Electronic Pressure Switch DS-DG

With Readout

Pressure Range:	**0,5 MPa to 400 MPa (5 bar to 4000 bar)**
Output:	**Transistor circuitry**
Operating voltage:	**12...27 V DC**
Operating temperature:	**- 10°C to + 80°C**

- Resistant to pressure peaks
- Shockproof and vibration-proof
- Insensitive to temperature shocks
- Protection system IP 65 according to DIN EN 60 529
- Wetted materials sensor: Stainless steel
- LED – 4-Digital-Display, revolvable - bar, kPa oder Psi
- Two switching point: normal on, normal off
- Switching resolution:: 0,2 % F.S.

Construction

- Piezo-resistive, vacuum-proof
- Stainless steel diaphragm with pressure range resistor (Poly-Si-on SiO_2)
- Mixed signal ASIC
- Case : Stainless steel, ø 64 mm
- Accuracy: Class 1,5 % (F.S.)
- Pressure port: G ¼ " Form E *)
- 4 Digit-LED-display, revolvable
- Switch delay: 5 ms
- Weight: 150 g

Application / Possible Uses

- Automotive
- Semiconductor industry
- Agricultural devices
- Hydraulic
- Pneumatic
- Robot systems
- Environmental technology
- Process control
- Heating systems

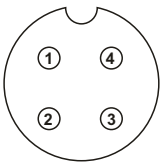
Description

The DS DG with 4-digits-LED-Display is revolvable and programmable with 3 keys for:
- Unit of measure (swichable in bar; kPa and Psi) - Owner-code - Switch point and hysterese
- Polarity output normally open, normally closed - Switch delay 5 ms ... 3 s and - Zero offset.
The hermetically welded thin film-measuring cell ensures a high degree of long-term resistance to leakage and stability. The ASIC is a programmable precision CMOS ASIC with EEPROM data storage and analogue signal path, which is suitable for an extended operating temperature range. The special steel membrane is completely vacuum-tight, burst-proof and can be used with all standard media in hydraulics, pneumatics, environmental technology, process technology, semi-conductor technology and automotive engineering, in as far as they are compatible with special steel. This thereby covers use in standard applications in mobile hydraulics and in other areas of application. The great exactness and the robust, compact structure guarantee a broad range of possible uses in industry.

Technical information	**Type: DS-DG**
Measuring range (bar) standard pressure ranges *) MPa	5 10 20 50 100 350 700 2000 4000 0,5 1 2 5 10 35 70 200 400
Overrange protection (bar) *)	2 x rated pressure
Bursting pressure (bar) *)	3 x rated pressure
Pressure type Relative pressure	
Port configuration *)	G 1/4" Form E Standard
Materials used Wetted materials sensor Materials of casing	 No O-ring, no silicone oil Stainless steel 17-4 PH, SUS 304 or SUS 630
Display	4-Digits-LED-display, revolvable
Weight (g)	150 g
Electrical parameters Output *) Operating voltage Uv Current consumption Insulating resistance at 50 V	Switching against Ub, pnp: 1 A 24 V with 2 A 12...27 V DC 10 mA...12 V 100 M
Switching delay	min. 5 ms
Electrical connection *)	LED-Display
Linearity error at RT (% F.S.) (B.F.S.L.) **)	± 0,5 max. (optional 0,25) ****)
Total error ***)	< ± 1,5 % FS
Reproducibility stability per year, permitted	
- Operating temperature (°C) - Storage temperature (°C)	- 10...+ 80 °C - 20...+ 120 °C
Electromagnetic compatibility EMV and ESD Testing according to DIN EN 55082-1 and DIN EN 50082-2	 25 V/m
Resistance to shock-proof Testing according to IEC 68-2-32	 300 m/s, 14 ms at RT
Vibration resistance Testing according to IEC 68-2-6 and IEC 68-2-36	 10 g with 20-1000 Hz

PIN Layout:

1 plus supplay voltage
2 output
3 free
4 minus supplay voltage



*) Others on request
**) Integral linearity deviation (F.S. = Full Scale; B.F.S.L. = Best Fit Straight Line)
***) The total error includes non-linearity, hysterese, repeatability and temperature influence.
****) Customer-specific special design with optional better exactness on request

- Mistakes and changes in the sense of technical improvements reserved. -

ADZ NAGANO GmbH
Gesellschaft für Sensortechnik
Bergener Ring 43
D-01458 Ottendorf-Okrilla

Tel. + 49 (0) 35 205 - 59 69 30
Fax: + 49 (0) 35 205 - 59 69 59

eMail: arndt@adz.de
Internet: www.adz.de