

# C-Series Differential

BETA products are manufactured in The Netherlands

## Enclosures:

### Cast Aluminum:

Oven baked powder coating  
hammertone grey

### Also available in SS 316

Wheaterproof IP 66

- EN 60529

(Nema 4X)

### Repeatability:

typical 0.2% of Full Scale

Standard unit: Barg

Optional: PSI / Kg / Pa

Standard process connetion:

1/4" NPT F or BSP F

Standard Diaphragm/O-ring:

D..L/ M: Buna N / Buna N

D..H: TCP/ Buna N

### For wetted parts:

more possibilities available,  
see full catalogue

**BETA SWITCHES ARE,  
BUILD TO LAST!**

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and ask for the General Bulletin.  
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## Ranges for Differential switches

RANGE CODE	ADJUSTABLE DIFF. RANGE <sup>1)</sup>		TYPICAL DEADBAND <sup>1)</sup>		MAX. STATIC PRESSURE		MAX. OVERRANGE PRESSURE		PROOF PRESSURE	
	mBar / Bar	mBar	mBar / Bar	mBar	Bar		Bar		Bar	
<b>D 302 L</b>	12 - 75 <sup>2)</sup>	mBar	7	mBar	30	Bar	30 <sup>3)</sup>	Bar	35	Bar
<b>D 304 L</b>	22 - 180	mBar	8	mBar						
<b>D 306 L</b>	25 - 450	mBar	11	mBar						
<b>D 309 L</b>	35 - 1250	mBar	15	mBar	10	Bar	140 <sup>4)</sup>	Bar	140	Bar
<b>D 402 M</b>	0.3 - 1.0	Bar	0.15	Bar						
<b>D 404 M</b>	0.5 - 2.5	Bar	0.2	Bar						
<b>D 406 M</b>	1.0 - 6.0	Bar								
<b>D 408 M</b>	1.0 - 14.5	Bar	0.8	Bar	50	Bar	140	Bar	140	Bar
<b>D 506 M</b>	5 - 20	Bar								
<b>D 508 M</b>	10 - 50	Bar								
<b>D 608 M</b>	10 - 70	Bar	1.5	Bar	140	Bar	200	Bar	200	Bar
<b>D 352 H</b>	80 - 160	mBar	25	mBar						
<b>D 354 H</b>	100 - 500	mBar	35	mBar						
<b>D 356 H</b>	120 - 1450	mBar	50	mBar						
<b>D 359 H</b>	150 - 3450	mBar	75	mBar						

### Notes:

- Ranges and deadbands are given at 50% of Max. Static pressure.  
All differential pressure sensors are sensitive to static pressure, both for setpoint and deadband.
- Range only with L1 micro switch.
- D...L can withstand a differential pressure P-low max. 1 bar above P-High.
- D...M, D...H can sustain full High and Low-side reversal.

IN THE FOLLOWING TABLE THE ESTIMATED INFLUENCE FOR INCREASING STATIC PRESSURE IS GIVEN.

SENSOR	SETPOINT	DEADBAND
<b>D...L</b>	- 0.7 mBar / Bar	= - 0.1 mBar / Bar
<b>D...M</b>	= + 3 mBar / Bar	+ 10 mBar / Bar
<b>D...H</b>	- 2 mBar / Bar	= - 0.4 mBar / Bar

**Example:** D...H-type Diff. setpoint: 1 bar (1000 mbar).

If static pressure increases 10 bar Diff.setpoint will be  $(10 \times - 2 \text{ mbar}) = - 20 \text{ mbar less} = 980 \text{ mbar}$ .

**Note:** For differential application outside above ranges consult your BETA Switch representative.

### Disclaimer:

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**Making the modelcode: Follow steps 1 to 5**

## 1 Selection of enclosure type.

Conduit:	Material:	Enclosure code:
Pg 13.5	Aluminium	<b>C1</b>
M20 x 1.5	Aluminium	<b>C2</b>
3/4" NPT F	Aluminium	<b>C3</b>
1/2" NPT F	Aluminium	<b>C4</b>
M20 x 1.5	SS 316	<b>C8</b>
Other/ Specials	Aluminium	<b>CX</b>
	SS 316	<b>CX</b>

## 2 Selection of range code, see front page.

## 3 Selection of process connection.

Size:	Material:	Code:
1/4" NPT F	SS 316 *	<b>S1N</b>
1/4" BSP F	SS 316 *	<b>S1B</b>
1/4" NPT F	Aluminium **	<b>A1N</b>
1/4" BSP F	Aluminium **	<b>A1B</b>
1/2" NPT M	SS 316	<b>S7N</b>
* <b>Only for D..H, D..D and D..M available</b>		
** <b>D.. L: A1N or A1B For low side only. High side: Only "L"-sensor connection</b>		
<b>Proces connection according to NACE standard are available. Consult your local BETA Switch Representative.</b>		

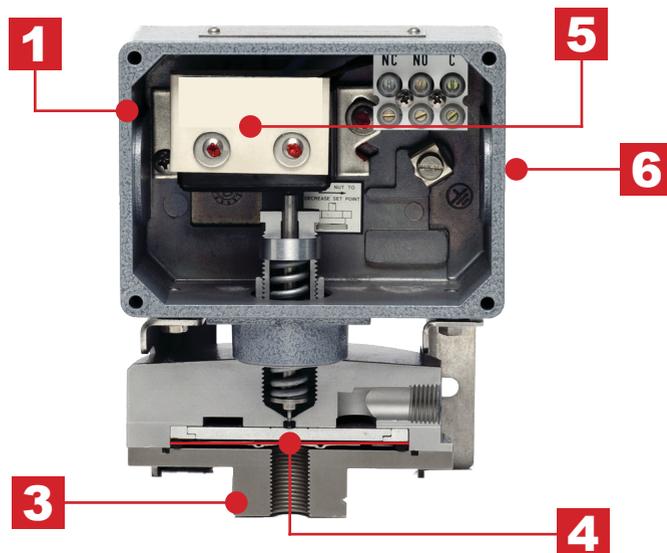
## 4 Selection of wetted parts.

Diaphragm:	O-ring: *	Code:
Buna N	Buna N	<b>B1</b>
PTFE	Buna N	<b>P1</b> **
SS 316	Buna N	<b>S1</b>
SS 316	Viton	<b>S2</b>
SS 316	Teflon	<b>S4</b>
SS 316	EPDM	<b>S6</b> **
SS 316	Welded	<b>S0</b> **

\*\* Not possible for D..H. (P1 = Standard for D..H)

### \* WETTED PARTS ARE NOT GUARANTEED,

against corrosion or permeation since processes vary from plant to plant and concentration of harmful fluids, gasses or solids vary from time to time in a given process. Empirical experience by users should be the final guide and alternate materials based on this are generally available. The diaphragm / O-Ring combinations are for process temperatures of -5°C to +90°C, unless otherwise indicated. For process temperatures beyond these limits please contact your BETA Switch Representative.



## 5 Selection of microswitches.

Rating:		Use:	Switch Code: <sup>1)</sup>
VAC.	VDC. <sup>3)</sup>		
480/ 15A	28/ 0.5A	<b>Standard</b>	<b>K1</b> <sup>2)</sup>
480/ 10A	28/ 0.5A	Standaard for L-serie	<b>L1</b> <sup>2)</sup>
480/ 15A	125/ 0.5A	Normal DC-service	<b>U1</b>
125/ 1A	28/ 0.5A	For use in <sup>3)</sup> H <sub>2</sub> S environment and/or for Ex ia / Ex ib applications.	<b>G1</b>
250/ 0.1A	30/ 0.1A	Environmental proof (IP 67)	<b>Y1</b> **
250/ 0.1A	30/ 0.1A		<b>O1</b>
250/ 2A	30/ 2A		<b>N1</b>

1) For D.P.D.T action, second code figure should be specified as "2"

**For example: K1 = S.P.D.T./ K2 = D.P.D.T**

2) VDE certified acc. to DIN EN 61 058-1:1992+A1:1993.

3) Indicated ratings are for resistive DC load only.

\*\* DC Rating not U.L. listed, although experience and third party testing confirm the D.C Voltage ratings. Consult your local BETA switch Representative.

## 6 Selection of options.

Description:	Option code:
Cable gland	<b>C</b>
For Ex i applications	<b>I</b>
Stainless steel tag key ringed to enclosure (Tag has 2 lines - 16 characters per line)	<b>S</b>
Vacuum Protection Plate	<b>M</b> <sup>1)</sup>

1) Standard for D..L sensor.

### Accessoires:

2" Pipe mount bracket set available.

**Contents :**  
2 x bolts M6 x 100 mm + washer & nut  
Size: +/- 1.5 mm. - Material: SS 304.