mks
Technology for Productivity

Power Supply/ Readouts

FOR MKS MASS FLOW CONTROLLERS/METERS

MKS Mass-Flo® controllers/meters can be used with any of several MKS electronics modules. These modules provide power and a set point signal to the mass flow controller. In addition, the electronics modules provide a readout of gas flow, a gas correction potentiometer, and external input/output signals for remote indicating, recording, and controlling purposes.

Type 246 & 247 Single & Four Channel Power Supply/Readout

The MKS Type 246 and 247 Power Supplies/Readouts are designed to control and display any flow transducer. The flow rate set point can be adjusted either through front panel controls or remotely through the rear panel analog interface. The 246 is a single channel/single-readout unit and the 247 is a four channel/sequentially selectable single readout.

Type 647 Eight-Channel Power Supply/Readout

The Type 647 Microprocessor-Based Multi-Channel Flow/Pressure Controller has up to eight gas flow channels and one pressure channel which allow independent or ratio-based gas flow control. The 647 is the most technologically advanced flow programmer available and is simple to operate. Its sophisticated microprocessor-based electronics allow for several standard features: menu-driven data entry format, five programmable gas recipes, gas correction factors are stored in memory, remote zero capability for all channels, RS-232 communications link, two relay contacts per channel, three levels of menus, and optional digital PID.

Flow Measurement & Control

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Specifications

Power Supply/ Readouts	Type 246	Type 247	Type 647
			
	Single-Channel, Power Supply/Readout	**Four-Channel Power Supply/Readout**	**Four or Eight Channel Pressure Programmer/Display**
Display Type	3 1/2 digit 0.56" red LED, continuous display	3 1/2 digit 0.56" red LED, display is 1 of 4 sequentially selectable	LCD display provides simultaneous readout of all flow channels and 1 pressure channel; Display is continuous
Number of Channels	1	4	4 or 8
Signal Inputs from MFC/MFM	1 x 0-5 VDC	4 x 0-5 VDC	4 or 8 x 0-5 VDC
Gas Correction Factor (Scaling)	0.1 - 4.0 (rear panel)	0.1 - 4.0 (rear panel)	User-selectable
External Set Point (by-passes on-board set point controls)	0-5 VDC	0-5 VDC	1 x 0-10 VDC (PCS), 4 or 8 x 0-5 VDC (flow signal)
External ON/OFF	TTL-compatible	TTL-compatible	TTL-compatible
RS-232	n/a	n/a	Standard
MFC/MFM Signal Output	Minimum load impedance: 10 k Ohm/channel	Minimum load impedance: 10 k Ohm/channel	Minimum load impedance: 10 k Ohm/channel
Signal Outputs Unscaled	1 x 0-5 VDC = 0-100% of F.S.	4 x 0-5 VDC = 0-100% of F.S.	4 or 8 x 0-5 VDC = 0-100% of F.S.
Signal Outputs Scaled	0-2 VDC (max.)	0-2 VDC (max.)	1 x 0-5 VDC = 100% F.S.
Trip Points	n/a	n/a	2 relays per flow channel (optional)
Control Outputs	n/a	n/a	1 relay per channel
Power Supply Outputs	±15 VDC at 0.5 Amp, max. ripple < 10 mV	±15 VDC at 1.0 Amp, max. ripple < 10 mV	±15 VDC ±5% @ 3.3 Amps max., 0.5 Amps per channel
Power Input	117/234 VAC ±15%, 50-60 Hz	117/234 VAC ±15%, 50-60 Hz	100-240 VAC, 50-60 Hz, 200W
Compatible MFCs/MFMs	Mass-Flo Controllers Type 179, 180, 579, 1179, 1479, 1480, 1559, 1579, 2179, M10M, M100	Mass-Flo Controllers Type 179, 180, 579, 1179, 1479, 1480, 1559, 1579, 2179, M10M, M100	Mass-Flo Controllers Type 179, 180, 579, 1179, 1479, 1480, 1559, 1579, 2179, M10M, M100
Operating Temperature	15°C to 40°C	15°C to 40°C	15°C to 40°C
CE Compliance	Fully CE Compliant to EMC Directive 2004/108/EC	Fully CE Compliant to EMC Directive 2004/108/EC	Fully CE Compliant to EMC Directive 2004/108/EC

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Global Headquarters

2 Tech Drive, Suite 201
Andover, MA 01810

Tel: 978.645.5500
Tel: 800.227.8766 (in U.S.A.)
Web: www.mksinst.com

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