

# Metal Diaphragm Switches

**D1X/D2X**

Mechanical single/dual pressure switch  
Repeatability  $\pm 1.0$  % at constant temperature

## Features

- ▶ Metal diaphragm pressure switch
- ▶ Wetted parts welded
- ▶ Direct action, no friction, high accuracy
- ▶ Approvals: Ex ia, Ex d, UL, SIL2/3 (IEC 61508)

## Adjustment ranges

0.012 ... 10.3 bar and  
-0.006 ... -1 bar (Vacuum)

## Applications

Petrochemical industry,  
Process technology



## Technical Data

<b>Wetted parts:</b>	Stainless steel 17 - 7PH/SS304
<b>Repeatability:</b>	$\pm 1$ % at constant temperature
<b>Switching rate:</b>	max. 20/min
<b>Temperature range:</b>	-40 °C... +75 °C
<b>Protection class:</b>	IP65
<b>Housing:</b>	Explosion proof housing, aluminum anodized and lacquered
<b>Process connection:</b>	1/4" NPT female thread Optional: 1/2" NPT female thread (P2)
<b>Electrical connection:</b>	Internal terminal strip (0.5 - 2.5 mm <sup>2</sup> ), approved cable gland has to be provided by the customer
<b>Electrical ratings and hysteresis:</b>	A large variety of micro switches offers different electrical ratings and hysteresis for many applications.

<b>Weight</b>	D1X-....: approx. 2.7 kg D2X-....: approx. 2.8 kg
<b>Set point adjustment:</b>	Turn the adjustment screw clockwise to decrease the set point
<b>Intrinsically safe:</b>	The switches are designed for intrinsically safe applications. Please add "Exi" to your ordering details when placing an order. To comply with the intrinsically safe approval following max. ratings must not be exceeded: U <sub>max</sub> = 28 V I <sub>max</sub> = 50 mA
<b>Approval:</b>	Ex: Ex d II C T6 acc. to ATEX cULus: Class I, Groups B, C, D Class II, Groups E, F, G  acc. to Underwriter Laboratories Inc. and Canadian Standard Assn.

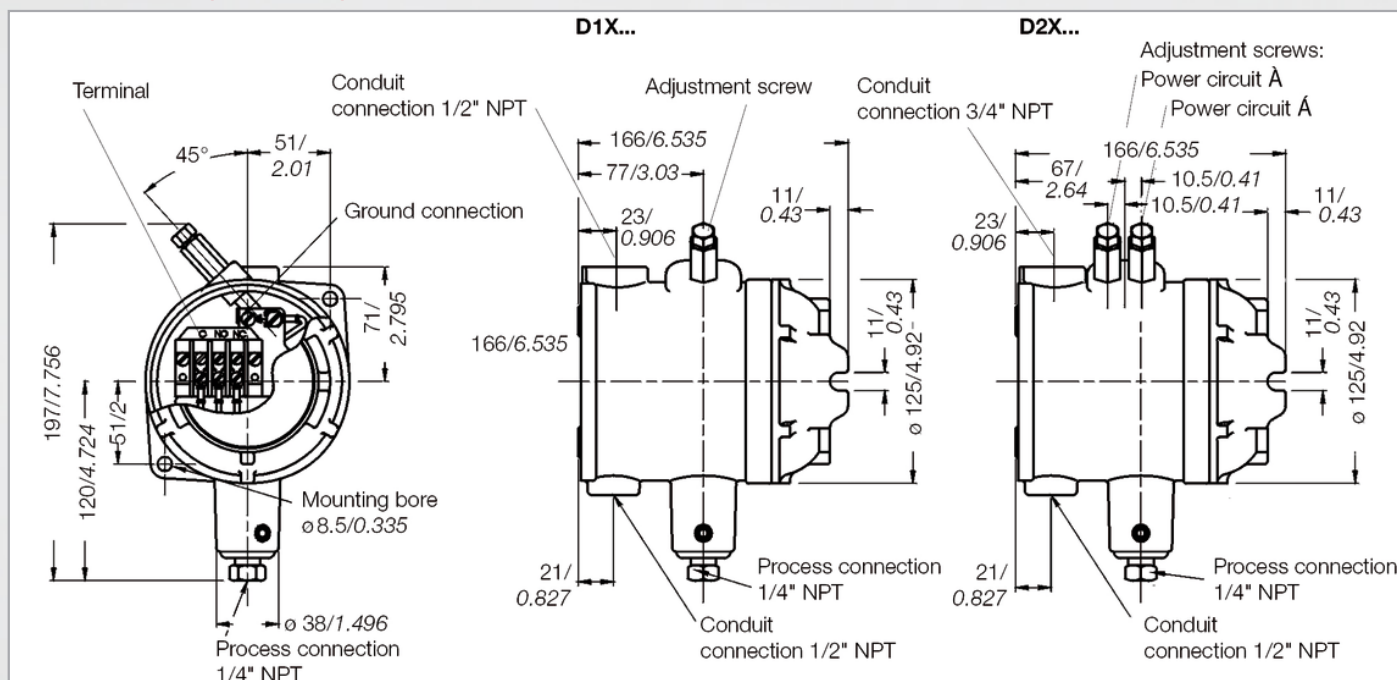
## Pressure Ranges

Pressure range code	Adjustment range [bar]		Max. operating pressure [bar]	Proof pressure [bar]	Max. hysteresis of switch types in bar (end of range)	
	Increasing press.	Decreasing press.		(short term)	H, GH [bar]	M, GM [bar]
Overpressure						
3SS	0.012 ... 0.2	0.002 ... 0.196	0.5	0.7	0.004	0.010
18SS	0.050 ... 1.2	0.030 ... 1.2	3.0	4.0	0.010	0.040
80SS	0.300 ... 5.5	0.030 ... 5.3	8.0	10.7	0.100	0.220
150SS	0.500 ... 10.3	0.100 ... 9.9	15.0	20.0	0.180	0.400
Vacuum						
3SS	-0.006 ... -0.2	-0.002 ... -0.196	0.15	0.2	0.004	0.009
18SS	-0.040 ... -1.0	-0.020 ... -0.970	0.5	1.0	0.020	0.060

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### Dimensions (mm / inch)



## Approvals

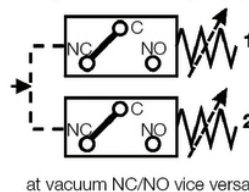
EX	Ex d approval
UL	cULus approval
EXI	Ex i approval

## Options

P2 = 1/2" NPT F SS Process connection

## Wiring Code 1

**Wiring code for all types (contact status at atmospheric pressure)**



Power circuit 1	Power circuit 2
C=purple	C=brown
NC=blue	NC=orange
NO=red	NO=black

## Electrical Ratings

Micro switch	Special features	Volt AC 50/60 Hz	Ind. load A	Res. load A	Volt DC	Ind. load A	Res. load A	Comments
H	Micro switch with silver contacts	125 250 480*	10 10 3	10 10 3	6 to 24	0.50	0.5	Small hysteresis; High AC / low DC loads
M	Micro switch with silver contacts	125 250 480*	10 10 3	10 10 3	12 24 250	5.00 1.00 0.25	15.0 2.0 0.4	Medium hysteresis; High AC and DC loads
GH	Micro switch with gold-plated contacts for low voltage and/or low current	125	1	1	24	1.00	1.00	Small hysteresis
GM		30	0.1	0.1	30	0.10	0.1	Medium hysteresis

**Order Code**

### Example for order number

Type				Micro switch		Pressure range		Options		Approval
D1X	or	D2X	-	H		3SS	-	P2	-	EX

**Your order number**

Type	or	Micro switch	Pressure range	Options	Approval