

Bourdon Tube Pressure Gauges

Bezel Ring Case Black

with Limit-Switch Contact Assemblies

100 (4")
NCS 160 (6")
250 (10")

Model **RÜ**

This data sheet contains ordering information, minimum pressure ranges, information about electrical connections and dimensional drawings of Bourdon tube pressure gauges models RÜ with limit-switch contact assembly.

Standard Configuration

Data sheet 1100 contains the important features of these models without electrical accessories. These technical details are valid also for gauges assembled with limit-switch, as far as you do not find a deviating description below.

For detailed information about use and operation of our limit-switch contact assemblies please note our **general information leaflet 9000**, and for further information, especially about the available make/break operations, see the data sheets for the individual limit-switch models:

Mechanical (Standard- and magnetic contacts)	Data sheet 9100
Inductive	Data sheet 9200
Electronic	Data sheet 9201
Pneumatic	Data sheet 9300

Minimum Pressure Ranges

Every pressure gauge needs a sufficient amount of torque to operate a limit-switch contact assembly with minimized error. The following minimum pressure ranges are to consider¹⁾:

Limit-Switch Type ²⁾ :	Minimum Pressure Ranges ¹⁾	
	NCS 100 (4")	NCS 160 (6") NCS 250 (10")
1 x Standard	1.0 bar (15 psi)	
2 x Standard	1.6 bar (30 psi)	
3 x Standard	2.5 bar (60 psi)	
4 x Standard	2.5 bar (60 psi)	
1 x Magnetic	1.6 bar (30 psi)	
2 x Magnetic	2.5 bar (60 psi)	
3 x Magnetic	4.0 bar (60 psi)	
4 x Magnetic	4.0 bar (60 psi)	
1 x Inductive	1.0 bar (15 psi)	
2 x Inductive	1.6 bar (30 psi)	
3 x Inductive ³⁾	2.5 bar (60 psi)	
1 x Electronic	1.0 bar (15 psi)	
2 x Electronic	1.6 bar (30 psi)	
3 x Electronic ³⁾	2.5 bar (60 psi)	
1 x Pneumatic	1.0 bar (15 psi)	1.0 (15 psi)
2 x Pneumatic	—	1.6 (30 psi)

¹⁾ lower pressure ranges upon request

²⁾ Standard installation of limit-switch contact assemblies: behind the dial ("HZ"-version); exception case size 250 (10"): installation in front of the dial ("TZ"-version)

³⁾ 4x limit-switch contact assemblies upon request

For pressure gauges with 3 or 4 contacts it is not always possible to set all set pointers one above the other. Therefore you should state when ordering for which contacts resp. set pointers the opportunity to set one above the other is required. Or simply point out where your set points are.

Splash water protection

Sponge rubber ring between bezel and window

Window

Acrylic glass lens resp. polycarbonate (details upon request)



Electrical Connection

- Mechanical contacts (standard [S] or magnetic [M]):
1 m connection cable passing through the back side of the case, respectively for case configurations Rh, rRh passing through the right side of the case
- Inductive / electronic limit-switch assemblies (I, E):
Terminal box mounted on the right side of the case, respectively for NCS 160 (6"), case configurations rFr: on the back side, for NCS 250 (10"), case configurations bottom connection, r (lower back connection), and rFr: on the back side
The terminal box has 6 terminals.
- Pneumatic limit-switch assemblies (P)
For each limit-switch one PE- or optionally PP converter (IP 30) on the backside of the case;
NCS 100 (4") max. 1 limit and with bottom connection only;
NCS 160 (6") and 250 (10") all case configurations as shown overleaf; dimensional drawings upon request

If a PP/PE converter is mounted on the back of a case with nominal size 100 mm (4") the gauge cannot be supplied with a blow-out in the back. This is valid also for special versions with universal plug connector on the back of the case.

Optional Special Configurations e.g.

- Other electrical connection, e.g. plug connector according to DIN EN 175 301-803, or mechanical contacts with universal plug connector (6 terminals and a ground terminal)
- Other position of the electrical connection upon request

How to Order

The ordering code of the individual gauge model RÜ 100, 160, or 250 (compare data sheet 1100) is extended by the

- Code letter for the limit-switch contact assembly:
S, M, I, E or **P** and the
- Code number for the make/break operation, e.g.
1, 11, 12, 2, 22, 21

(Please compare the data sheet for the limit-switch contact!)

Examples for Ordering Information:

- RÜ 160-3, 0-40 bar, **M 12**
- RÜ 100-3, -1/+9 bar, ½" NPT, **I 1**



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Case Configurations, Electrical Connections, Dimensional Data and Weight

The dimensions are the same as from the basic model, except the

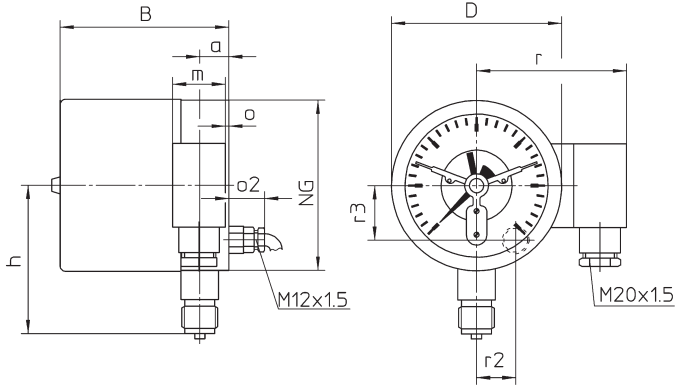
- front-to-back sizes, **dimensions B and B1**, see table below.

For the other dimensions, please see data sheet 1100.

The locations of the electrical connections are shown in the dimensional drawings below.

Bottom connection

Connection cable or Universal plug connector / terminal box

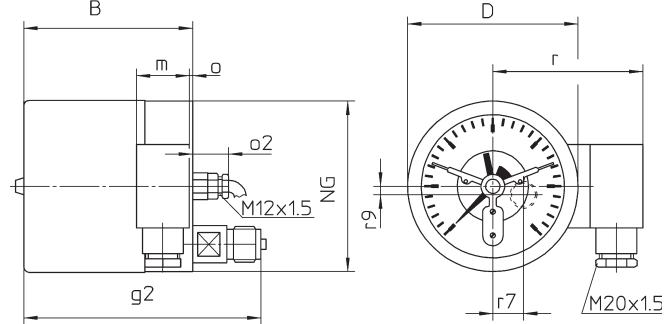


Others than standard locations are available only upon request at extra charges.

The front-to-back sizes of versions with pneumatic limit-switch assembly are the same as below. Technical drawings for the PP/PE converter upon request.

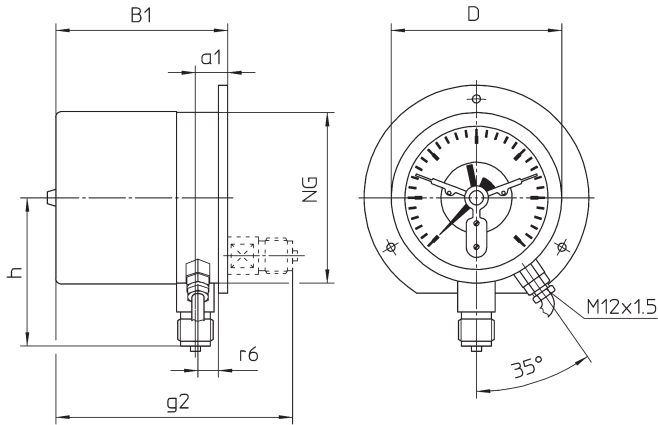
Back connection (r)

Connection cable or Universal plug connector / terminal box

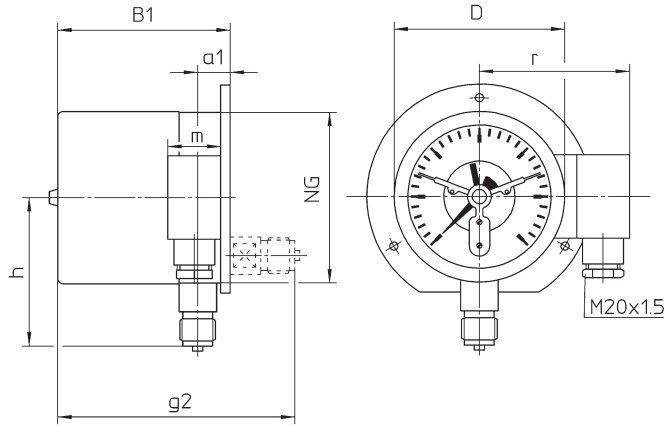


Bottom or lower back connection, rear mounting flange (Rh, rRh)

Connection cable

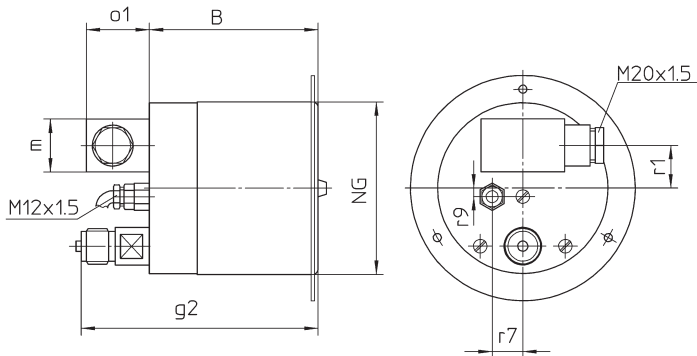


Universal plug connector/terminal box



Lower back connection, front mounting flange (rFr)

Connection cable or universal plug connector / terminal box



Dimensional Data (mm / inches) and Weight (kg / lb)

Nominal Case Size	a	a1	B	B1	D	g2	h ±1	m	o	o1	o2	r	r1	r2	r3	r6	r7	r8	r9	Weight** (approx.)
100 4"	17 .67	19 .75	99 3.90	101 3.98	100 3.94	139 5.47	87 3.43	31 1.22	2 .08	37 1.46	21 .83	88 3.47	25 .98	23 .91	32 1.26	12 .47	18 .71	92 3.62	0 0	.63 1.39
160 6"	19 .75	21 .83	102* 4.02	104* 4.09	160 6.30	140 5.51	115 4.53	31 1.22	2 .08	37 1.46	21 .83	118 4.65	27 1.06	36 1.42	50 1.97	12 .47	36 1.42	118 4.65	50 1.97	1.10 2.43
250 10"	17 .67	16 .63	102 4.02	104 4.09	250 9.84	142 5.59	165 6.50	31 1.22	—	37 1.46	21 .83	—	27 1.06	36 1.42	50 1.97	12 .47	36 1.42	162 6.38	50 1.97	2.40 5.29

* For inductive and electronic limit switches with 2 similar make/break operations (i.e. I 11 or E 22, also as part of 3x inductive contact assemblies), and for 4 x

standard or magnetic contacts please add 17 mm (0,67") to length B and B1. ** appr. weight for case with bottom connection and with 2 contacts