



SAKS MFC-Series Digital Mass Flow Controller

Data Sheet

SAKS MFC-series are precision mass flow controllers based on thermal sensing technology. It features high level of performance with a simple and intuitive user interface having 7 or 5 inch touch display. Since It's based on true mass flow sensing, gas pressure or temperature variations will not affect the flow measurement. Some of the applications are scientific research and production of special materials in IC industry, chemical industry, petroleum industry, lighting, medicine, environmental protection, vacuum, graphene, chips and other fields, and it is widely used in various electronic industrial equipment and various analytical instruments. Especially suitable for Vapor deposition (PVD/CVD) applications. Upto 8 channels can be accommodated in one unit.

Technical Data

Mass Flow accuracy at standard conditions	$\pm 0.6\%$ of reading or $\pm 0.2\%$ of full scale, whichever is greater
Repeatability*	$\pm (0.1\% \text{ of reading} + 0.02\% \text{ of full scale})$
Steady State Control Range	0.01–100% of full scale
Typical Control Response Time	As fast as 100 ms, flow rate dependent, user adjustable
Valve Type	Normally closed
Temperature Sensitivity	Mass flow zero shift: $\pm 0.01\%$ of full scale per $^{\circ}\text{C}$ from tare temperature Mass flow span shift: $\pm 0.01\%$ of reading per $^{\circ}\text{C}$ from 25°C .
Pressure Sensitivity	Mass flow zero shift: $\pm 0.01\%$ of full scale per atm from tare pressure Mass flow span shift: $\pm 0.1\%$ of reading per atm from calibration conditions
Operating Temperature Range	-10 to 60°C
Operating Pressure Full Scale	145 PSIA
Pressure Accuracy	$\pm 0.5\%$ of reading
Sensor Response Time	$< 1\text{ ms}$
Typical Warm-Up Time	$< 1\text{ s}$
Number of channels	1 to 8 channels as per order
Gas Selection	N ₂ , O ₂ , Ar, CH ₄ , CO ₂ , AIR, H ₂ as standard and any other gases on request
Pneumatic Connections	1/8" NPT female default and 1/4" NPT or VCR connections as optional
Digital I/O Options	RS-232 Serial by default , RS-485 Serial, Modbus RTU (over RS-232 or RS-485) options available
Analog I/O Options	On request
Power Supply	24V AC/DC adapter supplied by default
Display Options	5" resistive touch display as standard and 5" or 7" Capacitive touch display optional

*Under standard conditions

Environmental conditions and safety

- Implemented a ISO 9001 system for the design and manufacturing. Instrument complies with international regulatory requirements, safety and electromagnetic compatibility requirements.
- Conforms to European Conformity standards(CE Compliant)
- Ambient Temperature: -10 to 60 °C
- Ambient Operating Humidity: upto 90%

General Specifications

- Height: 225mm for RM(19" Rack mount model). 180mm standard model
- Width: 485mm for RM. 350mm standard model
- Depth: 450mm for RM. 300mm standard model.
- Weight: 3kg for 19" Rack mount model. 1.2 kg for standard model
- Operating Voltage: 220V, 50Hz to 24VDC adapter as standard. 110V/60Hz and other voltages are available on request
- Power consumption: 350mA to 800mA depend on display type and number of channels.
- Language: English as standard. Other languages on request

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