

# Combi Gauges for Rail Cars

According to DIN 38 030:2009-02

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 38 030:2009-02.

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 a separate pressure connection. A movement with separate pointer shafts transfers the motions of the Bourdon tubes caused by pressure onto the respective pointer.

## Standard Version

### 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 60 529 / IEC 529)

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 M12x1.5 with chuck cone for cutting ring  
L6 according to DIN EN ISO 8434-1  
NCS 80, 100: 2 x M16x1.5 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 and Special Versions

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

## 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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### Location Wesel

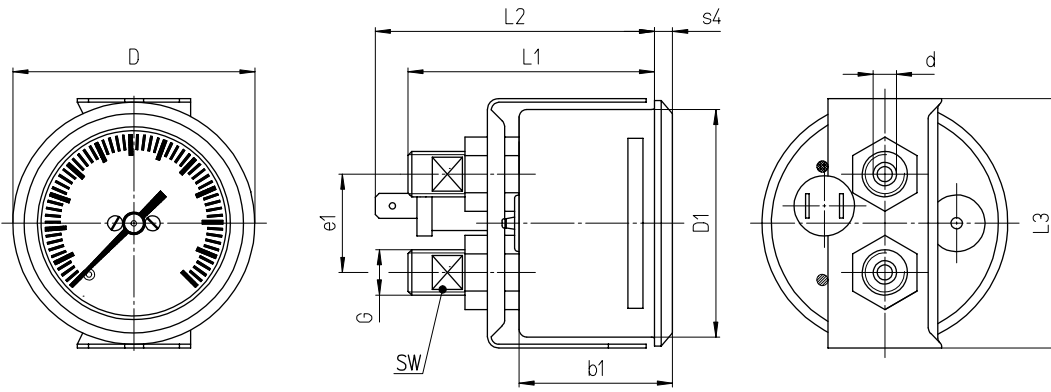
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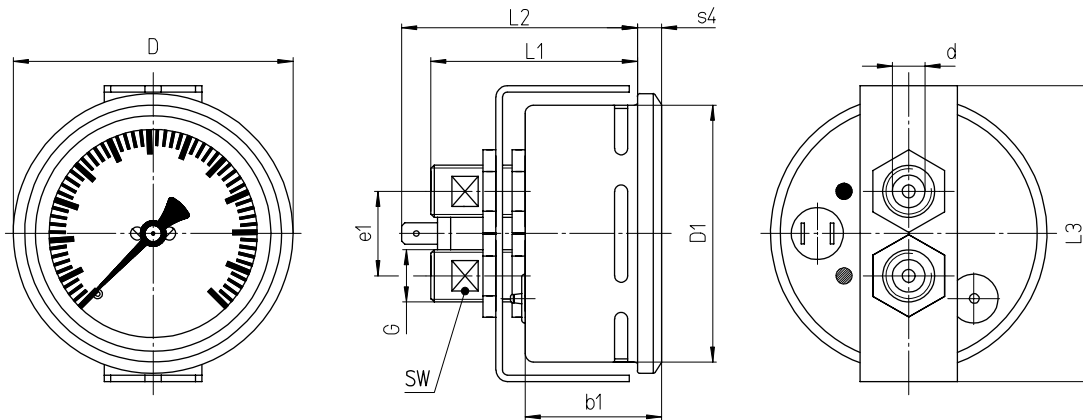
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# Case Configuration, Dimensional Data and Weight

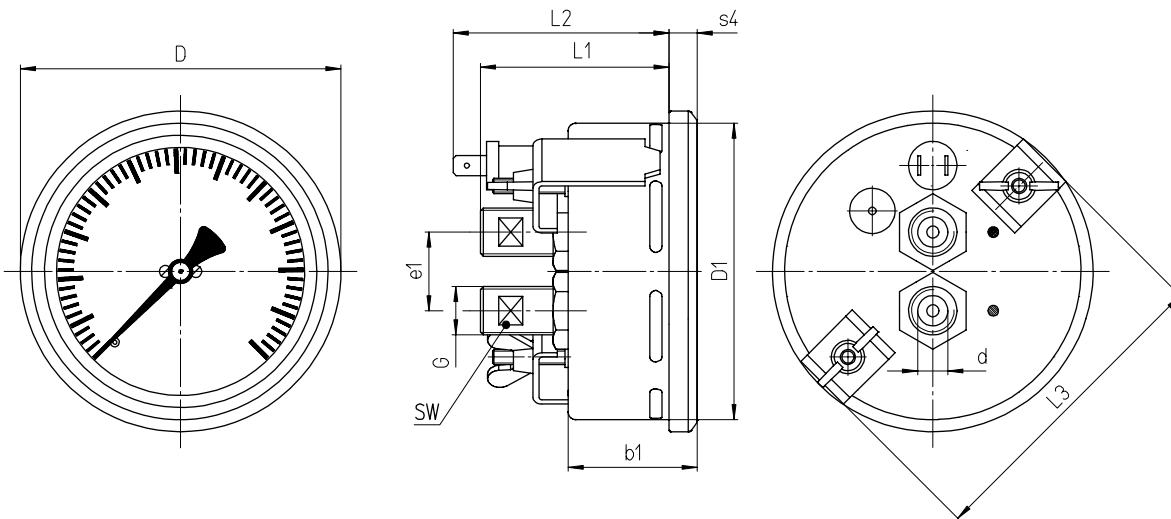
## DRg 60 – 1 Fz rmBFr



## DRChg 80 – 1 Fz rmBFr



## DRChg 100 – 1 Fz rmBFr



### Dimensional Data (mm/inch) and Weights (kg/lb)

NCS	b1	D	D1	process connection DIN EN ISO 8434-1 d <sup>B11 1)</sup>		e1	L1	L2	L3	s4	SW	recommended panel cut out Ø	(approx.) weight
60	40	65	59	L6	M12x1.5	26	65	74	67	5	8	61 ± 0.5	0.29
2.36	1.57	2.56	2.32				2.56	2.91	2.64	0.2	0.31	2.4 ± 0.02	0.64
80	41.5	86	79	L10	M16x1.5	1.02	63	72.5	91	7.5	13	81 ± 0.5	0.49
3	1.63	3.39	3.11				2.48	2.85	3.58	0.3	0.51	3.19 ± 0.02	1.08
100	43	106	99				62	71	104	10	0.51	102 ± 1	0.55
4	1.69	4.17	3.9				2.44	2.8	4.09	0.39		4.02 ± 0.04	1.21

<sup>1)</sup> Tolerance class according to ISO 286-2