

Bourdon tube pressure gauge per DIN 38030

Panel mounting series for rail-vehicle braking systems

Model PG21PB, NS 60 [2.4"], 80 [3"] and 100 [4"]

WIKA data sheet PM 02.14

Applications

- Pneumatic braking systems for rail vehicles and commercial vehicles
- Pressure measurement for brake cylinders and pressure vessels

Special features

- Case from stainless steel
- Accuracy class 1.0 or 1.6
- Scale ranges from 0 ... 6 bar to 0 ... 16 bar
- Overload safety to 1.3 x full scale value
- Ingress protection IP43



Fig. left: NS 60 [2.4"]

Fig. right: NS 80 [3"]

Fig. bottom: NS 100 [4"]

Description

The model PG21PB Bourdon tube pressure gauge is used in rail vehicles, buses and heavy goods vehicles with compressed-air brakes.

The stainless steel case and the measuring system from a special copper alloy are the basis for very good measuring properties. The instrument is designed to withstand at least one million load-cycles as well as offering good resistance to environmental influences.

On all models, the dials are illuminated, glare-free, by a special light guide. The illumination of the dial is possible, indirectly, via light slots in the case or, directly, via a filament bulb or LED with BA9s bulb fitting.

For the safety of the vehicle driver, the instrument is designed with a shatterproof window and a blow-out device at the case back.

The model PG21PB is also available in customer-specific versions, e.g. with individual dial layout.

Specifications

Basic information	
Standard	■ Pressure gauges for rail vehicles per DIN 38030 ■ Accuracy class per EN 837-1
Nominal size (NS)	■ Ø 60 mm [2.4"] ■ Ø 80 mm [3"] ■ Ø 100 mm [4"]
Connection location	Centre back mount
Window	■ Laminated safety glass, reduced light reflections ■ Acrylic glass (PMMA)
Case	
Design	Safety level "S1" per EN 837-1 With blow-out device in case back
Material	Stainless steel 1.4301
Illumination	■ Without ■ Indirect: Light slots, direct: light bulb, 3 W (NS 60 : 2 W), DC 24 V, BA9s lamp holder ■ High luminosity LED lamp
Ring	Crimp ring, aluminium, painted black
Mounting	■ Without ■ Mounting bracket, galvanised steel
Movement	Copper alloy

1) For operating conditions, see table on page 5

2) For low scale ranges the case filling is a glycerine-water mixture

Measuring element	
Type of measuring element	Bourdon tube, C-type
Material	Copper alloy
Leak tightness	Tested leakage rate: $< 5 \cdot 10^{-3}$ mbar l/s

Accuracy specifications	
Accuracy class	
NS 60 [2.4"]	Class 1.6 per EN 837-1
NS 80 [3"], NS 100 [4"]	Class 1.0 per EN 837-1
Temperature error	On deviation from the reference conditions at the measuring system: $\leq \pm 0.3$ % per 10 °C [$\leq \pm 0.3$ % per 18 °F] of full scale value
Reference conditions	
Ambient temperature	+20 °C [+68 °F]

Scale ranges

bar	
0 ... 6	0 ... 12
0 ... 10	0 ... 16

kg/cm ²	
0 ... 6	0 ... 12
0 ... 10	0 ... 16

kPa	
0 ... 600	0 ... 1,000
0 ... 1,000	0 ... 1,200

MPa	
0 ... 0.6	0 ... 1.2
0 ... 1	0 ... 1.6

psi	
0 ... 90	0 ... 175
0 ... 160	0 ... 230

Further details on: scale ranges	
Special scale ranges	Other scale ranges on request
Unit	■ bar ■ psi ■ kg/cm² ■ kPa ■ MPa
Dial	
Scale colour	White per RAL 9010 on black per RAL 9005 (pure white on jet black) Colours defined in DIN 38030 per RAL colour standard
Material	Aluminium
Special scale	Other scales or customer-specific dials, e.g. with red mark, circular arcs or circular sectors, on request
Instrument pointer	
Colour	Yellow per RAL 1016 (sulfur yellow) Colours defined in DIN 38030 per RAL colour standard
Material	Aluminium
Pointer stop pin	At zero point

→ Other colours for scale and pointer on request

Process connection		
Size		
DIN EN ISO 8434-1	NS 60 [2.4"]	M12 × 1.5 – R6 – 24° cone
	NS 80 [3"], NS 100 [4"]	M16 × 1.5 – R10 – 24° cone
Restrictor	Ø 0.8 mm [0.0314"], copper alloy	
Material (wetted)		
Process connection	Copper alloy	
Bourdon tube	Copper alloy	

→ Other process connections on request

Operating conditions	
Medium temperature	-20 ... +60 °C [-4 ... +140 °F]
Ambient temperature	-25 ... +80 °C [-13 ... +176 °F]
Pressure limitation	
Steady	3/4 x full scale value
Fluctuating	2/3 x full scale value
Short time	Full scale value
Ingress protection per IEC/EN 60529	IP43

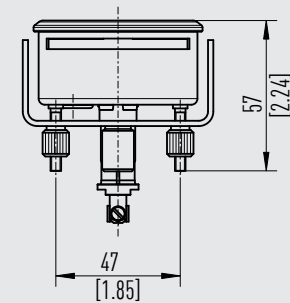
Certificates

Certificates	
Certificates	■ 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, indication accuracy) ■ 3.1 inspection certificate per EN 10204 (e.g. indication accuracy) ■ PCA calibration certificate, traceable and accredited in accordance with ISO/IEC 17025 ■ Calibration certificate by a national accreditation body, traceable and accredited in accordance with ISO/IEC 17025 on request
Recommended calibration interval	1 year (dependent on conditions of use)

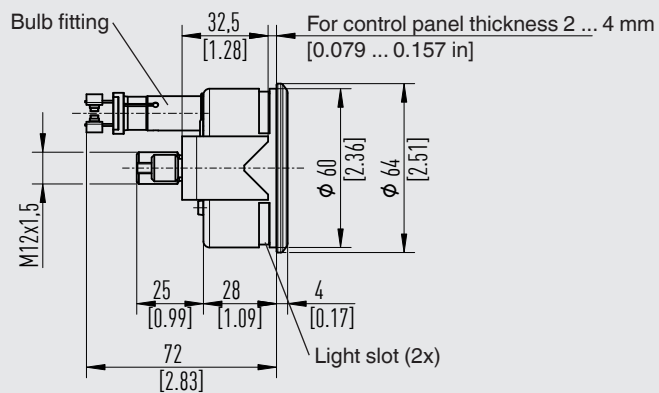
→ For approvals and certificates, see website

Dimensions in mm [in]

Model PG21PB, NS 60

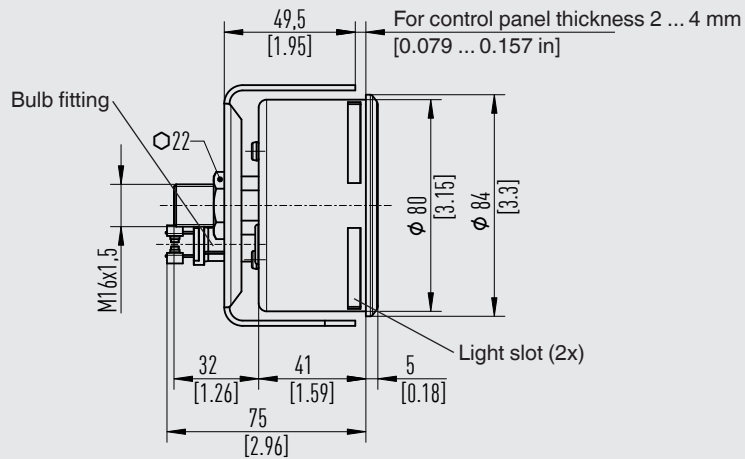
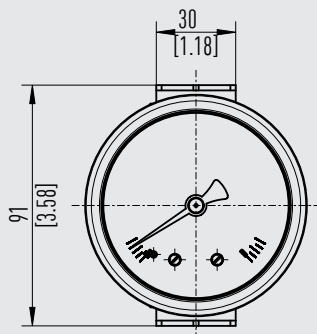


Included in the scope of delivery:
Bite-type ferrule and union nut SW 14 per DIN EN ISO 8434-1



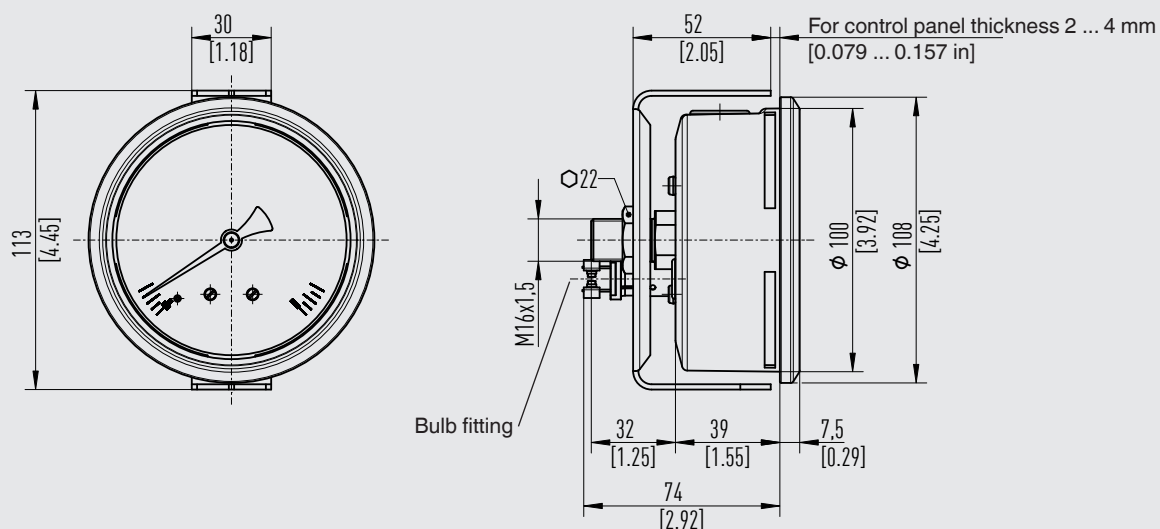
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Model PG21PB, NS 80



Included in the scope of delivery:
Bite-type ferrule and union nut SW 14 per DIN EN ISO 8434-1

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Included in the scope of delivery:
Bite-type ferrule and union nut SW 14 per DIN EN ISO 8434-1

Ordering information

Model / Scale range / Process connection / Options

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