MASS-STREAM

D-6460A

Direct Thermal Mass Flow Meter for Gases, IP65 protected

Bronkhorst®

Technical specifications

Measurement & control

Type of media	almost all gases and gas-mixes, compatible with chosen materials
Flow range	min. 1…50 ln/min max. 5…500 ln/min
Accuracy	±1.0% Rd plus ±0.5% FS
Repeatability	< ±0.2% FS
Turndown ratio	1:100
Multi fluid capability	up to 8 calibration curves
Response time (sensor)	approx. 0.9 seconds
Operating temperature	0…+50°C
Temperature sensitivity	±0.1% Rd/°C (Air)
Leak integrity, outboard	$< 2 \times 10^{-8}$ mbar l/s He
Pressure sensitivity	±0.3% Rd / bar typical (Air)
Mounting	at 90° deviation from horizontal max. error 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

Mechanical specs

Pressure rating (PN)	20
Ingress protection	IP65
Material wetted parts	Aluminum EN AW-6082-T6 or stainless steel SS316, elastomer seals
Housing material	Stainless steel SS 316
Sealing material	standard: FKM/Viton® options: EPDM, FFKM/Kalrez®, FDA and USP Class VI approved compounds
Process connections	1/4" BSPP female tread (ISO1179-1); compression type or face seal (VCR/VCO) couplings
Weight	Aluminum: 1.1 kg; Stainless steel: 1.6 kg

Electrical properties

Power supply	+15…24 Vdc ± 10 %
Power consumption	1.5 W typical at 24 V for fieldbus: add + 0.9 W for display: add + 0.5 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: CANopen®, DeviceNet™, EtherCAT®, PROFIBUS DP, PROFINET, Modbus (RTU, ASCII or TCP/IP), EtherNet/IP, POWERLINK or FLOW-BUS

Electrical interfaces

Power (main connector)	8-pin DIN (male)
Function (main connector)	Analog, RS232, RS485
PROFIBUS DP	8-pin M12B (female)
CANopen / DeviceNet	5-pin M12A (male)
Modbus RTU/ASCII/FLOW-BUS	5-pin M12A (male)
Modbus TCP / EtherNet/IP / EtherCAT®/ PROFINET / POWERLINK	2x 4 pin M12D (female)