

BARFLEX® - Portable electronic pressure gauge (ATEX)

Accuracy : FS ±1 digit display
Version EA4 : ± 0.25%
Version EA5 : ± 0.1%

Range of measurement from 1 to 1000 bar gauge or absolute

Available units : bar, psi, kPa, kg/cm², mbar, MPa

Conforms to CE (directives 2004/108/CE and 97/23/CE)

Leak test

Stores MIN and MAX pressures.

Options :

- Acquisition of data and infrared transfer to the PC (windows 32 bits only)
- Measurement of barometric pressure / absolute by separate atmospheric referencing
- Use in explosive atmospheres ATEX : Intrinsically safe version



LCIE 02 ATEX 6220X

CE 0081



II 1 G

Ex ia IIC T6 Ga Dangerous zones: Zone 0, 1, 2

Description

The BARFLEX® is an electronic digital pressure gauge ideal for field measurements.

- Pressure display
- Stores MIN and MAX pressures from the start of operation
- Measurement of the pressure deviation in a given time interval (leak test)

The BARFLEX® allows :

- Calibration and verification of correct operation of the installed devices
- Verification of the pressostat adjustments, transmitters...

Options :

Barometer : provides the atmospheric pressure from 200 to 1150 hPa to ± 0,1%.

Data acquisition : records the pressure values regularly and exports them to a PC. (windows 32 bits only).

The Barflex® 4 was developed, manufactured and checked in accordance with the following directives:

- 2004/108/CE and the standards EN61000-6-2, EN61000-6-3, EN61000-6-4, EN61326-1 relative to EMC.
- 97/23/CE pressure equipment (article 3.3 for the operating pressures OP ≤ 200 bar and category 1 for OP > 200 bar).

There are also the following characteristics :

- Immunity against electromagnetic interference (walkie-talkie, mobile phone, power switches, etc...)
- Very robust box (epoxy-painted aluminium)
- IP 65 splash water-proof
- Compatibility of the sensor with most aggressive fluids.
- Quick connection, manual locking
- 3 versions : portable, fixed station, console only

Characteristics

Measurement range	0...1 bar to 0...1000 bar A/R -1...0.6 bar to -1...24 bar R
Power supply	With standard 9 volt battery (type IEC 6LR61, not supplied) Capacity of more than 150 hours at 20°C Indication of the discharge by BATT Automatic switch off (10 minutes by default)
Total error at 20°C	± 0.25% of FS ±1 point (including non linearity, hysteresis, non repeatability, gain adjustment)
Annual stability	≤ 0.2% of F.S./year
Zero reset (relative version only)	Zeroing is made by pressing the ON/OFF button for a long time
Leak measurement time	from 10 to 3600 seconds
Operating temperature	Barflex®4: -10...+60°C
Thermal drifts	Gain : ≤ ±0.015% /°C max. Zero : ≤ ±0.015% FS/°C max.
Storage temperature	-20...+70°C
Temperature of fluid	-20...+85°C
Shock resistance (IEC 68-2-32)	25 shocks of 1 m on a concrete floor
Vibration resistance (IEC 68-2-6)	0.75 mm (10 - 55 Hz), 10 g (55 Hz - 2 kHz)
Display	Liquid crystal display (LCD) Overpressure indicated by "PPPP" (110% of FS)
Backlighting	Lighting / switching off: press twice on the "F" button Automatic switch off after 5 minutes
Degree of protection (EN 60529)	IP 65
Pressure connection	Portable version: supplied with a flexible 1 m hose, fitted with a manual blocking screw for sealing on the BARFLEX® side, and a threaded end on the process end (M16/2 by default). Fixed station version: supplied with a specific intermediate connection (G1/2 process end), compatible with the BARFLEX® (M12 x 1.5) end fitting Console : coupling M12x1.5 DIN 2353
Materials in contact with the fluid	Portable version: ceramic (Al ₂ O ₃), o'ring, stainless steels 1.4404 (316 L) - 1.4542, flexible (polyamide), process connection (steel 1.0718) Fixed station/console version: ceramic (Al ₂ O ₃), o'ring, stainless steel 1.4404 (AISI 316L) - 1.4542.


ATEX (Barflex®4Y) version

The Barflex®4Y meets the intrinsic safety needs as per the CE test certificate of type LCIE 02 ATEX 6220X and meets the 94/9/CE directive (standards EN60079-0) (2009) / EN60079-11 (2007).

Operating temperature: -10... 40°C (T6)

ATEX marking:

- Logo BAUMER BOURDON-HAENNI as well as the address
- Type : YA4A
- The registration number
- The code date and the year
- The CE0081 logo and homologation references LCIE 02 ATEX 6220X

-  II 1 G Ex ia IIC T6 Ga ambient T° max. : -25+40°C

- **Don't change the battery in a dangerous zone, only Duracell MN1604, Energizer 6AM6**


Option 0.1% (EA5)

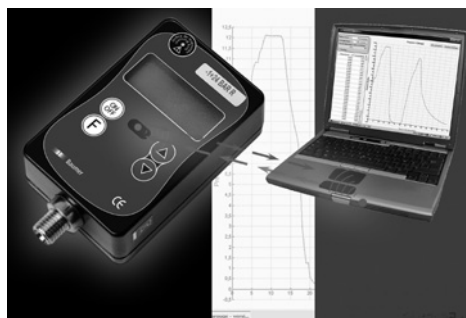
Total error	± 0.1% of FS ±1 digit (including mechanical and thermal errors in the compensated temperature range -10...+60°C)
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Other characteristics identical to the standard version

Options available

Oxygen cleaning (≤ 315 bar) (except portable version)	Code 0765
Protective case	Code 0175

 **0585 / 0588 options are available only for windows 32 bits operating systems.**



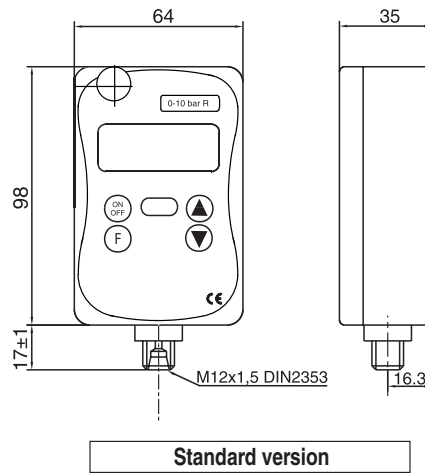
Data acquisition **Code 0585**
Recording: up to 16 000 points, period 0.5 to 3600 s.
Export to PC via infrared connection (IrDA V1.1) : Supplied software interface, compatible with Windows 98/2K/XP/Vista/Seven (32 bits only)

USB adaptor / IrDA **Code 0588**
Allows to add an IrDA port (infrared) to any PC which has an USB port on Windows 98/2K/XP/Vista/Seven (32 bits only)

Barometer **Code 0586 (by default absolute pressure)**
Accuracy +/- 1 hPa

Menu in English **Code 0587**

Dimensions (mm), measurement range, connections



PORTABLE (code P) :

P ≤ 400 bar : supplied with a flexible 1 m hose (1) fitted with a screw connection on the process side (2) and a carrying bag. **Weight: 400 g**

FIXED STATION (code F) :

P ≤ 400 bar : supplied with connection adapter specifically for the connection M12x1.5 DIN 2353. Thread on the process end G1/2 (ref.70744.01.A01) by default or G1/4 (option 0002) or 1/2 NPT (option 0024). **Weight: 390 g**

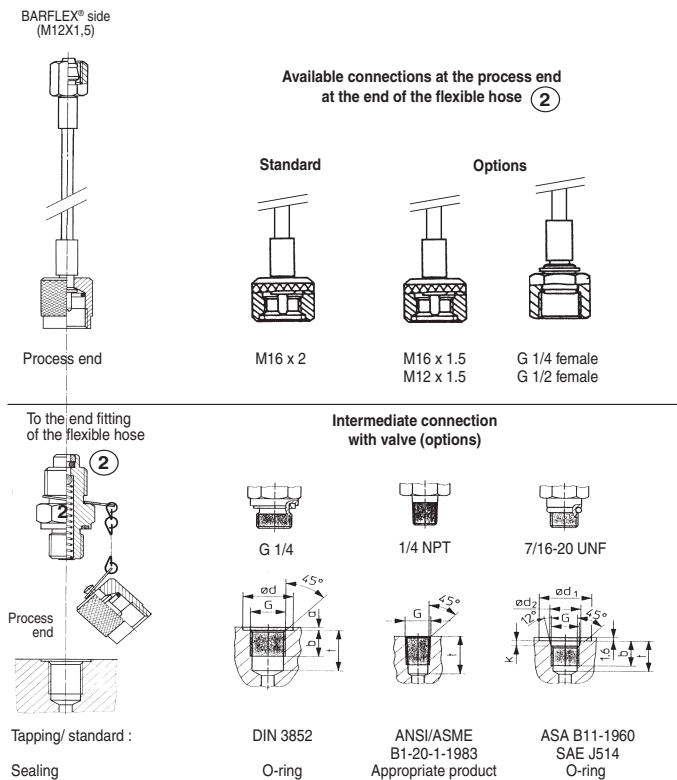
P > 400 bar : Same as console

CONSOLE only (code C) :

P ≤ 400 bar : connection M12x1,5 DIN 2353. **Weight: 300 g**

P > 400 bar : connection G/2

Portable version pressure connections



Tapping	a	b	d1	d2	k	t
G 1/4	1.5	12	20			18.5
1/4 NPT						16.5
7/16-20 UNF		11.5	21	12.4	2.4	14

Portable version delivered with another process connection at the end of a flexible hose :

M16x2 **By default**
M16x1.5 **Code 0030**
M12x1.5 **Code 0029**
G1/4 female **Code 0027**
G 1/2 female **Code 0028**

Intermediate connections with an integrated safety valve :

M16x2 for G1/4 **Code 0036**
M16x2 for 1/4 NPT **Code 0414**

Display compatibility table

The following table shows the max number of digits for 0.1% accuracy.

Less digits may be used for 0.25% accuracy

The global rule for the number of digits is as follow :

- for 0.25% : display has minimal 1600 points
- for 0.1% : display has minimal 4000 points

	Measur- ement range	bar (B)	kPa (D)	Mpa (E)	kg/cm ² (F)	HG/psi (H)	mbar (N)	0,25%		0,1% without o'ring		0,1% with o'ring	
								Max. overpressure (bar)	Burst pressure (bar)	Max. overpressure (bar)	Burst pressure (bar)	Max. overpressure (bar)	Burst pressure (bar)
Relative	72	-1.0000	-100.00	-0.1000 ²⁾	-1.0000	-30.00	-1000.0	3	7	-	-	5	5
		0.6000	60.00	0.0600 ²⁾	0.6000	10.000	600.0						
	2V	-1.0000	-100.00	-0.1000 ²⁾	-1.0000	-30.00	-1000.0	3	7	-	-	14	14
		1.6000	160.00	0.1600 ²⁾	1.6000	20.00	1600.0						
	76	-1.000	-100.0	-0.1000	-1.000	-30.00	-1000	6	12	-	-	30	30
		3.000	300.0	0.3000	3.000	40.00	3000						
	2D	-1.000	-100.0	-0.1000	-1.000	-30.00	-1000	15	30	20	60	50	50
		10.000	1000.0	1.0000	10.000	145.04	10000						
	81	-1.000	-100.0	-0.1000	-1.000	-30.0 ²⁾	-1000	32	48	32	96	50	50
		15.000	1500.0	1.5000	15.000	220.0	15000						
	82	-1.00 ²⁾	-100 ²⁾	-0.100 ²⁾	-1.00 ²⁾	-30.0 ²⁾	-	36	75	50	125	105	105
		24.00 ²⁾	2400 ²⁾	2.400 ²⁾	24.00 ²⁾	300.0	-						
Absolute or relative	15	1.0000	100.00	-	1.0000	15.000	1000.0	3	7	-	-	5	5
	1C	1.4000	140.00	-	1.4000	20.00 ¹⁾	1400.0	3	7	-	-	14	14
	17	2.000 ¹⁾	200.0 ¹⁾	0.2000 ²⁾	2.000 ¹⁾	30.00 ²⁾	2000 ¹⁾	3	7	-	-	14	14
	98	5.000	500.0	0.5000	5.000	70.00	5000	10	18	-	-	30	30
	21	7.000	700.0	0.7000	7.000	100.00	7000	10	18	-	-	30	30
	22	10.000	1000.0	1.0000	10.000	160.00	10000	15	30	20	60	50	50
	23	14.000	1400.0	1.4000	14.000	200.0 ¹⁾	14000	24	48	32	96	50	50
	24	16.000	1600.0	1.6000	16.000	250.0 ²⁾	16000	24	48	32	96	50	50
	25	20.00 ¹⁾	2000 ¹⁾	2.000 ¹⁾	20.00 ¹⁾	300.0 ²⁾	-	40	75	40	120	105	105
	26	25.00 ²⁾	2500 ²⁾	2.500 ²⁾	25.00 ²⁾	400.0	-	40	75	50	125	-	-
	28	50.00	5000	5.000	50.00	700.0	-	80	180	120	300	-	-
	30	70.00	7000	7.000	70.00	1000.0	-	80	180	200	500	-	-
	31	100.00	10000	10.000	100.00	1500.0	-	150	300	200	500	-	-
	32	140.00	14000	14.000	140.00	2000 ¹⁾	-	240	480	320	800	-	-
	33	160.00	16000	16.000	160.00	2500 ²⁾	-	240	480	320	800	-	-
	34	200.0 ¹⁾	-	20.00 ¹⁾	200.0 ¹⁾	3000 ²⁾	-	500	600	500	1250	-	-
	88	300.0 ²⁾	-	30.00 ²⁾	300.0 ²⁾	4000	-	500	600	800	1600	-	-
	38	400.0	-	40.00	400.0	6000	-	500	600	800	1600	-	-
39	600.0 ³⁾	-	60.00 ³⁾	600.0 ³⁾	9000 ³⁾	-	-	-	1200	2400	-	-	
41	1000.0 ³⁾	-	100.00 ³⁾	1000.0 ³⁾	15000 ³⁾	-	-	-	2000	4000	-	-	
Barometer resolution		1.0132	101.32	0.1013	1.0332	14.695	1013.2						

1) 0.1% possible only if no overrange

2) Only 0.25%

3) Only 0.1%

Coding

		EAxxxxxxxx					
Family	1' ... 2' digit						
Electronic pressure gauge		EA					
Version	3' digit						
0.25%		4					
0.1%		5					
Type	4' digit						
Standard		A					
Intrinsic safety		Y					
Presentation	5' digit						
Portable (≤ 400 bar)			P				
Fixed			F				
Console			C				
Capsule seal	6' digit						
NBR (Nitrile) standard				3			
EPDM				5			
Kalrez®				7			
FKM (Viton®)				9			
Without O-ring (0.1% version)				0			
<small>Kalrez® and Viton® are registered trade marks of DuPont Dow Elastomers BARFLEX® is a registered trade mark of BAUMER</small>							
Measurement unit	7' digit						
bar					B		
kpa					D		
Mpa					E		
kg/cm ²					F		
psi					H		
mbar					N		
Measurement range	8' ... 9' digit						
See table (page 4)						xx	
Pressure mode	10' digit						
Absolute							A
Gauge							R

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