



# DS 230

## Intelligent Electronic Pressure Switch for Industrial Applications

- ▶ ceramic sensor
- ▶ up to 2 contacts
- ▶ option: analogue output
- ▶ display and housing rotatable
- ▶ nominal pressure ranges  
from 0 ... 2 bar  
up to 0 ... 400 bar

The electronic pressure switch DS 230 is the successful combination of:

- intelligent pressure switch
- digital display unit

The DS 230 convinces by its exceeding cost-performance ratio. It is especially designed to equip hydraulic and pneumatic applications.

The system pressure is shown on the 4-digit LED display. In addition the display supports programming the DS 230 using the foil keys. The software has several functions such as access protection, configuration of the display and contacts. Display and housing of the DS 230 are rotatable, so that the position of the display can be adapted to unusual installation positions.

Preferred areas of use are:

- ▶ drink and service water systems
- ▶ pneumatics
- ▶ pumps and hydraulic machines
- ▶ vacuum technology
- ▶ process engineering

- ▶ configuration of display, including
  - current value
  - decimal point
- ▶ contacts adjustable, including
  - switch on / switch off points
  - hysteresis / window mode
  - switch on / switch off delay
- ▶ special functions / administration
  - access protection
  - min. / max. value memory

Functions



**DS 230**

Electronic Pressure Switch

### Input pressure range

Nominal pressure gauge [bar]	2	5	10	20	50	100	250	400
Permissible overpressure [bar]	4	10	20	40	100	200	400	600
Burst pressure [bar]	7	15	35	70	150	250	450	650

### Supply

Supply voltage $V_s$	$24 V_{DC} \pm 10\%$
Current consumption	< 40 mA (without analogue output and without contacts)

### Output signal

Number, type	standard: 1 PNP contact option: max. 2 independent PNP contacts; 1 analogue output
--------------	---

#### Contact (Standard)

Switching current	standard: contact rating max. 500 mA, short-circuit resistant <sup>1</sup>
Accuracy of contacts <sup>2</sup>	$\leq \pm 1.5\%$ FSO BFSL
Repeatability <sup>2</sup>	$\leq \pm 0.5\%$ FSO BFSL
Switching frequency	max. 100 Hz
Switching cycles	$> 100 \times 10^6$
Functions	Hysteresis- / Compare mode NO (normally open) / NC (normally closed)
Delay time	0 ... 99.99 sec.

#### Analogue output (optional)

Output signal	4 ... 20 mA (3-wire)
Linearity, hysteresis, repeatability	$\leq \pm 0.5\%$ FSO BFSL
Calibration accuracy	$\leq \pm 1\%$ FSO BFSL
Permissible load	$R_{max} = 500 \Omega$
Response time	< 10 ms

### Thermal errors

Thermal error for offset	$\leq \pm 0.5\%$ FSO / 10 K
in compensated range	-25 ... 85 °C

### Electrical protection

Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326

### Display

Type	4-digit, red LED display, digit height 7 mm, digit width 4.85 mm (angle 10°)
Range	-1999 ... +9999
Accuracy	$0.3\% \pm 1$ Digit
Digital damping	0.3 ... 30 sec (programmable)
Measured value update	0.0 ... 10 sec (programmable)

<sup>1</sup> higher switching current on request

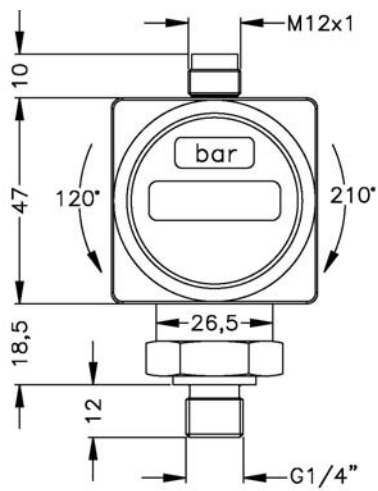
<sup>2</sup> depending on nominal pressure range

Permissible temperatures

Medium	-25 ... 125 °C
Electronics / environment	-25 ... 85 °C
Storage	-40 ... 85 °C

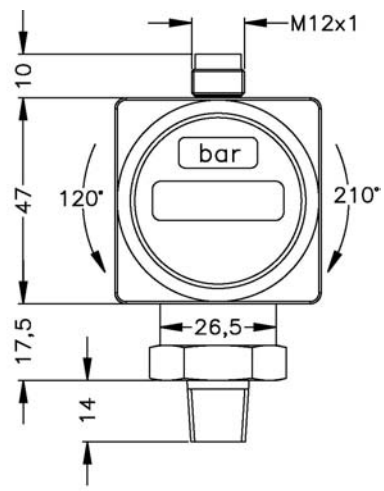
Dimensions (in mm)

Standard

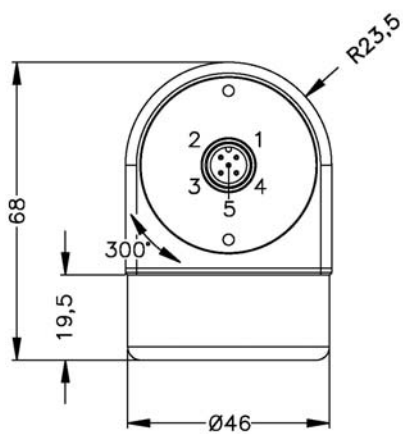


G1/4" DIN 3852

Option



1/4" NPT



### Materials

Pressure port	stainless steel 1.4305 (303)	
Housing	stainless steel 1.4305 (303)	
Display housing	PA 6.6, Polycarbonate	
Seals (media wetted)	$P_N < 100$ bar: FKM	$P_N \geq 100$ bar: NBR
Diaphragm	ceramics $Al_2O_3$ 96 %	
Touchpad	polyester	
Media wetted parts	pressure port, seals, diaphragm	

### Miscellaneous

Weight	ca. 180 g
Installation position	any
Ingress protection	IP 65

### Pin configuration

Electrical connection	M12x1 (5-pin), plastic
Supply +	1
Supply -	3
Signal +	2
Contact 1	4
Contact 2	5
Ground	via pressure port

### Wiring diagram

