

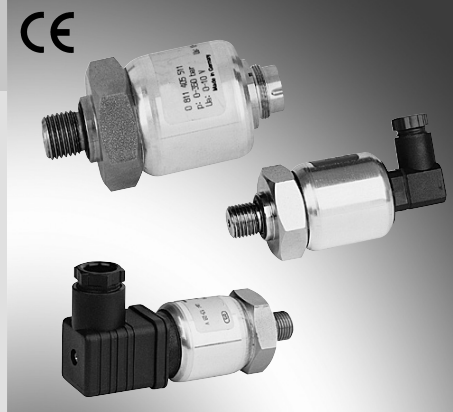
Pressure transducer with integrated electronics

RE 30271/01.14
Replaces: 01.11

1/8

Type HM 18

Component series 1X



Type HM 18

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Features

- Suitable for measuring pressures as well as for converting the measured values in electrical signal values, e.g. for use in measurement and control engineering
- Sensor with thin film measuring cell
- Accuracy class 0.5
- Six pressure measuring ranges up to 350 bar
- Connection thread G $\frac{1}{4}$
- Components that are in contact with the media are made of stainless steel
- Compact design
- Operational reliability due to high bursting pressure, reverse polarity, overvoltage and short-circuit protection
- Mating connectors partly included in the scope of delivery

Ordering code

HM 18 - 1X / - - / / 0

Pressure transducer
with integrated electronics

Component series 10 to 19
(10 to 19: Unchanged technical data and pinout)

= 1X

Pressure measuring ranges

up to 60 bar	= 60
up to 100 bar	= 100
up to 160 bar	= 160
up to 200 bar	= 200
up to 210 bar	= 210
up to 350 bar	= 350

¹⁾ Mating connector included in the scope of delivery

0 = No options

V0 = Standard version
V1 = Special version
(jet connector with voltage output
 $0.25 \dots 0.75 \cdot U_{\text{sup}}$)

no code = Jet connector
S = Small cubic connector¹⁾
B = Large cubic connector¹⁾
R = 7-pin round connector

no code = Voltage output $0.25 \dots 0.75 \cdot U_{\text{sup}}$
C = Current output 4...20 mA
V = Voltage output 0...10 V
D = Voltage output 0...5 V
N = Voltage output 1...6 V

Note:

For possible variants of "connector" and "output" refer to pages 4 to 6.

Technical Data (For applications outside these parameters, please consult us!)

Characteristics

"Dynamic" overload capacity		$2 \times p_{\text{nom}}$ (up to 20 m load cycles)
"Static" overload capacity		$3 \times p_{\text{nom}}$ (up to 10 pressure pulses, 0.5 seconds each)
Bursting pressure	bar	> 1500
Linearity deviation incl. hysteresis	%	< ±0.5
Zero spread		< ±0.5
Sensitivity spread		< ±0.5
Temperature coefficient of zero point (typical)		< ±0.2/10 K
Temperature coefficient of sensitivity (typical)		< ±0.25/10 K
Measuring temperature range (compensated)	°C	+10...+70
Operating temperature range		-10...+80
Storage temperature range		-30...+90
Hydraulic dead volume	cm ³	Approx. 0.5
Setting time (10 to 90%)	ms	< 1
Max. acceleration	g	≈ 25
Connection piece material (hydraulics)		X5CrNi1810
Diaphragm material		X5CrNiCuNb174
Hydraulic connection		G $\frac{1}{4}$ (ISO 228)
Weight	m	0.2 kg
Electromagnetic compatibility		See data sheet 30271-U

Notes/provisions/function

General

Pressure sensors are used for converting the mechanical variable 'pressure' into the electrical variable 'current'.

The pressure sensors included in the Rexroth hydraulic range are suitable for pressure monitors and controls in mechanical engineering, in plastic injection molding machines, in presses and many other areas.

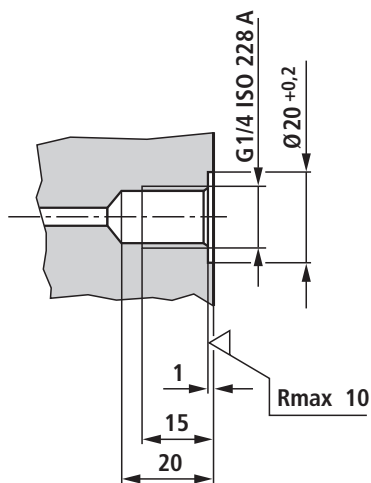
The most important features of the sensors are:

- Pressure sensor element, consisting of stainless steel diaphragm (spring material), coated with thin-layer strain gauge sensor; incorporates full-bridge circuit
- Integrated electronics
- Signal output proportional to the pressure
- Zero point and sensitivity adjustment

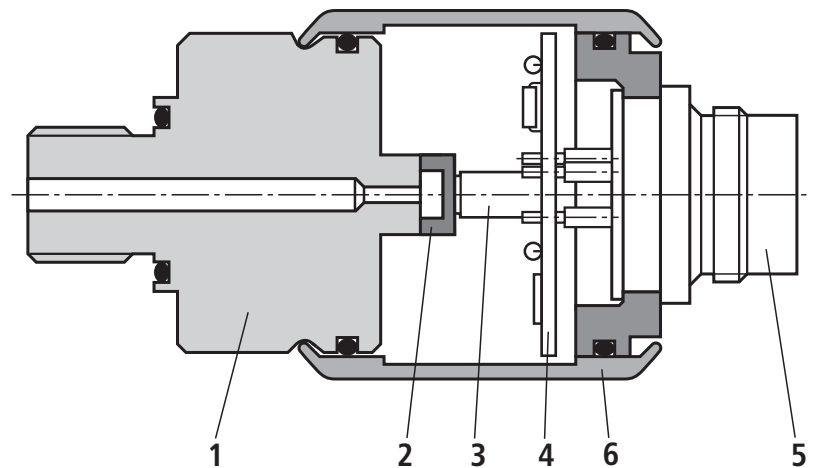
Instructions for use

- Installation position of the sensor - vertical; the connector faces downwards.
- The sensor is to be installed in the hydraulic system so that it is ensured that no air cushion can build up between the sensor diaphragm and the pressure medium.
- Pressure medium: Hydraulic oil; other liquids and gases only on request.

Installation bore



Function



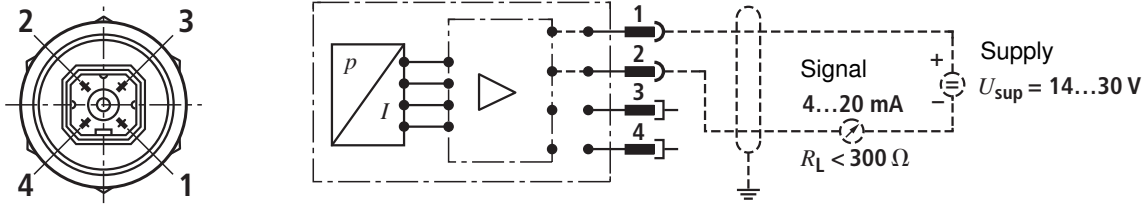
- 1 Connection piece
- 2 Diaphragm
- 3 Flexible circuit
- 4 Evaluation circuit
- 5 Connecting plug
- 6 Housing

Electrical connections

Version V0: Output 4...20 mA (C)

Small cubic connector (S)

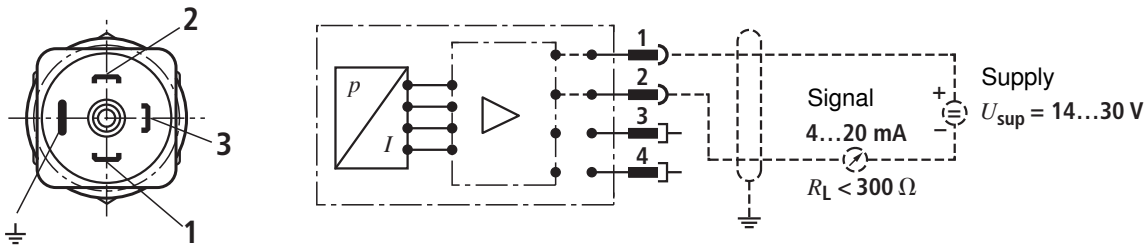
Related mating connector 1 834 484 063 (included in the scope of delivery)



Version V0: Output 4...20 mA (C)

Large cubic connector (B)

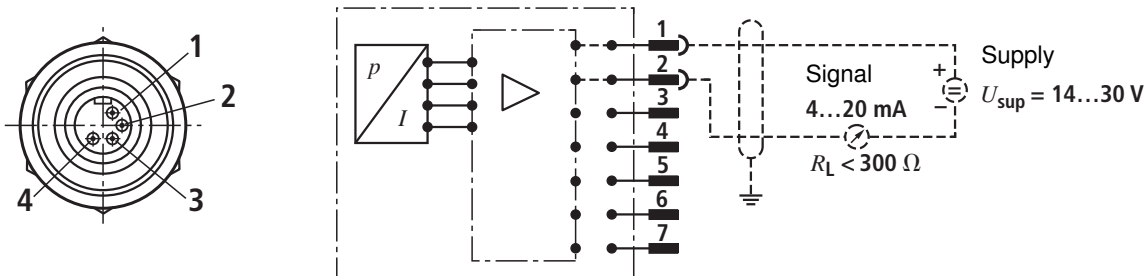
Related mating connector 1 834 484 060 (included in the scope of delivery)



Version V0: Output 4...20 mA (C)

7-pin round connector (R)

Related mating connector 1 834 484 141

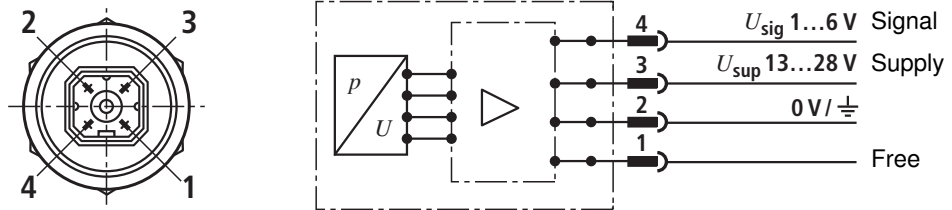


Electrical connections

Version V0: Output 1...6 V (N)

Small cubic connector (S)

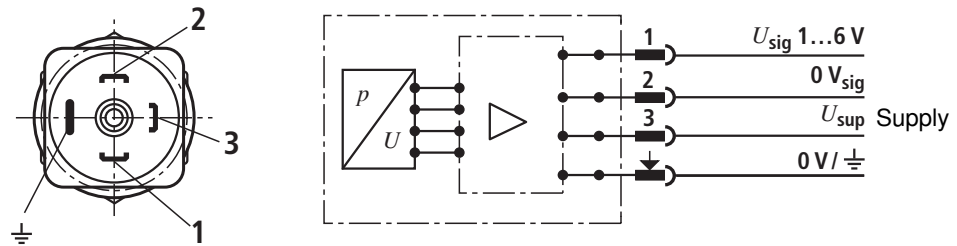
Related mating connector 1 834 484 063 (included in the scope of delivery)



Version V0: Output 1...6 V (N)

Large cubic connector (B)

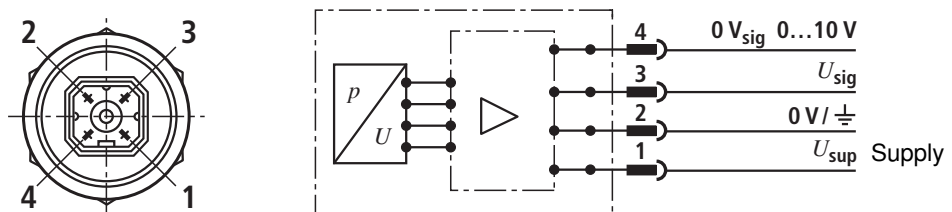
Related mating connector 1 834 484 060 (included in the scope of delivery)



Version V0: Output 0...10 V (V)

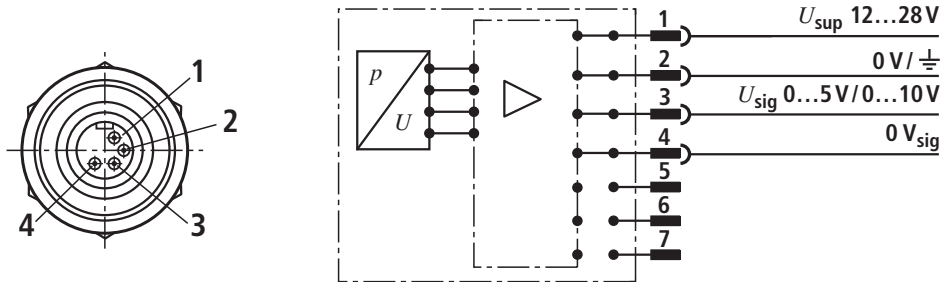
Small cubic connector (S)

Related mating connector 1 834 484 063 (included in the scope of delivery)

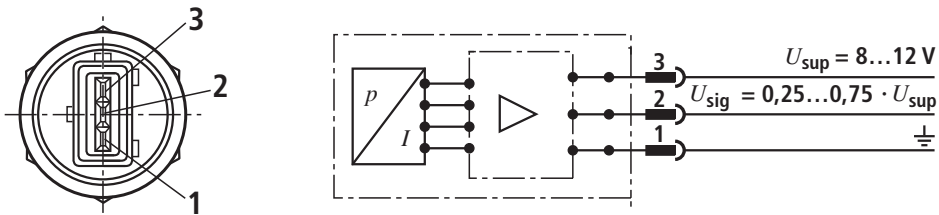


Electrical connections

Version V0: Output 0...10 V (V) or 0...5 V (D)
7-pin round connector (R)
Related mating connector 1 834 484 141

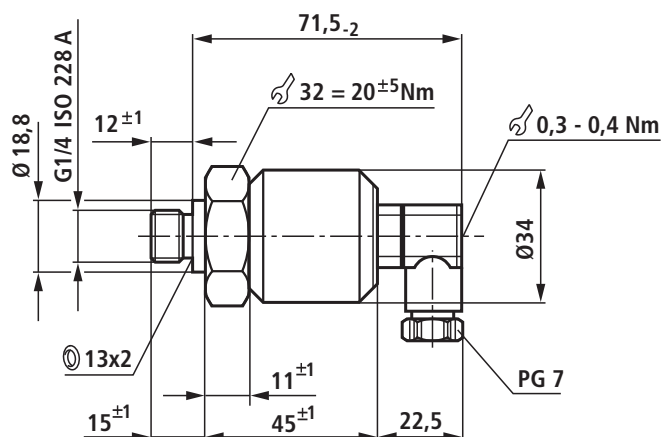


Version V1: Output $0.25 \dots 0.75 \cdot U_{\text{sup}}$ (no code)
Jet connector (no code)
Related mating connector 1 834 484 094

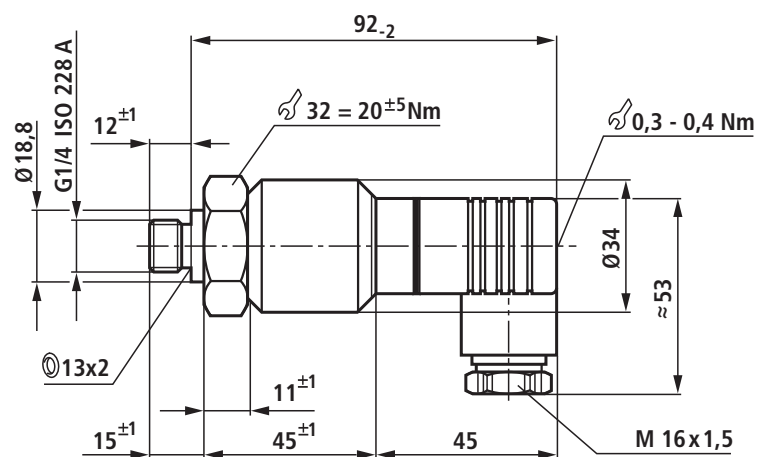


Unit dimensions (dimensions in mm)

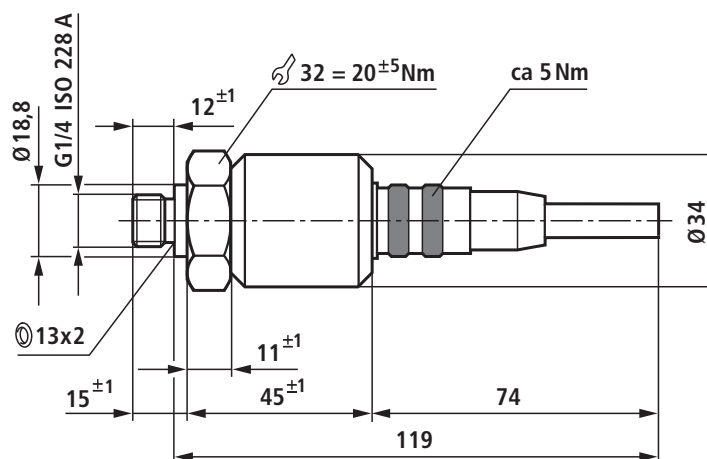
Connector variant: Small cubic connector (S)



Connector variant: Large cubic connector (B)

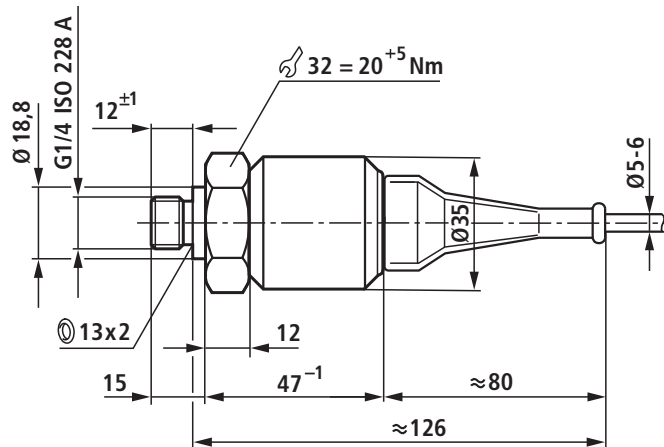


Connector variant: 7-pin round connector (R)



Unit dimensions (dimensions in mm)

Connector variant: Jet connector (no code)



Accessories (dimensions in mm)

Adapter with throttle
1 833 458 006

