring method must be in accordance with ANSI/NFPA70

WARNINGS

- This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or non-hazardous locations only.
- WARNING – EXPLOSION HAZARD – Do not disconnect equipment unless power has been removed or the area is known to be non- hazardous.
- WARNING – EXPLOSION HAZARD - Substitution of components may impair suitability for Class I, Division 2.
- The list of materials used in the construction of these devices with name of sealed device - generic name of the material and the supplier's name and type designation.
- It is recommended that the user periodically inspect the sealed devices used, for any degradation of properties and replace the device if any degradation is found.

REVISION HISTORY

Rev.	Description	Date
0.0	Initial release	02/18/2022
1.0	Updated Mounting Clamp Callout	06/13/2023
2.0	Minor Formatting Changes	09/30/2024
3.0	RS232 Wiring Correction	07/27/2026

Maple Systems Inc® reserves the right to change or discontinue specifications and features without prior notice.
To view the latest and updated datasheets/manuals, please visit ***www.maplesystems.com.***