# FLOW SWITCH AND INDICATOR OF100 SERIES

## Technical Data

**Piston type for high viscosity**
**Fluid:** Water, oil, other liquid available; Gases
**Flow Range:** 15~24,000 l/h (at Water) ; 0.4~600 Nm³/h (at Air)
**Accuracy:** ±3% F.S, On request: ±2.5% F.S
**Size:** ¼" to 2½"
**Connetion Type:** NPT, Flange type on request
**Working Limits:** Temperature: -40°C to +180°C
**Working Pressure:** 30 kg/cm²
Option–100 kg/cm² for 1" or less
Option–200 kg/cm² for 1½" or bigger
**Protection Class:** IP65, Explosion proof
**Housing Material:** NS, CS, MS type– Aluminum Alloy
ES type– SS316
**Lens Material:** Safety glass
**Mounting:** Veritcal, Horizontal available
**Material:** Wetted parts SS316; Teflon lining float for Gases application
**Alarm Switch:** Micro switch, Inductive switch available

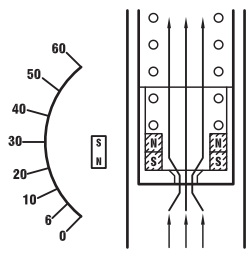

NS Type (Indicating only)


CS Type (With inductive switch)


ES Type (Indicating only)

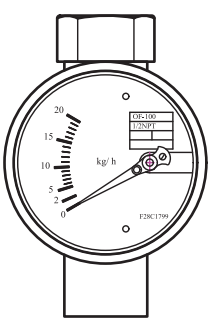

MS Type (With micro or reed switch)

## Principle

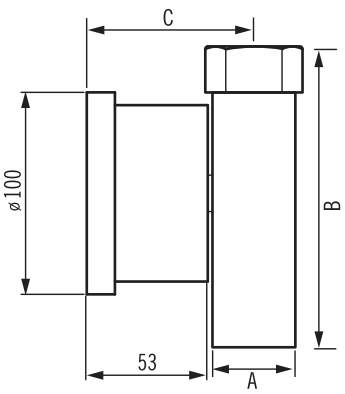


## Dimensions

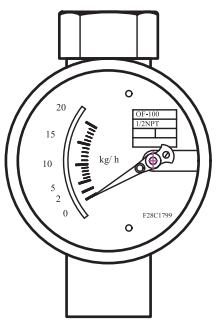
### IP65

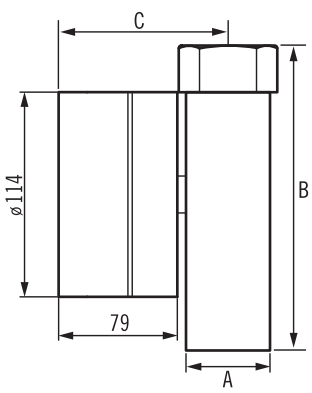


### ES Type



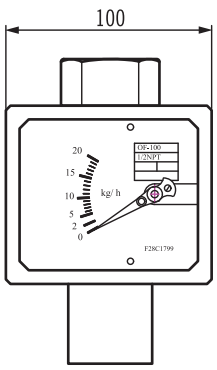

### MS Type

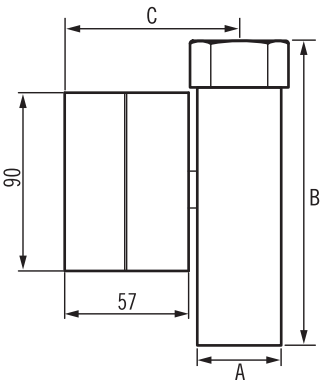




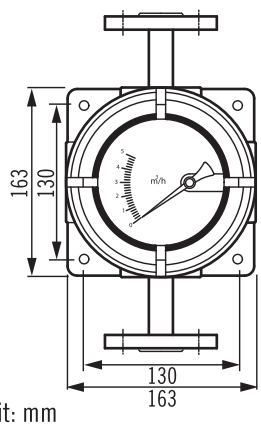

unit: mm

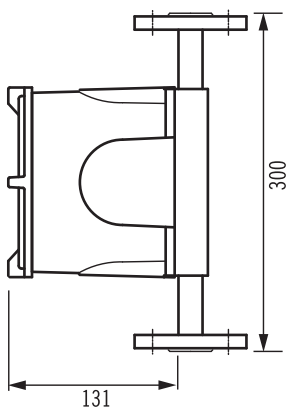
### IP65 CS, NS TYPE




### Explosion Proof

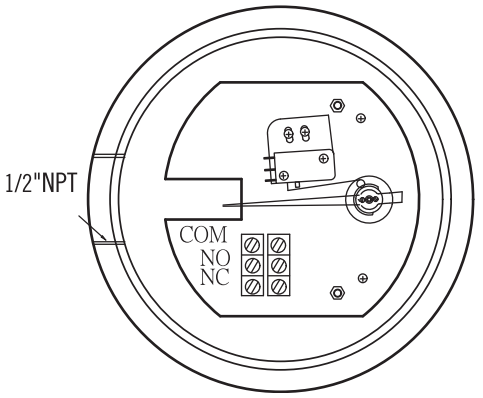



unit: mm

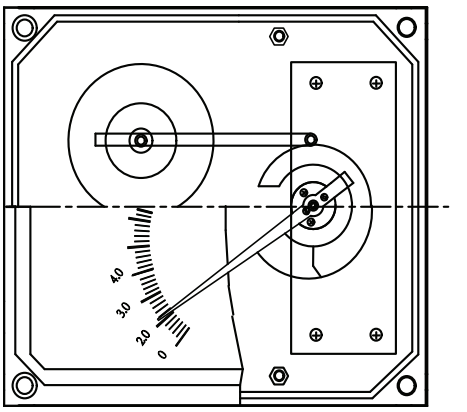
## Alarm / Analog output

### OF100–MS (Micro Switch)



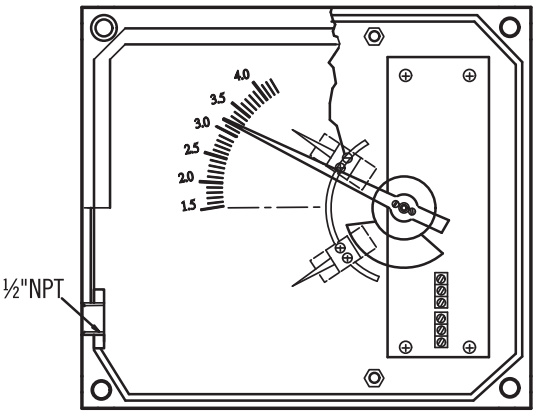

**Adjustable Micro Switch, Series OF100-MS**
**1 adjustable alarm contact**
**Load:** 5A/250VAC/125VAC/30VDC
**Temperature:** -25°C ~ +100°C (AMB)
**Hysteresis:** ±10% of full scale

### OF100/GT (Analog Output)




**Electric Transmitter OF100/GT**
**Analog output available:** 4~20mA (2 wire)
**No Alarm Switch Available**
Effective range within 20% to 100%
**Power supplier:** 24V dc
**Temperature:** +25°C ~ +100°C (AMB)

### OF100–CS (Inductive Switch)




**Adjustable inductive alarm switch**
**Inductive sensors slotted type:**
**3.5mm slot switch**
**DC. voltage 2 wire's to DIN19234 (NAMUR) for use in hazardous areas.**
– Power supply: 8 Vdc (Ri.approx. 1kΩ)
– Current consumption: Active face uncoved 3mA
Active face coved 1mA
– Ambient temp: -25°C ~ +100°C

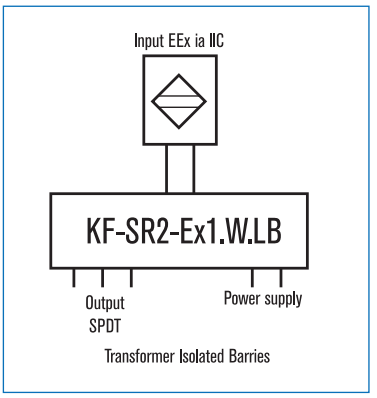
**Isolated barriers output relay for inductive sensor:**
– Rail mounting
– Control circuit EEx ia IIC
– EMC acc to NAMUR NE21
– Contact loading 253 VAC 2A SPDT 40 VDC 2A

**1 adjustable alarm**
Contact setting point should be within 20% to 100% of F.S

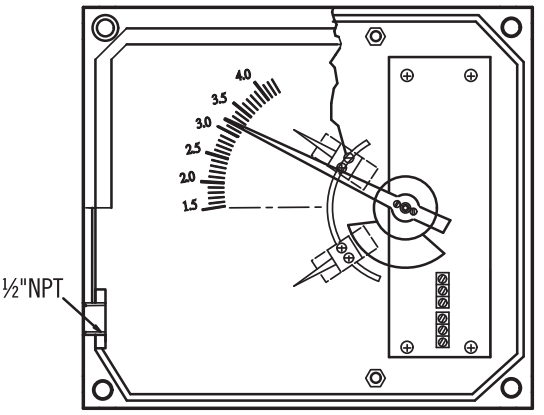
For 24VDC: KDF2-SR2-Ex1.W
115VAC: KFA5-SR2-Ex1.W
230VAC: KFA6-SR2-Ex1.W

**2 adjustable alarm**
The second setting point should be a gap 40% from first setting point.

For 24VDC: KFD2-SR2-Ex2.W
115VAC: KFA5-SR2-Ex2.W
230VAC: KFA6-SR2-Ex2.W




### OF100–RS (Reed Switch)




**Alarm Switch:**
one or two setting points, form A bistable type (N.O. type)
**Switch Rating:**
AC 125V 0.5A / DC 100V 10W / Max. DC 250V<1mA

**1 adjustable alarm**
Contact setting point should be within 20% to 100% of F.S.

**2 adjustable alarm**
The second setting point should be a gap 20% from first setting point.

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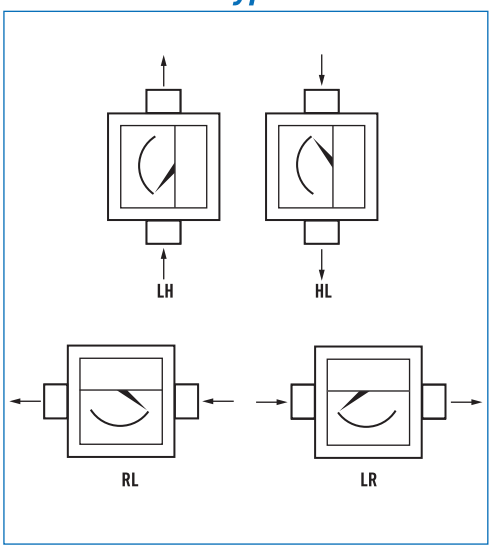
## Standard Scales

| Tube | L/H Water 20°C | NM³/H Air 20°C 1.013bar | A | B | C | BSP/ NPT |
|---|---|---|---|---|---|---|
| OF101 | 15 ~ 70 | – | | 150 | | 1/4" |
| OF102 | 18 ~ 80 | 0.4 ~ 2 | | 150 | | 1/4" |
| OF103 | 20 ~ 100 | 0.5 ~ 2.5 | | 150 | | 1/4" |
| OF104 | 25 ~ 125 | 0.6 ~ 3.2 | | 150 | | 1/4" |
| OF105 | 30 ~ 150 | 0.75 ~ 3.8 | | 150 | | 1/4" |
| OF106 | 40 ~ 210 | 1 ~ 5 | | 150 | | 1/2" |
| OF107 | 60 ~ 330 | 1.5 ~ 7.5 | | 150 | | 1/2" |
| OF108 | 70 ~ 400 | 1.6 ~ 8 | | 150 | | 1/2" |
| OF109 | 120 ~650 | 3 ~ 15 | | 150 | | 1/2" |
| OF110 | 160 ~ 800 | 4 ~ 20 | | 150 | | 1/2" |
| OF111 | 190 ~ 950 | 4.8 ~ 24 | | 150 | | 1/2" |
| OF112 | 250 ~ 1250 | 6.4 ~ 32 | | 150 | | 1/2" |
| OF113 | 300 ~ 1600 | 8 ~ 40 | | 150 | | 3/4" |
| OF114 | 350 ~ 1900 | 10 ~ 50 | | 150 | | 3/4" |
| OF115 | 500 ~ 2700 | 13 ~ 65 | | 150 | | 3/4" |
| OF116 | 700 ~ 3500 | 18 ~ 90 | | 150 | | 1" |
| OF117 | 600 ~ 4500 | 14 ~ 110 | | 160 | | 1 1/2" |
| OF118 | 800 ~ 6000 | 20 ~ 150 | | 160 | | 1 1/2" |
| OF119 | 900 ~ 7000 | 23 ~ 175 | | 160 | | 1 1/2" |
| OF120 | 1200 ~ 9600 | 30 ~ 240 | | 160 | | 1 1/2" |
| OF121 | 1600 ~ 13200 | 40 ~ 330 | | 160 | | 2" |
| OF122 | 2000 ~ 16200 | 50 ~ 400 | | 160 | | 2 1/2" |
| OF123 | 3000 ~ 24000 | 75 ~ 600 | | 160 | | 2 1/2" |

## Flow Direction Type




## Ordering Information

**OF100**

| Code | Type |
|---|---|
| NS | Indicating only (Housing–Aluminum Alloy) |
| ES | Indicating only (Housing–SS316) |
| CS | With inductive switch |
| MS | With Micro switch |
| RS | With Reed switch |
| GT | Indicating + 4~20mA (no alarm switch available) |

| Code | Switch |
|---|---|
| 0 | Without alarm switch |
| C1 | One inductive alarm switch |
| C2 | Two inductive alarm switches |
| M1 | One Micro alarm switch |
| R1 | One reed switch |
| R2 | Two reed switches |

| Code | Body Material | | |
|---|---|---|---|
| A | SS316 | B | Option |

| Code | Connection Type |
|---|---|
| | (0) Thread Connection |
| | (5) JIS 5K (10) JIS 10K (20) JIS 20K |
| | (15) ANSI 150# (30) ANSI 300# |
| | (40) ANSI 400# (60) ANSI 600# |
| | (T) Other: _____ |

| Code | Connection size |
|---|---|
| 1 | 1/4" |
| 2 | 1/2" |
| 3 | 3/4" |
| 4 | 1" |
| 5 | 1-1/2" |
| 6 | 2" |
| 7 | 2-1/2" |

| Code | Protection Class |
|---|---|
| IP | IP65 |
| Ex. | Explosion Proof: CLASS I, GROUPS B, C &D; CLASS II, GROUPS E, F, & G; NEMA 4, 7, 9 |

| Code | Flow direction | Code | Flow direction |
|---|---|---|---|
| 0 | LH | 10 | RL |
| 5 | HL | 20 | LR |

| Code | Fluid |
|---|---|
| G | Gas |
| O | Oil |
| L | Liquid |

| Code | Range |
|---|---|
| S | Standard range |

OF100 [ ] [ ] [ ] [ ] [ ] + [ ] [ ] [ ] [ ] [ ]