

## PRODUCT OVERVIEW

ADZ NAGANO GmbH  
Gesellschaft für Sensortechnik  
ISO TS 16949 and DIN EN 9100  
certified company



● Germany

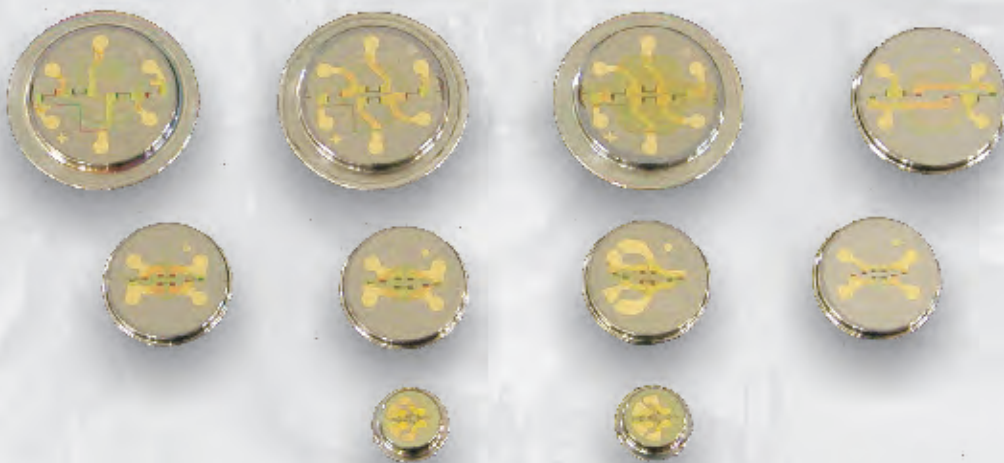


# PRESSURE CELL TECHNOLOGY

In the manufacture of our pressure transmitters and pressure switches, we adopt two different technologies, tuned to respective applications and purposes.

- the stainless steel technology
- the silicon technology

The products have proven their value in millions of most diverse applications.



## THE STAINLESS STEEL TECHNOLOGY

Our stainless steel pressure measuring transmitters have a membrane with applied thin film poly-Si resistors. The deformation-dependent resistors change with pressure generating a voltage that can be converted into any signal.

- Benefits:
- very compact and homogeneous design
  - high long-term stability and dynamic load capacity
  - measuring ranges from -1...0 bar to 0...4.000 bar
  - high precision classes of 0.25 % are possible
  - very good media compatibility

- Material:
- Membrane 17-4-PH / SUS 630
  - Fitting SUS 304



# BY ADZ NAGANO GMBH

## THE SILICON TECHNOLOGY

In silicon pressure transmitters, the pressure-sensitive element is a silicon membrane into which strain-sensitive resistors have been diffused.

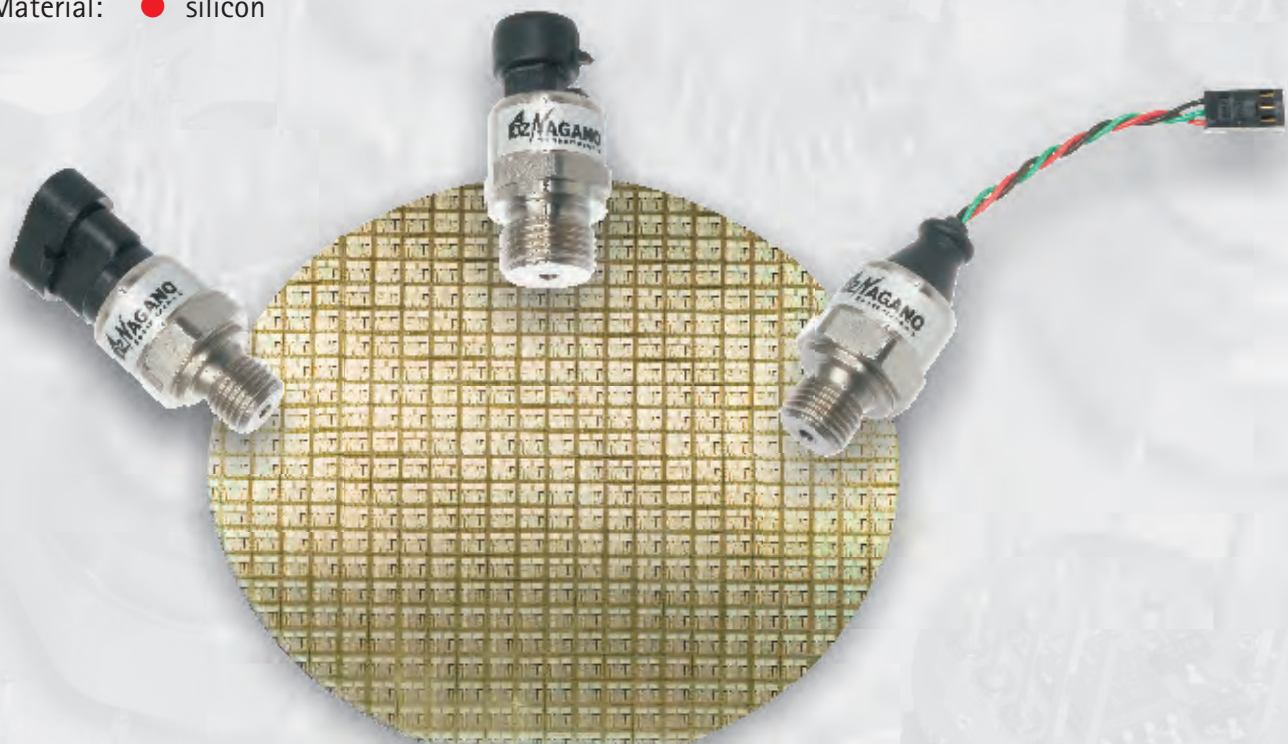
This technology permits to manufacture sensors in high volumes.

Benefits:

- reasonable large-batch production
- measuring ranges from 10 mbar to 40 bar
- compact design

Material:

- silicon



## ADZ NAGANO GmbH Gesellschaft für Sensortechnik

Apart from our extensive standard product range, we are able to develop and manufacture customized components for measuring the physical values of pressure and temperature.





# ADZ products made in Germany


## Industrial Transmitter




Model	SML	SIL	SMH	SMF
<b>STANDARDS / APPROVALS</b> CE-Marking: EG-Directive ATEX Standard	89/336/EWG	89/336/EWG	89/336/EWG	89/336/EWG
<b>APPLICATIONS</b>	Hydraulics Pneumatics Plant engineering Engineering Refrigeration	Hydraulics Pneumatics Plant engineering Engineering	Hydraulics Pneumatics Test stand design Water power engineering Diesel engine technology	Food industry Dosage pumps Sanitary engineering Chemical industry
<b>PRESSURE RANGE</b> Pressure range*  Temperature range Vacuum-/relative- and absolute pressure	-1...0 bar 0...1000 bar  • •	0...10 mbar 0...40 bar  • ≥ 1 bar	> 0...1000 bar 0...4000 bar  •	0...200 bar  •
<b>ELECTRICAL PARAMETER</b> Output signal*   Max. supply voltage* $U_s[V_{DC}]$	4...20 mA 0...10 $V_{DC}$ 0...5 $V_{DC}$ 1...5 $V_{DC}$ 0,5...4,5 $V_{DC \text{ rat.}}$  32 (5)	4...20 mA 0...10 $V_{DC}$ 1...5 $V_{DC}$ 0,5...4,5 $V_{DC \text{ rat.}}$  32 (5)	4...20 mA 0...10 $V_{DC}$ 1...5 $V_{DC}$ 0,5...4,5 $V_{DC \text{ rat.}}$  33 (5)	4...20 mA 0...10 $V_{DC}$ 1...5 $V_{DC}$ 0,5...4,5 $V_{DC \text{ rat.}}$  33 (5)
<b>ACCURACY</b> Accuracy @ RT (%) Option (%)	0,50 0,25	1,00 0,50	0,50 (1,00) 0,25 (0,50)	0,50 0,25
<b>TEMPERATURE RANGE</b> Medium T [°C] Ambience T [°C]	-40...125 -40...105	-40...85 -40...85	-40...125 -40...105	-30...100 -30...100
<b>MECHANICAL PARAMETER</b> Parts in contact with the measuring medium* Housing Connection* Connector* IP system of protection* Overall length* mm Option	Stainless steel Stainless steel G1/4A Form E MVS/C IP65 (67) ~ 85	Silicon Stainless steel G1/4A Form E MVS/C IP65 (67) ~ 85	Stainless steel Stainless steel M18x1,5 male MVS/A IP65 (67) ~ 105	Stainless steel (316L) Stainless steel G1/2 MVS/C IP65 (67) ~ 100

\* other upon request • possible

Mobil Hydraulics	Level Sensor	Ex Version Transmitter		Pressure Switch		Level Sensor
						
SMO	PS1	SMX	SMX2	DPSX9U	DPSX9I	PSX2
89/336/EWG	89/336/EWG	89/336/EWG Zone 1 EN 50014 EN 50020	94/9/EG Zone 0 and 1 EN 60079-0 EN 60079-11 EN 60079-26	94/9/EG Zone 0 and 1 EN 60079-0 EN 60079-11	94/9/EG Zone 0 and 1 EN 60079-0 EN 60079-11	94/9/EG Zone 0 and 1 EN 60079-0 EN 60079-11 EN 60079-26
Automotive industry Braking systems Hydraulics Diesel engine technology Natural gas engines	Tanks, vessels Water systems Rivers, lakes Weirs	Chemical industry Oil and gas industry Food industry Plant engineering Automation technology	Chemical industry Oil and gas industry Food industry Plant engineering Automation technology	Automotive industry Environmental engineering Refrigeration Engineering Automation technology	Automotive industry Environmental engineering Refrigeration Engineering Automation technology	Tanks, vessels Water systems
0...4 bar 0...4000 bar	0...1 mWS 0...250 mWS	0...1 bar 0...2000 bar	0...10 mbar 0...2000 bar  • •	0...5 mbar 0...2000 bar  • •	0...5 mbar 0...2000 bar  • •	0...1 mWS 0...250 mWS
4...20 mA 0...10 V <sub>DC</sub> 1...5 V <sub>DC</sub> 0,5...4,5 V <sub>DC rat</sub>	4...20 mA 0...10 V <sub>DC</sub> 1...5 V <sub>DC</sub>	4...20 mA	4...20 mA	0...10 V	4...20 mA	4...20 mA
33 (5)	33	27	27	32	32	27
0,50 0,25	0,50 (1,00) 0,25 (0,50)	0,50 0,25	0,50 (1,00) 0,25 (0,50)	0,50 (1,00) 0,25 (0,50)	0,50 (1,00) 0,25 (0,50)	0,50 (1,00) 0,25 (0,50)
-40...125 -40...105	-40...85 -40...85	-20...85 -20...85	-20...60 (-40...100) -20...60 (-40...85)	-40...100 -40...85 (-40...70)	-40...100 -40...85 (-40...70)	-20...60 (-40...100) -20...60 (-40...85)
Stainless steel Stainless steel G1/4A Form E M12x1 IP65 (67) ~ 70 Load-Dump module Restrictor	Stainless steel/ Silicon Stainless steel without Cable IP68 ~ 135	Stainless steel Stainless steel G1/4A Form E MVS/A IP65 (67) ~ 102	Stainless steel/ Silicon Stainless steel G1/4A Form E M12x1 IP65 (67) ~ 100	Stainless steel/ Silicon Stainless steel G1/4A Form E Cable IP67 ~ 80 (~ 66)	Stainless steel/ Silicon Stainless steel G1/4A Form E Cable IP67 ~ 80 (~ 66)	Stainless steel/ Silicon Stainless steel without Cable IP68 ~ 180

Intelligent Transmitter		Compact Design		Precision Transmitter	High Temperature Transmitter	
						
SMC	SIS	SME	SMS	SHP	SKL	SKE
89/336/EWG	89/336/EWG	89/336/EWG	89/336/EWG	89/336/EWG	89/336/EWG	89/336/EWG
Automotive industry Air conditioning Hydraulics Agricultural engineering Automation technology	Hydraulics Pneumatics Plant engineering Engineering Automotive industry	Automotive industry Hydraulics Pneumatics Plant engineering	Automotive industry Hydraulics Pneumatics Engineering	Medical technology Hydraulics Pneumatics Test stand design Engineering	Automotive industry Hydraulics Pneumatics Plant engineering Engineering	Automotive industry Hydraulics Pneumatics Automation technology Chemical industry
0...1 bar 0...2000 bar	0...600 mbar 0...40 bar  • ≥ 1 bar	0...1 bar 0...400 bar	0...4 bar 0...600 bar	0...10 mbar 0...2000 bar  • •	0...1 bar 0...2000 bar	0...1 bar 0...2000 bar
CANopen 2.0 A	4...20 mA 0...10 V <sub>DC</sub> 1...5 V <sub>DC</sub> 0,5...4,5 V <sub>DC rat</sub>	0...5 V <sub>DC</sub> 0,5...4,5 V <sub>DC rat</sub>	4...20 mA 0...10 V <sub>DC</sub> 0...5 V <sub>DC</sub> 1...5 V <sub>DC</sub> 0,5...4,5 V <sub>DC rat</sub>	4...20 mA 0...10 V <sub>DC</sub>	4...20 mA 0...10 V <sub>DC</sub> 1...5 V <sub>DC</sub> 0,5...4,5 V <sub>DC rat</sub>	4...20 mA 0...10 V <sub>DC</sub> 1...5 V <sub>DC</sub> 0,5...4,5 V <sub>DC rat</sub>
32	32 (5)	32 (5)	32 (5)	32	32 (5)	32 (5)
0,50 0,25	1,00 0,50	0,50 0,25	0,50 0,25	0,15 0,10	0,50	1,00
-40...125 -40...105	-40...105 -40...85	-40...125 -40...85	-40...125 -40...105	-20...85 -20...85	-40...160 (180) -40...105	-40...180 (200) -40...105
Stainless steel/ Silicon Stainless steel G1/4A Form E M12x1 IP65 (67) ~ 75	Stainless steel/ Silicon Stainl. steel (brass, Al) G1/4A Form E Superseal IP65 (67) ~ 55	Stainless steel Stainless steel M8x1 (M10x1) Cable IP67 ~ 50	Stainless steel Stainless steel G1/4A Form E M12x1 IP65 (67) ~ 50	Stainless steel/ Silicon Stainless steel G1/4A Form E MVS/C IP65 (67) ~ 117	Stainless steel Stainless steel G1/4A Form E MVS/C IP65 (67) ~117	Stainless steel Stainless steel G1/4A Form E M12x1 IP65 (67) ~ 120

Temperature + Pressure		Differential Pressure Transmitter		Electronic Pressure Switch
				
TPSE	TPSI	DDPT	DDPTM	DS5
89/336/EWG	89/336/EWG	89/336/EWG	89/336/EWG	89/336/EWG
Hydraulics Pneumatics Refrigeration Heating systems Automation technology	Hydraulics Pneumatics Refrigeration Heating systems Automation technology	Pneumatics Procces technology HVAC	Pneumatics Procces technology HVAC	Hydraulics Pneumatics Refrigeration Heating systems Automotive industry
0...4 bar 0...600 bar -50...200°C	0...1 bar 0....1000 bar -50...150°C	0...1 mbar 0...50 mbar	0...5 bar 0...1000 bar	0...600 mbar 0...2000 bar
4...20 mA 0...10 V <sub>DC</sub>	0...10 VDC 0,5...4,5 V <sub>DC rat</sub> 0,25...4,75 V <sub>DC rat</sub>	4...20 mA 0...10 V <sub>DC</sub>	4...20 mA 0...10 V <sub>DC</sub>	nnp / pnp nc / no / window
32	32 (5)	30	28	30
0,50 0,25	0,50 0,25	1,00	1,00	0,50
-40...125 -40...105	-40...125 -40...105	0...50 0...50	0...50 0...50	-40...125 -40...105
Stainless steel Stainless steel M18x1,5 male M16x0,75 IP 67 ~ 87 + overall length	Stainless steel Stainless steel G1/4A Form E M12x1 IP 67 ~ 70	Stainless steel PVC Hose connection Screw terminal IP 65 ~ 100	Stainless steel PVC G1/4A Form E Screw terminal IP 55 (65) ~ 100	Stainless steel Stainless steel G1/4A Form E M12x1 IP 67 ~ 70

# SEE OUR SOLUTIONS

As the European distributor, we are your partner for products from NAGANO KEIKI Co., Ltd.



## ZT61 Digital Pressure Gauge for 1.125 surface mounting interface

- Easy-to-Read integrated type LED digital display.
- There is a type of 2-wire transmission system and 3-wire transmission system with comparator.
- Co-Ni alloy sensor elements is extremely corrosion resistance.
- RoHS directive compatible.



## GC31 Digital Pressure Gauge

- Size covers up to 50MPa while being compact type.
- Air, water, oil (Non-corrosive gas and liquid).
- Open collector NPN or PNP type, 2 output.
- Operating temperature range is -10 to 50°C.
- Monitor use analog output (voltage) is equipped.
- EU-RoHS directive compatible.



## GC35 Digital Pressure Transducer

- 4 Digit LED w/ Indicator Lights.
- Air, water, oil (non-corrosive gas and liquid).
- Operating temperature is -20 to 70°C.
- Pressure range is -0.1/0.5 to 0/20MPa
- Power supply is 12 to 24VDC (max. 36VDC)
- Accuracy is  $\pm 1.0\%$ F.S.
- Protection rating is IP65 and IP67.
- Color High Visibility Pressure Status Light.



## GC51,52 Pressure & Differential Pressure Transmitter

- With the built-in scaling function, it is possible to adjust display and output range.
- The display element provides easy-to-read.
- LCD indication, which uses LED backlight.
- Operating temperature is -10 to 60°C.
- This product is compact size and light-weight.



## SL85 Anti-corrosion Pressure Gauge

- Wetted parts use fluorine resin and have high corrosion resistance. PP resin case make it resistant to corrosive environments.
- RoHS command compatible parts are used.
- Washing and assembly inside clean room.



## KH15 Pressure Transmitter (Water Proof type)

- Vibration and shock residence are excellent because there are no moving parts.
- Pressure transmitters with identical mountings and 0.1 to 100MPa ranges can be manufactured.
- RoHS directive compatible.
- Waterproofing of the case structure IP67.

Further informations to NAGANO KEIKI products, as well as a product overview can find you under [www.adz.de](http://www.adz.de).



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We reserve the right to make alternations in line with technical development without notice. 01/2011  
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