MASTERPIECES
MADE IN GERMANY

Flow Monitor & Flow Indicator

DUG

OVERVIEW

Operation

– Float measuring principle

Application

– Cooling systems and cooling circuits
– Mechanical engineering
– Medical engineering
– Pharmaceutical industry
– Chemical industry
– Research & Development

Features

– Universal orientation
– High reliability
– High switch accuracy
– Wide switch range
– Infinitely variable switch point adjustment by operator
– EX-version according to ATEX directive available
– UL Recognized version available
– Scales are burned onto the sight glass
– Threaded connection, special thread on request

Installation information

– The operating instructions for DUG Module BASICS / ...ATEX must be observed!
– **Download: www.meister-flow.com**

DUG 1 0006 12-15 E M

OPERATING DATA

Operating pressure, max.	10 bar
Pressure drop	0,02 – 0,8 bar
Temperature, max.	100 °C (optional 160 °C)
Measuring accuracy	±5 % of full scale

Changed operating data apply to the devices in explosion-proof design according to ATEX directive. Refer to the Operating Instructions for DUG Module ATEX.

For UL Recognized devices, changed operating data apply. Refer to the Operating Instructions for DUG Module BASICS.

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MEASURING RANGES

Type	**Switch range for H_2O at 20 °C** [1]		
	l/min	**gph**	**gpm**
DUG-4	0,2 – 4	3 – 63	
DUG-6	0,5 – 6	8 – 95	
DUG-8	0,5 – 8	8 – 127	
DUG-14	0,5 – 14	8 – 222	
DUG-22	2 – 22	32 – 350	
DUG-28	1 – 28	16 – 444	
DUG-45	1 – 45	15 – 710	
DUG-80	2 – 80		0,5 – 21
DUG-90	6 – 90		1,6 – 23,8
DUG-110	6 – 110		1,6 – 29
DUG-150	15 – 150		4 – 39,5
DUG-250	50 – 250		13 – 66

[1] The specified measuring- / switch ranges are valid for water having a density of 1.00 kg/dm³, vertical installation of the device and flow direction from bottom to top.
Other installation positions or deviation from the operating densities will increase the measurement error specified in the data sheet.
Operating density for water at 20 °C and 1.013 bar (absolute value): 1.00 kg/dm³.
Upon request, special scales for deviating media, different operating conditions and installation positions (only for devices which can be installed in any position) are available.
The specified switch values are switch-off points, i.e. switch values by decreasing flow.
Other measuring- /switch ranges are available upon request.

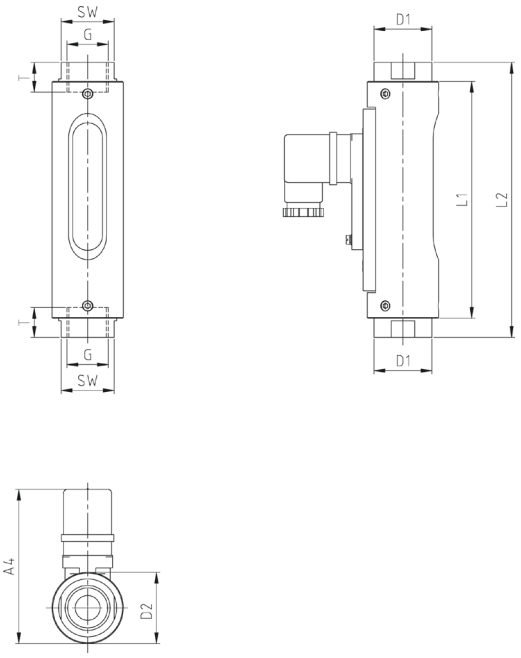
MATERIALS

Brass version, wetted parts	
Spring:	1.4571
Sight glass:	DURAN® 50
Gaskets:	NBR (optional FKM, EPDM) [2]
all other wetted parts:	Brass, nickel-plated
Brass version, non-wetted parts	
Device housing:	Aluminium, anodized

Stainless steel version, wetted parts	
Spring:	1.4571
Sight glass:	DURAN® 50
Gaskets:	FKM (optional NBR, EPDM) [2]
all other wetted parts	1.4571
Stainless steel version, non-wetted parts	
Device housing:	Aluminium, anodized

[2] Other gasket materials on request

TECHNICAL DRAWING



SUMMARY OF TYPES

Type	Overall dimensions [mm]											Weight approx.
	G	DN	SW	L1	L2	T	D1	D2	A1	A2	A3	A4	[g]
DUG-4													625
DUG-6	1/4"	8	32	121	132	10	35	43	–	–	–	~96	625
	3/8"	10	32	121	135	11	35	43	–	–	–	~96	
DUG-8	1/2"	15	32	121	135	14	35	43	–	–	–	~96	625
DUG-14													625
DUG-22	1/2"	15	32	121	135	14	35	43	–	–	–	~96	650
DUG-28	1/2"	15	32	121	135	14	35	43	–	–	–	~96	650
DUG-45	1/2"	15	32	143	161	14	35	43	–	–	–	~96	850
	3/4"	20	32	143	166	15	35	43	–	–	–	~96	850
DUG-80	3/4"	20	41	143	163	15 [(3)]	45	50	–	–	–	~104	1000
	1"	25	41	143	181	17	45	50	–	–	–	~104	1000
DUG-90	3/4"	20	41	143	163	15	45	50	–	–	–	~104	1000
	1"	25	41	143	181	17	45	50	–	–	–	~104	1000
DUG-110	1"	25	41	143	181	17	45	50	–	–	–	~104	1000
DUG-150	1 1/4"	32	50	174	222	20	55	55	–	–	–	~109	1300
DUG-250	1 1/4"	32	50	174	222	20	55	55	–	–	–	~109	1400

[(3)] 14 mm in NPT version

ELECTRICAL DATA

Change over (COC)	250V · 1,5A · 50VA [4]
Normally open (NOC)	250V · 3A · 100VA
Change over M12x1 (-20 °C – 85 °C)	250V · 1,5A · 50VA [4]
Normally open M12x1 (-20 °C – 85 °C)	250V · 3A · 100VA
Change over PLC	250V · 1A · 60VA

EX-version in compliance with ATEX directive	
ATEX II 2 G Ex mb IIC T6 Gb & ATEX II 2 D tb IIIC T80 °C Db	
ATEX II 2 G Ex mb IIC T5 Gb & ATEX II 2 D tb IIIC T100 °C Db	
Change over	250V · 1A · 30VA [4]
Normally open	250V · 2A · 60VA

UL Recognized switch contacts	
Change over	240V · 1,5A · 50VA [4]
Normally open	250V · 3A · 100VA

[4] Minimum load 3VA

ELECTRICAL CONNECTION

- Connector in compliance with EN 175301-803, Form A (DIN 43650, Form A)
- Connector M12x1
- Cable (1 m)

EX-version in compliance with ATEX directive

- Cable (2 m)

UL Recognized switch contacts

- Connector in compliance with EN 175301-803, Form A
- Cable (1 m)

Ingress Protection

IP65: Connector in compliance with EN 175301-803, Form A
IP67: Cable or connector M12x1

Output signal

The contact opens / changes when the flow decreases below the set point.

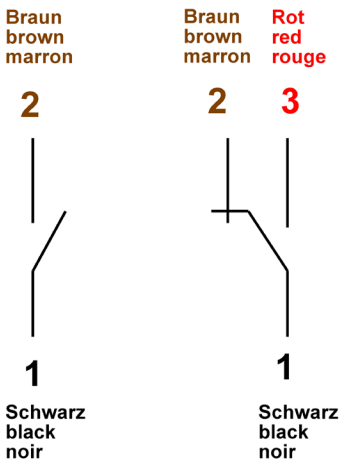
Power supply

Not required (potential-free reed contacts)

Connector types

Other connector types or cable lengths on request

CONNECTION DIAGRAM



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