Analog Output Modules: Voltage & Current

8 Isolated Voltage or Current Outputs

Description

The MAQ20 voltage output module and current output module offer 8 isolated voltage or current outputs. All channels are individually configurable for range and programmable output to match the most demanding applications. High-level per-channel isolation gives the module unmatched ruggedness and flexibility while default outputs provide essential functionality for fail-safe systems. User defined waveform outputs allow application-specific sophisticated, autonomous control. Field output connections are made through a pluggable terminal block which simplifies wiring during system setup and reconfiguration.

Input-to-bus isolation is a robust 1500Vrms and channel-to-channel isolation is 300Vrms. In addition, each channel is protected up to 40Vrms continuous overload in case of inadvertent wiring errors.

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

▶ Features

- 8 Isolated Output Channels
- Voltage or Current Output
- All Channels Individually Configurable for Range and Programmable Output
- User-Defined Default Output and Output Waveform
- 1500Vrms Input-to-Bus Isolation
- 300Vrms Channel-to-Channel Isolation
- Each Channel Protected up to 40Vrms Continuous Overload
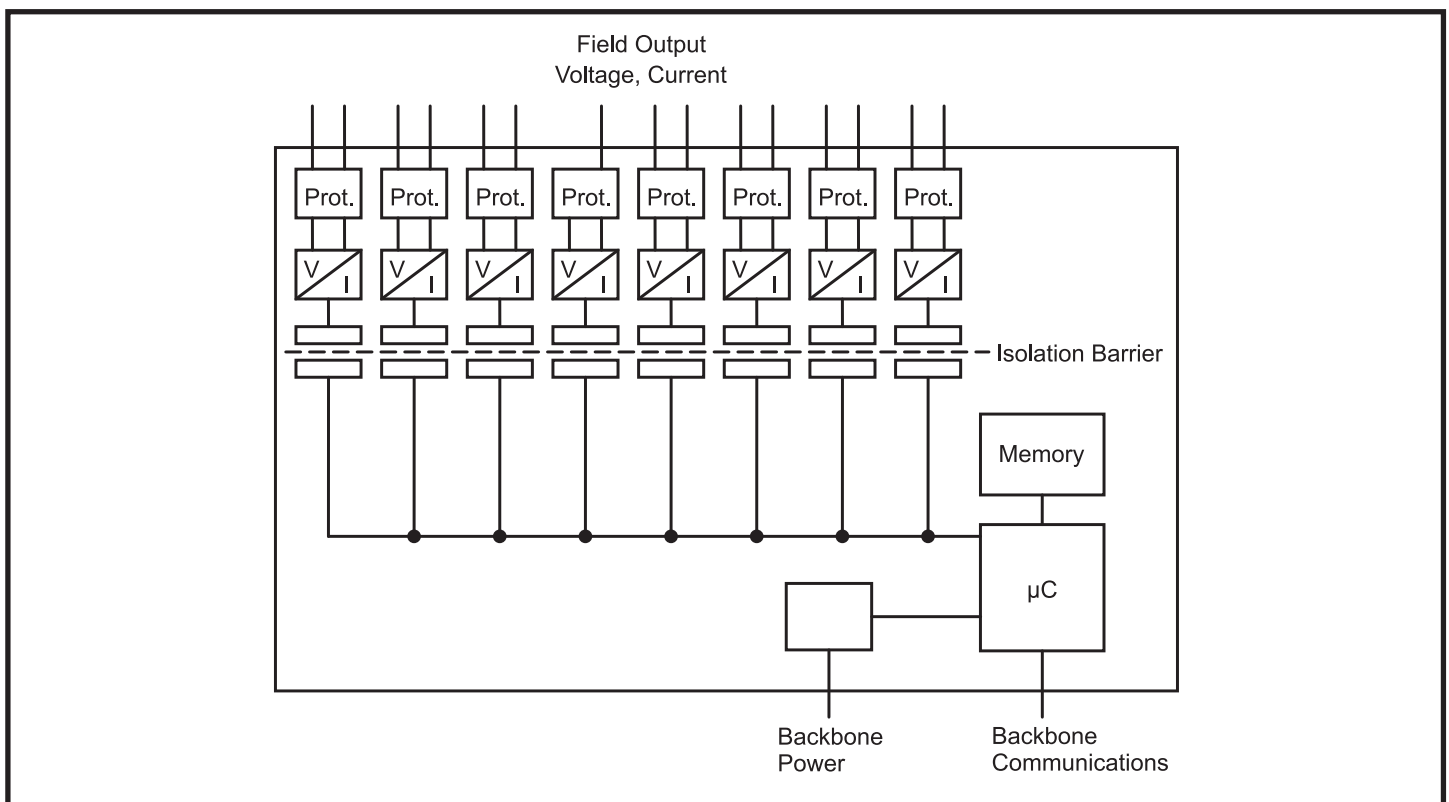- Selective Enabling of Module Channels for Refresh

Figure 1: MAQ20 Voltage & Current Output Module Block Diagram

Specifications
Typical* at T_A=+25°C and +24VDC system power

Module	Description
MAQ20-VO	8 Isolated Channel Voltage Output 0-2.5V, 0-5V, 0-10V, ±2.5V, ±5V, ±10V (Default ±10V)
MAQ20-IO	8 Isolated Channel Current Output 0-20mA, 4-20mA (Default 0-20mA)
Per Channel Setup	Individually configurable for range, default output, waveform
MAQ20-VO	
Output Drive (Max Load)	10mA (1000Ω at 10V)
Over-range	10.5V
MAQ20-IO	
Compliance	15VDC
Load Range	0-600Ω
Over-range	21.5mA
Current Limit	26mA
Output Protection	
Continuous	40Vrms max
Transient	ANSI/IEEE C37.90.1
CMV	
Channel-to-Bus	1500Vrms, 1 min
Channel-to-Channel	300Vrms
Transient	ANSI/IEEE C37.90.1
CMR	75dB at 50/60Hz
Accuracy[1]	±0.040% span
Linearity / Conformity	±0.030% span
Resolution	0.024% span
Stability	
Zero	±25ppm/C
Span	±35ppm/C
Bandwidth, −3dB	100Hz
Update Rate	1600 Ch/s
Power Supply Current	450mA at no-load, 650mA at full-load
Dimensions (h)(w)(d)	4.51" x 0.60" x 3.26" (114.6mm x 15.3mm x 82.8mm)
Environmental	
Operating Temperature	−40°C to +85°C
Storage Temperature	−40°C to +85°C
Relative Humidity	0 to 95% Noncondensing
Emissions, EN61000-6-4	ISM Group 1
Radiated, Conducted	Class A
Immunity EN61000-6-2	ISM Group 1
RF	Performance A ±0.5% Span Error
ESD, EFT	Performance B
Certifications	Heavy Industrial CE, ATEX Pending UL Class I, Division 2, Groups A, B, C, D Pending

NOTES:

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

(1) Includes conformity, hysteresis and repeatability.

Ordering Information

Model	Description
MAQ20-VO	Analog Output Module; Voltage, 8-ch
MAQ20-IO	Analog Output Module; Current mA, 8-ch

MAQ20

For output connections and full details on module operation, refer to MA1042 – MAQ20 Voltage and Current Output Module Hardware User Manual, available for download at: www.dataforth.com/maq20_download.aspx.