



Pressure Transmitter



measuring
•
monitoring
•
analysing

SEN-98 / -99



- Gauge and absolute pressure
- -1 ... 0 to 0 ... 600 bar gauge /
0 ... 1 to 0 ... 25 bar abs
- EMC emission and immunity:
As per EN 61326
- Case: With ventilation device
- Compensated temperature range:
-10 ... +80 °C (14 ... +176 °F)
- Calibration: Adjustable
- Accuracy: $\leq 0.5\%$ of span
($\leq 0.25\%$ of span optional)



P2

KOBOLD companies worldwide:

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Description

The KOBOLD SEN-98/-99 Standard model is an electronic transmitter with ceramic sensor for air, industrial, technical gases and water and oil, designed to be installed in gas distribution plants, on bottles, on refrigerators, on compressors, on vacuum pumps and hydraulics and water high pressure plants. It is ideally suited to be used in the industry in general, in the gas stocking or machines production, in light or heavy pneumatics industry, in the refrigeration industry, in welding and vacuum.

Technical Data

Ranges: 0 ... 1/0 ... 600 bar, relative,
(0 ... 15/0 ... 10 000 psi, relative)
-1 ... 0/-1 ... +24 bar, relative;
(-30" ... 0/-30" ... 350 psi, relative)
0 ... 1/0 ... 16 bar, absolute
(0 ... 15/0 ... 200 psi, absolute)

Accuracy (% span): ≤ 0.25 typical; ≤ 0.5 max.

Calibration: Limit-point as per DIN 16086

Repeatability: ≤ 0.15% of span

Thermal drift: ≤ 0.04 % span/°C
(for ranges < 2 bar)
≤ 0.02 % span/°C
(for ranges ≥ 2 bar)

Process fluid temperature: -25 ... +100 °C;
depending on gasket type

Ambient temperature: -25 ... +85 °C

Storage temperature: -40 ... +85 °C

Output signals: 4 ... 20 mA, 0 ... 5 V_{DC}, 0 ... 10 V_{DC}

Supply and max. load: See on page 3

Response time (10 ... 90%): < 3 ms

Zero calibration: ± 10% span typical

Span calibration: ± 10% span typical

Compensated temperature range: 0 ... +80 °C

Process connection: AISI 316L stainless steel

Sensor: Ceramic

Case: Stainless steel, vented for pressure ranges ≤ 230 psi (≤ 16 bar)

O-ring: FKM

Electric connection: *EN 175301-803 form A, exit for cables
ø 0.23 ... 0.35" (6 ... 9 mm)

Protection degree: IP65 as per IEC 529 / EN 60529

Weight: 0.39 lbs (0.18 kg)

* ex DIN 43650.

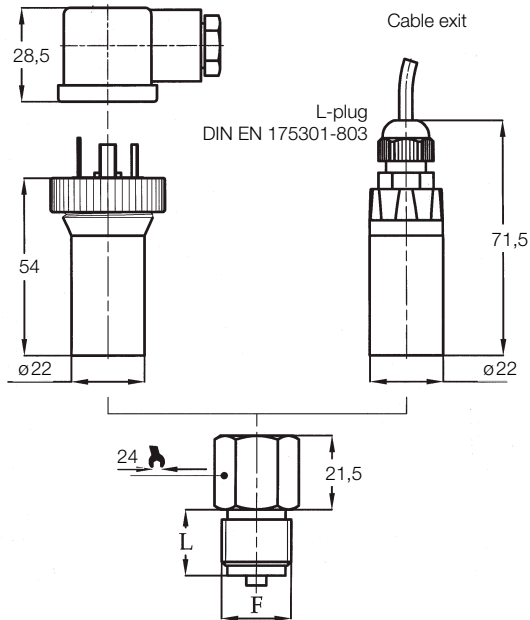
Ranges bar, relative	Overpressure bar, relative	Burst pressure bar, relative
-1 ... 0	5	7
-1 ... 0.6	5	7
-1 ... 1.5	5	7
-1 ... 3	10	12
-1 ... 5	20	25
-1 ... 9	20	25
-1 ... 15	40	50
-1 ... 24	100	120
0 ... 1/0 ... 2.5	5	7
0 ... 4	10	12
0 ... 6/0 ... 10	20	25
0 ... 16	40	50
0 ... 25/0 ... 40	100	120
0 ... 60/0 ... 100	200	250
0 ... 160/0 ... 250	500	600
0 ... 400	600	800
0 ... 600	800	900

Other ranges available on demand. Units of measurement available in MPa, kPa too.
Absolute pressure ranges have same overpressure limits as gauge pressure ranges.

Ranges psi, relative	Overpressure psi, relative	Burst pressure psi, relative
-30 ... 0 in Hg/psi	72	100
-30 ... 30 in Hg/psi	72	100
-30 ... 60 in Hg/psi	145	175
-30 ... 100 in Hg/psi	290	360
-30 ... 150 in Hg/psi	290	360
0 ... 15/0 ... 30	72	100
0 ... 60	145	175
0 ... 100/0 ... 160	290	360
0 ... 300	580	725
0 ... 600	1450	1740
0 ... 1000/0 ... 1500	2900	3625
0 ... 2000/0 ... 3000	7250	8700
0 ... 5000/0 ... 6000	8700	11600
0 ... 10000	11600	13050

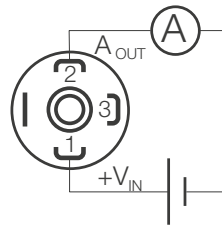
Other ranges available on demand. Units of measurement available in MPa, kPa too

Dimensions [mm]

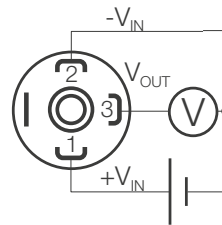
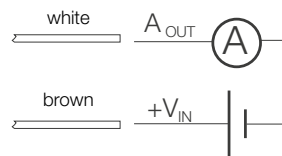


F	L [mm]
A - G 1/2 A (standard)	20
B - G 1/4 A	13
F - 1/2-14" NPT	20
G - 1/4-18" NPT	13

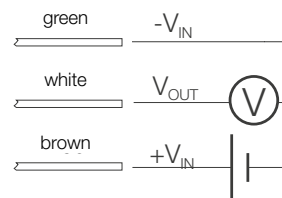
Wiring Diagram



4...20 mA



0...5 V_{DC}
0...10 V_{DC}





Order Details (Example: SEN-9800 0 B075 A 0)

Model	Output	Measuring range		Mechanical connection	Options
Gauge pressure ranges SEN-9800... (with electrical plug connection EN 175301-803) SEN-9830³⁾... (M12x1 male electrical connection) SEN-9840¹⁾³⁾... (2 m PVC cable, IP65) SEN-9850¹⁾³⁾... (2 m Polyurethane cable, IP68)	0 = 4-20 mA, 2-wire (standard) 1³⁾ = 0...5 V _{DC} (8...30 V _{DC}) 2³⁾ = 0...10 V _{DC} (14...30 V _{DC})	Gauge pressure ranges C 315 = -1 ... 0 bar C 505³⁾ = -1 ... 0.6 bar C 515³⁾ = -1 ... 1.5 bar C 525³⁾ = -1 ... 3 bar C 535³⁾ = -1 ... 5 bar C 545³⁾ = -1 ... 9 bar C 555³⁾ = -1 ... 15 bar C 565³⁾ = -1 ... 24 bar B 025 = 0 ... 1 bar B 035 = 0 ... 1.6 bar B 045 = 0 ... 2.5 bar B 055 = 0 ... 4 bar B 065 = 0 ... 6 bar B 075 = 0 ... 10 bar B 085 = 0 ... 16 bar A 095 = 0 ... 25 bar A 105 = 0 ... 40 bar A 115 = 0 ... 60 bar A 125 = 0 ... 100 bar A 135 = 0 ... 160 bar A 145 = 0 ... 250 bar A 155 = 0 ... 400 bar A 165³⁾ = 0 ... 600 bar	H 315³⁾ = -30 ... 0 in Hg H 317³⁾ = -30 ... 30 in Hg/psig H 319³⁾ = -30 ... 60 in Hg/psig H 321³⁾ = -30 ... 100 in Hg/psig H 323³⁾ = -30 ... 150 in Hg/psig P 025³⁾ = 0 ... 15 psig P 045³⁾ = 0 ... 30 psig P 057³⁾ = 0 ... 60 psig P 065³⁾ = 0 ... 100 psig P 077³⁾ = 0 ... 160 psig P 085³⁾ = 0 ... 200 psig P 086³⁾ = 0 ... 250 psig P 088³⁾ = 0 ... 300 psig P 100³⁾ = 0 ... 500 psig P 105³⁾ = 0 ... 600 psig P 115³⁾ = 0 ... 1000 psig P 126³⁾ = 0 ... 1500 psig P 130³⁾ = 0 ... 2000 psig P 140³⁾ = 0 ... 3000 psig P 147³⁾ = 0 ... 4000 psig P 150³⁾ = 0 ... 5000 psig P 157³⁾ = 0 ... 6000 psig P 162³⁾ = 0 ... 8000 psig P 165³⁾ = 0 ... 10000 psig	A = G ½, male (standard) B³⁾ = G ¼, male F³⁾ = ½" NPT, male G³⁾ = ¼" NPT, male	0 = without K²⁾³⁾ = accuracy ≤0.25% of span S³⁾ = oxygen service Y³⁾ = special option (specify in clear text)
Absolute pressure ranges SEN-9900³⁾... with electrical plug connection EN 175301-803) SEN-9930³⁾... (M12x1 male electrical connection) SEN-9940¹⁾³⁾... (2 m PVC cable, IP65) SEN-9950¹⁾³⁾... (2 m Polyurethane cable, IP68)		Absolute pressure ranges³⁾ B 025 = 0 ... 1 bar B 035 = 0 ... 1.6 bar B 045 = 0 ... 2.5 bar B 055 = 0 ... 4 bar B 065 = 0 ... 6 bar B 075 = 0 ... 10 bar B 085 = 0 ... 16 bar A 095 = 0 ... 25 bar			

¹⁾ zero calibration not available

²⁾ for pressure ranges ≤ 600 psi (40 bar); not for model SEN-99...

³⁾ minimum order quantity = 10 pieces per item (identical model code)

Output signal code	4 ... 20 mA (standard)	0 ... 5 V _{DC}	0 ... 10 V _{DC}
	0	1	2
No. of wires	2	3	3
Load max. (Ω)	$R_L \leq (V_{in}-8)/0.02$	$R_L \geq 5 K\Omega$	$R_L \geq 10 K\Omega$
Supply: +V _{in} (V _{DC})	10 ... 30	8 ... 30	14 ... 30
Ground	(please refer to Installation Manual)		