

# DS05

## Variable Area Flowmeter And Switch, Mounting Independent

- any mounting position without recalibration
- small mounting dimensions
- materials brass or stainless steel
- high switching accuracy
- very small switch hysteresis
- measuring glass with burnt-in scale



### Description:

The flowmeter and switch model DS05 works according to a modified variable area principle.

The float is guided in a cylindrical measuring glass by means of a spring. The flowing medium moves the float in the flow direction. The upper edge of the float shows the momentary flow via a burnt-in scale on the measuring glass. A Reed contact is mounted outside the meter in a sealed housing. When the float reaches the position of the Reed contact the switch will close. With higher flows the float moves further upward until it reaches a built-in float stop, still keeping the switch closed. This ensures a bistable switch function at any time.

The Reed contact is adjustable over the full switching range of the meter.

### Mounting Position and Reliability:

The built-in spring and the magnetic float guarantee an absolute reliability of the meter. This spring, which pushes the float back towards its zero position against the flow makes it possible to use the meter in any mounting position. The spring is artificially aged, thus eliminating the need for recalibration to the different mounting positions.

### Application:

The variable area flowmeter and switch model DS05 is used for measuring and monitoring the flow of low viscosity liquids, i. e. in cooling circuits of welding machines and laser systems, for pump monitoring, compressors and many other applications.

## Measuring Ranges:

3.0-63 GPH ... 9.0-66 GPM water  
0.2 - 4 l/min ... 35 - 250 l/min water

**Materials:** brass or stainless steel

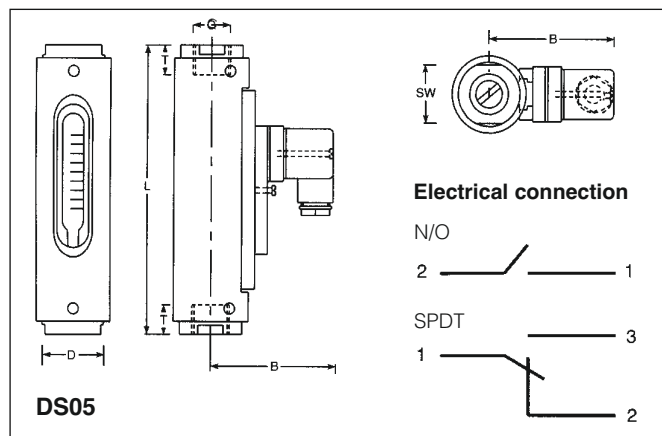
### Contacts:

N/O: 250 V, 3 A, 100 VA  
SPDT : 250 V, 1.5 A, 30 VA  
Ex-N/O\* : 250 V, 2 A, 60 VA  
Ex-SPDT\*: 250 V, 1 A, 30 VA

\* according to Atex 100a Ex II 2 G, EEx m II T6

## Dimensions:

Model	Mounting dimensions in inch / mm						Weight (lbs / g)
	SW	D	B	NPT / G	T	L	
DS05.1.x.x.x	1.26 / 32	1.69 / 43	2.87 / 73	1/4"	0.55 / 14	5.20 / 132	1.38 / 625
DS05.2.x.x.x	1.26 / 32	1.69 / 43	2.87 / 73	1/2"	0.59 / 15	5.31 / 135	1.38 / 625
DS05.2.x.x.05	1.26 / 32	1.69 / 43	2.87 / 73	1/2"	0.59 / 15	6.42 / 163	1.43 / 650
DS05.3.x.x.06	1.26 / 32	1.69 / 43	2.87 / 73	3/4"	0.71 / 18	6.57 / 167	1.87 / 850
DS05.3.x.x.07	1.61 / 41	1.97 / 50	2.99 / 76	3/4"	0.71 / 18	5.98 / 152	2.20 / 1000
DS05.4.x.x.07	1.61 / 41	1.97 / 50	2.99 / 76	1"	0.75 / 19	6.14 / 156	2.20 / 1000
DS05.4.x.x.08/09	1.61 / 41	1.97 / 50	2.99 / 76	1"	0.75 / 19	7.48 / 190	2.20 / 1000
DS05.5.x.x.10	1.81 / 46	2.36 / 60	3.19 / 81	1 1/4"	0.83 / 21	8.27 / 210	3.08 / 1400
DS05.5.x.x.11	1.81 / 46	2.17 / 55	3.11 / 79	1 1/4"	0.83 / 21	8.74 / 222	3.08 / 1400



## Technical Specifications:

**max. pressure:** 145 psi / 10 bar

**pressure drop:** 0.15-11.6 psi / 0.01-0.8 bar

**max. temperature:** 212 °F / 100 °C  
(320 °F / 160 °C on request)

**materials:** Measuring glass: Duran 50  
Housing: anodized aluminium  
O-rings: Buna  
(optionally: Viton, EPDM)

**electr. connection:** plug acc. to DIN 43650  
(optionally: 1 m cable connection)

**accuracy:** ± 5% f. s.

**analog output:** see model DSxx-A  
in section "accessory"

## Ordering Code:

**Order number:** DS05. 3. 1. 1. 06. 1. 1. 0

### Variable area flowmeter and switch

#### Connection:

1N = 1/4" NPT female      1 = G 1/4 female  
2N = 1/2" NPT female      2 = G 1/2 female  
3N = 3/4" NPT female      3 = G 3/4 female  
4N = 1" NPT female      4 = G 1 female  
5N = 1 1/4" NPT female      5 = G 1 1/4 female

#### Material:

1 = brass, spring of steel 1.4310  
2 = all st. steel 1.4571

#### Scale:

1 = for water

### Measuring ranges (water):

#### DS05.1 and DS05.2:

01U = 3.0 - 63 GPH      01 = 0.2 - 4 l/min  
02U = 8.0 - 95 GPH      02 = 0.5 - 6 l/min  
03U = 8.0 - 127 GPH      03 = 0.5 - 8 l/min  
04U = 8.0 - 222 GPH      04 = 0.5 - 14 l/min

#### DS05.2 only:

05AU = 32 - 350 GPH      05A = 2 - 22 l/min  
05U = 16 - 444 GPH      05 = 1 - 28 l/min

#### DS05.3 only:

06U = 40 - 710 GPH      06 = 2 - 45 l/min

#### DS05.3 and DS05.4:

07U = 0.5 - 21 GPM      07 = 2 - 80 l/min  
07AU = 1.6 - 23.8 GPM      07A = 6 - 90 l/min.

#### DS05.4 only:

08U = 1.6 - 29 GPM      08 = 6 - 110 l/min

#### DS05.5 only:

09U = 4 - 39.5 GPM      09 = 15 - 150 l/min  
10U = 8 - 58 GPM      10 = 30 - 220 l/min  
11U = 9 - 66 GPM      11 = 35 - 250 l/min

### No. of contacts:

0 = without contact  
1 = 1 contact  
2 = 2 contacts

### Contact function:

0 = without contact  
1 = N/O  
2X = SPDT for SPS application  
3S = Ex-N/O (EEx m II T6)  
3U = Ex-SPDT (EEx m II T6)

### Options:

0 = without  
1 = please indicate