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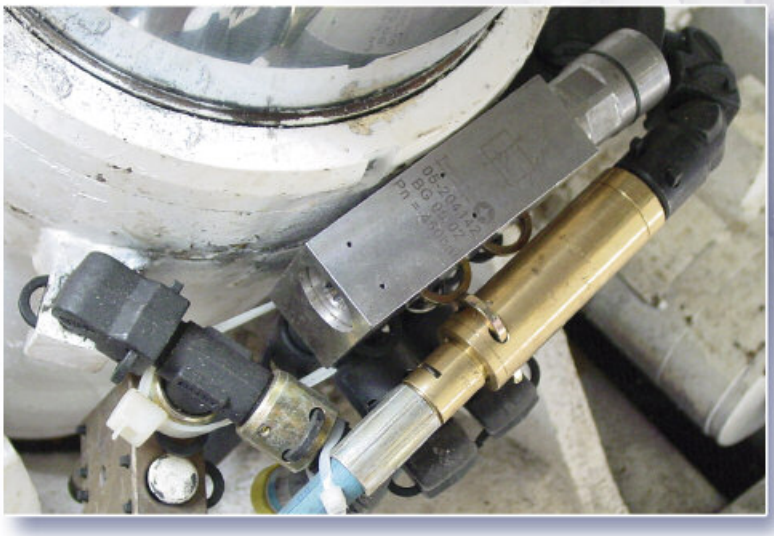
Control Systems GmbH

Pressure sensors
DANA 602x

To electronically monitor the pressure of fluid media in hydraulic systems

- Rugged and maintenance-free design
- Electr. connection via SKK plug connectors
- Pressure ranges from 0 to 600 bar available
- Hydr. connection via Steck-O DN10
- Different country-specific approvals
- Type of protection: IP67 acc. to EN 60529/IEC 529
- Ex-approval: I M2 EEx ia I IS acc. to Directive 94/9/EC (ATEX)



Monitoring the leg pressure in a shield support underground

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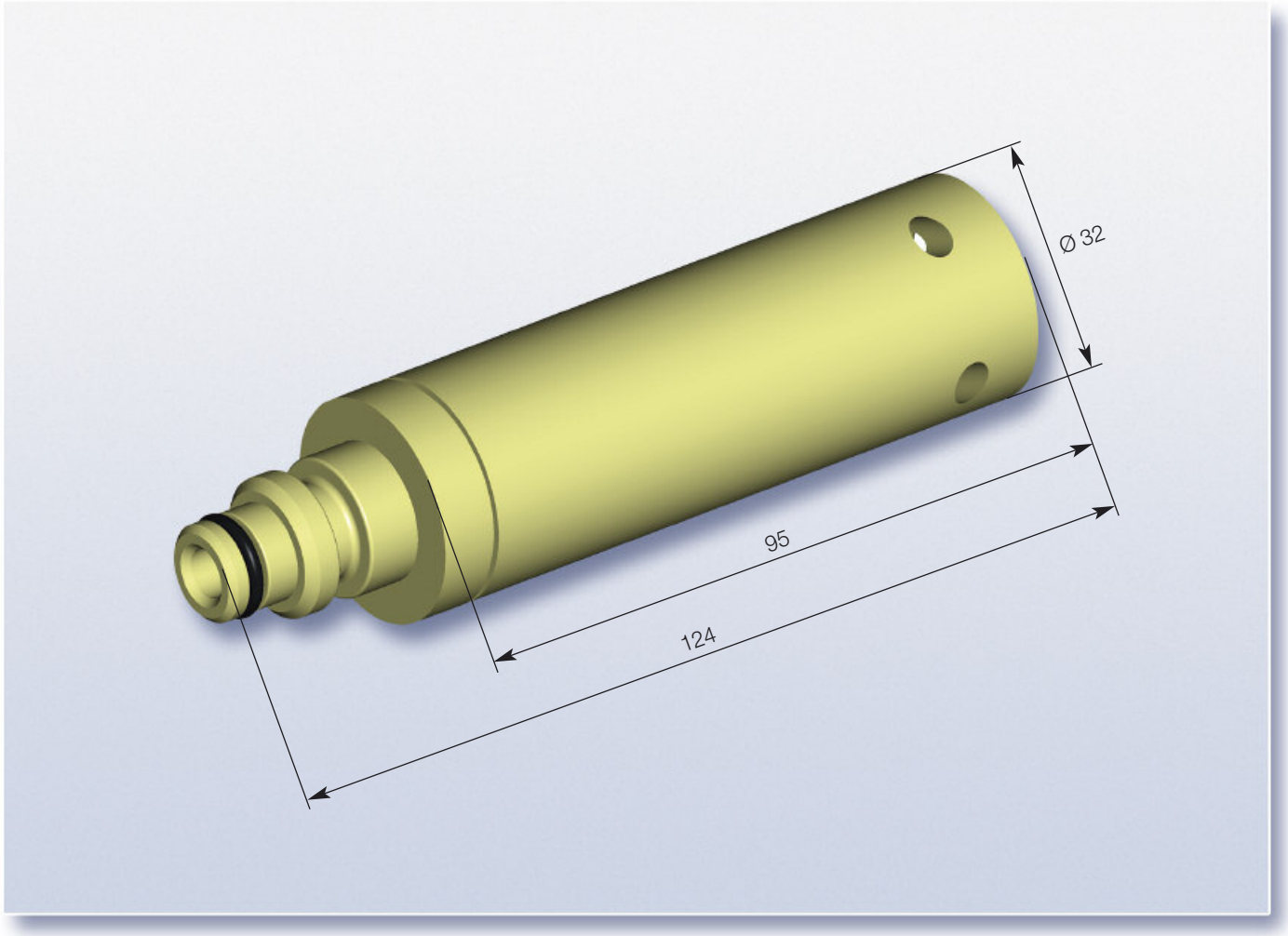

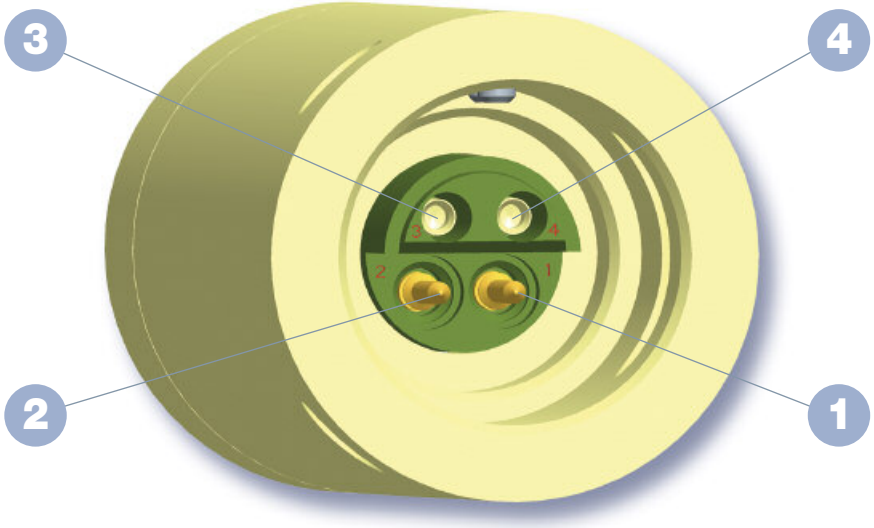

Electrical connection

Pin 1: +12,5 VDC
Pin 2: Output 0.5 to 4.5VDC
Pin 3: not used
Pin 4: GND

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FUNCTION AND DESIGN

The pressure sensor is used for electronically monitoring the pressure of a hydraulic system.

The hydraulic pressure measured in the line is output as electronic signal – depending on the sensor type either as voltage or as current. If the pressure in the line changes the signal will also change proportionally to the pressure.

The pressure sensor consists of a cylindrical housing made of high-grade steel or brass into which a metal diaphragm is integrated.

Located at the lower end of the housing is the hydraulic port of nominal width DN10. Via this port acc. to DIN 20043 the pressure sensor can be placed in the hydraulic system quickly and easily.

Located at the upper end of the pressure sensor is the SKK24 connector for the electrical connection. The sensor cable which transmits the signal values to the evaluation unit is connected there.

When pressure is applied the metal diaphragm integrated into the housing is expanded by the hydraulic pressure. This dynamic deformation is detected by means of a measuring bridge and converted into a standardized analog voltage or current signal (depending on the type of sensor).

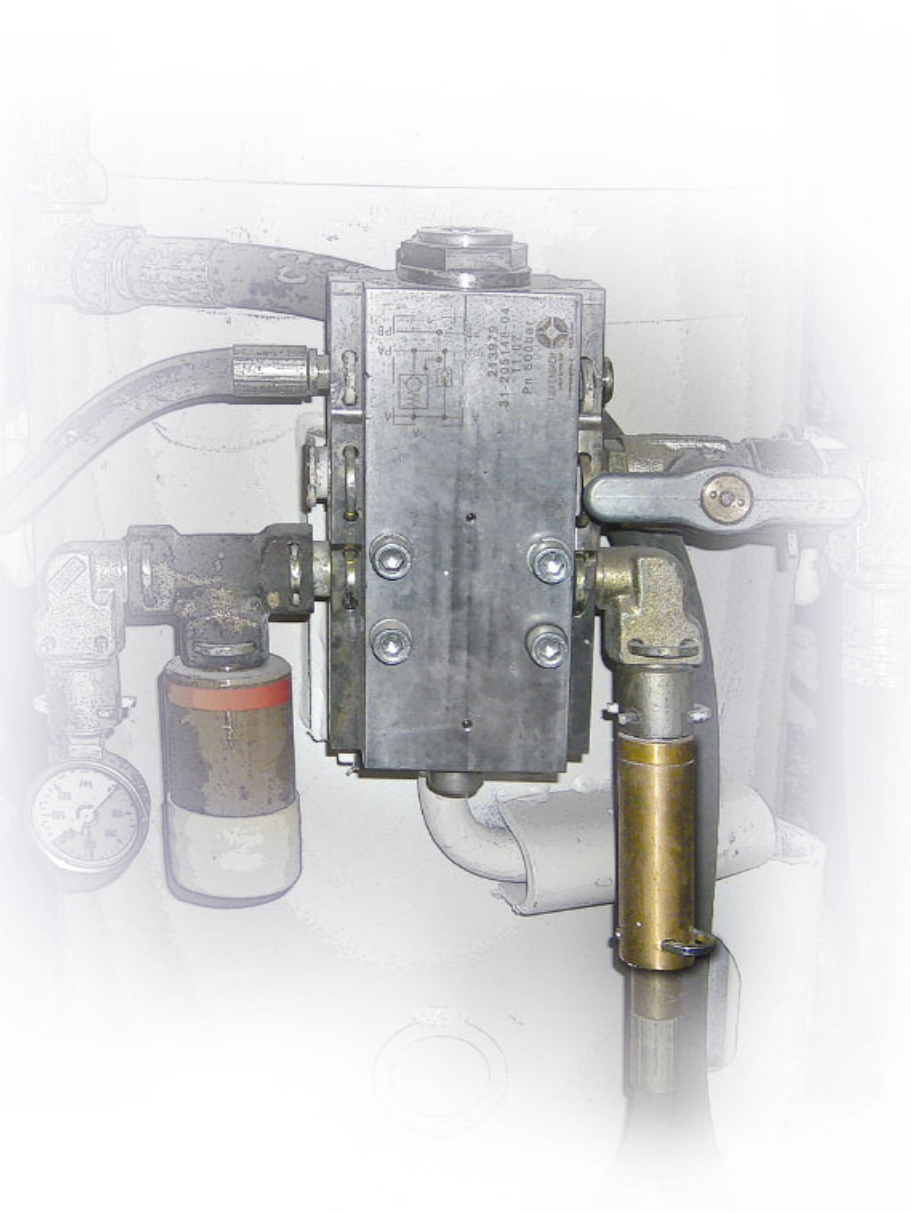
Via the software of the evaluation unit the maximum pressure of the measuring range and the maximum output value are put in relation.

The pressure sensor thus knows which output value refers to which pressure.

Application

➤ The pressure sensor variants **6022 to 6025** have further functions in addition to their main task which is measuring pressure:

- Detecting an interruption on the sensor cable
- Detecting a short circuit in the sensor cable



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TECHNICAL DATA

Input voltage	12.5 VDC	
Current consumption	< 20 mA	
Temperature range	-20°C to +60°C	
Accuracy	± 1.5% of the final value	
Effective internal capacitance	15 nF	
Effective internal inductance	negligible	
Power supply	9 VDC (max. 16 VDC)	
Type	Piezoresistive pressure sensor	
Material	corrosion-free	
Weight	420 grams	
Fitting position	any	
Pressure meas. ranges	0 to 10 bar 0 to 100 bar 0 to 200 bar Other pressure ranges upon request	0 to 450 bar 0 to 500 bar 0 to 600 bar
Output signal/ voltage range	0 to 5 VDC 1 to 5 VDC 0 to 10 VDC	0.5 to 4.5 VDC 1 to 10 VDC 4 to 20 mA
Type of connection electr.	Plug connector SKK24	
Type of connection hydr.	Plug connector DN10	
Type of protection	IP67 acc. to EN60529/IEC 529	
Ex-approval	I M2 EEX ia I acc. to Directive 94/9/EC	
Certificate No..	BVS 04 ATEX E 013	

TYPE CODE AND ORDERING DETAILS

DAN A 602 * - * bar**

***	End of pressure range	
*	1 ➤ Voltage range 0 to 5 VDC 2 ➤ Voltage range 1 to 5 VDC 3 ➤ Voltage range 0 to 10 VDC	4 ➤ Voltage range 0.5 to 4.5 VDC 5 ➤ Voltage range 1 to 10 VDC 8 ➤ Output signal 20mA
602	Series	
A	Design acc. to ATEX	
DAN	Pressure sensor	

TYPICAL EXAMPLE

DAN A 602 4 - 450 bar	■ Pressure sensor acc. to ATEX ■ Series 602 ■ Output voltage 0.5 to 4.5 VDC ■ Pressure measuring range 0 to 450 bar
DAN A 602 2 - 200 bar	■ Pressure sensor acc. to ATEX ■ Series 602 ■ Output voltage 1 to 5 VDC ■ Pressure measuring range 0 to 200 bar

Subject to technical alterations · Version 08/12

We give impulses >>>

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