# Quick Start Guide
# HMC3043A-M


**Description:**

HMC3043A-M 480x272 pixels, 4.3” color TFT, with one expansion slot, an Ethernet port, and two serial ports* (see note under pinout).

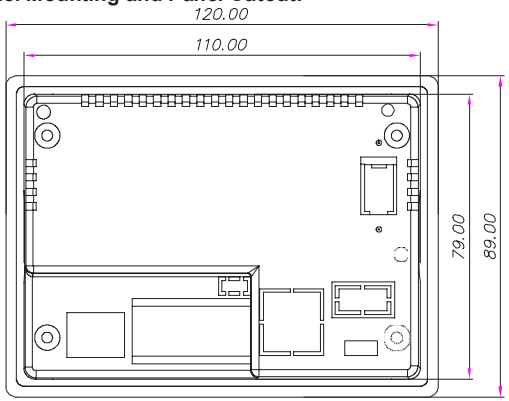
**Contents:**

- 1 HMC3043A-M (in plastic bag with protective cover sheet on the screen)
- 1 plastic bag containing 4 mounting clamps (each clamp consisting of cap nut, bolt, and clamp)
- 1 three prong green power plug*
- Cardboard package inserts
- Quick Start Guide

*Note: Connector manufacturer may vary.

Programming software (MAPware-7000), cables, and power supply purchased separately.

**Panel Mounting and Panel Cutout:**




Tighten the mounting screws evenly to a torque between 0.4 and 0.5 Nm to maintain water and dust resistance. Make sure the panel is not dirty and warped and that it is strong enough to hold the unit.

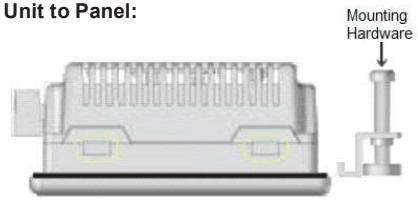
Note: Maximum panel thickness (on which unit is to be mounted) should be 6.0 mm (Tolerance: +/-0.2 mm).

**Specifications:**

The HMC3043A-M is a combination operator-based HMI (Human Machine Interface) with built-in PLC (Programmable Logic Controller) operation. It communicates with external PLCs over serial communications ports to read/write data. One I/O expansion module can be attached.

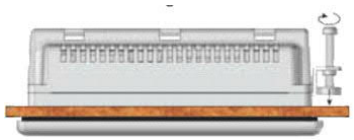
| | |
|---|---|
| Power: | 24VDC +/- 15%, 8W (with 1 expansion) |
| Display: | 4.3” TFT (480 x 272 pixels) Color graphics display |
| Bezel: | NEMA 4X (IP 66) rated |
| Touchscreen: | 4-wire analog resistive |
| LEDs: | One Power LED |
| CPU: | 32-bit RISC, 454 MHz |
| Memory: | 45 MB Max. Application Memory |
| Ethernet (RJ45): | One 10/100 Mbps port |
| Serial ports (DE9S): | Two serial ports (RS232/RS485/RS422) |
| USB Slave (Micro Type B): | Upload/download projects |
| USB Host (Standard Type A): | Data storage |
| SD card: | Micro SD (high capacity: 4-32 GB) |
| Expansion ports: | One for optional HMC3 I/O modules |
| Operating temp: | 0 to 60° C |
| Humidity: | 10% to 90% (non-condensing) |
| Dimensions (WxHxD): | 4.72 x 3.50 x 1.24 inches [120 x 89 x 31.5mm] |
| Panel cutout: | 4.37 x 3.14 inches [111 x 80mm] |

**Mounting Unit to Panel:**




Mounting Hardware is a set of cap nut, screw & clamp

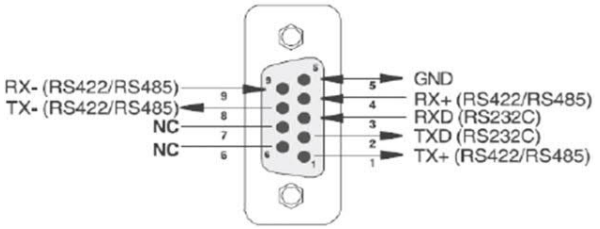
Step 1: Place unit into cutout of panel and position mounting clamps (4) into the side slots of HMC3043 enclosure as shown.



Step 2: Tighten clamps evenly to prevent warping. Continue to tighten until a torque force of 0.4-0.5 Nm is obtained.

Step 3: HMC3043 should be aligned evenly with the cutout with no warping present after clamps are tightened.

Port Details (COM1 and COM2):

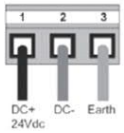



DE9S (Female) Connector

Note: This model has one physical connector that can be used as COM1 (RS232) and COM2 (RS485/422) simultaneously, when a “Y” adapter cable is used. Connect shell to shield of cable.

**Grounding:**

The HMC3043 should have a good electrical connection to earth ground via the power connector for safety and to reduce electrical noise. The HMC unit should be grounded separately from other high-power systems.




*Note: Do not use a ground connection that has potential impedance (such as painted screws) or is subject to vibration.*

**Expansion I/O Modules:**

The HMC3043A-M has one expansion slot that you can use to connect I/O modules. Below is a listing of modules currently available (consult Maple Systems website for additional information).

| | |
|---|---|
| HMC3-M1616P: | 16 digital input, 16 PNP-type digital output |
| HMC3-M1614Y: | 16 digital input, 14 digital output (12 relay, 2 PNP-type) |
| HMC3-M1212P0200: | 12 digital input, 12 PNP-type digital output, 2 analog input |
| HMC3-M1212Y0200: | 12 digital input, 12 digital output (10 relay, 2 PNP-type), 2 analog input |
| HMC3-M1210P0201: | 12 digital input, 10 PNP-type digital output, 2 analog input and 1 analog output. |
| HMC3-M1210Y0201: | 12 digital input, 10 digital output (8 relay, 2 PNP-type), 2 analog input, and 1 analog output. |
| HMC3-M0808P0401T: | 8 digital input, 8 PNP-type digital output, 4 analog input and 1 analog output. |
| HMC3-M0808Y0401T: | 8 digital input, 8 digital output (6 relay, 2 PNP-type), 4 analog input, and 1 analog output. |

**Getting Started:**

Perform the following steps to configure and use the HMC3000 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 HMC3043 (note: you must select the Download Firmware option for the initial download).
6. The HMC3000 unit is ready to use in the system.

**PC Requirements for MAPware-7000:**

Processor: 1 GHz Pentium-based processor or equivalent
Operating System: Microsoft Windows 7 or 10
RAM: 1 GB
Hard Disk: 800 MB (including 200 MB for the .NET Framework Redistributable)
Display: 1024x768 high color 16-bit
Mouse/Keyboard: Required
USB or Ethernet port: for project downloads

**Installing the Software:**

1. Insert MAPware-7000 CD into CD-ROM drive and follow instructions.
2. If software installation does not automatically start, click \SETUP.EXE from CD directory.

PLC Connecting Cables:
Contact Maple Systems to order any PLC Communications Cables or to download a cable pinout diagram.

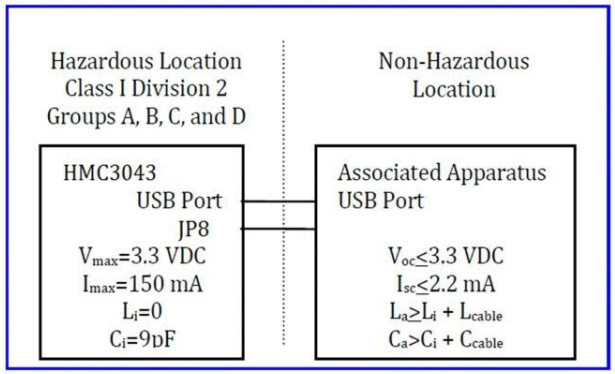
**Additional Resources:**

Detailed instructions on the operation and installation of the HMC3000 Series are available in the HMC3000 Programming Manual that is included with the MAPware-7000 configuration software. MAPware-7000 also includes help files that provide detailed information on using the configuration software.

Other Sources (visit Maple Systems Support Center website):

—Controller Information Sheets- specific information on connecting a particular manufacturer's PLC to the HMC3000
—Cable Drawings- wiring diagrams to particular PLCs
—Technical Notes- Provides additional information and examples not covered in the operations manual
—Software Upgrades- Upgrades to the MAPware-7000 software

**Class I Division 2 Wiring Considerations:**




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.

TABLE 1:

| I.S. Equipment | Associated Apparatus |
|---|---|
| $V_{max}$ (or $U_i$) ≥ | $V_{oc}$ or $V_t$ (or $U_o$) |
| $I_{max}$ (or $I_i$) ≥ | $I_{sc}$ or $I_t$ (or $I_o$) |
| $C_i$ + $C_{cable}$ ≤ | $C_a$ (or $C_o$) |
| $L_i$ + $L_{cable}$ ≤ | $L_a$ (or $L_o$) |

Wiring method must be in accordance with ANSI/NFPA70.

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.

⚠ WARNING - CAUTION, battery may explode if mistreated. Do not recharge, disassemble or dispose of in fire.

It is recommended that the user periodically inspect the sealed devices used, check for any degradation of properties, and replace as necessary.

**For Technical Support:**

Please contact Maple Systems if you have any questions regarding this product. We ask that you provide us with the unit serial number and firmware revision number written on the product label of the unit.

Maple Systems Inc.
808 134th St. SW, STE 120
Everett, WA 98204
Tel: 425-745-3229
Fax: 425-745-3429
Email: support@maplesystems.com
Website: www.maplesystems.com