



- * analogue output, two switching outputs
- * clear, easily readable, backlit LCD display
- * changeable units in the display
- * designed for industrial applications

PRINCIPLE

The pressure sensors of the omni-line consist of the primary sensor and the integrated signal processing electronic. The primary sensor is available in two different technologies and different measurement ranges:

omni-P: A stainless steel diaphragm transmits the pressure via an oil filled cavity onto a mono silicon substrate with accommodated piezo-resistive measuring bridge in thin-film poly silicon technology. With flush membrane this sensor is suitable for applications with sticky fluids like glue components or other critical liquids.

omni-P1: With economically monolithic ceramic measuring cell with accommodated resistive bridge in thickfilm technology. The integrated signal processing electronic contains a microcontroller which evaluates the signal and operates the analog output and two switching outputs besides the display. Since the complete upper part of the housing can be rotated, the cable connection can be conveniently aligned as required.

Please take all additional data from the omni-sensor-family 51.1.omni and data sheet 51.1.omni2.

MOUNTING

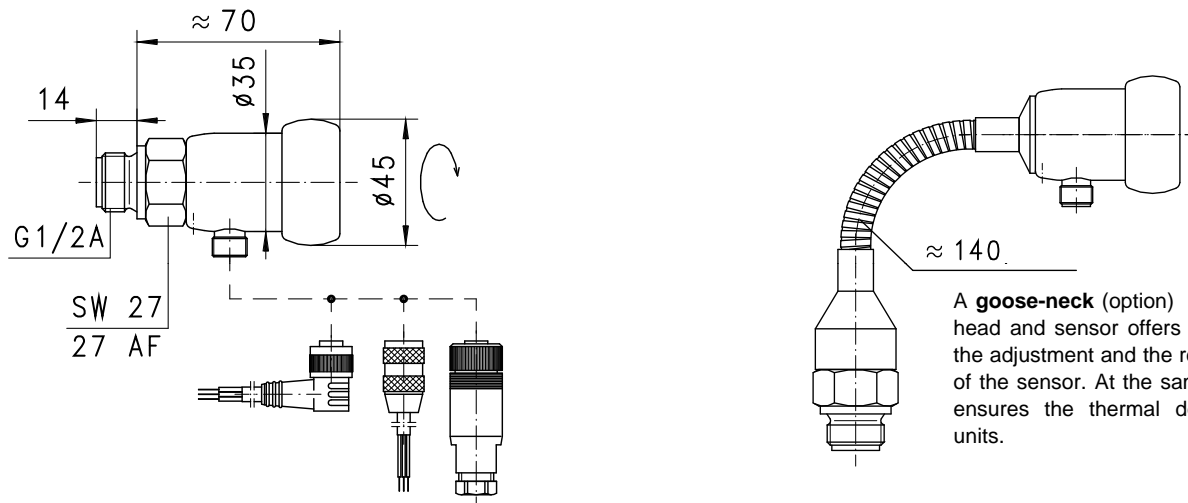
Remove the plastic cap. Warning: the stainless steel diaphragm is extremely sensitive. Distorted diaphragm affects the accuracy of the measurement.

The sensors are screwed into a sleeve or a T-piece in the pipework using a suitable sealing material (Teflon tape, Sikurite seal, etc.). The mounting of the sensor should not cause any significant change of cross-section in the pipe system. When tightening the sensor, be sure to use only the proper hexagonal wrench (27mm AF). Avoid points of installation subject to high pressure shocks (see overload limit).

TECHNICAL DATA

	omni-P		omni-P1	
measurement ranges	range	overload	range	burst
relative pressure	0 - 1	4	0 - 1	4
	0 - 2,5	10	0 - 2	6
overload limit	0 - 6	24	0 - 5	15
	0 - 10	40	0 - 10	40
burst pressure (bar)	0 - 25	100	0 - 20	60
	0 - 60	240	0 - 50	150
(in bar)	0 - 100	400	0 - 100	280
	0 - 250	600	0 - 200 *	400
	0 - 400	600	0 - 400 *	1050
			* for gas applications only on request	
option	additional measurement ranges absolute pressure metering (low limit 10mbar abs.)		-	
accuracy	±1% v. F.S., above 60°C 0,02% /°C		±1% F.S.; 0,05% /°C below 0° and above 60°C	
reproducibility	±0,5% F.S.		±0,1% F.S.	
dynamic	measurement and output cycle 32 ms, display cycle 0,5 sec.			
operating temperature	-20..70°C (with goose-neck max. 120°C)			
storage temperature	-20..80°C			
supply voltage	18..30 VDC			
power consumption	< 1 W			
analog output	4(0)..20mA, 2(0)..10V via resistor of 500 Ohm to GND (impedance of receiver > 100kOhm)			
switching outputs S1 and S2	PNP or NPN (push-pull), programmable as minimum- or maximum-switch max. 300 mA output current (sum of both outputs), short circuit proof, polarity safe			
hysteresis	adjustable, direction dependent on setting min or max			
display	graphical LCD-Display with extended temperature range -20..70°C, 32x16 pixel, backlit LED-indicator flashing with additional message on display			
connection	at locking plugs M12x1, 5pole			
protection class	IP67			
materials	stainless steel 1.4301		stainless steel 1.4571, ceramic Al ₂ O ₃ , Viton	
media contact				
Material electronic housing	stainless steel 1.4305 (housing), hardened mineral glass, POM (programming ring), cobalt-samarium (magnet)			

DIMENSIONS



locking plugs M12x1, 5pole
(accessory)

A **goose-neck** (option) between electronic head and sensor offers complete liberty in the adjustment and the reading off direction of the sensor. At the same time this option ensures the thermal decoupling of both units.

NOMENCLATURE

omni-P	001	R	K	015		basic type specification
omni-P						● sensor with flush all stainless steel diaphragm
omni-P1						● monolithic ceramic sensor
	001					● pressure range in bar (e.g. 1 bar)
		R				● relative pressure
		A				○ absolute pressure (not for ceramic sensor)
			K			● material of mechanical connector
				015		● connection G1/2A
					S	● connection at locking plugs M12x1, 5-pole
					H	○ with goose-neck

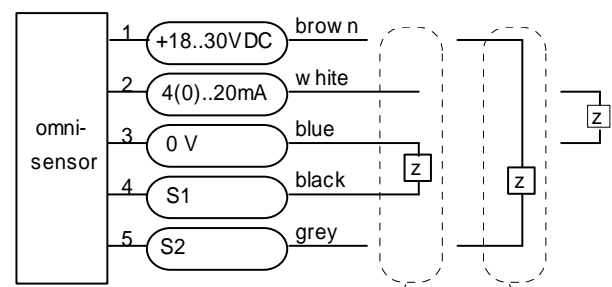
ACCESSORIES

Locking plug M12x1

K5	PU-	02	S	G	basic type specification
K5					● ready-made cable
KB05					● self makable cable 5-pole
	PU-				● material PUR
		02			● length 2 m
		05			● length 5 m
		10			● length 10 m
			S		● moulded-on plug
				G	● straight plug
				W	● angled plug 90°



TERMINAL ASSIGNMENT



Example: **PNP** or **NPN**

Z = load

Before carrying out the electrical installation, make sure that the supply voltage corresponds to the data provided!

The switching outputs can be connected as NPN or PNP without any hardware or software settings (push-pull-driver).

It is recommended to use shielded cable < 30 m, supply lines < 10 m

All technical changes reserved

●BASIC Standard ○BASIC Programme option □VARIO Special option ⊕ PLUS Accessories ✗ not recommendable