

Technical Datasheet



Performance Series Differential Pressure Switch

Models: 301, 303, 304, 381 & 384



Key Features

- Precision stainless steel mechanism for arduous atmospheres and high humidity
- Models for fixed switching differential, adjustable differential and HI-LO operation
- Set point adjustable over whole range against calibrated scale with tamperproof adjuster
- Aluminium or Cast Iron Epoxy Coated or AISI 300 SS enclosure **IP66/NEMA 4X**
- **Weatherproof or flameproof enclosure**
- Ranges available up to 15 bar (200 psi), static pressure up to 250 bar (3500 psi)
- Safety vented or blow out device as standard
- NACE MR-01-75 compatibility



Product applications

The 300 Performance Series is suitable for a wide range of applications in:

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

The choice of models available ensures that the 300 Performance Series is suitable for use in:

- Corrosive atmospheres
- Resistant to chemical attack

Series Overview

Designed in the mid-1970s and developed over subsequent years, the Performance Series switch range offers users the broadest range of options, the highest levels of set-point repeatability and the confidence of long term performance that a mature product such as this can prove.

The models 301/303/304/381/384 in the Performance Series of differential pressure switches utilise a stainless steel diaphragm based sensor. This coupled with a precision stainless steel mechanism is designed to minimise friction in the moving parts, helping deliver the market leading performance customers have come to expect from the series.

Other products in the series include:

- Absolute Pressure Switches: Model 207
- Relative Pressure Switches: Model 200
- Temperature Switches: Model 700

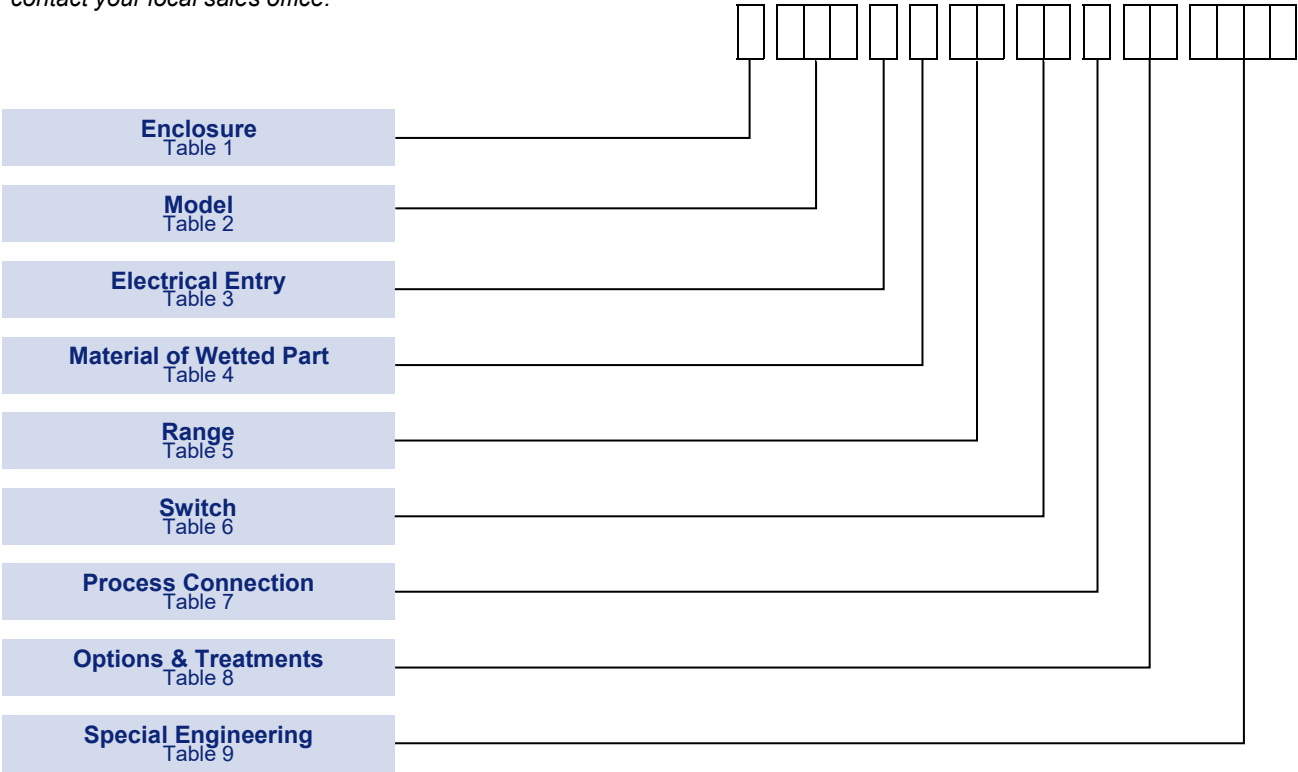
How can we help you?

Delta Mobrey offers fast, efficient and knowledgeable support when and where you need it. Please visit our website at www.delta-mobrey.com to find your local support centre or call us on:

+44 (0) 1252 729140

How to order

Switches can be configured by selecting codes representing the desired features from the tables that follow. The chart below, describes how the model code is built up. For assistance in configuring a switch that best suits your needs, please contact your local sales office.



Technical Specification

Set point repeatability:	1% of span.
Scale accuracy:	± 3% of full scale at reference temperature.
Storage Temperature:	-25 to +80°C / -13 to +176°F
Ambient Temperature:	-25 to +80°C / -13 to +176°F;SPECIAL ENGINEERING -60 to +80°C (-76 to 176 °F)
Maximum Process Temperature:	At the process connection, the component parts withstand temperatures up to +80°C (+176°F). For higher media temperatures (use Code R Table 4), refer to the Operating Instruction for installation practice or contact your local sales office.
Enclosure Classification:	Weatherproof / flameproof
Ingress Protection:	IP 66 / NEMA 4X
Pollution Degree:	Pollution degree 3 according EN60947-5-1 (For extreme conditions where condensation may readily form, then sealed contacts should be used)
Switch Output:	1 x SPDT or 1 x DPDT (2 SPDT Synchronized with 1% of range) or 2 x independent SPDT snap action microswitch (standard)
Electrical Rating:	See Table 6
Terminal Block:	Suitable for wire section up to 2,5 mm ² / 14 AWG
Grounding Connection:	One internal and one external suitable for wire section up to 4 mm ² / 12 AWG
Electrical Safety Class:	Safety electrical class 1 according IEC 61298-2:2008
Process Connection:	Rc 1/4 (BSP), 1/4 NPT Internal, 1/2 NPT Internal & 1/2 NPT External
Approximate Weight:	Enclosures: "W & N" 4.5kg / 9.9lb; "A & O" 6.4kg / 13.8lb; "H" 5.9kg/13.0lb; "K" 9.7kg/21.4lb; For range C6/CP add 0.4kg/0.9lb; For series 304 add 2.3kg/5.1lb.

Performance Series
Models: 301, 303, 304, 381 & 384

Enclosure

INTRINSIC SAFETY AS SIMPLE APPARATUS AND LOW POWER APPLICATION

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

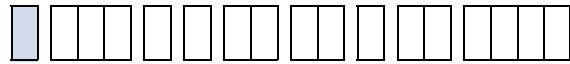
NOTE: In the interest of safety the enclosure W with electrical connection code 1 cannot be used for intrinsic safety application

NOTE: Enclosure Codes W & A with range BC, C6, E1 and E8 (BU, CP, E4, E7) have Ingress Protection reduced to IP54.

NOTE: In the interest of reliability not all enclosures are available with all wetted parts materials. See Table 4.

⁽¹⁾ Triple marking IECEx, ATEX and UKEx on the same product nameplate; EAC Ex on request

TABLE 1



ENCLOSURE TYPES:	Code
<u>WEATHERPROOF ENCLOSURES</u>	
General Purpose Pressure die-cast in zinc alloy, epoxy painted, with ingress protection IP66, NEMA 4 + 13.	W
Aggressive Atmospheres Investment cast enclosure in austenitic stainless steel with ingress protection IP66, NEMA 4X + 13.	A
<u>FLAMEPROOF ENCLOSURES⁽¹⁾</u> Approved for use in a Zone 1 & Zone 21 hazardous locations Ex db IIC T4/T6 Gb, Ex tb IIIC T135/T85°C Db IP66 The temperature class is related to the ambient temperature range see Approval section for more information	
General Purpose Die-cast in aluminium-silicon alloy, epoxy painted, with ingress protection IP66, NEMA type 4X	H
Offshore aggressive ambient Sand cast in high quality grey iron, epoxy painted, with ingress protection IP66, NEMA type 4X	K
<u>TYPE OF PROTECTION Ex nC ENCLOSURE</u> Self assessed for use in Zone 2 hazardous locations Ex nC II T6 Gc The temperature class is related to the ambient temperature range see Approvals section for more information	
General Purpose Pressure die-cast in zinc alloy, epoxy painted, with ingress protection IP66, NEMA 4 + 13. Limited switching facility (see Table 6).	N
Aggressive Atmospheres Investment cast enclosure in austenitic stainless steel with ingress protection IP66, NEMA 4X + 13. Limited switching facility (see Table 6).	O

Models

Maximum static working pressures are as follow

301, 303, 381
110 bar (1600 psi)

304, 384
250 bar (3500 psi)

TABLE 2



	Code
Fixed Switching Differential See Tables 10A & 10C. Basic model giving close, fixed switching differential using proprietary microswitch operated by high integrity stainless steel mechanism. Set point field adjustable over full range against calibrated scale. SPDT & DPDT options available.	301 304
Adjustable Switching Differential (Wide Span) See Tables 10B & 10D. Falling set point adjustable against a calibrated scale. Rising reset point adjustable to increase switching differential by up to 50% of range.	303
HI-LO Switching (Adjustable Gap) See Tables 10A & 10C. Two individual set points and separate electrical circuits, with independent adjustment against calibrated scale.	381 384

Performance Series
Models: 301, 303, 304, 381 & 384

Electrical Entry

Adaptors are available for other popular thread sizes.

Enclosures 'W'

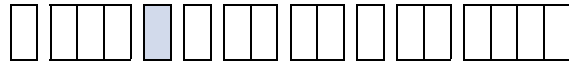
Standard option code 1 (20 mm dia.) is provided with a nylon 22/20 reducer and fibre washer suitable for a standard M20 cable gland and back nut.

Option code 0, 2 & 3 adaptors are factory fitted. Adaptor kits may also be provided retrospectively to fit at site if required. Ask for details. See diagrams for dimensions.

'W' 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.

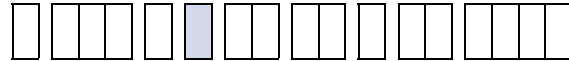
TABLE 3



	Code
Enclosure W: Clearance for 20mm (3/4 in) outside dia conduit.	1
Enclosure W: M20 x 1.5 adaptor.	0
Enclosure W: 1/2-14 NPT INT adaptor.	2
Enclosure W: 3/4-14 NPT INT adaptor.	3
Enclosures H, K, A & O: M20 x 1.5 ISO thread (direct)	0
Enclosures H & K: M20 x 1.5 ISO thread, dual entry.	5
Enclosures H & K: 1/2-14 NPT INT.	2
Enclosures H & K: 1/2-14 NPT INT dual entry	4
Enclosures H & K: 3/4-14 NPT INT.	3
Enclosures H & K: 3/4-14 NPT INT. dual entry	6
Enclosure N: M20 x 1.5 certified adaptor.	0

Material of Wetted Parts

TABLE 4



	Code
316 Stainless steel diaphragm. All other wetted parts fully austenitic 300 Series stainless steel, PTFE and Nitrile seals.	I
Nickel Alloy (Monel) diaphragm. All other wetted parts fully austenitic 300 series stainless steel. PTFE and Nitrile seals.	J
For wetted parts required to conform with Sour Gas or Sour Crude applications as laid down in NACE standard MR-01-75.	L
Nickel Alloy (Monel) diaphragm and other wetted parts. PTFE and Viton seals. (NACE).	Q
316 Stainless steel diaphragm. All other wetted parts fully austenitic 300 series stainless steel. PTFE and Viton seals.	R
Non-standard requirements	X

Setting Ranges

NOTE: For differential pressure switches maximum working pressure (P_{max}) and maximum static/line pressure mean the same.

Maximum static pressure applied in the reverse direction (i.e. to LO port with HI port to atmosphere) will be contained without failure. A degradation of performance and a shortening of the service life can occur.

For applications where reversals of pressure are inevitable, a special engineering facility is available.

† Ranges B2, B3 B5 and B6, BN, BR are available with special engineering only and are not available for model 303. Contact local sales representative for these ranges.

TABLE 5



MODELS 301/303/381

P_{max}		Range			Code
bar	psi	mbar/bar	Code	In H ₂ O/psi	
0.5	7	-0.6 to +0.6	B2†	-0.25 to +0.25	B6†
1	15	-2.5 to +2.5	B3†	-1 to +1	BN†
1	15	0 to 5	B5†	0 to 2	BR†
110	1600	-12.5 to +12.5	BC*	-5.0 to +5.0	BU*
		3 to 25	C6	1 to 10	CP
		5 to 120	E1	2 to 50	E4
		50 to 350	E8	1 to 5	E7
		0.1 to 1.5	G5	1 to 20	GP
SEE MODELS		0.2 to 4	J0*	2 to 60	J3*
		0.7 to 7	M2*	10 to 100	M8*
		1.5 to 15	P8*	20 to 200	PK*

NOTE: For differential pressure switches maximum working pressure (P_{max}) and maximum static/line pressure mean the same.

Maximum static pressure applied in the reverse direction (i.e. to LO port with HI port to atmosphere) will be contained without failure. A degradation of performance and a shortening of the service life can occur.

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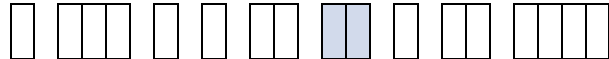
MODELS 304/384

P_{max}		Range			Code
bar	psi	mbar/bar	Code	In H ₂ O/psi	
250	3500	-12.5 to +12.5	0C*	-5.0 to +5.0	0U*
		3 to 25	06	1 to 10	0P
		5 to 120	01	2 to 50	04
		50 to 350	08	1 to 5	07
		0.1 to 1.5	G5	1 to 20	GP
		0.2 to 4	J0*	2 to 60	J3*
		0.7 to 7	M2*	10 to 100	M8*
		1.5 to 15	P8*	20 to 200	PK*

*Ranges BC/0C/BU/0U, J0/J3, M2/M8 and P8/PK not available on models 303, 381 and 384

Switch Options

TABLE 6



A much wider variety of switching options can be engineered to customer's requirements for Model 301 switches, including heavy DC, manual latching, pneumatic output etc. On Models 303, 381 & 384 only the switching options specified can be supplied. Please consult our engineers for further information.

UL/CSA RATING (RESISTIVE) § see note	IEC947-5-1 / EN 60947-5-1 RATING						Contact	Code	
	Designation & Utilisation Category	Rated operational current I _e (A) at rated operational voltage U _e	U _i	U _{imp}	VA Rating				
					Make	Break			
Model 301, 304									
5 Amps @ 110/250V AC Light Duty for AC only	AC14 D300 DC13 R300	0.6/0.3A @ 120/240 V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT DPDT	00 01	
5 Amps @ 110/250V AC & 2 Amps @ 30V DC General purpose precision	AC14 D300 DC13 R300	0.6/0.3A @ 120/240 V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT DPDT	02 03	
1 Amp @ 125V AC & § 100mA @ 30V DC Gold Alloy contacts for low voltage switching	1A @ 125 VAC RESISTIVE (IEC 1058-1 / EN 61058-1)						SPDT DPDT	04 05	
§ 5 Amps @ 110/250V AC & 5 Amps @ 30V DC Environmentally sealed	AC14 D300 DC13 R300	0.6/0.3A @ 120/240 V AC 0.22/0.1A @ 125/250V DC	250V	0.5kV	432 28	72 28	SPDT* DPDT*	08 09	
§ 1 Amp @ 30V AC & 30V DC Environmentally sealed with gold contacts	AC14 E150	0.3A @ 120 V AC	125V	0.5kV	216	36	SPDT* DPDT*	0G 0H	
5 Amps @ 250V AC & 2 Amps @ 30V DC Hermetically sealed. Gold plated silver contacts	AC14 D300 DC13 R300	0.6/0.3A @ 120/240 V AC 0.22/0.1A @ 125/250V DC	250V	0.5kV	432 28	72 28	SPDT DPDT	H2 H3 [†] , H6 [‡]	
† 2 Single pole, double throw, simultaneous falling under pressure ‡ 2 Single pole, double throw, simultaneous rising under pressure									
Model 303									
5 Amps @ 110/250V AC and 2 Amps @ 30V DC General purpose precision	AC14 D300 DC13 R300	0.6/0.3A @ 120/240 V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT DPDT	02 03	
1 Amp @ 125V AC and § 100mA @ 30V DC Gold Alloy contacts for low voltage switching	1A @ 125 VAC RESISTIVE (IEC 1058-1 / EN 61058-1)						SPDT DPDT	04 05	

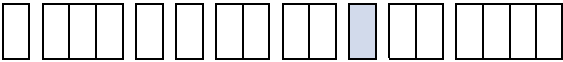
Model 381, 384								
UL/CSA RATING (RESISTIVE) § see note	IEC947-5-1 / EN 60947-5-1 RATING						Contact	Code
	Designation & Utilisation Category	Rated operational current I _e (A) at rated operational voltage U _e	U _i	U _{imp}	VA Rating			
					Make	Break		
5 Amps @ 110/250V AC Light Duty for AC only	AC14 D300 DC13 R300	0.6/0.3A @ 120/240 V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT	20
5 Amps @ 110/250V AC & 2 Amps @ 30V DC General purpose precision	AC14 D300 DC13 R300	0.6/0.3A @ 120/240 V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT	22
1 Amp @ 125V AC & § 100mA @ 30V DC Gold Alloy contacts for low voltage switching	1A @ 125 VAC RESISTIVE (IEC 1058-1 / EN 61058-1)						SPDT	24
§ 5 Amps @ 110/250V AC & 5 Amps @ 30V DC Environmentally sealed	AC14 D300 DC13 R300	0.6/0.3A @ 120/240 V AC 0.22/0.1A @ 125/250V DC	250V	0.5kV	432 28	72 28	SPDT*	28
§ 1 Amp @ 30V AC & 30V DC Environmentally sealed with gold contacts	AC14 E150	0.3A @ 120 V AC	125V	0.5kV	216	36	SPDT*	2G
5 Amps @ 250V AC & 2 Amps @ 30V DC Hermetically sealed. Gold plated silver contacts	AC14 D300 DC13 R300	0.6/0.3A @ 120/240 V AC 0.22/0.1A @ 125/250V DC	250V	0.5kV	432 28	72 28	SPDT	H4
The electrical rating is dependent on the microswitch fitted to the instrument. The electrical ratings defined by each approval that the microswitch complies with and is shown on the product nameplate, i.e. UL, CSA, or IEC. It should be noted that the instrument must be used within the electrical rating specified from the approval you require. This table lists the actual IEC ratings against the Designation & Utilisation Category marked on the nameplates. In the absence of any verification by CSA the microswitch § manufacturer's rating is stated in italics and bold . If in doubt seek guidance from the factory.								
NOTE: For low energy circuits e.g. 30V and up to 100mA, we recommend using gold alloy contact switches. U _i = rated insulation voltage U _{imp} = rated impulse to withstand voltage across contacts.								
*Suitable for use with Exn Enclosures (See Table 1)								

Process Connection

Other thread specifications and sizes are available without using adaptors.
See DIMENSIONS.

Adaptors are available for applications where their use is permitted.

TABLE 7

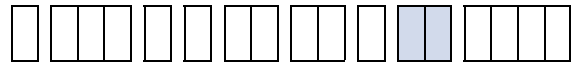


	Code
Rc 1/4 (1/4 BSP tr INT) to ISO 7/1	A
1/4—18 NPT INTERNAL	F
1/2—14 NPT INTERNAL	H
1/2—14 NPT EXTERNAL	J

Options & Treatments

Combinations available, apply for details.

TABLE 8

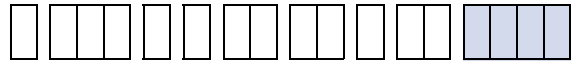


	Code
Tropicalisation High humidity atmospheres	01
Marine and Offshore Saline atmosphere or salt spray	02
Ammonia Process (wetted) parts and construction suitable for atmospheric ammonia	03
Oxygen Service 2: Process (wetted) parts are cleaned for oxygen	04
Oxygen Service 3: Process and non-process parts are cleaned for use with oxygen	05
Stainless Steel Pipe Mounting Bracket Permits local 2" pipe work to be utilized 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

Last 4 digits of model code only used when special engineering is required.

TABLE 9



	Code
Please consult Delta Mobrey's sales engineering for special requirements	TBA
Chemical Seals	
End Line Resistors Available factory wired (nominal contact rating may change)	

Performance Data

TABLE 10

NOTE: Due to manufacturing tolerances, the figures quoted in these tables are for guidance only and are typical for weatherproof models. Flameproof models may be up to 2 times higher depending on the range.

MODEL 381/384: The switching differential on each point may be up to 1.5 times that of Table 10A & 10C. Care must be exercised, in specifying high differential switches on sensitive ranges, or set point separation less than 3 times the switching differential. Should the differential be critical for specific applications our engineers should be consulted prior to ordering.

Bar Units

TABLE 10A: 1 & 2.
MODELS 301, 304, 381, 384
FIXED SWITCHING DIFFERENTIAL

MODELS 301 & (381)

mbar units

TABLE 10A:1

Range Code	Range mbar/bar	SPDT OPTIONS					DPDT OPTIONS				
		00 (20)	02 (22)	04 (24)	08/0G (28/2G)	H2 (H4)	01	03	05	09/0H	H3/H6
B2	-0.6 to +0.6	0.2	0.2	0.2	-	-	0.4	0.4	0.5	-	-
B3	-2.5 to +2.5	0.4	0.8	0.4	0.8	-	0.8	1.2	0.8	1.2	-
B5	0 to 5	0.4	0.8	0.4	1.5	1.2	0.8	1.2	0.8	1.7	1.8
BC	-12.5 to +12.5	2	6	2	5	4	4	8	4	10	20
C6	3 to 25	2	6	2	5	4	4	8	4	10	20
E1	5 to 120	4	12	4	10	12.5	8	16	8	25	50
E8	50 to 350	10	30	10	20	17.5	20	40	20	30	60
G5	0.1 to 1.5	50	150	50	90	125	100	200	100	115	230
J0	0.2 to 4	100	300	100	200	300	200	400	200	250	500
M2	0.7 to 7	200	600	200	250	400	400	800	400	300	600
P8	1.5 to 15	300	900	300	500	600	600	1200	600	600	1200

TABLE 10A2
MODEL 304 & (384)
FIXED SWITCHING DIFFERENTIAL

MODELS 304 & (384)		mbar units					TABLE 10A:2				
Range Code	Range mbar/bar	SPDT OPTIONS					DPDT OPTIONS				
		00 (20)	02 (22)	04 (24)	08/0G (28/2G)	H2 (H4)	01	03	05	09/0H	H3/H6
0C	-12.5 to +12.5	2	6	2	5	4	4	8	4	10	20
06	3 to 25	2	6	2	5	4	4	8	4	10	20
01	5 to 120	4	12	4	10	12.5	8	16	8	25	50
08	50 to 350	10	30	10	20	17.5	20	40	20	30	60
G5	0.1 to 1.5	50	150	50	90	125	100	200	100	115	230
J0	0.2 to 4	100	300	100	200	300	200	400	200	250	500
M2	0.7 to 7	200	600	200	250	400	400	800	400	300	600
P8	1.5 to 15	300	900	300	500	600	600	1200	600	600	1200

TABLE 10B
MODEL 303
ADJUSTABLE SWITCHING DIFFERENTIAL

MODEL 303		mbar units				TABLE 10B			
Range Code	Range mbar/bar	SPDT OPTIONS				DPDT OPTIONS			
		02		04		03		05	
		From	To	From	To	From	To	From	To
C6	3 to 25	8	25	8	25	12	25	12	25
E1	5 to 120	15	120	15	120	22	120	22	120
E8	50 to 350	50	350	50	350	75	350	75	350
G5	0.1 to 1.5	150	750	150	750	225	750	225	750

PSI Units

TABLE 10C: 1 & 2
MODELS 301, 304, 381, 384
FIXED SWITCHING DIFFERENTIAL

Switching differentials in.H₂O/psi.

MODELS 301 & (381)		PSI units					TABLE 10C:1				
Range Code	Range in.H ₂ O/psi	SPDT OPTIONS					DPDT OPTIONS				
		00 (20)	02 (22)	04 (24)	08/0G (28/2G)	H2 (H4)	01	03	05	09 0H	H3 H6
BG	-0.25 to +0.025	0.08	0.08	0.08	-	-	0.16	0.16	0.2	-	-
BN	-1 to +1	0.16	0.3	0.16	0.32	-	0.3	0.5	0.3	0.48	-
BR	0 to 2	0.16	0.3	0.16	0.6	0.48	0.3	0.5	0.3	0.68	0.72
BU	-5.0 to +5.0	0.8	2.4	0.8	2	1.6	1.6	3.2	1.6	4	8
CP	1 to 10	0.8	2.4	0.8	2	1.6	1.6	3.2	1.6	4	8
E4	2 to 50	1.6	4.9	1.6	4	5	3.2	6.4	3.2	10	20
E7	1 to 5	0.15	0.45	0.15	0.3	0.25	0.3	0.6	0.3	0.45	0.9
GP	1 to 20	0.7	2.2	0.7	1.3	1.8	1.5	2.9	1.5	1.7	3.3
J3	2 to 60	1.5	4.4	1.5	2.9	4.3	2.9	5.8	2.9	3.6	7.3
M8	10 to 100	2.9	8.7	2.9	3.6	5.8	5.8	11.6	5.8	4.4	8.7
PK	20 to 200	4.4	13	4.4	7.5	8.7	8.7	17.5	8.7	8.7	17.5

MODELS 304 & (384) **PSI units** **TABLE 10C:2**

Range Code	Range in.H ₂ O/psi	SPDT OPTIONS					DPDT OPTIONS				
		00 (20)	02 (22)	04 (24)	08/0G (28/2G)	H2 (H4)	01	03	05	09 0H	H3 H6
0U	-5.0 to +5.0	0.8	2.4	0.8	2	1.6	1.6	3.2	1.6	4	8
0P	1 to 10	0.8	2.4	0.8	2	1.6	1.6	3.2	1.6	4	8
04	2 to 50	1.6	4.9	1.6	4	5	3.2	6.4	3.2	10	20
07	1 to 5	0.15	0.45	0.15	0.3	0.25	0.3	0.6	0.3	0.45	0.9
GP	1 to 20	0.7	2.2	0.7	1.3	1.8	1.5	2.9	1.5	1.7	3.3
J3	2 to 60	1.5	4.4	1.5	2.9	4.3	2.9	5.8	2.9	3.6	7.3
M8	10 to 100	2.9	8.7	2.9	3.6	5.8	5.8	11.6	5.8	4.4	8.7
PK	20 to 200	4.4	13	4.4	7.5	8.7	8.7	17.5	8.7	8.7	17.5

MODEL 303 **PSI units** **TABLE 10D**

Range Code	Range in.H ₂ O/psi	SPDT OPTIONS				DPDT OPTIONS			
		02		04		03		05	
		From	To	From	To	From	To	From	To
CP	1 to 10	3.2	10	3.2	10	4.8	10	4.8	10
E4	2 to 50	5	48	5	48	8.9	48	8.9	48
E7	1 to 5	0.75	5	0.75	5	1.1	5	1.1	5
GP	1 to 20	2.2	11	2.2	11	3.5	11	3.5	11

TABLE 10D
MODEL 303
ADJUSTABLE SWITCHING DIFFERENTIAL

Electrical Connections

Dielectric Strength

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

* 1.2kV for micro switch Codes H2, H3, H4 and H6. Refer to Table 6.

Verify if it is possible to increase @ 1,5kV r.m.s: Safety class 1 according IEC 61298-2

Optional Extras

Electrical Isolation

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

Operating instruction "Intended use of product"

Approvals



GLOBAL CERTIFICATION

IECEx

FLAMEPROOF Certificate No. IECEx BAS 12.0081

- Ex db IIC T6 Gb (-60°C≤Ta≤+40°C)
- Ex db IIC T4 Gb (-60°C≤Ta≤+80°C)
- Ex tb IIIC T85°C Db IP66 (-60°C≤Ta≤+40°C)
- Ex tb IIIC T135°C Db IP66 (-60°C≤Ta≤+80°C)



EUROPEAN DIRECTIVE

Low Voltage Directive (LVD) 2014/35/EU

Compliant to LVD

Pressure Equipment Directive (PED) 2014/68/EU

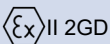
Compliant to PED according process accessory

Restriction of hazardous substances (RoHS 2) 2011/65/EU

Compliant to RoHS

ATEX Directive 2014/34/EU

FLAMEPROOF Certificate No. BAS01ATEX2426X



- Ex db IIC T6 Gb (-60°C≤Ta≤+40°C)
- Ex db IIC T4 Gb (-60°C≤Ta≤+80°C)
- Ex tb IIIC T85°C Db IP66 (-60°C≤Ta≤+40°C)
- Ex tb IIIC T135°C Db IP66 (-60°C≤Ta≤+80°C)

TYPE OF PROTECTION "nC"

Compliant to ATEX: Declaration of Conformity No. YYYYYYY



- Ex nC XXXXXXXXXX



UK REGULATION

Electrical Equipment (Safety) Regulations 2016

Conform to UK SI 2016 No 1101 regulation

Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Conform to UK SI 2012 No. 3032

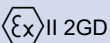
Pressure Equipment (Safety) Regulations 2016

Conform to UK SI 2016 No 1105 regulation

Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016

Conform to UK SI 2016 No 1107 regulation

FLAMEPROOF Certificate No. BaseefaXXXXX



- Ex db IIC T6 Gb (-60°C≤Ta≤+40°C)
- Ex db IIC T4 Gb (-60°C≤Ta≤+80°C)
- Ex tb IIIC T85°C Db IP66 (-60°C≤Ta≤+40°C)
- Ex tb IIIC T135°C Db IP66 (-60°C≤Ta≤+80°C)



EURASIAN CONFORMITY MARK

Hazardous Areas

FLAMEPROOF Certificate No. EA9C RU C-GB.HA65.B/01199/21



- 1Ex d IIC T6 Gb X (-60°C≤Ta≤+40°C)
- 1Ex d IIC T4 Gb X (-60°C≤Ta≤+80°C)
- Ex tb IIIC T85°C Db X (-60°C≤Ta≤+40°C)
- Ex tb IIIC T135°C Db X (-60°C≤Ta≤+80°C)

If EAC certification is required, this must be stated at the point of sale to ensure the correct marking of the instrument.

Dimension

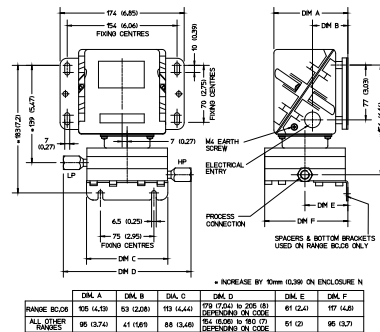
All dimensions mm (inches)

NOTE: Dimensions refer to ranges E1/E4 (Models 301, 303, 381); G5 (Models 304, 384), and upwards

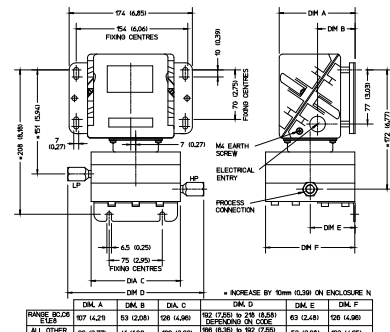
Ranges C6/CP/BC/BU (Models 301,303,381); and E8/E7 (Models 304,384), and below, have flanges 25mm (0.98in) larger in diameter.

The distance between pressure connections is therefore increased by 25mm (0.9in) and the stand-off from wall mounting by 12.5mm (0.49in).

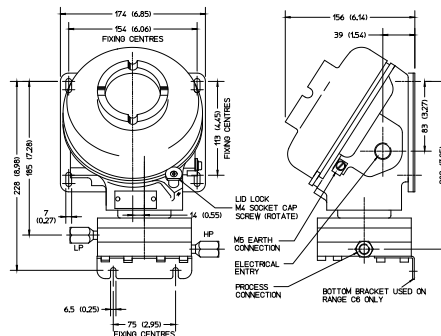
W & N Enclosure 301/303/381



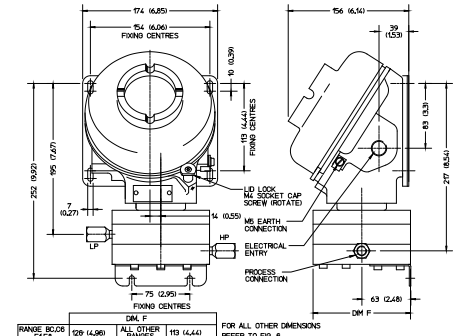
W & N Enclosure 304/384



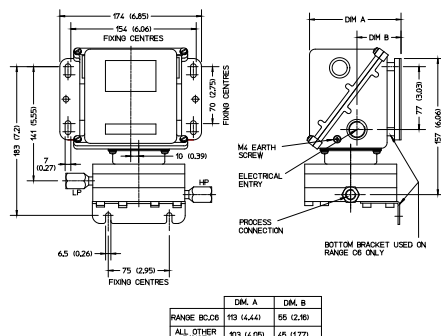
H & K Enclosure 301/303/381



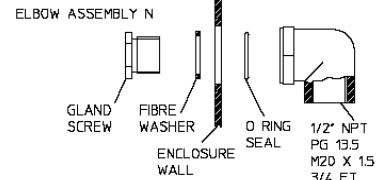
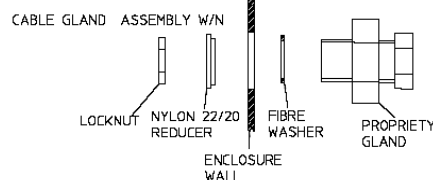
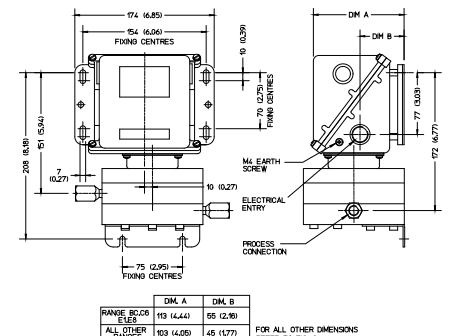
H & K Enclosure 304/384



A & O Enclosure 301/303/381



A & O Enclosure 304/384



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