



DESCRIPTION

Universal electronic **Δp – SENSOR-TRANSMITTER** with **programmable Δp range**, which the user can programme himself within the measuring span of a group by using the Parameter **rAn**. The device has **2 relay outputs**, 1x threshold value max and 1x threshold value min. **4 linear analogue outputs 0-20 mA, 4-20 mA, 0-10 V and 2-10 V** are programmable. Available for universal supply voltage 110-120 VAC, 230-240 VAC and 24 VDC with ABS-Housing 160x80x55 mm or only with 24 VDC with ABS-Housing 120x80x55 mm or as an alternative with ALU-Housing 125x80x57 mm.

Examples: Ventilation and air-conditioning units, medical technology, clean room technology, filter control, fill level control and regulation, flow detection system, etc.

The differential pressure (+ P1↑ and P2↓ -), the overpressure (+ P1↑) or the underpressure (P2↓ -) are measured via the pressure connections and displayed on the 3-digit digital display. The **Δp set points** can be displayed, too. So a precise adjustment of the set points is possible.

The both **Δp set points** with parameter **ALL (ALARM min)** and Parameter **ALH (ALARM max)** can be adjusted by push-buttons. The ALARM appears, if the Δp pressure is below the set point **ALARM min** or if the Δp pressure exceeds the set point **ALARM max**. After each Power ON, the set points can be suppressed with the parameters **ALS** and **AHS** for an adjustable time to avoid a wrong ALARM signal. This makes sense, if e.g. the operating pressure must raise up for a certain time after Power ON.

For air ventilation applications with the almost always present turbulences, the programmable **Δp-damping** with parameter **dPd** of the set points, the display and the analogue output represents a further advantage. 4 linear short circuit-safe analogue outputs **0-20 mA, 4-20 mA, 0-10 V and 2-10 V** are programmable and are available as output signals, proportionally with the pressure, for further process controlling.

FEATURES

- Universal power voltage input: 230-240 VAC and 110-120 VAC and 24 VDC in one unit or only 24 VDC
- Robust, tried and tested pressure sensor
- Pressure sensor overload-safe and temperature compensated and manual zero point calibration by pressing buttons
- Pressureconnectors protected with replaceable filters FT-P-X-CE and emergency filter in addition for applications with air containing dust
- Programmable Δp-ranges by the user are possible, with 10 unit-groups:
 - Group 1: 0 - 0,4 mbar to 0 - 2 mbar
 - Group 2: 0 - 1 mbar to 0 - 5 mbar
 - Group 3: 0 - 2 mbar to 0 - 10 mbar
 - Group 4: 0 - 10 mbar to 0 - 50 mbar
 - Group 5: 0 - 20 mbar to 0 - 100 mbar
 - Group 6: 0 - 100 mbar to 0 - 500 mbar
 - Group 7: 0 - 200 mbar to 0 - 1000 mbar
 - Group 8: 0 - 1 bar to 0 - 5 bar
 - Group 9: 0 - 2 bar to 0 - 10 bar
 - Group 10: 0 - 5 mbar to 0 - 25 mbar
- Analogue output, shot circuit proof, 0-20 mA, 4-20 mA, 0-10 V und 2-10 V programmable
- Programmable Δp-Damping: approx. 0 s till 240 s
- Relay output 1, threshold contact, Alarm max., programmable
- Relay output 2, threshold contact, Alarm min., programmable
- All relays with changeover contacts, **gold plated**, potential-free, safety circuit - false safe, for test: manual switching mode possible
- Extreme range of ambient temperature -20°C to +60°C
- Housing protection class IP 65
- Universal device for the lowest need for storage space, with meaningful functions required in practice
- Machinery directive 2006/42/EC, low voltage directive 2006/95/EC and EMC directive 2004/108/EC are fulfilled
- High reliability via "burn in"

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TECHNISCHE DATEN / TECHNICAL DATA

Gruppe - max. Messbereich: / Group - max. range:

Messbereiche Δp :	0-0.4 - 0-2	Messspanne / measuring range	mbar.....	1 - 2.....ORDER-INDEX: mbar-
Gruppe 1-10	0-1 - 0-5	Messspanne / measuring range	mbar.....	2 - 5.....ORDER-INDEX: mbar-
Pressure ranges Δp :	0-2 - 0-10	Messspanne / measuring range	mbar.....	3 - 10.....ORDER-INDEX: mbar-
Group 1-10	0-10 - 0-50	Messspanne / measuring range	mbar.....	4 - 50.....ORDER-INDEX: mbar-
	0-20 - 0-100	Messspanne / measuring range	mbar.....	5 - 100.....ORDER-INDEX: mbar-
	0-100 - 0-500	Messspanne / measuring range	mbar.....	6 - 500.....ORDER-INDEX: mbar-
	0-200 - 0-1000	Messspanne / measuring range	mbar.....	7 - 1000.....ORDER-INDEX: mbar-
	0-1b - 0-5b	Messspanne / measuring range	bar.....	8 - 5b.....ORDER-INDEX: bar -
	0-2b - 0-10b	Messspanne / measuring range	bar.....	9 - 10b.....ORDER-INDEX: bar -
	0-5 - 0-25	Messspanne / measuring range	mbar.....	10 - 25.....ORDER-INDEX: mbar-

**Wählen Sie eine Gruppe aus für die Messbereiche, die im Gerät verfügbar sein sollen.
Please choose out of one group for the ranges, which should be integrated in the unit.**

Anzeige, Display : Digital, 3-stellig, 7-Segment - LED rot, 14 mm hoch :ORDER-INDEX: -D-
Digital, 3-digit, 7-segment - LED (red), 14 mm high.

Δp -Dämpfung, Damping : Programmierbar / programmable: ca. 0 s bis / to 240 s

Überlastbarkeit : **Statischer Gleichdruck einseitig / Static balanced pressure on one side:**

Overload capacity : Messbereich Gruppe / Pressure range group 1, 2, 3 : pmax = 250 mbar
Messbereich Gruppe / Pressure range group 4, 5 : pmax = 750 mbar
Messbereich Gruppe / Pressure range group 6, 7 : pmax = 2 bar
Messbereich Gruppe / Pressure range group 8, 9 : pmax = 20 bar
Messbereich Gruppe / Pressure range group 10 : pmax = 500 mbar

Statischer Gleichdruck beidseitig / Static balanced pressure on two sides:

Messbereich Gruppe / Pressure range group 1, 2, 3 : pmax = 600 mbar
Messbereich Gruppe / Pressure range group 4, 5, 6, 7 : pmax = 4 bar
Messbereich Gruppe / Pressure range group 8, 9 : pmax = 20 bar
Messbereich Gruppe / Pressure range group 10 : pmax = 1 bar

Gesamtfehler : Linearität + Hysterese + Reproduzierbarkeit : \pm 2% F.S. ab / from \geq 1 mbar Messbereich / range
Total error : Linearity + hysteresis + reproducibility : \pm 4% F.S. bis / to \leq 0,5 mbar Messbereich / range

Langzeitstabilität : 0,5 % F.S. / Jahr ab / from \geq 1 mbar Messbereich / range (F.S. = vom Messbereich / Full Scale)
Long term stability : 1 % F.S. / year bis / to \leq 0,5 mbar Messbereich / range

Temperaturfehler : +10°C bis/to + 50°C: 0,05 % F.S. / K, ab / from \geq 1 mbar Messbereich / range
Temperature error : +10°C bis/to + 50°C: 0,1 % F.S. / K, ab / from \leq 0,5 mbar Messbereich / range

Betriebstemperatur : -20°C bis + 60°C.
Operating temperature : - 4°F to +140°F.

Druckmedium : Nicht aggressive und nicht brennbare Gase, Luft, die Polyamid, POM, PVC, Silizium, Silicon, Epoxydharz, Edelstahl und Gold nicht angreifen.
Pressure media : Not aggressive and not flammable gases, air, not corroding polyamide, POM,PVC, silicon, silicone, epoxy resin, stainless steel and gold.

Signalausgänge : **1: Digital:** Relais / relay, 1x potentialfreier Wechsler: min. 5 mA, max. 1 A, 24 VDC.
Signal outputs : Leuchtdiode für ALARM max / LED ALARM max
2: Digital: Relais / relay, 1x potentialfreier Wechsler: min. 5 mA, max. 1 A, 24 VDC.
Leuchtdiode für ALARM min / LED ALARM min
All relay contacts 1x change-over switch : min. 5 mA, max. 1 A, 24 VDC.

Signalausgänge : **Analogausgang, linear, programmierbar / Analogue output, linear, programmable:**
Signal outputs : 0-20 mA, 4-20 mA, Bürde /load = max. 500 Ω ; 0-10 V, 2-10 V, Ri = 500 Ω

Stromversorgung : **Universell: 230 - 240 V \approx , 50 - 60 Hz** umschaltbar auf / changeable to: **110 - 120 V \approx , 50 - 60 Hz** und / and **24 VDC**
Power supply : in einem Gerät verfügbar / in one unit available:ORDER-INDEX: -24DC-240AC -
Nur/only **24 VDC**:ORDER-INDEX: -24DC-0 -

Nennleistung : Nominal power: 5 VA; 2.5 W
Elektr. Anschluss : Schraubklemmen, max. Drahtquerschnitt 2,5 mm²
Electric connection : Screw terminal, max cross section of wire AWG 14

Druckanschluss : 2x POM-Kunststoff-Schlauchverschraubungen mit Überwurfmutter / 2x POM-plastic-tube connectors with connector nut:
Pressure connection : Schlauchgrößen / size of tube: Da/OD = 6 mm, Di/ID = 4 mm:ORDER-INDEX: -64POM-
Druckanschluss : 2x POM-Kunststoff-Schlauchverschraubungen mit Überwurfmutter / 2x POM-plastic-tube connectors with connector nut:
Pressure connection : Schlauchgrößen / size of tube: Da/OD = 8 mm, Di/ID = 6 mm:ORDER-INDEX: -86POM-
Druckanschluss : 2x POM-Kunststoff-Schlauchtülle ohne Überwurfmutter / 2x POM-plastic-tube connectors without connector nut:
Pressure connection : Schlauchgrößen / size of tube: Di/ID = 6 mm,ORDER-INDEX: -T6POM-
Druckanschluss : 2x POM-Kunststoff-Schlauchtülle ohne Überwurfmutter / 2x POM-plastic-tube connectors without connector nut:
Pressure connection : Schlauchgrößen / size of tube: Di/ID = 8 mm,ORDER-INDEX: -T8POM-
Druckanschluss : 2x Messing Klemmringverschraubung mit Überwurfmutter / 2x brass tube connectors with connector nut for:
Pressure connection : Schlauchgrößen / size of tube: Da/OD = 6 mm, Di/ID = 4 mm:ORDER-INDEX: -64MS

Gehäuse 1 : Nur für/ only for Order-Index: -24DC-240AC- :
Abmessungen / dimensions : 80 x 160 x 55 mm, Drei Kabeleinführungen, blind, M16x1,5 / Three cable inputs M16x1,5
Housing 1 : Material / material : **ABS.** Farbe / colour: grau / grey. Gewicht / weight : 350 g
Schutzart / protection class : IP 65.....ORDER-INDEX: -AB1-

Gehäuse 2 : Nur für/ only for Order-Index: -24DC-0- :
Abmessungen / dimensions : 80 x 120 x 55 mm, Zwei Kabeleinführungen, blind, M16x1,5 / Three cable inputs M16x1,5
Housing 2 : Material / material : **ABS.** Farbe / colour: grau / grey. Gewicht / weight : 300 g
Schutzart / protection class : IP 65.....ORDER-INDEX: -AB2-

Gehäuse 3 : Nur für/ only for Order-Index: -24DC-0- :
Abmessungen / dimensions : 80 x 125 x 57 mm, Zwei Kabeleinführungen, blind, M16x1,5 / Three cable inputs M16x1,5
Housing 3 : Material / material : **Aluminium.** Farbe / colour: grau / grey. Gewicht / weight : 500 g
Schutzart / protection class : IP 65.....ORDER-INDEX: -AL2-

Vorschriften / Rules : EN 60 204-1, EN 61010, EN 61326-1, EN 61326-2-3, BGV A3.

Bestell-Nr. :	DPC	Gruppe-Messb. -	Anzeige -	Volt-AC	-	Anschluss -	Gehäuse -	CE
		mbar / bar -	-	-	-	-	-	-
ORDER-INDEX :	DPC	Group - range -	Display -	Volt-DC	-	Connection -	Case -	CE
Beispiel 1 / example 1 :	DPC-	4 -	50 -	D -	24DC-240AC -	64POM -	AB1 -	CE
Beispiel 2 / example 2 :	DPC-	5 -	100 -	D -	24DC - 0 -	T8POM -	AB2 -	CE
Beispiel 3 / example 3 :	DPC-	2 -	5 -	D -	24DC - 0 -	64MS -	AL2 -	CE