

Communications Modules

Provide Connection, Power, Interface

Description

The MAQ20 communications module is offered in two models and provides the connection between a host computer and a MAQ[®]20 Data Acquisition System. MAQ20-COM4 communicates using Ethernet, USB, or RS-485; MAQ20-COM2 uses Ethernet, USB, or RS-232. Ethernet communications use the Modbus TCP protocol and USB communications are based on the Modbus RTU protocol, which RS-485 and RS-232 communications also use. Serial communications over RS-485 can be either 2-wire or 4-wire.

When using the Ethernet interface, up to four simultaneous socket connections are supported and each socket can process up to four simultaneous Modbus TCP transactions. Serial communications over RS-232 or RS-485 can be run at baud rates as fast as 921.6kbps.

A very useful feature of the MAQ20 system is the capability to store acquired data locally for later analysis. This is provided by the easily accessible and removable 4GB micro-SD memory card that is in the MAQ20-COMx module and can be used to log data acquired from all input modules.

Each MAQ20-COMx module can interface to up to 24 I/O modules in any combination, allowing high channel counts and great flexibility in system configuration.

To power the system, a 7-34VDC power source is connected to the communications module. Regulated and protected supplies within the module then provide power both to the internal circuits and to all I/O modules in the system. When many high power I/O modules are used in a system, MAQ20-PWR3 load-sharing boost power supply modules can be installed in standard I/O module slots to provide the necessary additional power.

► Features

- Connect Host Computer and MAQ[®]20 System
- Communicate using Ethernet, USB, RS-485, RS-232
- Up to 4 Simultaneous Socket Connections with Ethernet
- Baud Rates to 921.6kbps with RS-232/RS-485
- Follow Modbus TCP or RTU Protocols
- Store Acquired Data Locally
- Interface to up to 24 I/O Modules
- 50VDC Communications Interface-to-Bus Isolation

To ensure robustness, the communications interface-to-bus isolation is 50VDC and power input terminals are protected against overvoltage, transient, and reverse connections.

As a minimum, a MAQ[®]20 Data Acquisition System must have a communications module, a backbone, and one I/O module.

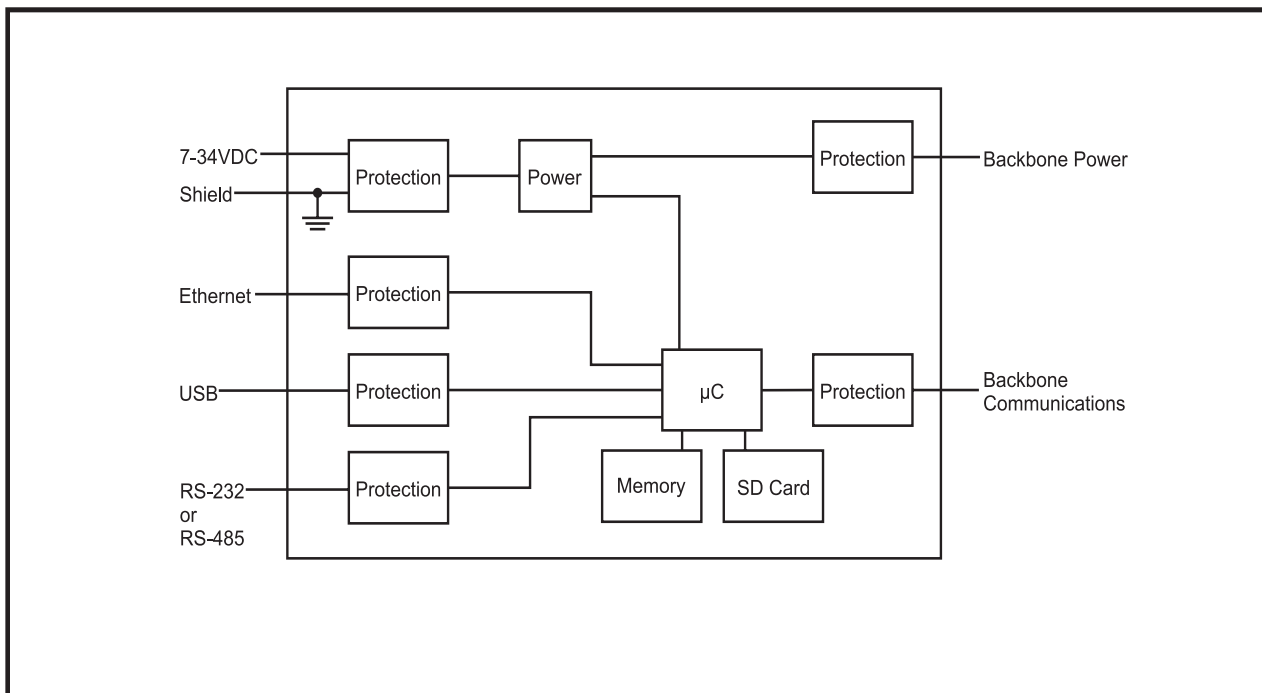


Figure 1: MAQ20 Communications Module Block Diagram



Specifications

| Module | Description |
|---|--|
| MAQ20-COM4 MAQ20-COM2 | Ethernet, USB, RS-485 Ethernet, USB, RS-232 |
| Communications Ethernet USB RS-485 RS-232 | 10/100 Base-T (1000 Base-T compatible) RJ-45, Modbus TCP USB 2.0, Type B, Proprietary Modbus over USB 2-wire or 4-wire, up to 921.6kbps, up to 4000 ft, RJ-45, Modbus RTU Up to 921.6kbps, RJ-45, Modbus RTU |
| CMV Power-to-Bus Communication Port-to-Bus Transient | 50VDC 50VDC ANSI/IEEE C37.90.1 |
| Power Supply Input Power Power to Bus | 7-34VDC at 2A max 5VDC at 3A max |
| Dimensions (h)(w)(d) | 4.51" x 1.11" x 3.26" (114.6mm x 28.2mm x 82.8mm) |
| Environmental Operating Temperature Storage Temperature Relative Humidity Emissions, EN61000-6-4 Radiated, Conducted Immunity EN61000-6-2 RF ESD, EFT | -40°C to +85°C -40°C to +85°C 0 to 95% Noncondensing ISM Group 1 Class A ISM Group 1 Performance A Performance B |
| Certifications | Heavy Industrial CE, ATEX Pending UL/CUL Class I, Division 2, Groups A, B, C, D Pending |

Ordering Information

| Model | Description |
|------------|-----------------------|
| MAQ20-COM4 | Ethernet, USB, RS-485 |
| MAQ20-COM2 | Ethernet, USB, RS-232 |



Figure 2: Communications Module

MAQ20

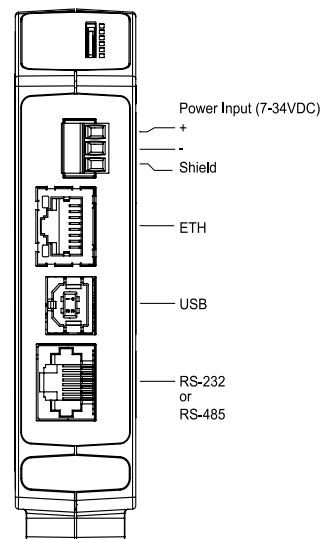


Figure 3: Communications Module Input Connections

For full details on module operation, refer to **MA1040 – MAQ20 Communications Module Hardware User Manual**, available for download at: www.dataforth.com/maq20_download.aspx

Assured Systems

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