

Quick Start Guide HMC7070A-M



Description:

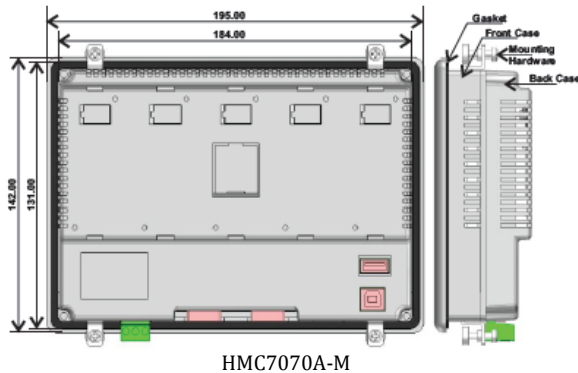
HMC7070A-M- 800 x480 pixels, 7" Color TFT, with five expansion slots, an Ethernet port and two serial ports

Contents:

- 1 HMC7070A-M
- 1 plastic bag containing four mounting clamps (each clamp consisting of cap nut, bolt, and clamp)
- 1 three prong green power plug
- Cardboard package inserts
- Quick Start Guide

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

Panel Mounting and Panel Cutout:



Tighten the mounting screws evenly to a torque between 0.6 and 0.7 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 6.0mm (tolerance: +0.00mm and -0.05mm).

Specifications:

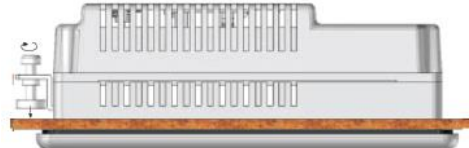
The HMC7070A-M is a combination operator-based HMI (Human Machine Interface) with built-in PLC (programmable logic controller) operation. It communicates with external PLCs over an Ethernet port, or serial communications port to read/write data. Up to five I/O expansion modules can be attached.

| | |
|-----------------|--|
| Power: | 24VDC + 15%, 9W |
| Display: | 7" TFT(800x480 pixels) Color graphics display |
| Bezel: | NEMA 4 (IP 66) rated |
| Touchscreen: | 4-wire analog resistive |
| LED: | One Power LED |
| Memory: | 10 MB Max. Application Memory |
| Ethernet: | One Ethernet port (Project Upload/download and PLC communications) |
| Serial Ports: | Two serial ports (RS232/RS485/RS422) |
| USB Slave: | Upload/download projects |
| USB Host: | Data Storage |
| Operating Temp: | 0 to 50° C |
| Humidity: | 10% to 90% (non-condensing) |
| Dimensions: | 7.68 x 5.59 x 1.97 inches [195x142x50mm] |
| Panel cutout: | 7.24 x 5.16 inches [184x131mm] |

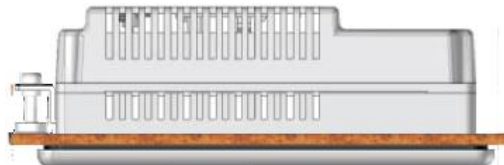
Mounting Unit to Panel:



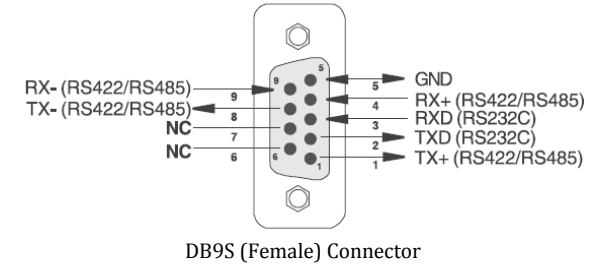
Step 1: Place unit into cutout of panel and position mounting clamps (four) into side slots of HMC7000 enclosure as shown above.



Step 2: Tighten clamps evenly to prevent warping. Continue to tighten until a torque force of 0.6-0.7 nm is obtained.

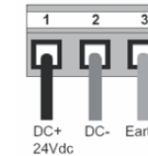


Step 3: HMC7000 should be aligned evenly with the cutout with no warping present after clamps are tightened.
Port Details (COM1 and COM2):



Grounding:

The HMC7000 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 HMC7070A-M has five expansion slots that you can use to connect I/O modules. Consult Maple Systems website for a complete listing of modules currently available.

Getting Started:

Perform the following steps to configure and use the HMC7000 Series unit:

1. Install MAPWare-7000 software.
2. Create your project.
3. Connect a programming cable (USB preferred).
4. Save your project.
5. Download project to HMC7000 (note: you must select the Download Firmware option for the initial download).
6. The HMC7000 unit is ready to use in the system.

PC Requirements for MAPware-7000:

Processor: 1GHz Pentium-based processor or equivalent
 Operating System Microsoft Windows XP Professional, 2000, Vista, Windows 7.
 RAM: 1 GB
 Hard Disk: 800 MB (including 200MB for the .NET Framework Redistributable)
 Display: 1024x768 high color 16-bit
 Mouse/Keyboard: Required
 USB / 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.

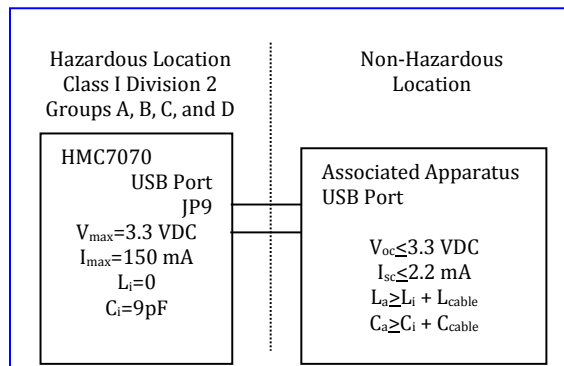
Additional Resources:

Detailed instructions on the operation and installation of the HMC7000 Series are available in the HMC7000 Programming Manual that is included with the MAPware-7000 configuration software. MAPware-7000 also includes help files which provide detailed information on using the configuration software.

Other Sources (visit Maple Systems Support Center):

- Contoller Information Sheets- Specific information on connecting a particular manufacturer's PLC to the HMC7000
- 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 field wiring from intrinsically safe equipment to the associated apparatus must be included in the system calculations as shown in Table 1. Cable capacitance, C_{cable} , plus intrinsically safe equipment capacitance, C_i , must be less than the marked capacitance, C_a (or C_o), shown on any associated apparatus used. The same applies for inductance (L_{cable} , L_i and L_a or L_o , respectively). Where the cable capacitance and inductance per foot are not known, the following values shall be used: $C_{cable} = 60 \text{ pF/ft}$, $L_{cable} = 0.2 \text{ } \mu\text{H/ft}$.

TABLE 1:

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

Wiring method must be in accordance with ANSI/NFPA70 Associated apparatus may be in a Division 2 or Zone 2 location if so approved. Associated apparatus must be installed in accordance with its manufacturer's control drawing and National Electrical Code for installation in the United States and Canadian Electrical Code for installation in Canada.

⚠ WARNING: DO NOT REMOVE OR REPLACE WHILE CIRCUIT IS LIVE UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITIBLE CONCENTRATIONS OF FLAMMABLE SUBSTANCES. 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.

⚠ WARNING - Replace battery with Type CR1225FH-LF, manufactured by Renata SA, only. Use of another battery may present a risk of fire or explosion. See owner's manual for safety instructions.

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. If applicable, please provide us with the type of PLC used in your application.

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