EN

EL-FLOW Select

F-201AV

Digital Thermal Mass Flow Controller for Gases



Bronkhorst®

Technical specifications

Measurement & control

Type of media	Gases
Flow range	min. 0.4…20 l_n/min max. 2…100 l_n/min
Accuracy	±0.5% Rd plus ±0.1%FS
Repeatability	<±0.2% Rd (or <±0.04% FS whichever is greater)
Turndown ratio	up to 1:187.5 (1:50 in analog mode)
Multi fluid capability	storage of max. 8 calibration curves
Settling time (in control, typical)	standard: 1…2 seconds option: down to 500 msec
Control stability	≤ ± 0.1 % FS (typical for 1 ln/min N2)
Operating temperature	-10…+70°C
Temperature sensitivity	zero: < 0.05% FS/°C; span: < 0.05% Rd/°C
Leak integrity, outboard	tested < 2 x 10^{-9} mbar l/s He
Pressure sensitivity	0.1% Rd/bar typical N2; 0.01% Rd/bar typical H2
Max. Kv-value	6.6 x 10^{-2}
Mounting	max. error at 90° off horizontal 0.2% at 1 bar, typical N2
Warm-up time	30 minutes
Storage/transport conditions	0...+50°C, max. 95% RH (non-condensing)

Approvals

Marking	CE, RoHS, WEEE, REACH

Mechanical specs

Pressure rating (PN) - in barg	64
Ingress protection	IP40
Material wetted parts	stainless steel 316L or comparable
Sealing material	standard: FKM/Viton®; options: EPDM, FFKM/Kalrez®, FDA and USP Class VI approved compounds
Plunger material	standard: FFKM with PI (polyimide) foil; options: EPDM with PI foil, FDA and USP Class VI approved EPDM, FDA and USP Class VI approved FFKM/Kalrez®
Process connections	compression type or face seal (VCR/VCO) couplings
Weight	0.7 kg

Electrical properties

Power supply	+15…24 Vdc
Power consumption	3.5 W typical at 24 V for fieldbus: add 0.9 W
Analog output	0…5 (10) Vdc or 0 (4)…20 mA (sourcing)
Analog setpoint	0…5 (10) Vdc or 0 (4)…20 mA (sinking)
Digital communication	standard: RS232; options: PROFIBUS DP, CANopen®, DeviceNet™, PROFINET, EtherCAT®, Modbus RTU, ASCII or TCP/IP, EtherNet/IP, POWERLINK, FLOW-BUS

Electrical interfaces

Power (main connector)	9-pin D-sub (male)
Function (instrument connector)	Analog, RS232, RS485
PROFIBUS DP	9-pin D-sub (female)
CANopen / DeviceNet	5-pin M12A (male)
Modbus RTU/ASCII/FLOW-BUS	RJ45
Modbus TCP / EtherNet/IP / EtherCAT®/ PROFINET / POWERLINK	2x RJ45

Last modified 01-12-2025.
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