

## Data sheet

# Electronic pressure switch / controller with actual value display

Type: DSR

Integrating a pressure switch, pressure sensor and display unit in one compact unit, the **Pressure Controller** offers everything for perfect pressure monitoring and control of hydraulic and pneumatic systems, particularly in continuous series production.

### View

- Optimum pressure management
- rotatable
- High protection rating
- Compact design
- Wide-ranging mounting possibilities
- Hard-wearing
- Wide range of variants available
- Ease of operation



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#### General technical data

##### Electrical connection

Supply voltage	15..30VDC nominal 24VDC protection class 3
Electrical connection	M12x1; 4-pole; 5-pole; with gold-plated contacts
Short circuit protection	yes
Reverse polarity protection	yes
Overload protection	yes
Current consumption	< 100mA

##### Housing

Directionally adjustable up to 290°

Material	Die-cast zinc Z 410; painted
Foil material	Polyester
Display	4-digit 7-segment; LEDred, character height 9mm
Protection rating	Ip67 EN60529; IP 65 with connector DIN EN 175301-803 (formerty DIN43650)

##### Ambient conditions

Ambient temperature range	-20°C to +85°C
Storage temperature range	-40°C to +100°C
EM compatibility	Interference emmission acc. to EN 61000-6-3; Interference resistance acc. to EN 61000-6-2
Vibration resistance	20g 10...500Hz IEC60068-2-6*
Shock resistance	50g 11ms IEC60068-2-29*

\* not applicable to DIN43650 design

##### Outputs

Switching outputs	2 high-side outputs (PNP)
Contact functions	n.o. contact / n.c. contact, window, hysteresis, function freely adjustable characteristics
Switching voltage	Supply voltage 1,5VDC
Switching current max.*	0,5 A per switch
Short circuit current	2,4 A per switch
Analogue output	0/4..20mA, programmable, freely scalable RL ≤ (supply voltage 8 V ) / 20mA ( ≤ 500 Ω)

\* higher switching currents on demand

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#### Technical data

		Low pressure			High pressure				
Measuring range	bar	-1...4	-1...10	-1...16	0...60	0...100	0...250	0...400	0...600
Overload pressure	bar	10	20	40	120	200	500	800	1200
Burst pressure	bar	12	25	50	550	800	1200	1700	2200
Display resolution	bar	0,01	0,01	0,01	0,1	0,1	1	1	1
Smallest adjustable difference between SP and RSP (SPRSP)	bar	0,03	0,06	0,09	0,3	0,6	2	3	3
Measuring element		Ceramic			Thin film				

#### Input quantities

Reversing cycles	≥ 100 million.
Scanning rate	≥ 5ms
Connecting thread	G1/4 (BSPP); ED-soft seal NBR* (DIN 3852 T2,Form X);ED(DIN3852 T11, Form E )
Tightening torque	35Nm
Parts coming into contact with media	Low pressure: stainless steel 1.4404; Ceramic AL2O3;NBR High pressure: stainless steel 1.4404; 1.4542
Medium temp. range	-20°C to +85°C
weight	approx. 300g
MTFFd	>100years

\* other sealing materials (FPM, EPDM etc...) on demand

#### Output quantities

Accuracy	± 0,5 % FS typ.± 1 % FS max.
Temperature drift	± 0,02 %FS/°K type (at -20...85°C) ± 0,03 %FS/°K max.
Long term stability	± 0,2 % FS/a
Repeat accuracy	± 0,25% FS
Switching point accuracy	± 0,5 % FS typ.± 1 % FS max.
Display accuracy	± 0,5 % FS typ. ± 1 Digit ± 1 % FS max. ± 1 digit

#### Response speed

Switching output	≤ 10 ms
Analogue output	≤ 10 ms

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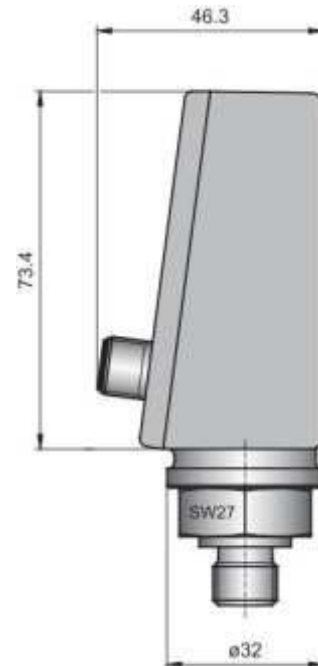
Type: DSR

### Mounting

External thread G1/4" BSPP  
High and low pressure  
Ordering example: DSR-XXX-X4-17



M12 plug-type connector  
Ordering example: DSR-XXX-X4-X7



Internal thread G1/4" BSPP  
High pressure from 60bar with measuring element DMS  
Ordering example: DSR-060-X4-27



Internal thread G1/4" BSPP  
Low pressure up to 16bar with ceramic measuring element  
Ordering example: DSR-016-X4-27



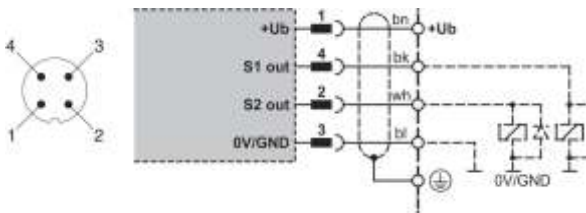
# Data sheet

## Electronic pressure switch / controller with actual value display

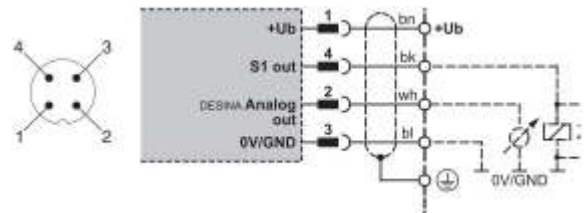
### Type: DSR

#### Terminal diagrams

2 switching outputs; without analogue output,  
M12x1 plug-type connector 4-pole  
ordering example: DSR-XXX-04-X7



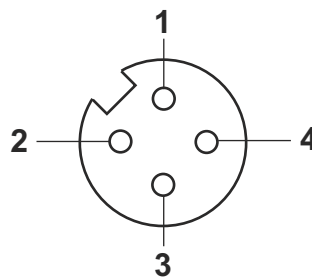
1x switching output, 1x analogue output,  
M12x1 plug-type connector 4-pole  
ordering example: DSR-XXX-14-X7



#### Pin assignment

##### DSR-xxx-14-x7

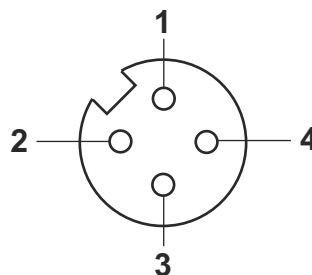
1 switching output, 1 analogue output  
M12x1; 4-pole



PIN	occupancy
1	V <sub>+</sub>
2	Analogue out
3	0V/GND
4	S1 out

##### DSR-xxx-04-x7

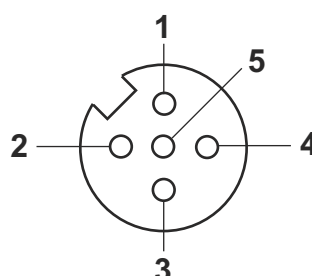
2 switching outputs  
M12x1; 4-pole



PIN	occupancy
1	V <sub>+</sub>
2	S2 out
3	0V/GND
4	S1 out

##### DSR-xxx-14-x5

2 switching outputs, 1 analogue output  
M12x1; 5-pole



PIN	occupancy
1	V <sub>+</sub>
2	S2 out
3	0V/GND
4	S1 out
5	Analogue out

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### Order key

#### Pressure range

004 010 016 060 100 250 400 600

#### Switching outputs

**04** - 2 switching outputs, without analogue output

M12 plug-type connector 4pin

**14** - 1 switching output, with analogue output

M12 plug-type connector 4pin

other variants on request

#### Design

**1** - G1/4 BSPP external thread

**2** - G1/4 BSPP internal thread

DSR - XXX - 04 - X7

#### Cable length

**02** - 2m

**05** - 5m

**10** - 10m

#### Plug-type connector

**45** - M12 cable socket; straight

**55** - M12 cable socket; 90° angled

DSRK-400 - XX - XX

### Accessories

PC programming kit

DSR-PRG-KIT

Fixing clamp

DSR-S27

*Subject to change*