

Linear Pressure Sensors

DI/DU 200, DI/DU 201, DI/DU 2000, DI/DU 2001, DI/DU 2001 rel.



DI 200 (left) and DI 2000 (right), DU similar

Piezo or capacitive pressure sensor based on ceramics technology. Available as absolute or relative pressure sensor.

Advantages to the User

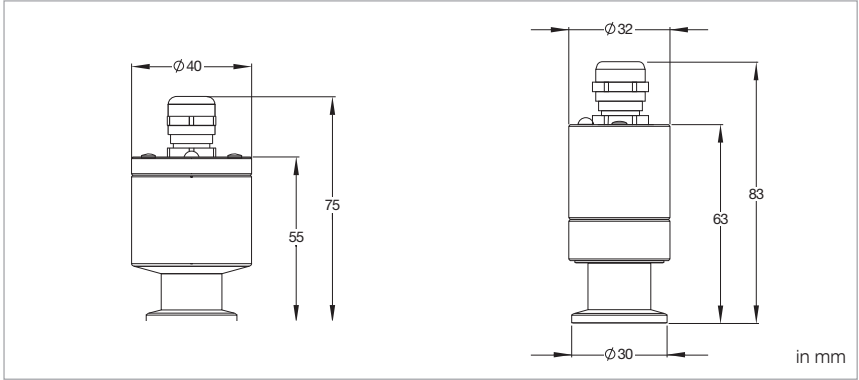
- Absolute pressure ranges from 0.1 to 200 mbar or 1 to 2000 mbar
- Relative pressure range from -1000 mbar to +1000 mbar
- Excellent overload characteristic due to the Al₂O₃ ceramics diaphragm
- Highly corrosion resistant
- Independent of the type of gas
- Vibration resistant
- 2-wire pressure sensor (DI)
- 4-wire pressure sensor (DU)
- Supply voltage range
12 to 30 V DC (DI)
14.5 to 30 V DC (DU)
- Linear output signal 4 to 20 mA (DI)
- Linear output signal 2 to 10 V (DU)
- Compact design
- Digital zero adjustment possible via pushbutton
- IP 54 rated stainless steel housing (DI/DU 200 und DI/DU 201),
IP 54 rated aluminum housing (DI/DU 2000 und DI/DU 2001)
- DN 16 ISO-KF connection with female G 1/4" inside thread

Typical Applications

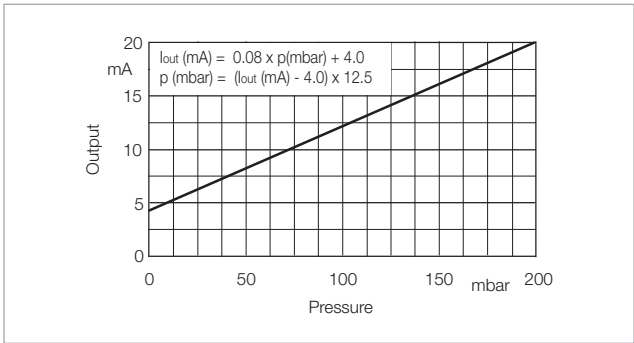
- Pressure measurements in the rough vacuum range, and for corrosive media (Solar, coating)
- Chemical process engineering
- Vacuum packaging
- Drying processes
- Casting resin technology (degassing of potting compounds)
- Measurement of operating and filling pressure, during the production of lamps
- Filling systems for brake fluids (DI 201/DI 2001)
- Filling systems for refrigerants
- Measurement of pressure relative to atmospheric pressure (DI/DU 2001 rel.)

Operating Units for DU sensors

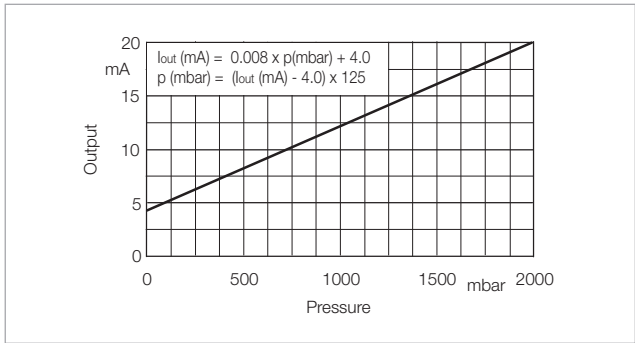
- DISPLAY
- ONE
 - TWO
 - THREE
- CENTER / GRAPHIX
- ONE
 - TWO
 - THREE



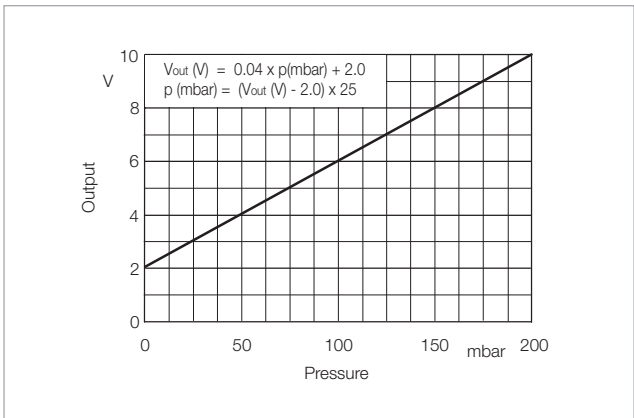
Dimensional drawing for the sensors
 DI/DU 200 and DI/DU 201 (left), DI/DU 2000, DI/DU 2001 and DI/DU 2001 rel. (right)



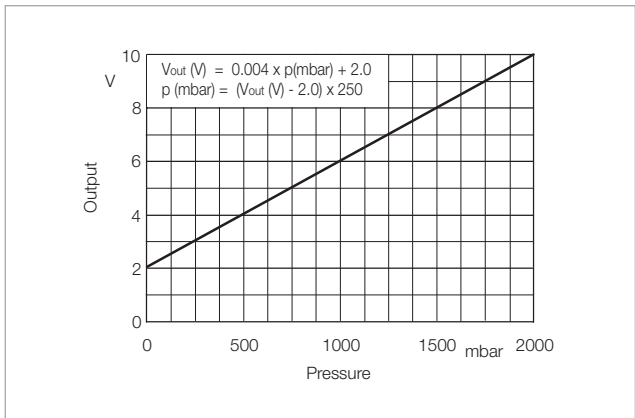
Characteristic of the DI 200 and DI 201 Sensors



Characteristic of the DI 2000 and DI 2001 Sensors



Characteristic of the DU 200 and DU 201 Sensors



Characteristic of the DU 2000 and DU 2001 Sensors

Technical Data

DI/DU 200

DI/DU 201

DI/DU 2000

DI/DU 2001

DI/DU 2001 rel.

Measurement range	mbar (Torr)	0.1 to 200 (0.075 to 150)	0.1 to 200 (0.075 to 150)	1 to 2000 (0.75 to 1500)	1 to 2000 (0.75 to 1500)	-1000 to +1000 (-750 to +750) relative pressure
Overload range, max. (flange side)	bar	6	6	5	5	5
Nominal temperature range	°C	0 to +60	0 to +60	0 to +60	0 to +60	0 to +60
Measurement uncertainty ¹⁾	% FS	0.25	0.25	0.25	0.25	0.25 ³⁾
Repeatability	% FS	0.05	0.05	0.05	0.05	0.05
Temperature error						
Zero drift	% FS/10°K	0.1	0.1	0.1	0.1	0.1
Sensitivity drift	% FS/10°K	0.15	0.15	0.15	0.15	0.15
Measurement principle, gas type independent		Capacitive	Capacitive	Piezoresistive	Piezoresistive	Piezoresistive
Sensing head supply						
DI		Two-wire system	Two-wire system	Two-wire system	Two-wire system	Two-wire system
DU		Four-wire system	Four-wire system	Four-wire system	Four-wire system	Four-wire system
Output signal						
DI	mA	4 to 20	4 to 20	4 to 20	4 to 20	4 to 20
DU	V	2 to 10	2 to 10	2 to 10	2 to 10	2 to 10
Supply voltage						
Operating range						
DI	V DC	12 to 30	12 to 30	12 to 30	12 to 30	12 to 30
DU	V DC	14.5 to 30	14.5 to 30	14.5 to 30	14.5 to 30	14.5 to 30
Dead volume	cm ³	3,9	3,9	1,8	1,8	1,8
Vacuum connection	DN	16 ISO-KF	16 ISO-KF	16 ISO-KF	16 ISO-KF	16 ISO-KF
Electrical connection						
DI		diode plug 7pole, cable 5 m	diode plug 7pole, cable 5 m	diode plug 7pole, cable 5 m	diode plug 7pole, cable 5 m	diode plug 7pole, cable 5 m
DU		plug FCC 68, cable 5 m	plug FCC 68, cable 5 m	plug FCC 68, cable 5 m	plug FCC 68, cable 5 m	plug FCC 68, cable 5 m
Weight, approx.						
DI	kg (lbs)	0.36 (0.79)	0.36 (0.79)	0.26 (0.57)	0.26 (0.57)	0.26 (0.57)
DU	kg (lbs)	0.34 (0.75)	0.34 (0.75)	0.24 (0.53)	0.24 (0.53)	0.24 (0.53)
Protection class	IP	54	54	54	54	54
Materials in contact with the medium		Stainless Steel 1.4305 Al ₂ O ₃ (96 %) Ceramics FPM (FKM)	Stainless Steel 1.4305 Al ₂ O ₃ (96 %) Ceramics EPDM	Stainless Steel 1.4305 Al ₂ O ₃ (96 %) Ceramics FPM (FKM)	Stainless Steel, 1.4305 Al ₂ O ₃ (96 %) Ceramics, EPDM	Stainless Steel 1.4305 Al ₂ O ₃ (96 %) Ceramics EPDM
Operating units						
DI series		–	–	–	–	–
DU series ²⁾		DISPLAY ONE, TWO, THREE CENTER ONE, TWO, THREE	DISPLAY ONE, TWO, THREE CENTER ONE, TWO, THREE	DISPLAY ONE, TWO, THREE CENTER ONE, TWO, THREE	DISPLAY ONE, TWO, THREE CENTER ONE, TWO, THREE	DISPLAY ONE, TWO, THREE CENTER ONE, TWO, THREE

¹⁾ Sum of linearity, hysteresis and reproducibility

²⁾ May possibly require a firmware update

³⁾ 0.25 % FS in the range of -1000 ... + 200 mbar / 0.5 % FS in the range of > +200 mbar

Ordering Information**DI 200****DI 201****DI 2000****DI 2001****DI 2001 rel.**

	Part No.	Part No.	Part No.	Part No.	Part No.
Linear sensor DI complete with 5 m long connection cable and connecting plug (circular connector)	158 12V01	158 14V01	158 13V01	158 15V01	245 000V01
Extension cable circular connector, 7-pole socket/plug					
10 m	200 04 112	200 04 112	200 04 112	200 04 112	200 04 112
20 m	200 02 645	200 02 645	200 02 645	200 02 645	200 02 645

Ordering Information**DU 200****DU 201****DU 2000****DU 2001****DU 2001 rel.**

	Part No.	Part No.	Part No.	Part No.	Part No.
Linear sensor DU complete with 5 m long connection cable and connecting plug (FCC68)	230500V01	230501V01	230502V01	230503V01	230504V01
Extension cable FCC68, socket/plug					
10 m	230505V01	230505V01	230505V01	230505V01	230505V01
20 m	230506V01	230506V01	230506V01	230506V01	230506V01
Operating unit GRAPHIX ONE / TWO / THREE DISPLAY ONE / TWO / THREE	please see chapter "Controller and Operating Units for Active Sensors" please see chapter "Controller and Operating Units for Active Sensors"				