

DMU/A – Pressure Transducer for Differential Pressure



The pressure transducer DMU/A registers the over-pressure, under-pressure and the pressure difference at the two pressure outlets and converts the measured value into a linear output signal 0–10 V respectively 4–20 mA um.

As an option the pressure transmitter has a potential-free changeover contact and a backlit display. The display content can be rotated in 90° steps using a menu and the actual value, the switching threshold set, the state of the relay, the MIN/MAX measured values for the selected intervals (1 h / 6 h / 12 h / 24 h) etc. can be read out.

8 different scales and output attenuation of the pressure transducer (0 sec / 1 sec / 5 sec / 10 sec) can be set on the device.

For a manual calibration of the zero point the pressure transducer performs a zero point balance in situ at the push of a button. If required the pressure transducer can be finely calibrated in situ using an SPAN controller.

Specifications:

Medium	air, non-aggressive, non-flammable, non-condensing gases
Measurement range pressure	V1: -500...+500 Pa, V2: -5000...+5000 Pa, V3: -100...+100 Pa
Scales	V1: -100/0...+100, -200/0...+200 Pa, -300/0...+300 Pa, -500/0...+500 Pa; V2: -1000/0...+1000, -2000/0...+2000 Pa, -3000/0...+3000 Pa, -5000/0...+5000 Pa; V3: -25/0...+25, -50/0...+50 Pa, -75/0...+75 Pa, -100/0...+100 Pa;
Accuracy	±3,0% FS (at 20°C)
Temperature dependency	±2,5% FS / 10 K
Output attenuation	0 s / 1 s / 5 s / 10 s selectable by DIP switch

Linearity inaccuracy	± 1,0% final value
Long term stability	± 1% FS/year
Zero-point adjustment	max. +2% final value
Offset	±5% from the selected scale by 270° potentiometer
Reaction rate	< 1 s, at 5% alteration relating to final value
Sensor protection	mounted inside housing
Running-in time	< 30 min. at initial operation because of tempering
Supply voltage at 0–10 V	24 V AC/DC (±5%)
Supply voltage at 4–20 mA	15...36 V DC ($U_{bmin} = 15 \text{ V} + R_{Load} \cdot 0,02 \text{ A}$)
Current consumption at 0–10 V	typ. 15 mA, 30 mA peak current consumption for 50 ms at switching moment at option relay
Current consumption at 4–20 mA	max. 20 mA / output, 40 mA peak current consumption for 50 ms at switching moment at option relay
Analogue output 0–10 V	3-wire connection, min. load resistance 100 kOhm
Analogue output 4–20 mA	2-wire connection (transmitter), max. $R_{Load}(\text{Ohm}) = (+U_b - 15 \text{ V}) / 0,02 \text{ A}$
Alarm output	1 x potential-free change-over contact, 48 V, 1 A
Hysteresis (mechanical)	±0,3% final value
Electrical connection	screw terminals max. 1,5 mm ²

Overload / Low pressure max.	5-times of measurement range
Housing	Polycarbonate PC UL 94 V0 with hinge locks, color signal white similar to RAL 9003
Cable gland	PG11 high-strength cable gland with strain relief
Display	optional LCD display with backlight on/off/auto
Protection type	IP65
Protection class	III
Working range r.H.	0...98% r.H. in contaminant-free, non-condensing air
Working temperature	0...+50°C
Storage temperature	0...+50°C
Installation	Housing: screw fastening, Pressure connection: 2 plastic duct connecting nipple with fastening screws and 2 m PVC tube Ø 6 mm (in scope of delivery)
Manual zero-point adjustment	The zero point adjustment is started by pressing the button on the circuit board (push 10 s until LED stops flashing or by the display version the countdown 10-0 is completed). Before, a continuous operation of at least 1 hour must be sure, the offset must be in the middle position and the pressure inputs P+ and P- must be connected together by a tube. The successful calibration will be signaled by 5 sec durable lightning of the LED.
Approvals	CE, EAC, RoHS

**Order
Matrix:**

DMU/A-I/V1	-100/0...+100, -200/0...+200 Pa, -300/0...+300 Pa, -500/0...+500 Pa	4-20 mA	without display
DMU/A-I/V2	-1000/0...+1000, -2000/0...+2000 Pa, -3000/0...+3000 Pa, -5000/0...+5000 Pa	4-20 mA	without display
DMU/A-ID/V1	-100/0...+100, -200/0...+200 Pa, -300/0...+300 Pa, -500/0...+500 Pa	4-20 mA	with display
DMU/A-ID/V2	-1000/0...+1000, -2000/0...+2000 Pa, -3000/0...+3000 Pa, -5000/0...+5000 Pa	4-20 mA	with display
DMU/A-IR/V1	-100/0...+100, -200/0...+200 Pa, -300/0...+300 Pa, -500/0...+500 Pa	4-20 mA, changer	without display
DMU/A-IR/V2	-1000/0...+1000, -2000/0...+2000 Pa, -3000/0...+3000 Pa, -5000/0...+5000 Pa	4-20 mA, changer	without display
DMU/A-IRD/V1	-100/0...+100, -200/0...+200 Pa, -300/0...+300 Pa, -500/0...+500 Pa	4-20 mA, changer	with display
DMU/A-IRD/V2	-1000/0...+1000, -2000/0...+2000 Pa, -3000/0...+3000 Pa, -5000/0...+5000 Pa	4-20 mA, changer	with display
DMU/A-U/V1	-100/0...+100, -200/0...+200 Pa, -300/0...+300 Pa, -500/0...+500 Pa	0-10 V	without display
DMU/A-U/V2	-1000/0...+1000, -2000/0...+2000 Pa, -3000/0...+3000 Pa, -5000/0...+5000 Pa	0-10 V	without display
DMU/A-U/V3	-25/0...+25, -50/0...+50 Pa, -75/0...+75 Pa, -100/0...+100 Pa	0-10 V	without display
DMU/A-UD/V1	-100/0...+100, -200/0...+200 Pa, -300/0...+300 Pa, -500/0...+500 Pa	0-10 V	with display
DMU/A-UD/V2	-1000/0...+1000, -2000/0...+2000 Pa, -3000/0...+3000 Pa, -5000/0...+5000 Pa	0-10 V	with display
DMU/A-UD/V3	-25/0...+25, -50/0...+50 Pa, -75/0...+75 Pa, -100/0...+100 Pa	0-10 V	with display
DMU/A-UR/V1	-100/0...+100, -200/0...+200 Pa, -300/0...+300 Pa, -500/0...+500 Pa	0-10 V, changer	without display
DMU/A-UR/V2	-1000/0...+1000, -2000/0...+2000 Pa, -3000/0...+3000 Pa, -5000/0...+5000 Pa	0-10 V, changer	without display
DMU/A-UR/V3	-25/0...+25, -50/0...+50 Pa, -75/0...+75 Pa, -100/0...+100 Pa	0-10 V, changer	without display
DMU/A-URD/V1	-100/0...+100, -200/0...+200 Pa, -300/0...+300 Pa, -500/0...+500 Pa	0-10 V, changer	with display
DMU/A-URD/V2	-1000/0...+1000, -2000/0...+2000 Pa, -3000/0...+3000 Pa, -5000/0...+5000 Pa	0-10 V, changer	with display
DMU/A-URD/V3	-25/0...+25, -50/0...+50 Pa, -75/0...+75 Pa, -100/0...+100 Pa	0-10 V, changer	with display