

## Flow Monitor & Flow Indicator

# DKM/A-1



## OVERVIEW

### Operation

- Float measuring principle

### Application

- Mechanical engineering
- Central lubrication
- Circulation lubrication
- Transformers

### Features

- Universal orientation
- High reliability
- High switch accuracy
- Viscosity compensated
- Infinitely variable switch point adjustment by operator
- EX-version according to ATEX directive available
- UL Recognized version available
- High pressure resistance
- Threaded connection, special thread on request

## ■ OPERATING DATA

|                                 |                                   |
|---------------------------------|-----------------------------------|
| <b>Operating pressure, max.</b> | 250 bar (Brass version)           |
|                                 | 300 bar (Stainless steel version) |
| <b>Pressure drop</b>            | 0,02 – 0,4 bar                    |
| <b>Viscosity range</b>          | 30 cSt to 600 cSt                 |
| <b>Temperature, max.</b>        | 120 °C (optional 160 °C)          |
| <b>Measuring accuracy</b>       | ±10 % of full scale               |

Changed operating data apply to the device in explosion-proof design according to ATEX directive. Refer to the Operating Instructions for DKM/A-1 Module ATEX.

For UL Recognized devices, changed operating data apply. Refer to the Operating Instructions for DKM/A-1 Module BASICS

## ■ MEASURING RANGES

| Type        | Switch range for Oil, density 0,9 kg/dm <sup>3</sup> <sup>(1)</sup> |           |        |
|-------------|---------------------------------------------------------------------|-----------|--------|
|             | l/min                                                               | gph       | gpm    |
| DKM/A-1/2   | 0,5 – 1,5                                                           | 8 – 24    |        |
| DKM/A-1/4   | 1 – 4                                                               | 16 – 63   |        |
| DKM/A-1/8   | 2 – 8                                                               | 32 – 127  |        |
| DKM/A-1/10  | 3 – 10                                                              | 48 – 160  |        |
| DKM/A-1/15  | 5 – 15                                                              | 80 – 240  |        |
| DKM/A-1/24  | 8 – 24                                                              | 125 – 380 |        |
| DKM/A-1/30  | 10 – 30                                                             | 160 – 480 |        |
| DKM/A-1/45  | 15 – 45                                                             | 240 – 710 |        |
| DKM/A-1/60  | 20 – 60                                                             | 320 – 950 |        |
| DKM/A-1/90  | 30 – 90                                                             |           | 8 – 24 |
| DKM/A-1/110 | 34 – 110                                                            |           | 9 – 29 |

<sup>(1)</sup> The specified measuring- /switch ranges are valid for oils having a density of 0.9 kg/dm<sup>3</sup> and a kinematic viscosity of 30 to 600 cSt, vertical installation of the device and flow direction from bottom to top.

Other installation positions or deviation from the operating densities and operating viscosities will increase the measurement error specified in the data sheet. Excessive operating viscosities will influence or may prevent function of the device.

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.

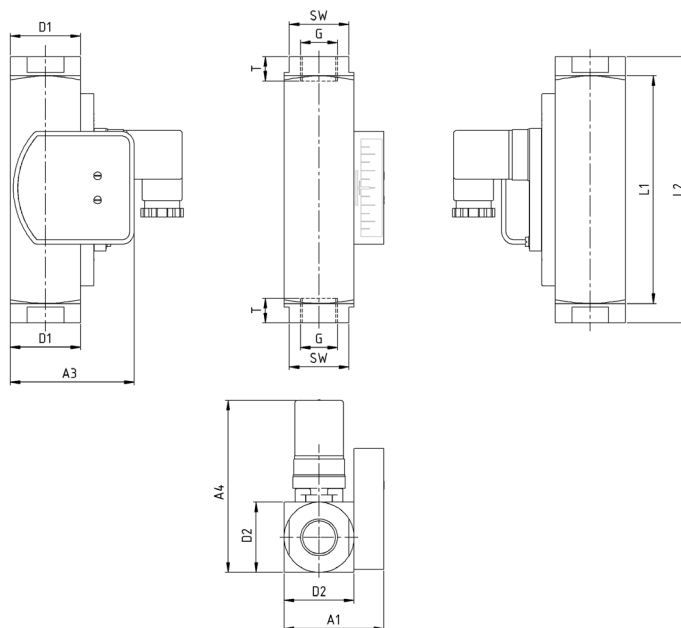
## ■ MATERIALS

| Brass version, wetted parts     |                                         |
|---------------------------------|-----------------------------------------|
| Spring:                         | 1.4571                                  |
| Gaskets:                        | FKM (optional NBR, EPDM) <sup>(2)</sup> |
| Magnets:                        | Hard ferrite                            |
| Device body:                    | Brass, nickel-plated                    |
| all other wetted parts:         | Brass                                   |
| Brass version, non-wetted parts |                                         |
| Display:                        | Makrolon® / 1.4301                      |

| Stainless steel version, wetted parts     |                                         |
|-------------------------------------------|-----------------------------------------|
| Spring:                                   | 1.4571                                  |
| Gaskets:                                  | FKM (optional NBR, EPDM) <sup>(2)</sup> |
| Magnets:                                  | Hard ferrite                            |
| Device body:                              | 1.4571                                  |
| all other wetted parts:                   | 1.4571                                  |
| Stainless steel version, non-wetted parts |                                         |
| Display:                                  | Makrolon® / 1.4301                      |

<sup>(2)</sup> Other gasket materials on request

## ■ TECHNICAL DRAWING



## ■ SUMMARY OF TYPES

| Type                   | Overall dimensions [mm] |    |    |     |     |    |    |    |    |    |      |     | Weight approx.<br>[g] |
|------------------------|-------------------------|----|----|-----|-----|----|----|----|----|----|------|-----|-----------------------|
|                        | G                       | DN | SW | L1  | L2  | T  | D1 | D2 | A1 | A2 | A3   | A4  |                       |
| DKM/A-1/2<br>DKM/A-1/4 | 1/4"                    | 8  | 34 | 130 | 152 | 10 | 40 | 40 | 57 | –  | 70,5 | ~98 | 1550                  |
|                        | 1/2"                    | 15 | 34 | 130 | 152 | 14 | 40 | 40 | 57 | –  | 70,5 | ~98 | 1475                  |
|                        | 3/4"                    | 20 | 34 | 130 | 152 | 15 | 40 | 40 | 57 | –  | 70,5 | ~98 | 1390                  |
|                        | 1"                      | 25 | 40 | 130 | 130 | 17 | 40 | 40 | 57 | –  | 70,5 | ~98 | 1210                  |
| DKM/A-1/8              |                         |    |    |     |     |    |    |    |    |    |      |     |                       |
| DKM/A-1/10             | 1/2"                    | 15 | 34 | 130 | 152 | 14 | 40 | 40 | 57 | –  | 70,5 | ~98 | 1475                  |
|                        | 3/4"                    | 20 | 34 | 130 | 152 | 15 | 40 | 40 | 57 | –  | 70,5 | ~98 | 1390                  |
| DKM/A-1/15             | 1"                      | 25 | 40 | 130 | 130 | 17 | 40 | 40 | 57 | –  | 70,5 | ~98 | 1210                  |
| DKM/A-1/24             |                         |    |    |     |     |    |    |    |    |    |      |     |                       |
| DKM/A-1/30             |                         |    |    |     |     |    |    |    |    |    |      |     |                       |
| DKM/A-1/45             | 3/4"                    | 20 | 34 | 130 | 152 | 15 | 40 | 40 | 57 | –  | 70,5 | ~98 | 1390                  |
|                        | 1"                      | 25 | 40 | 130 | 130 | 17 | 40 | 40 | 57 | –  | 70,5 | ~98 | 1210                  |
| DKM/A-1/60             |                         |    |    |     |     |    |    |    |    |    |      |     |                       |
| DKM/A-1/90             |                         |    |    |     |     |    |    |    |    |    |      |     |                       |
| DKM/A-1/110            | 1"                      | 25 | 40 | 130 | 130 | 17 | 40 | 40 | 57 | –  | 70,5 | ~98 | 1210                  |

## ELECTRICAL DATA

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| <b>Change over (COC)</b>                    | 250V · 1,5A · 50VA <sup>(3)</sup> |
| <b>Normally open (NOC)</b>                  | 250V · 3A · 100VA                 |
| <b>Change over M12x1 (-20 °C – 85 °C)</b>   | 250V · 1,5A · 50VA <sup>(3)</sup> |
| <b>Normally open M12x1 (-20 °C – 85 °C)</b> | 250V · 3A · 100VA                 |
| <b>Change over PLC</b>                      | 250V · 1A · 60VA                  |

### EX-version in compliance with ATEX directive

**ATEX II 2 G Ex mb IIC T6 Gb & ATEX II 2 D Ex tb IIIC T80 °C Db**  
**ATEX II 2 G Ex mb IIC T5 Gb & ATEX II 2 D Ex tb IIIC T100 °C Db**

|                      |                                 |
|----------------------|---------------------------------|
| <b>Change over</b>   | 250V · 1A · 30VA <sup>(3)</sup> |
| <b>Normally open</b> | 250V · 2A · 60VA                |

### UL Recognized switch contacts

|                      |                                   |
|----------------------|-----------------------------------|
| <b>Change over</b>   | 240V · 1,5A · 50VA <sup>(3)</sup> |
| <b>Normally open</b> | 250V · 3A · 100VA                 |

<sup>(3)</sup> 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

