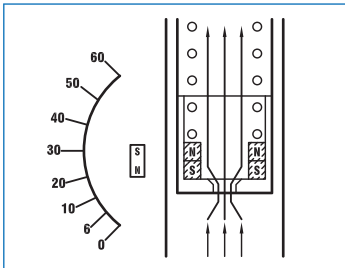


# FLOW SWITCH AND INDICATOR OF100 SERIES

## Technical Data

**Piston type for high viscosity**  
**Fluid:** Water, oil, other liquid available; Gases  
**Flow Range:** 15~30,000 l/h (at Water); 0.4~740 Nm<sup>3</sup>/h (at Air)  
**Accuracy:** ±3% F.S, On request: ±2.5% F.S  
**Size:** ¼" to 2½"  
**Connection Type:** NPT, Flange type on request  
**Working Limits:** Temperature: -40°C to +180°C  
**Working Pressure:** 30 kg/cm<sup>2</sup>  
 Option—100 kg/cm<sup>2</sup> for 1" or less  
 Option—200 kg/cm<sup>2</sup> for 1½" or bigger  
**Protection Class:** IP66, Explosion proof  
**Housing Material:** NS, CS, MS type—Aluminum Alloy  
 ES type—SS316  
**Lens Material:** Safety glass  
**Mounting:** Vertical, Horizontal available  
**Material:** Wetted parts SS316; Teflon lining float for Gases application  
**Alarm Switch:** Micro switch, Inductive switch available

## Principle



### Approvals:

Switches with UL & CSA Recognized and File No. E41515.

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 (ITRI)2017第07-00302號



NS Type (Indicating only)



CS Type (With inductive switch)



ES Type (Indicating only)



MS Type (With micro or reed switch)

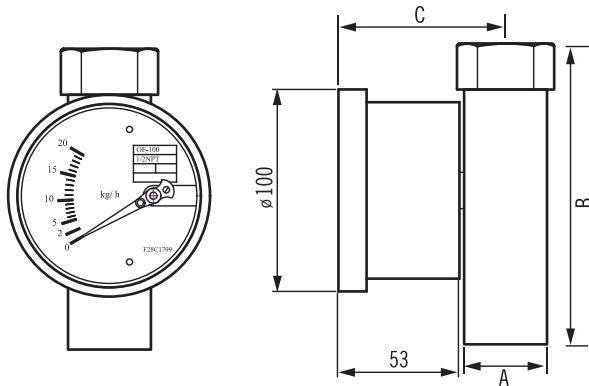
### Patent No.

Taiwan: M285697 / M338982 / M332836  
 China: 1187801

## Dimensions

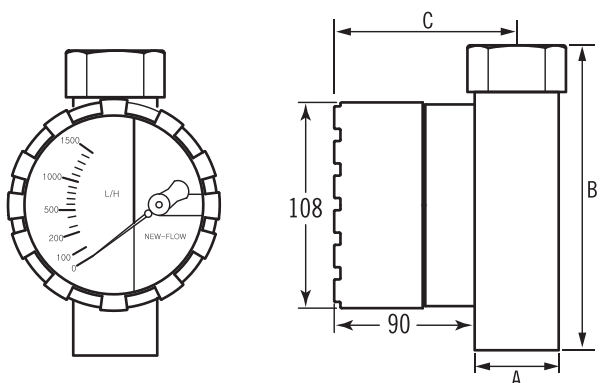
### IP66

**ES Type**  
 Housing Material: SS316



### IP66

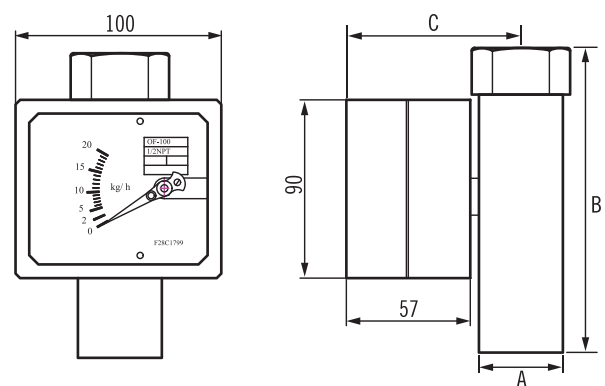
**MS Type**  
 Housing Material: Aluminum alloy



unit=mm

### IP66

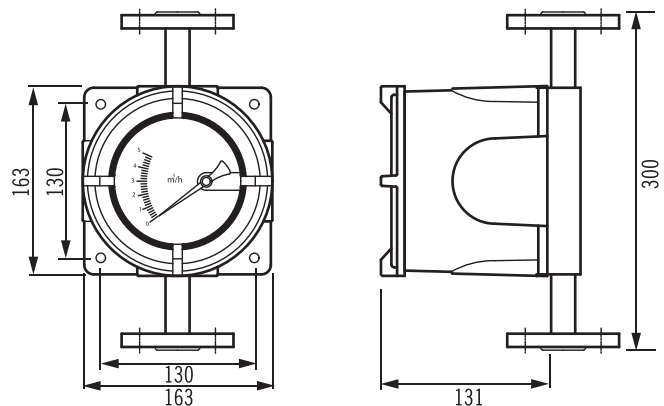
**CS, NS Type**  
 Housing Material: Aluminum alloy



### Explosion Proof

**Housing Material:** Aluminum alloy, SS316 available

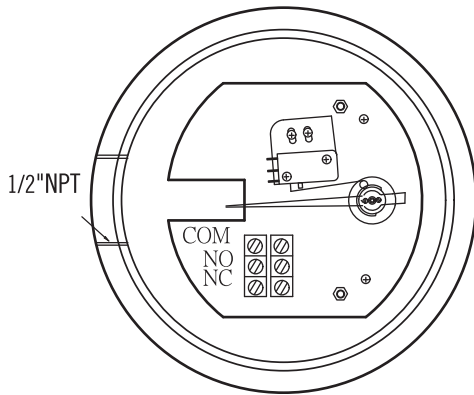
- Explosion Proof Certificate on Housing Only
- Taiwan Explosion Proof Certification



unit=mm

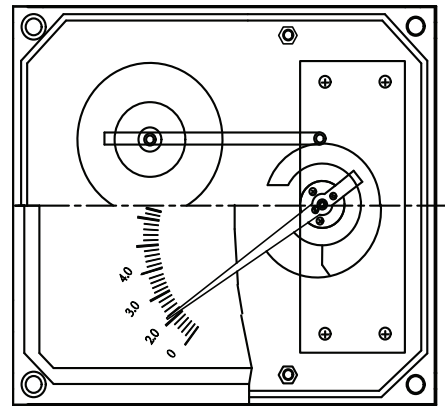
Alarm / Analog output

OF100-MS (Micro Switch)



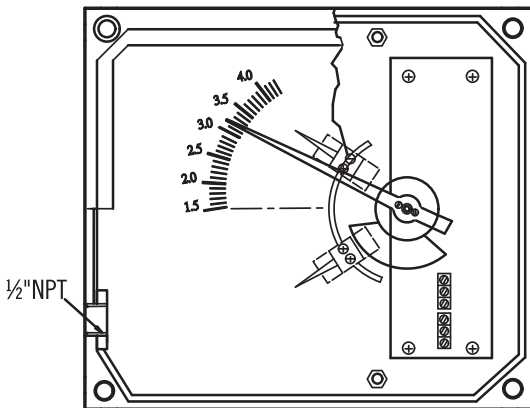
**Adjustable Micro Switch, Series OF100-MS**  
 1 adjustable alarm contact, or 2 adjustable alarm contact on request  
**Load:** 5A/125VAC, 5A/250VAC, 2A/30VDC  
**Temperature:** -25°C ~ +70°C (AMB)  
**Hysteresis:** ±10% F.S (Dead Band)

OF100/GT (Analog Output)



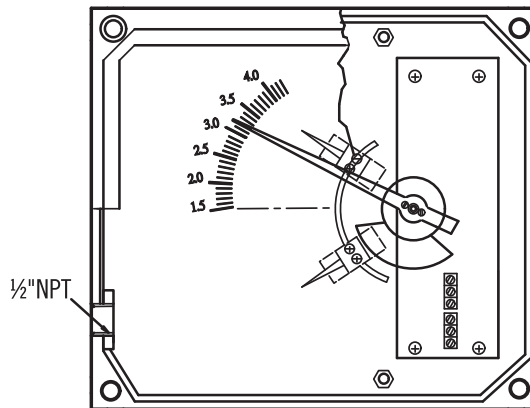
**Electric Transmitter OF100/GT**  
**Analog output available:** 4~20mA (2 wire)  
**No Alarm Switch Available**  
 Effective range within 20% to 100%  
**Power supplier:** 24V dc  
**Temperature:** -25°C ~ +70°C (AMB)

OF100-CS (Inductive Switch)



**Adjustable inductive alarm switch**  
**Hysteresis:** ±2% F.S (Dead Band)  
**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 uncovered 3mA  
 Active face covered 1mA  
 - Ambient temp: -25°C ~ +70°C

OF100-RS (Reed Switch)



**Alarm Switch:**  
 one or two setting points, form A bistable type (N.O. type)  
**Hysteresis:**  
 ±15% of full scale (Dead Band)  
**Switch Rating:**  
 AC 125V 0.5A / DC 100V 10W / Max. DC 250V < 40 mA  
**1 adjustable alarm**  
 Contact setting point should be within 20% to 100% of F.S.

**Isolated barriers output relay for inductive sensor:**

- Rail mounting
- Control circuit EEx ia IIC
- EMC acc to NAMUR NE21
- Contact loading 250 VAC 2A SPDT 40 VDC 2A

**1 adjustable alarm**

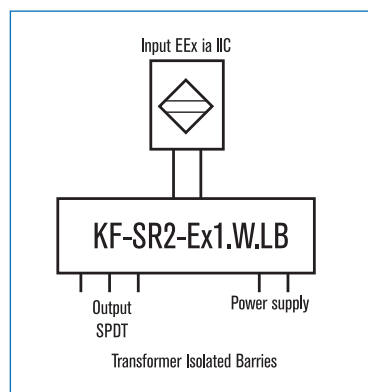
Contact setting point should be within 20% to 100% of F.S

- For 24VDC: KFD2-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.

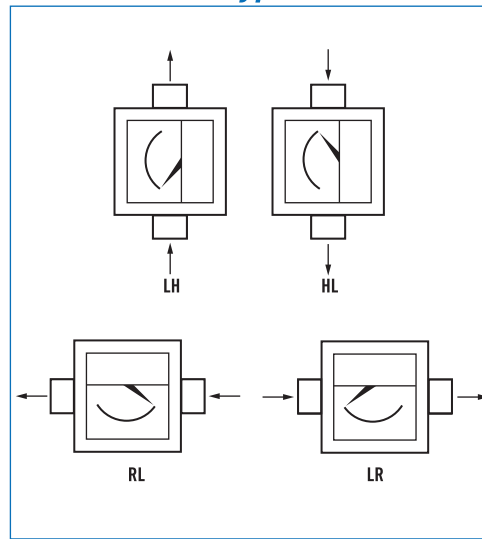
- For 24VDC: KFD2-SR2-Ex2.W
- 115VAC: KFA5-SR2-Ex2.W
- 230VAC: KFA6-SR2-Ex2.W



## Standard Scales

Tube	L/H Water 20°C	NM <sup>3</sup> /H Air 0°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	300~1500	6.4 ~ 32		150		1/2"
OF113	200~1000	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	800 ~ 6000	20 ~ 150		150		1"
OF118	800 ~ 6000	20 ~ 150		160		1 1/2"
OF119	900 ~ 7000	23 ~ 175		160		1 1/2"
OF120	2000~ 14000	70~ 350		160		1 1/2"
OF121	1500 ~ 20000	100 ~ 500		160		2"
OF122	2000 ~ 16200	50 ~ 400		160		2 1/2"
OF123	3000 ~ 30000	140 ~ 740		160		2 1/2"

## Flow Direction Type



## Ordering Information

OF100	Code	Type	Code	Housing Protection / Material
↓	NS	Indicating only (Aluminum alloy)	ES	Indicating only (SS316)
	CS	With Inductive Switch		
	MS	With Micro Switch		
	RS	With Reed Switch		
	GT	Indicating+4~20mA (no alarm switch available)		
	GTA	Hall Sensor Type / Indicating+4~20mA (no alarm switch available)		
	GTH	HART Type / Indicating+HART [4~20mA / Intrinsically Safe (EExialICT6)], no alarm switch available		
		Code	Switch	
		O	Without alarm switch	
		C1	One inductive alarm switch	C2 Two inductive alarm switches
		M1	One micro alarm switch	M2 Two micro alarm switches
		R1	One reed switch	
		Code	Body Material	
		A	SS316	B Option
		Code	Connection Type	
		(O) 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	Flow Direction		
	O	LH	5 HL	
	10	RL	20 LR	
	Code	Flow Direction		
	G	Gas		
	O	Oil		
	L	Liquid		
	Code	Range		
	S	Standard Range		
	Code	Conduit		
	N	Without		
	1	1/2" NPT(F)		
	2	3/4" NPT(F)		