



## Technical specifications

### Measurement & control

|                              |                                                                                                               |
|------------------------------|---------------------------------------------------------------------------------------------------------------|
| Type of media                | Gases                                                                                                         |
| Flow range                   | min. 0,14...7 ml <sub>N</sub> /min<br>max. 0,4...20 l <sub>N</sub> /min                                       |
| Accuracy                     | ±0.5% Rd plus ±0.1% FS (according SEMI E56)                                                                   |
| Repeatability                | < 0,2 % RD                                                                                                    |
| Turndown ratio               | 1:150 (1:50 in analog mode)                                                                                   |
| Multi fluid capability       | embedded gas data for 100 unique gases plus any mixture of maximum 5 of these gases.                          |
| Operating temperature        | -10...+70°C                                                                                                   |
| Temperature sensitivity      | zero: < 0.02% FS/°C; span: < 0.025% Rd/°C                                                                     |
| Leak integrity, outboard     | tested < 2 x 10 <sup>-9</sup> mbar l/s He                                                                     |
| Pressure sensitivity         | standard: < 0.15% Rd/bar typical N <sub>2</sub> ; with pressure correction: < 0.02% Rd typical N <sub>2</sub> |
| Mounting                     | max. error at 90° off horizontal 0.07% FS at 1 bar, typical N <sub>2</sub>                                    |
| Warm-up time                 | 30 minutes                                                                                                    |
| Storage/transport conditions | 0...+50°C, max. 95% RH (non-condensing)                                                                       |

### Approvals

|                   |                       |
|-------------------|-----------------------|
| Electrical safety | IEC 61010-1           |
| Marking           | CE, RoHS, WEEE, REACH |

### Mechanical specs

|                                |                                                                                            |
|--------------------------------|--------------------------------------------------------------------------------------------|
| Pressure rating (PN) - in barg | 100                                                                                        |
| Ingress protection             | IP40                                                                                       |
| Material wetted parts          | stainless steel 316L or comparable, degreased for use on oxygen (O <sub>2</sub> )          |
| Sealing material               | standard: FKM/Viton®; options: EPDM, FFKM/Kalrez®, FDA and USP Class VI approved compounds |
| Process connections            | compression type or face seal couplings                                                    |
| Weight                         | 0.7 kg                                                                                     |

### Electrical properties

|                       |                                                                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Power supply          | +15...24 Vdc                                                                                                                                    |
| Power consumption     | 1 W typical at 24 V<br>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: DeviceNet™, CANopen®, PROFIBUS DP, Modbus RTU/ASCII, FLOW-BUS, EtherCAT®, PROFINET, Modbus/TCP, EtherNet/IP, POWERLINK |

### Electrical interfaces

|                                                             |                      |
|-------------------------------------------------------------|----------------------|
| Power (main connector)                                      | 9-pin D-sub (male)   |
| Function (instrument connector)                             | RS232, Analog, 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              |