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Mass Flow Controller Module, DB15, 4 Channel



Overview

The AS11890G-02 Mass Flow Controller Module provides a compact and high density solution for integrating 15 pin analog mass flow controllers with the MKS Automation Platform PAC or CM modules. The MFC Module has a direct 1:1 pin mapping of the mass flow controller, so connected mass flow controllers that are fully powered and controlled through the MFC slice. Each MKS MFC Module supports integrating 4 MKS mass flow controllers.

Technical Specs

Type	Mass Flow Controller Module
ADC Native Resolution	14-bit
Auxiliary Power Supply	24V ±5%, This input will be used to power MFCs connected through IO connector. Each power output to MFC should be protected separately.
Power Consumption	Assuming each MFC consumes 250 mA and all AOs are fully loaded ≥24 V_IO@1.5 Amp, 24 V_CORE@ 0.15 Amp
Anti-alias HW Filtering	200Hz ±20%, 6dB/octave minimum
Connector	15 pin D-sub
Analog Input Minimum Input CMRR	50dB, 0-1kHz
Analog Input Maximum Integral Non-linearity	±2LSB (14-bit @ 14v)
Analog Input Number of AO Channels	16, Single Ended, (4 for each MFC: Valve test point, Flow signal output, Optional input, Pressure output)
Analog Input Voltage Range	-2V to 14V
Analog Input Maximum Error Over Full Range	±0.05% of Full Scale (over 20°C - 30°C)
Analog Input Sampling Rate	6.25 kHz (160µSec , for all 16 channels) (ADC
Analog Output Protection	ESD to IEC 61000-4-2 ±4kV contact, short to 24V, +15V, or -15V
Digital Output Maximum Voltage Drop when ON	0.2V into 30 kOhm Impedance
Digital Output Number of DO Channels	12 (3 for each MFC: valve open, valve close, flow zero)
Digital Output Maximum Leakage Current OFF	30 µA
Digital Output Minimum available current ON	6 mA
Digital Output Protection	5V TVS, resettable Fuse (25 mA PTC)
Logic Level	5V TTL tri state DO for valve override function, Active HIGH and LOW, HIGH opens MFC control valve, Low closes the valve and floating allows for set point to control, 5V TTL Active Low for valve close, Valve open or Flow zero functions referenced to signal ground
Minimum Input Impedance	150 kOhm
Timing	Valve override 100 msec + response time (Digital Output)
Operating Temperature	0 - 55°C

oversampling is set to x32)	
Analog Input Protection	ESD to IEC 61000-4-2 ±4kV contact, short to 24V, +15V, or -15V
Analog Output Number of AO Channels	4 Single Ended (1 for each MFC: Set Point Input)
Analog Output DAC Native Resolution	14-bit
Analog Output Maximum Output Current	5mA, into a 2kOhm, 10nF load
Analog Output Output Accuracy at 25°C Ambient	±0.1% of Full Scale @5v, ±0.05% of Full Scale @10v
Analog Output Settling Time	±2.5mV in 1msec into 2kOhm, 10nF load

Storage Temperature	-40 - 85°C
Altitude	Up to 2000 meters
Humidity	5 - 85% non-condensing
Dimensions	52.5 x 125 x 92.3 mm
Mounting	DIN rail
Compliance	CE

Need help?

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