Combi Gauges for Rail Cars

According to DIN 38030:2022-10

With two measuring units

DRg...Fz
DRChg...Fz

Application

Pressure gauges NCS 60 Model DRg 60 – 1 Fz rmBFr
NCS 80 Model DRChg 80 – 1 Fz rmBFr
NCS 100 Model DRChg 100 – 1 Fz rmBFr
are used for the measurement of two different pressures and are applied in rail cars, especially for air brake systems. They comply with the standard DIN 38030:2022-10.
The instruments are provided with u-clamps for panel mounting and with direct and indirect lighting as combi gauges.

Construction

The pressure gauges are provided with two independently working Bourdon tube measuring systems. Each system has its separate pressure connection. A movement with separate pointer shafts transfers the motions of the Bourdon tubes caused by pressure onto the respective pointer.

Standard Versions

Accuracy

Class 1.6	NCS 60	separate for each measuring system
Class 1.0	NCS 80, 100	separate for each measuring system

Position of Installation
70° – 90° (position of adjustment 80°)

Case

NCS 60	galvanised steel
NCS 80, 100	stainless steel 304 (1.4301)

with crimped-on ring, aluminum, black anodised

Temperature Limitation

Storage temperature	–40 °C to +70 °C (–40 °F to +158 °F)
Ambient temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Medium temperature	max. +60 °C (+140 °F)

Degree of Protection (DIN EN 60529 / IEC 60529)

DRChg	IP54 in front of the panel
DRg	IP31

Blow-out Device
Blow-out plug in the back of the case

Lighting

Direct	1 light bulb BA9s 24 V / 2 W and
Indirect	via light slits in the case

Nominal Case Sizes
60, 80, 100 mm (2.36, 3, 4")

Wetted Parts

Connection	brass
Bourdon tube	bronze, soft soldered, c-form

Case Configuration

Position of the connection	centre back connection, parallel one above the other (**rm**)
Mounting device	u-clamp for panel mounting (**BFr**)

Pressure Ranges
0 – 6, 0 – 10 and 0 – 12 bar

Process Connection

NCS 60	2 x M 12x1.5 with chuck cone for cutting ring L6 according to DIN EN ISO 8434-1
NCS 80, 100	2 x M 16x1.5 with chuck cone for cutting ring L10 according to DIN EN ISO 8434-1

Including restrictor screw in each pressure inlet port, orifice Ø 0.8 mm (0.03"). Each process connection is marked with a coloured dot, matching the colour of the respective pointer.

Window
Reflex-reduced laminated safety glass

Movement
Brass / German silver

Dial
Aluminum black, scale white, stop pin at 0 bar (zero stop)

Pointers
Aluminum, 1 pointer yellow (RAL 1016), 1 pointer luminous bright red (RAL 3026)

Safety Category According to DIN EN 837-1
S1 pressure gauges with blow-out device

Options

- Instruments without combi lighting, i.e. only direct lighting, only indirect lighting or unlit
- Other pressure ranges, e.g. 0 – 16 bar
- Other than 70° – 90° installation
- Process connection with cutting ring and union nut
- Restrictor screw brass, orifice Ø 1.0 mm (0.04"), in the pressure inlet port
- Other pointer colours, e.g. white (RAL 9010)
- Dial inscription (ZA) as required, colours matching the pointer
- Coloured marks matching the pointers
- LED lighting BA9s, 18 – 32 V, white or green

Special Versions Upon Request

- Other process connections
- LED lighting BA9s for operating voltages of more than 32 V up to max. 130 V

Ordering Information

Please specify in your order:

Basic model	DRg 60 – 1 Fz rmBFr DRChg 80 – 1 Fz rmBFr DRChg 100 – 1 Fz rmBFr
Pressure range	0 – 6 bar, 0 – 10 bar, 0 – 12 bar
Process connection	L6 (NCS 60) L10 (NCS 80, 100)
Pointer colour	front pointer: luminous bright red or yellow rear pointer: luminous bright red or yellow
Specifics	see above
Example	DRChg 80 – 1 Fz rmBFr, 0 – 12 bar, L10, front pointer luminous bright red, rear pointer yellow

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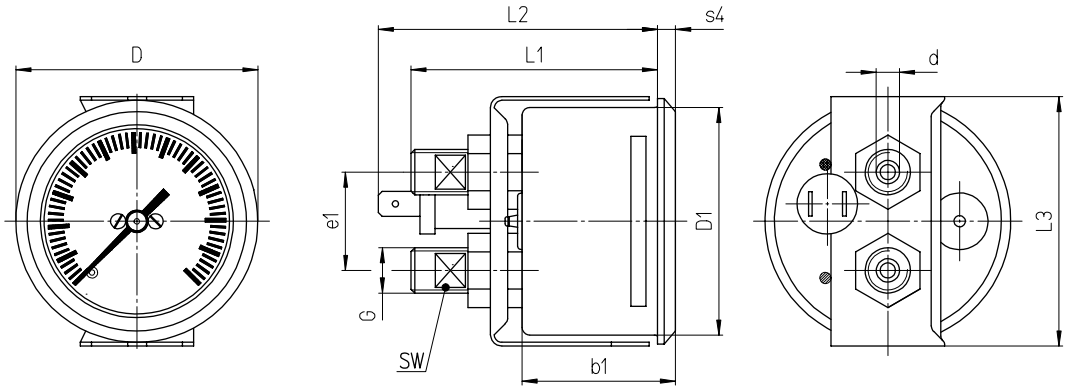
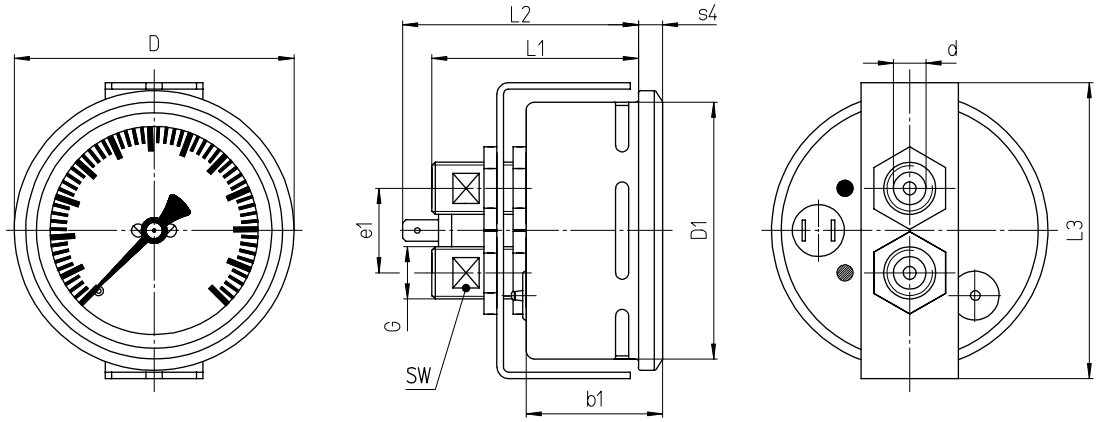
Case Configuration, Dimensional Data and Weight

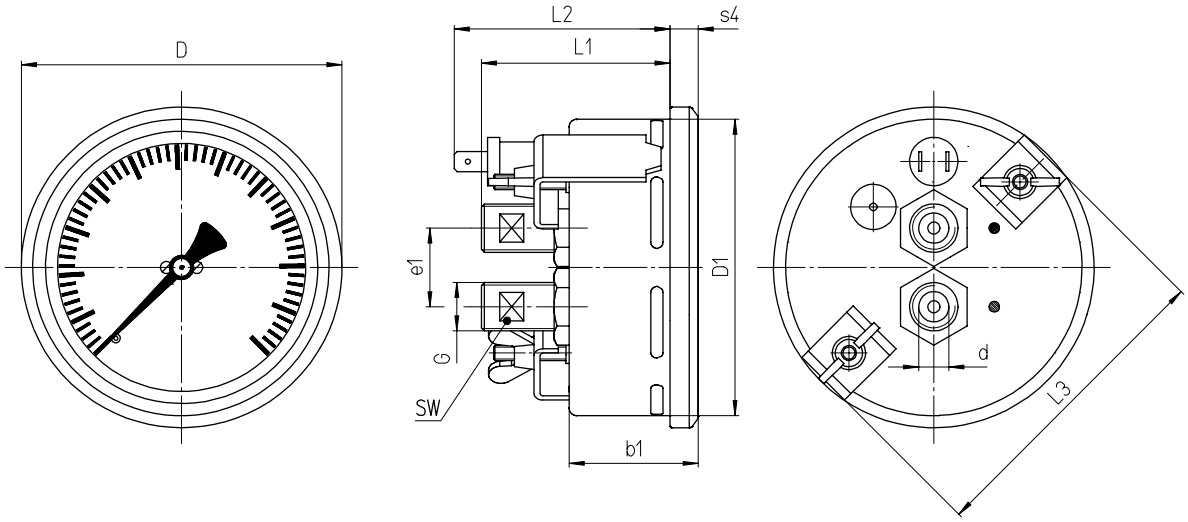
DRg 60 – 1 Fz rmBFr



DRChg 80 – 1 Fz rmBFr



DRChg 100 – 1 Fz rmBFr



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

NCS	b1	D	D1	process connection DIN EN ISO 8434-1 $d^{B11\ 1)}$	process connection DIN EN ISO 8434-1 G	e1	L1	L2	L3	s4	SW	recommended panel cut out Ø	approx. weight
60 **2.36**	40 **1.57**	65 **2.56**	59 **2.32**	L6	M 12x1.5		65 **2.56**	74 **2.91**	67 **2.64**	5 **0.2**	8 **0.31**	61 ±0.5 **2.4 ±0.02**	0.29 **0.64**
80 **3**	41.5 **1.63**	86 **3.39**	79 **3.11**	L10	M 16x1.5	26 **1.02**	63 **2.48**	72.5 **2.85**	91 **3.58**	7.5 **0.3**	13 **0.51**	81 ±0.5 **3.19 ±0.02**	0.49 **1.08**
100 **4**	43 **1.69**	106 **4.17**	99 **3.9**				62 **2.44**	71 **2.8**	104 **4.09**	10 **0.39**		102 ±1 **4.02 ±0.04**	0.55 **1.21**

[1] Tolerance class according to ISO 286-2