

Performance Diaphragm Operated Absolute Pressure Switches **207**

207
Issue F.1

- Precision stainless steel mechanism for arduous atmospheres and high humidity.
- Set point adjustable over whole range against calibrated scale with tamperproof adjuster.
- Weatherproof and Flameproof models EEx d IIC ATEX.
- Sealed reference vacuum for true absolute pressure sensing.
- NACE MR 01-75 option.
- Safety vented or blow out device as standard.
- Hermetically sealed microswitch option.



Performance **characteristics**

Enclosure

- IP66 Protection

Wetted parts options

- 316 Stainless Steel, PTFE seal.

Standard Electrical ratings

- Refer to table 6

Process connection

- Rc ¼ (BSP) & ¼ NPT Internal as standard.

Unit weight

- 0.9 – 2Kg (1.98lb – 4.4lb)

Accuracy

- Set point repeatability $\pm 0.5\%$ of span at 20 °C / 68 °F ambient.

Product **applications**

The 207 is suitable for a wide range of applications in many Industry sectors:

- Oil & Gas
- Chemical
- Petrochemical
- Refining
- Power
- Food Industry

The choice of models available ensures that the 207 is suitable for use in:

- Corrosive atmospheres
- Resistant to chemical attack

How can we **help you?**

Delta Controls' range of reliable pressure and temperature measurement instruments can be customised to meet individual requirements. For technical advice or to discuss your application please contact us on +44 (0) 20 8939 3500

Enclosure

FINISH

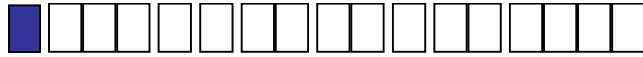
All enclosures except Type A are finished in light grey epoxy resin paint. Special finishes to order.




INTRINSIC SAFETY

Because of the low voltages and currency of I.S. circuits, we recommend using gold and/or sealed contacts.

Temperatures in Table 1 refer to limitations for certified enclosures. See **TECHNICAL DATA**

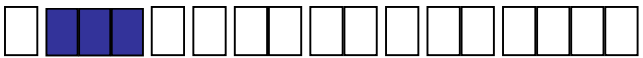
TABLE 1



WEATHERPROOF ENCLOSURES	Code
General Purpose The basic enclosure is pressure die-cast in zinc alloy, offering weather protection not less than NEMA 4 + 13/IP66.	W
For Aggressive Atmospheres Investment cast enclosure in austenitic stainless steel with weather protection not less than NEMA 4X + 13/IP66.	A
FLAMEPROOF ENCLOSURES CATEGORY 2 (ZONE 1)	
EExd IIC T6 (-60 to + 40°C), T4 (-60 to +80°C) Gravity die-cast enclosure in aluminium-silicon alloy, certified to CENELEC EN50 014 and EN50 018. Suitable for outdoor use, IP66 NEMA 4 	H
EExd IIC T6 (-60 to + 40°C), T4 (-60 to +80°C) As Code H, but sand cast in high quality grey iron. 	K
EExn ENCLOSURES CATEGORY 3 (ZONE 2)	
Type of Protection EExn II T6 (-20 to +40°C) As code 'W' but EExn to EN50021. Weatherproof to NEMA 4/IP66. Limited switching facility (see table 6) 	N
As 'N' but with investment cast enclosure in austenitic stainless steel as 'A'	O

Models

TABLE 2



	Code
Absolute Pressure Switch	207

Electrical Entry

Adaptors are available for other popular thread sizes.

Enclosures 'W' and 'N'

Standard option code 1(22mm dia) is provided with a nylon 22/20 reducer and fibre washer suitable for a standard M20 cable gland and back nut. Option code 0 elbow adaptor is factory fitted. Adapter kits may also be provided retrospectively to fit at site if required. Ask for details.

'W' and 'N' SAFETY NOTE

If a metal cable gland is site fitted it must either be earthed locally or an earth/gland plate must be used to connect the body of the gland at the enclosure earthing point. Earth/gland plates can be provided either factory fitted or in kit form for site assembly. Ask for details.

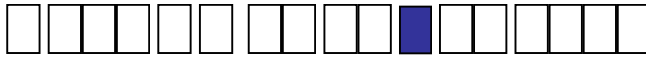
TABLE 3



	Code
Enclosure W & N: Clearance for 20mm (3/4) in outside dia conduit.	1
Enclosures H, K, A & O: M20 x 1.5 ISO thread.	0
Enclosures H & K: M20 x 1.5 ISO thread, dual entry.	5
Enclosures H & K: 3/4-NPT INT.	3
Enclosures H & K: 3/4-NPT INT. dual entry	6
Enclosure W: M20 x 1.5 elbow adaptor.	0
Enclosure N: M20 x 1.5 straight adaptor (Approved).	0

Process Connection

TABLE 7

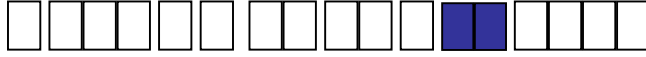


Adaptors are available for applications where their use is permitted.

	Code
Rc 1/4 (1/4 BSP tr INT) to ISO 7/1	A
1/4 – 18NPT INT	F

Options & Treatments

TABLE 8



Combinations available, apply for details.

	Code
Tropicalisation High humidity environment	01
Marine and Offshore Saline atmosphere or salt spray	02
Ammonia Process (wetted) parts and construction suitable for atmospheric ammonia.	03
Oxygen Service 2: Process (wetted) parts are cleaned for oxygen.	04
Oxygen Service 3: Process and non-process parts are cleaned for use with oxygen.	05
Stainless Steel Pipe Mounting Bracket Permits local 2" pipe work to be utilised for mounting the instrument.	10
Tagging - Variety of tagging methods are available	APPLY FOR DETAILS
Applies when – no option is required and selection is made from special engineering.	00

Special Engineering

TABLE 9



In addition, the 207 can be adapted to adjustable switching differential (see Table 10B)

FEATURE	Code
Special microswitch, giving adjustable switching differential. Limited span. See Table 6, switch codes 0C or 0D.	2000
Secondary mechanism, giving adjustable switching differential. Wide span. See Table 6, switch codes 02, 03, 04, 05	3000

Unit Weights

(Approx.) – Refer to Table 1

'W' & 'N'	3.0kg/6.6lb
'A' & 'O'	4.0kg/8.8lb
'H'	4.5kg/10.0lb
'K'	9.3kg/20.5lb

Performance Data

TABLE 10

Table 10A

STANDARD FORM: FIXED SWITCHING DIFFERENTIAL								
Switch Mode	SPDT				DPDT			
	00	02	04	08/0G/H2	01	03	05	09/0H/H3/H6
torr	8	17	8	52	15	32	15	73
mbar	11	22	11	68	20	42	20	97

Table 10B

VARIANTS 2000/3000: ADJUSTABLE SWITCHING DIFFERENTIAL								
Switch Mode	Variant 2000				Variant 3000			
	SPDT only				SPDT		DPDT	
	0C		0D		02 or 04		03 or 05	
	From	To	From	To	From	To	From	To
torr	19	53	53	188	113	375	113	375
mbar	25	70	70	250	150	500	150	500

Approvals

INTRINSIC SAFETY

Because of the low voltages and currents of intrinsically safe circuits, we recommend using gold contacts. Refer to Table 6.

CENELEC/BASEEFA II 2 G D

Certified to CENELEC EN50 014 and EN50 018.

For use in Zone 1 hazardous areas EEx d IIC T6 (-60° to +40°C)

T4 (-60° to +80°C)



Enclosure Codes H and K and all models (see Table 1)

Certificate number BAS01ATEX2426X

IEC EX APPROVAL for use in Zone 1 hazardous areas

Exd IIC certified to IEC 60079-0 and IEC 60079-1

Cert No. IECExITS04 0006X

Technical Specifications

ACCURACY

Set point repeatability $\pm 1\%$ of full scale at 20°C ambient.
Scale accuracy $\pm 3\%$ of full scale.

AMBIENT TEMPERATURE RANGE

All models are suitable for operating within a range of ambient temperature from -25 to $+60^\circ\text{C}$ (-13 to $+140^\circ\text{F}$).
Special build available for temperatures down to -60°C (-76°F)

MAXIMUM PROCESS TEMPERATURE

Subject to appropriate installation practice the component parts will withstand $+60^\circ\text{C}$ ($+140^\circ\text{F}$). For higher temperatures refer to SPECIAL ENGINEERING.

ELECTRICAL CONNECTIONS

Terminal Block

Cable entry is to a non-pinching block made of a non-hygroscopic thermosetting plastic, suitable for cables up to $2.5\text{mm}^2/14\text{AWG}$.

Earthing/Grounding

An earthing stud is provided inside all weatherproof enclosures, adjacent to the entry. External earthing is standard on flameproof versions. Safety note see Table 3.

Dielectric Strength

The electrical assembly is capable of withstanding $*2\text{kV}$ between live parts and earth/ground and 500V between open contacts.

$*1.2\text{kV}$ for micro switch Codes H2, H3 and H6. Refer to Table 6.

Electrical Entry

Standard options are listed in Table 3. Other threads can be accommodated by adaptors. Dual entry available on some enclosures.

OPTIONAL EXTRAS

Mounting

Position/Location/Installation

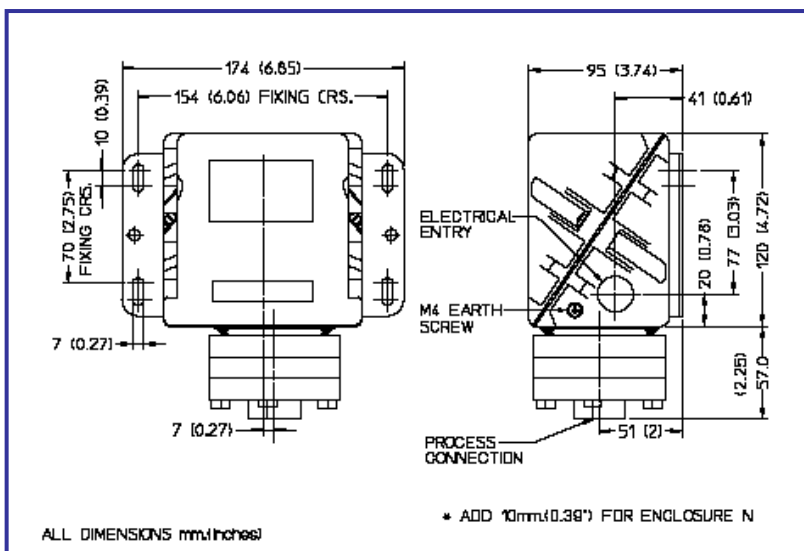
Vertical as shown, in DIMENSIONS, taking care to avoid siting in locations that transmit excessive shock or vibration. For further advice contact our engineers.

Pollution degree (EN60947-5-1)

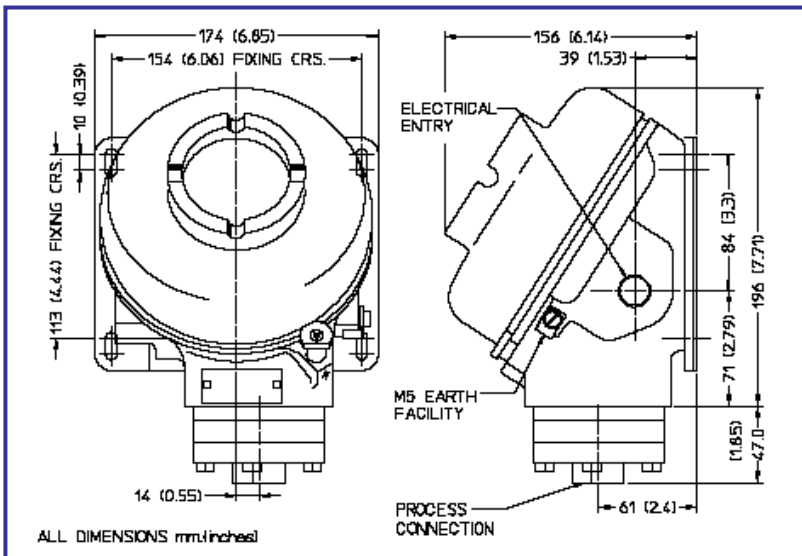
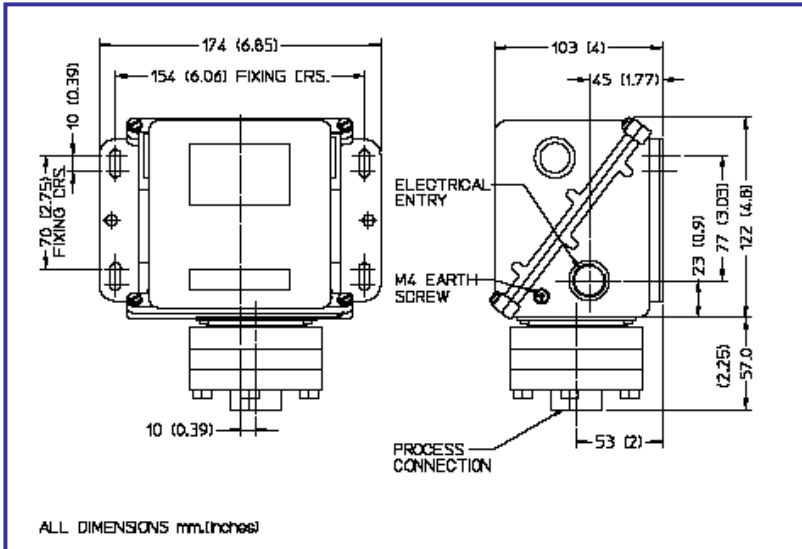
All products are suitable for use in pollution degree 3. For extreme conditions where condensation may readily form, then sealed contacts should be used. See Table 6 codes 08/09, 0G/0H, H2/H3/H6.

Electrical Isolation – These products are not suitable for electrical isolation. Always isolate circuit separately to carry out any electrical work.

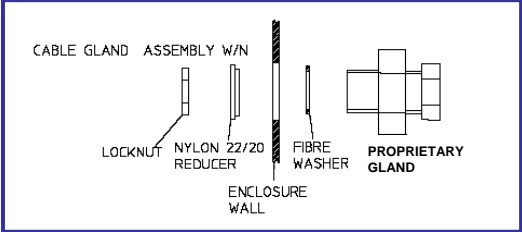
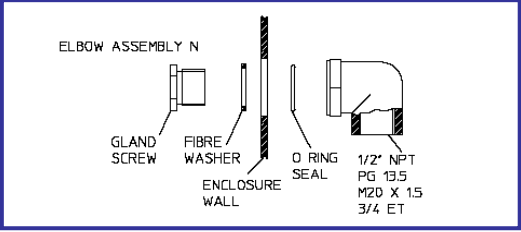
Dimensions



Dimensions



Dimensions



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