



W-Series

DIFFERENTIAL

Short Form Data Sheet

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 conetion:
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!**

Do you want to know more:

Please contact your local dealer
and ask for the General Bulletin.
Or contact us directly!



RANGES for Differential switches

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

NOTES:

- 1) 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.
- 2) Range only with L1 micro switch.
- 3) D...L can withstand a differential pressure P-low max. 1 bar above P-High.
- 4) 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 |
|--------|----------------|------------------|
| D...L | - 0.7 mBar/Bar | = - 0.1 mBar/Bar |
| D...M | = + 3 mBar/Bar | + 10 mBar/Bar |
| D...H | - 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 x - 2 mbar) = - 20 mbar less = 980 mbar.

NOTE: For differential application outside above ranges consult your BETA Switch Representative.

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More Short Form Data Sheets on Pressure, Vacuum and Temperature Switches are available.

For extended selection and/ or specified technical information, please ask for the "BETA User Friendly" Catalogue.

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Making the modelcode: Follow steps 1 to 5

1 Selection of enclosure type.

| Conduit | Material | Enclosure code |
|------------|-----------|----------------|
| 3/4" NPT F | Aluminium | W3 |
| M20x1.5 | SS 316 | W8 |
| 3/4" NPT F | SS 316 | W9 |

2 Selection of range code, see front page

3 Selection of process connection.

| Size | Material | Code |
|------------|--------------|------------|
| 1/4" NPT F | SS316 * | S1N |
| 1/4" BSP F | SS316 * | S1B |
| 1/4" NPT F | Aluminium ** | A1N |
| 1/4" BSP F | Aluminium ** | A1B |
| 1/2" NPT M | SS316 | S7N |

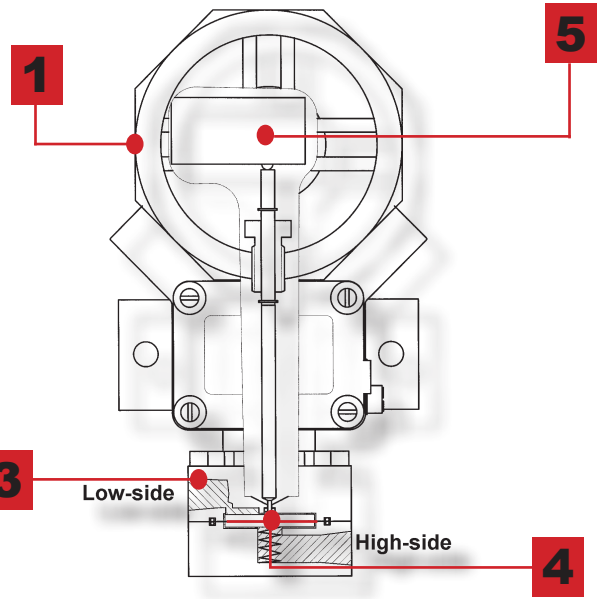
* Only for D..H, D..D and D..M available
 ** D.. L: A1N or A1B For low side only.
 High side: Only "L"-sensor connection
 Proces connection according to NACE standard are available.
 Consult your local BETA Switch Representative.

4 Selection of wetted parts*

| Diaphragm | O-ring | Code |
|-----------|--------|--------------|
| Buna N | Buna N | B1 ** |
| Viton | Viton | V2 ** |
| SS316 | Buna N | S1 |
| SS316 | Viton | S2 |
| SS316 | Teflon | S4 ** |
| SS316 | EPDM | S6 |
| SS316 | Welded | S0 ** |

** 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: |
|-----------|--------------------|---|--------------------------------------|
| VAC. | VDC. ³⁾ | | |
| 480/ 15A | 28/ 0.5A | Standard | K1 ²⁾ |
| 480/ 10A | 28/ 0.5A | Standaard for L-serie | L1 ²⁾ |
| 480/ 15A | 125/ 0.5A | Normal DC-service | U1 ₁) ²⁾ |
| 125/ 1A | 28/ 0.5A | For use in H ₂ S environment and/or for (EEx)i applications. ³⁾ | G1 ** Y1 ¹⁾ |
| 250/ 0.1A | 30/ 0.1A | Environmental proof(IP 67) | O1 ¹⁾ N1 ¹⁾ |
| 250/ 2A | 30/ 2A | | |

1) For D.P.D.T action, second code figure should be specified as "2"
 For example: Y1 = S.P.D.T./ Y2 = 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 | C |
| Vacuum Protection Plate | M * |
| Stainless steel tag key ringed to enclosure (Tag has 2 lines - 16 characters per line) | S |

* Not possible for D..H. (Standard for D..L)

Accessoires:

2" Pipe mount bracket set available.

Contents :

2 x bolts M6 x 100 mm + washer + nut
 Size +/- 1,5 mm / Material SS 304