Analog Output Modules: Process Voltage and Process Current

8 Isolated Voltage or Current-outputs

RoHS III COMPLIANT 2015/863 | c UL us LISTED | CE

DESCRIPTION

The MAQ®20 voltage output module, MAQ20-VO, and current output module, MAQ20-IO, 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.

All MAQ20 modules are designed for installation in Class I, Division 2 hazardous locations and have a high level of immunity to environmental noise commonly present in heavy industrial environments.

FEATURES

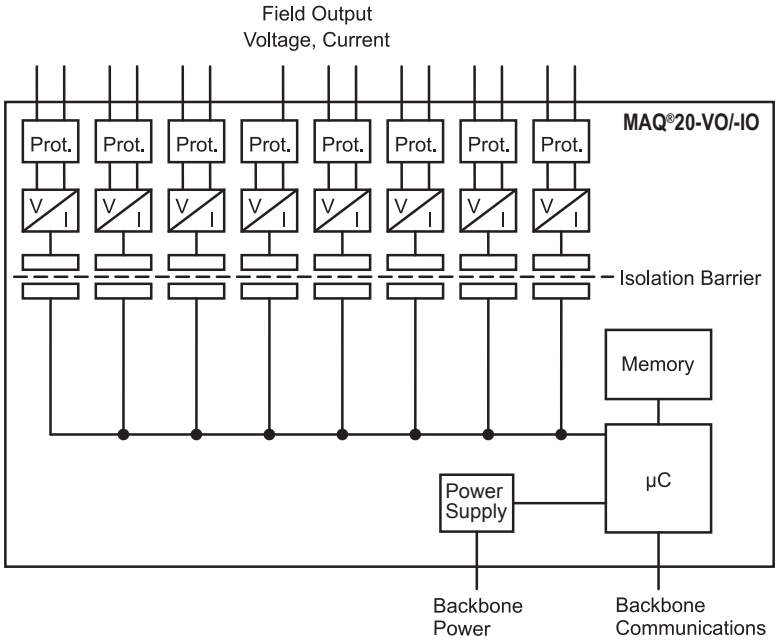
- 8 Isolated Output Channels
- Voltage or Current-output
- All Channels Individually Configurable for Range and Programmable Output
- User-defined Default Output and Output Waveform
- 1500Vrms Input-to-Bus Isolation
- 300Vrms Channel-to-Channel Isolation
- Each Channel Protected up to 40Vrms Continuous Overload
- Selective Enabling of Module Channels for Refresh
- Heavy Industrial CE Compliant
- UL/cUL (Class I, Div 2, Groups A, B, C, D) File E232858
- ATEX Compliance Pending
- Manufactured per RoHS III Directive 2015/863

BENEFITS

- Highly Compact
- Low Cost per Channel
- Modular
- On-vehicle/-mobile Use Possible (Wide Power Supply Voltage)
- Open Software Platform Options
- Easy and Fast Setup/Installation

APPLICATIONS

- Process Control
- Factory Measurement and Control
- Machine Automation
- Military and Aerospace
- Scientific Measurement and Monitoring
- Battery Management



MAQ20-IO and MAQ20-VO Voltage & Current-output Module Block Diagram

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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)
MAQ20-IO	8 Isolated Channel Current-output 0-20mA (Default), 4-20mA
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 Minute
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	
MAQ20-VO	270mA at No-Load, 480mA at Full-Load
MAQ20-IO	210mA at No-Load, 650mA at Full-Load
Dimensions (h)x(w)x(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 Compliant UL/cUL (Class I, Division 2, Groups A, B, C, D) File E232858 ATEX Compliance Pending

NOTES:
*Contact factory or your local Dataforth sales office for maximum values.
(1) Includes linearity, hysteresis and repeatability.

Ordering Information

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

Terminal Block Position (top to bottom)	MAQ20-VO & MAQ20-IO Output Connections
1	CH0 +OUT
2	CH0 –OUT
3	CH1 +OUT
4	CH1 –OUT
5	SHIELD
6	CH2 +OUT
7	CH2 –OUT
8	CH3 +OUT
9	CH3 –OUT
10	SHIELD
11	CH4 +OUT
12	CH4 –OUT
13	CH5 +OUT
14	CH5 –OUT
15	SHIELD
16	CH6 +OUT
17	CH6 –OUT
18	CH7 +OUT
19	CH7 –OUT
20	SHIELD

For input connections and full details on module operation, refer to:
MA1042 – MAQ20 Voltage and Current-output Module Hardware User Manual

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