

# Analog Input Module: Frequency

Measure Frequencies to 1MHz

## Description

The MAQ20 frequency input module offers 8 input channels for measuring frequencies up to 1MHz. All channels are individually configurable for range and alarms to match the most demanding applications. Four controllable outputs can be used for sensor excitation or as 5V logic compatible outputs. High, Low, High-High and Low-Low alarms provide essential monitoring and warning functions to ensure optimum process flow and fail-safe applications. Field I/O connections are made through a pluggable terminal block with positions designated for the termination of wiring shields.

Input-to-bus isolation is a robust 1500Vrms and each individual channel is protected up to 240Vrms continuous.

Channels in a module can be selectively enabled for scanning. All channels are enabled by default; however, non-used channels can be disabled to increase the system sampling rate of enabled channels.

## ► Features

- 8 Input Channels
- 50mV Sensitivity
- Frequency Range – 0.5Hz to 1MHz plus State Change
- Operating Range – DC + Signal  $\leq 300\text{Vrms}$
- All Channels Individually Configurable for Range and Alarms
- 4 Excitation Sources to Power Sensors or Provide 5V Logic Compatible Output
- 1500Vrms Input-to-Bus Isolation
- Each Channel Protected up to 240Vrms
- Selective Enabling of Module Channels for Scanning

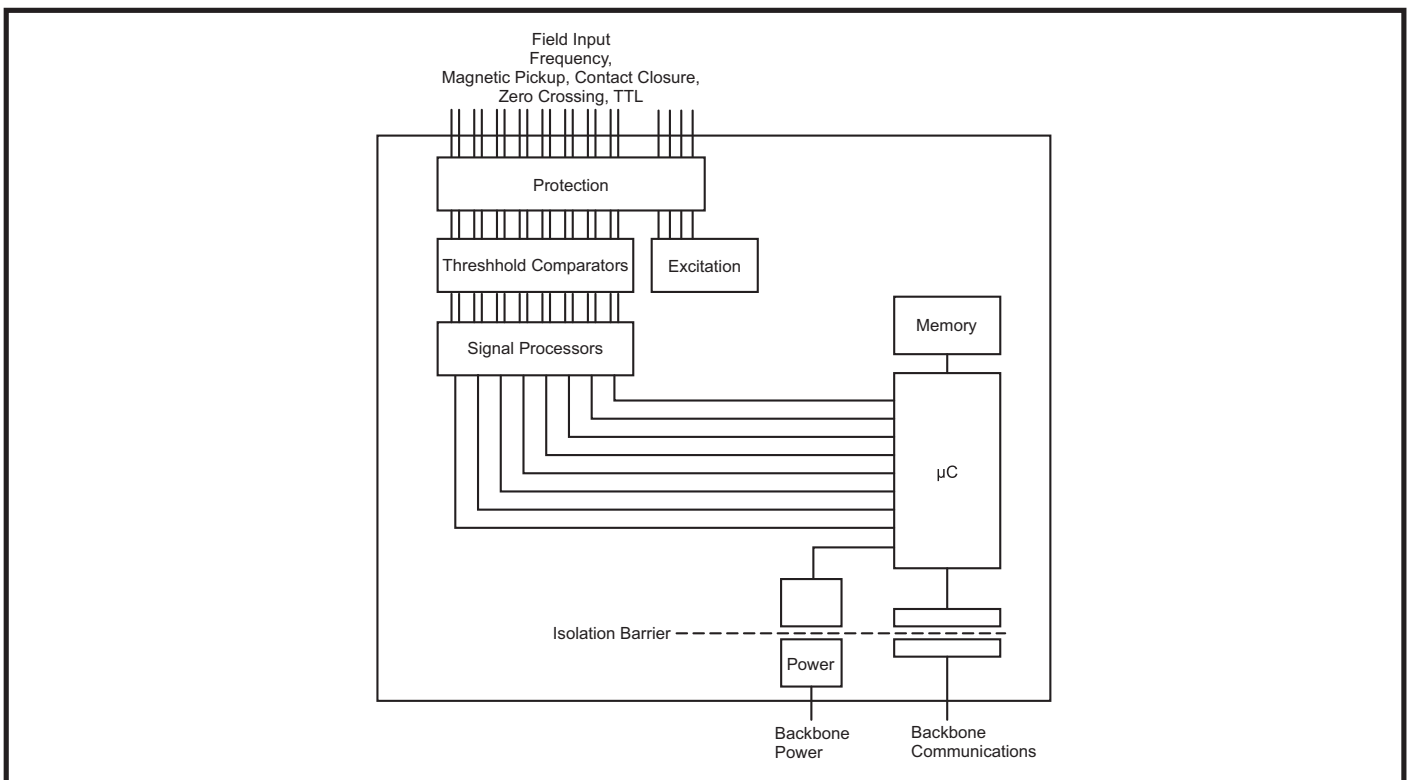


Figure 1: MAQ20 Frequency Input Module Block Diagram

## Specifications

Typical\* at T<sub>A</sub>=+25°C and +24VDC system power

Module	Description
MAQ20-FREQ <sup>◇</sup> Input Signal Excitation	8-channel, Frequency Input, 0.5Hz to 1MHz, plus state change detect 50mV Sensitivity Operating Range: DC + signal ≤300Vrms Four 5V sources at 8mA each Use for sensor excitation or 5V logic compatible output
Per Channel Setup Input Protection Continuous Transient CMV Channel-to-Bus Channel-to-Channel Transient	Individually configurable for range, alarms  240Vrms max ANSI/IEEE C37.90.1  1500Vrms, 1 min 0V ANSI/IEEE C37.90.1
Resolution and Accuracy Clock Accuracy Clock Accuracy Over Temp	32 bits ±0.003% ±0.01%, -40°C to +85°C
Scan Rate Alarms Power Supply Current	1000 Ch/s High / High-High / Low / Low-Low 400mA
Dimensions (h)(w)(d)	4.51" x 0.60" x 3.26" (114.6mm x 15.3mm 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 ±0.5% Span Error Performance B
Certifications	Heavy Industrial CE, ATEX Pending UL Class I, Division 2, Groups A, B, C, D Pending

## Ordering Information

Model	Description
MAQ20-FREQ	Analog Input Module; Frequency, 8-ch

### NOTES:

\* Contact factory or your local Dataforth sales office for maximum values.