

M21-M31-M41-M61 Pressure gauges with electrical contacts

M21/M31 - Differential pressure

M41 - Relative pressure with strong overpressure

M61 - Pression Absolue

Gauges with bellows Ø 150 mm

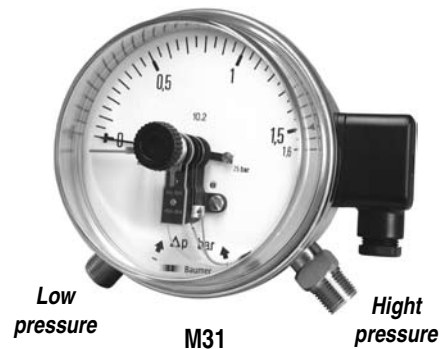
For corrosive fluids and atmospheres

Dry contacts (CES)

**Electrical part conforms to Low Voltage Directive
DBT 73/23/CE**

Based upon the **MZ** (M21) - **MX** (M31) - **ME** (M41) - **MA** (M61) gauges of which they share all characteristics, they are fitted with electrical contact blocks allowing the following control functions:

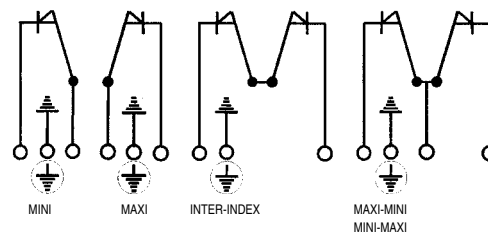
- single : min and max
- dual : min-max and max-min



Specifications (20°C)

Measurement range	See table on next page
Accuracy	± 3 %
Gauge working temperature	-20...70°C The gauge may be used on fluid temperatures up to 200°C providing that the gauge temperature does not exceed 70°C.
Protection rating	IP 65 according NF EN 60529.
Sensing element	Two 1.4404 (AISI 316L) stainless steel bellows. Balance effect by high tensile leaf spring; mechanical start and end-of-travel stops to withstand full static pressure.
Connections and parts in contact with process fluid	1.4301 (AISI 304) Stainless steel. Thread: G 1/2 or 1/2 NPT.
Case and bezel ring	1.4301 (AISI 304) Stainless steel. bayonet lock type.
Window	Transparent polycarbonate domed with watertight index adjustment knob.
Window gasket	Elastomer.
Movement	Stainless steel.
Dial	Aluminium alloy, rubber zero stop, black graduations and figures on white background..
Pointer	Aluminium alloy, black painted.
Electrical connection	Terminal block. M20x1.5 cable gland Ø 7 a 13 mm cable.

Block diagram showing the contact block control functions:

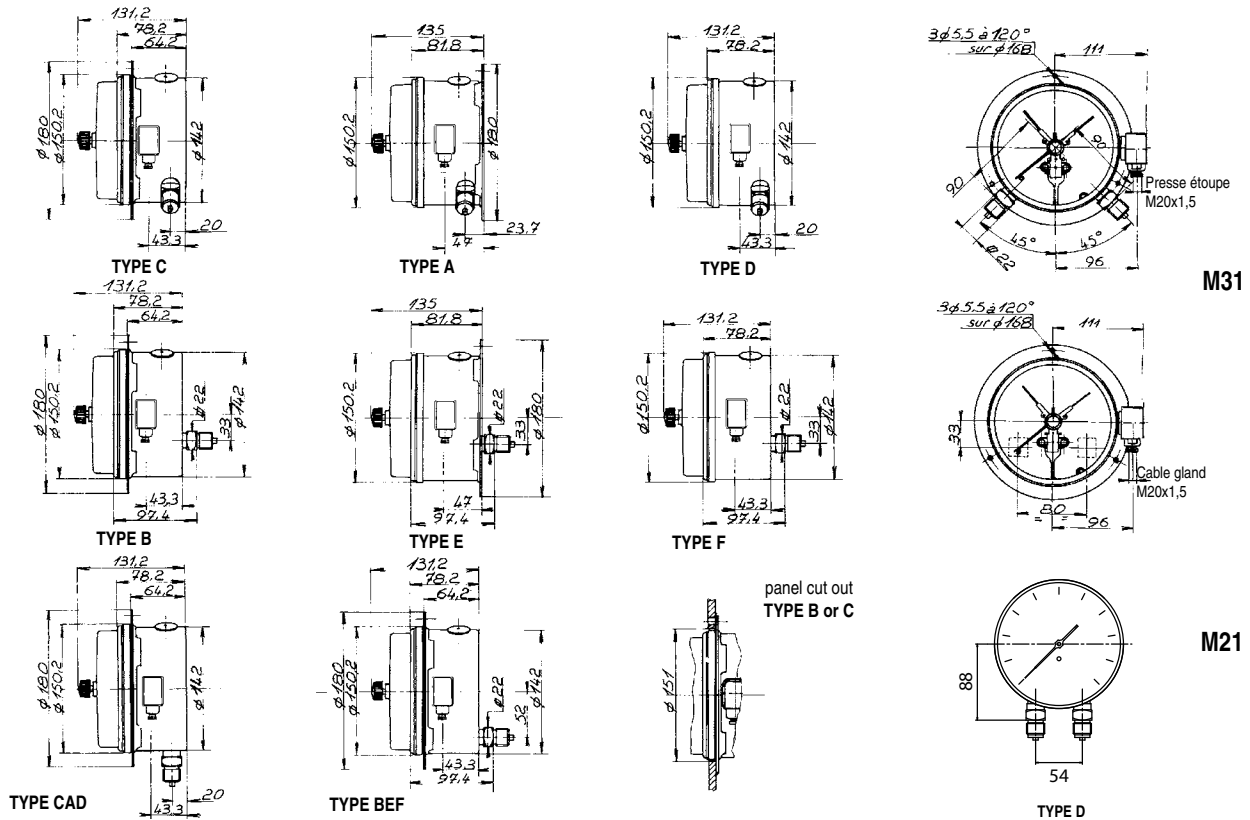


Characteristics of electrical contacts and relays AREB: see data sheet A21.33

Options

- Contacts material : palladium silver, gilded contacts
- Oxygen application **Code 0765**
- Special threads ≤ G 1/2 or 1/2 NPT.
- Restrictor screw **Code 0771**
- Index regulation by a protected system **Code 0758**

Dimensions (mm) - Type of mounting



Measurement ranges (bar)

M61 (MA/CES)

Code	Absolute pressure	Overpressure												
		0,6	1	1,6	2,5	4	6	10	16	25	40	60	100	
10	0 + 0,25	*	*	*	*	⊗	⊗	○	●					
11	0 + 0,4	*	*	*	*	*	*	⊗	○	●				
12	0 + 0,6	*	*	*	*	*	*	⊗	○	●				
15	0 + 1		*	*	*	*	*	*	○					
16	0 + 1,6			*	*	*	*	*	*	○	●			
18	0 + 2,5				*	*	*	*	*	*	○			
19	0 + 4					*	*	*	*	⊗	⊗			
20	0 + 6						*	*	*	*	*	●		
22	0 + 10							*	*	*	*	*	○	●
24	0 + 16								*	*	*	*	*	○
Code		A	C	D	E	F	G	H	J	K	L	M	N	

Choose an absolute pressure range, corresponding to the maximum overpressure to which the gauge will be submitted. For an intermediate overpressure, take the value of the overpressure immediately above.

M41 (ME/CES)

Code	Relative pressure	Overpressure												
		0,6	1	1,6	2,5	4	6	10	16	25	40	60	100	
09	0 + 0,16	*	*	*	*	⊗	⊗	○	●					
10	0 + 0,25	*	*	*	*	*	*	⊗	○	●				
11	0 + 0,4	*	*	*	*	*	*	⊗	○	●				
12	0 + 0,6		*	*	*	*	*	*	○					
15	0 + 1			*	*	*	*	*	*	○	●			
16	0 + 1,6				*	*	*	*	*	*	○			
18	0 + 2,5					*	*	*	*	*	⊗	⊗		
19	0 + 4						*	*	*	*	*	*	●	
20	0 + 6							*	*	*	*	*	*	○
22	0 + 10								*	*	*	*	*	○
Code		A	C	D	E	F	G	H	J	K	L	M	N	

Choose a relative pressure range, corresponding to the maximum overpressure to which the gauge will be submitted. For an intermediate overpressure, take the value of the overpressure immediately above.

M21 (MZ/CES) - M31 (MX/CES)

Code	Differential pressure	Static pressure												
		0,6	1	1,6	2,5	4	6	10	16	25	40	60	100	
10	0 + 0,25	*	*	*	*	⊗	⊗	○	●					
11	0 + 0,4	*	*	*	*	*	*	⊗	○	●				
12	0 + 0,6	*	*	*	*	*	*	⊗	○	●				
15	0 + 1		*	*	*	*	*	*	○					
16	0 + 1,6			*	*	*	*	*	*	○	●			
18	0 + 2,5				*	*	*	*	*	*	○			
19	0 + 4					*	*	*	*	⊗	⊗			
20	0 + 6						*	*	*	*	*	●		
22	0 + 10							*	*	*	*	*	○	●
24	0 + 16								*	*	*	*	*	○
26	0 + 25									*	*	*	*	*
Code		A	C	D	E	F	G	H	J	K	L	M	N	

Choose a differential pressure range ΔP , corresponding to the maximum static pressure to which the gauge will be submitted. For an intermediate static pressure, take the value of the static pressure immediately above.

Accuracy for all these pressure gauges :

- * Accuracy $\pm 3\%$ on 270°
- ⊗ Accuracy $> 3\%$ on 270°
- Accuracy $> 3\%$ on 170°
- Accuracy $> 3\%$ on 100°

Values for readings in undisturbed areas

Ordering details - M21/M31/M41/M61

		Mxxxxxxxx					
Family	1 Digit						
Pressure gauges		M					
Type	2 Digit						
M21		2					
M31		3					
M41		4					
M61		6					
Type of contacts	3 Digit						
CES		1					
Control functions	4 Digit						
Mini (4002)		1					
Maxi (4001)		2					
Inter-index open (4021)		3					
Mini-maxi (4021)		4					
Maxi-mini (4012)		7					
Inter-index closed (4012)		8					
Type of mounting and connection position*	5 Digit						
bottom connection, back flange		A					
back connection, front flange (except M21)		B					
bottom connection, front flange		C					
bottom connection		D					
back connection, back flange (except M21)		E					
back connection (except M21)		F					
* Option Stainless steel case and bezel ring 1.4404 (316L)							
change A with 1, B with 2, C with 3, D with 4, E with 5 and F with 6							
Hydraulic connection	6 Digit						
G 1/4		2					
G1/2		3					
1/4 NPT		5					
1/2 NPT		6					
Unit of measurement	7 Digit						
bar		B					
kPa		D					
Measurement ranges	8...9 Digit						
See measurement ranges codified on tables (previous page)						xx	
Static pressure or overpressure	10 Digit						
See static or overpressure scale on tables (previous page)							x

