

# Bourdon Tube Pressure Gauges Ultra High Purity (UHP) Series Type 230.25 with Alarm Contact 851.3

WIKA Datasheet 230.25 w/Alarm Contact 851.3

## Applications

- Semiconductor and electronic industry, medical industry, gene technology, biotechnology and pharmaceutical industries.
- Suitable for corrosive environments and gaseous or liquid media that will not obstruct the pressure system
- Where measurement of high purity gases is needed without contamination of the process media.

## Special features

- Electrical contact (Reed Switch)
- 316L wetted parts
- Electro-polished SS case & face-seal connection
- Positive and compound pressure ranges to 10,000 psi

## Standard Features

### Design

ASME B40.100

### Size

2" (53 mm)

### Accuracy Class

± 2/1/2% of span (ASME B40.100 Grade A)

### Ranges

Vacuum / compound to 30"Hg/0/200 psi  
Pressure from 0 psi up to 10,000 psi  
or other equivalent units of pressure or vacuum  
60 psi minimum span

### Working Pressure

Steady: 3/4 scale value  
Fluctuating: 2/3 full scale value  
Short time: full scale value

### Operating Temperature

Ambient: -40°F to +140°F (-40°C to +60°C)  
Medium: +212°F (+100°C) maximum

### Temperature Error

Additional error when temperature changes from reference temperature of 68°F (20°C) ±0.4% for every 18°F (10°C) rising or falling. Percentage of span.



Bourdon Tube Pressure Gauge Model 230.25 2" with Reed Contact

### Weather Protection

Weather resistant (NEMA 3 / IP 54)

### Pressure Connection

Material: Face-seal nut 316 stainless steel  
Face-seal gland 316L VOD  
NPT 316L VIM/VAR  
Modular surface mount 316L VIM/VAR  
Weld-Tee 316L VAR

Position: Lower mount (LM)  
Center back mount (CBM)

Type of Connection: Face-seal fixed male, swivel male or female

1/4" NPT-male

Modular surface mount C, mini-C and W  
Weld-Tee butt weld Ø 0.375 O.D.

Wetted Surface Finish:  $R_a < 0.25\mu\text{m}$  ( $R_a < 10\mu\text{inch}$ )  
{ $R_a < 1.0\mu\text{m}$  ( $R_a < 40\mu\text{inch}$ )  
for NPT connection} - internal

### Bourdon Tube

Material: 316L stainless steel  
30"Hg (vac) to 1,000 psi, C-type  
1,500 to 5,000 psi, helical type  
Helium leak tested  $1 \times 10^{-9}$  scc/sec (inboard)

### Socket

Material: 316L VIM/VAR electropolished  
 $R_a < 0.25\mu\text{m}$  ( $R_a < 10\mu\text{inch}$ ) - internal

### Movement

Stainless steel

(Standard Features continued on Page 2 of 4)

**Dial**

White aluminum with stop pin and black lettering

**Pointer**

Black aluminum

**Case**

304 stainless steel, electropolished

**Window**

Polycarbonate: twist-lock

**Alarm contact**

- Reed contact Model 851.3; The switching function is identified by the index '3'. 851.3 = SPDT contact
- Setting the switching point  
In order to adjust the switching point, the gauge should be disconnected from the monitoring device and the window unscrewed.  
The switches are set via the mark pointer on the dial's circumference. The set value of the switching point is adjustable up to 80 % of the scale range.

- Electrical load

Max. switching voltage: 24 VDC / VAC  
 Max. load: 10 W  
 Max. current: 0.5 A

- Electrical connection with cable gland

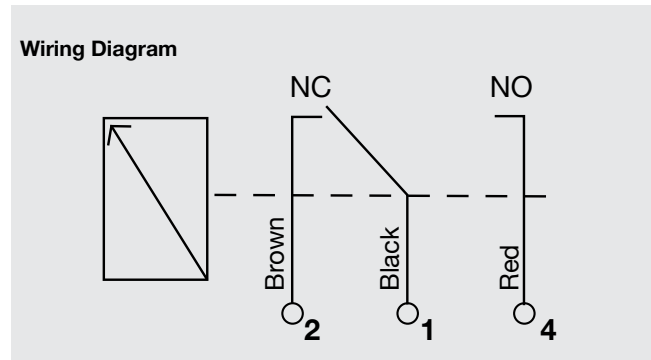
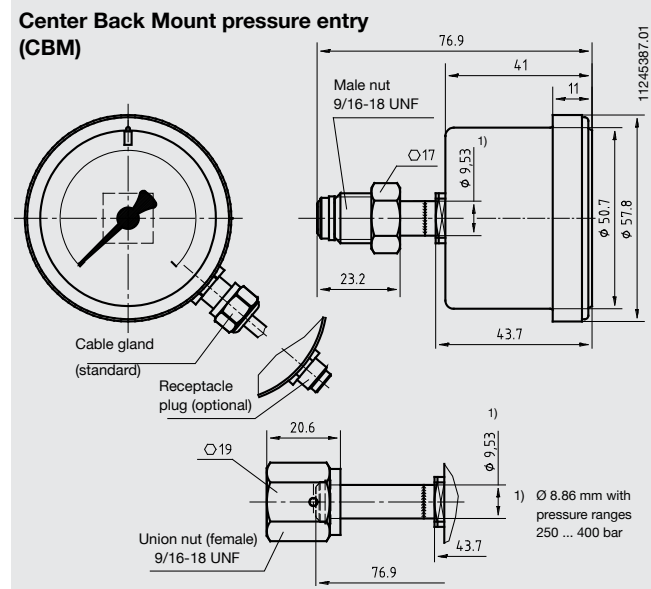
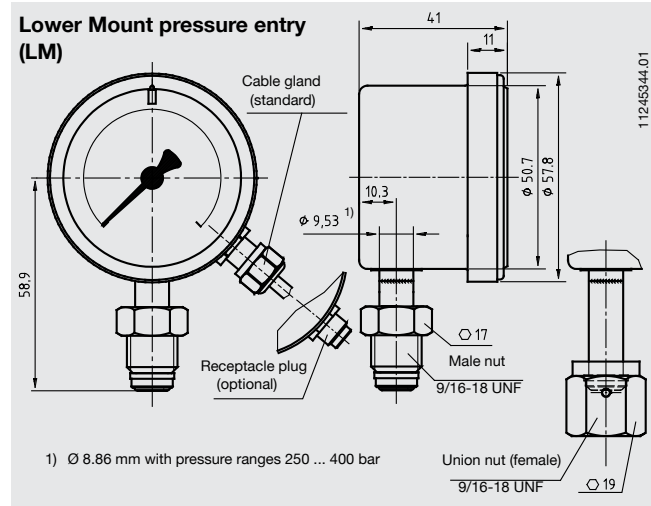
M8 x 1.25, cable output 3 m long (10 feet), conductor cross section 0.14 mm<sup>2</sup> (26 AWG), flying leads, the terminal assignment is stated on the pressure gauge's connection plate

**Cleanliness**

UHP 'clean' for semiconductor gas applications - in accordance with SEMI/SEMATECH  
 Cleaned and packed in class 100/10 cleanroom  
 Packaged in two bags  
 Purged with Nitrogen  
 Protective cap over threaded connection

**Order Options (minimum order may apply)**

Other special connections limited to wrench flat area  
 Custom dial layout  
 Stainless steel restrictor  
 Particle test with certificate  
 Dual pressure scales  
 Additional process wetted materials available per request  
 Electrical connection with receptacle plug (binder plug M8 x 1)

**Standard version**

<b>Case</b>	304 stainless steel, electropolished
<b>Wetted Material</b>	316L and 316L VIM/VAR stainless steel
<b>Window</b>	Polycarbonate
<b>Dial</b>	Aluminum, white with stop pin
<b>Pointer</b>	Aluminum black
<b>Accuracy</b>	+/- 2/1/2% of span (ASME B40.1 Grade A), +/- 2/3/2% of span (ASME B40.1 Grade B)
<b>Cleanliness</b>	UHP 'clean' for semiconductor gas applications - in accordance with SEMI/SEMATECH
<b>Packaging</b>	Double bagged, nitrogen purged

Field No.	Code	Feature	
1	<b>Nominal Case Size</b>		
	B	2.0" (50 mm)	
	<b>Unit</b>		
	P	psi	
	B	bar	
	L	kPa	
	E	MPa	
	K	Kg/cm <sup>2</sup>	
	2	?	other - please specify
	3	<b>Pressure Range</b>	
V340		-30 inHg ... 45 psi	
V352		-30 inHg ... 60 psi	
V379		-30 inHg ... 100 psi	
V412		-30 inHg ... 160 psi	
V415		-30 inHg ... 200 psi	
V422		-30 inHg ... 300 psi	
G310		0 ... 15 psi	
G321		0 ... 30 psi	
G341		0 ... 60 psi	
G369		0 ... 100 psi	
G411		0 ... 160 psi	
G414		0 ... 200 psi	
G421		0 ... 300 psi	
G428		0 ... 400 psi	
G441		0 ... 600 psi	
G455		0 ... 800 psi	
G469		0 ... 1000 psi	
G510		0 ... 1550 psi	
G514		0 ... 2000 psi	
G521		0 ... 3000 psi	
G528		0 ... 4000 psi	
G534		0 ... 5000 psi	
G569		0 ... 10000 psi	
3		????	other - please specify
4	<b>Unit</b>		
	Z	without	
	P	psi	
	B	bar	
	L	kPa	
	E	MPa	
	K	Kg/cm <sup>2</sup>	
	4	?	other

Field No.	Code	Feature
<b>Process Connection</b>		
5	WH	1/4" swivel male face seal
	WI	1/4" swivel female face seal
	WG	1/4" fixed male face seal
	WK	1/2" swivel male face seal
	WL	1/2" swivel female face seal
	NB	1/4" NPT - male
	WN	3/8" "T" connector
	WC	MSM C 1-1/2" square
	WE	MSM C 1-1/8" square
	??	other - please specify
<b>Connector Position</b>		
6	B	Center back mount
	U	Lower mount
	?	other - please specify
<b>Mounting Flange/Bracket</b>		
7	Z	Without
	?	other - please specify
<b>Switch Type</b>		
8	Z	Without
	R	Reed
<b>Switch Function</b>		
9	3	Single pole changeover
<b>Electrical Connection</b>		
10	DA	Flying leads, 10' (3 meters)
	M4	Circular connector M12 x 1, 4-pin
	??	other - please specify
<b>Quality Certificates</b>		
11	Z	without
	?	other - please specify
<b>Additional Order Details</b>		
12	Z	without
	?	Additional text

Order Code:      1      2      3      4      5      6 7      8 9 10      11 12\*

**230.25** -  -    -  -   -

\*Additional order details \_\_\_\_\_

**Ordering information**

Pressure gauge model / Nominal size / Scale range / Size and location of connection / Optional extras required

Modifications may take place and materials specified may be replaced by others without prior notice. Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.



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