# METAL TUBE FLOW METER BR250S– SPRING TYPE


*Vertical Flow Direction*

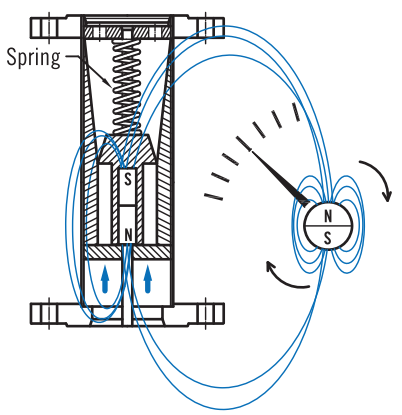

*Horizontal Flow Direction*

## Technical Data

**BR250S for high flows of gas, liquid, steam and oil**

**Case Material:** Aluminum alloy case with paint; SS316 available
**Body Wetted Parts Material:** SS316, others on request
Indication via magnetic coupling (no sealed)
**Lens Material:** Safety Glass
**Scales Calibrated:** in l/h, m³/h, kg/h, %, etc.
**Flow Rates For:**
– Water: 30 l/h up to 120,000 l/h (special ranges on request)
– Air: 0.8 Nm³/h up to 1,200 Nm³/h (special ranges on request)
**Connection Type:** Only Flange type
**Connection Size:** ½"~ 5"
**Mounting:** Vertical and Horizontal available
**Mounting Length:** 250mm standard; Connection size bigger than 3", mounting length is 300mm; 300mm for explosion proof
**Protection Class:** IP65 or Explosion proof, Class I, Groups B, C & D; Class II, Groups E, F & G; NEMA 4, 7, 9
**Accuracy:** ±2.5% F.S
**Max. Pressure:** 40 kg/cm² (standard); Option: up to 100 kg/cm²
**Temperature:** -50°C to +200°C (300°C Option)
**Alarm Switch:** Micro switch, Inductive switch, Reed switch available

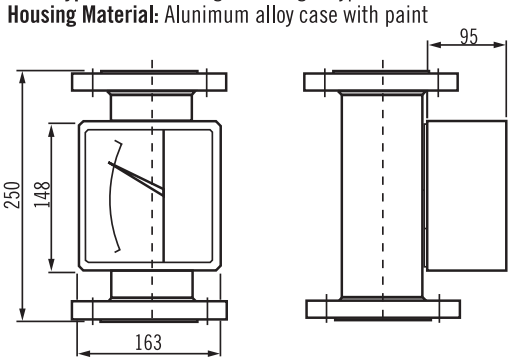
## Principle




## Dimensions-mm

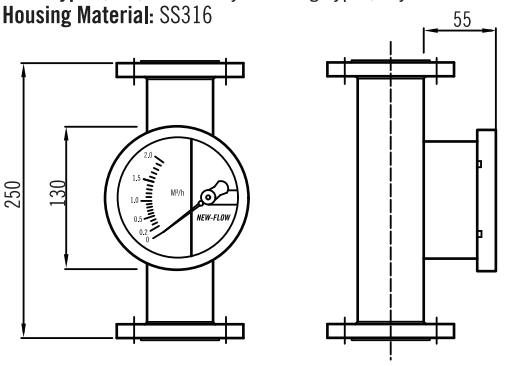
### IP65

**Case Type:** (A-1) Rectangle Bolt Tight Type
**Housing Material:** Alunimum alloy case with paint



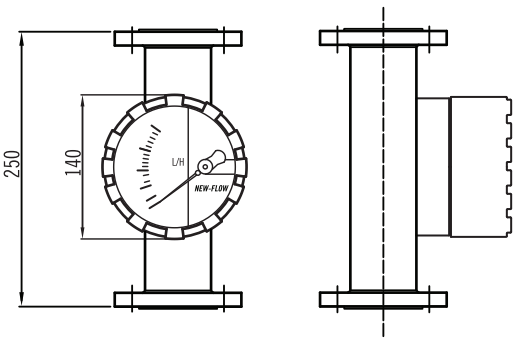

### IP65

**Case Type:** (B-1) Round Bayonet Ring Type (only for indicating)
**Housing Material:** SS316



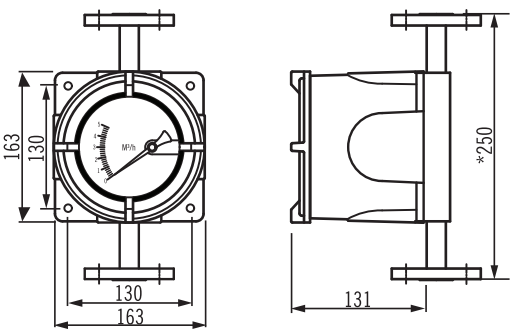

### IP65

**Case Type:** (A-2) Round Screw Tight Type
**Housing Material:** Aluminum alloy
**Case Type:** (B-2) Round Screw Tight Type
**Housing Material:** SS316




### Explosion Proof

Class I, Groups B,C & D; Class II, Groups E,F & G; NEMA 4,7,9




*Mounting length: 250mm standard
Connection size bigger than 3", mounting length is 300mm.

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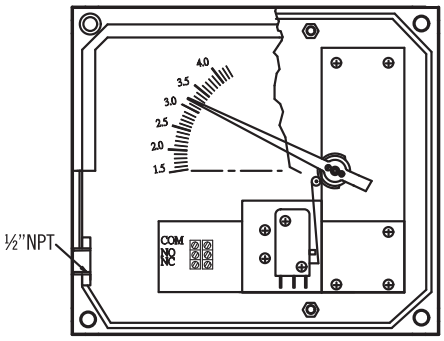
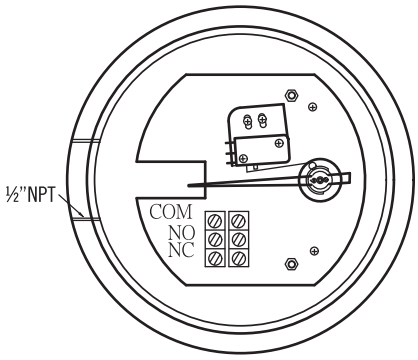
# Alarm / Analog Output

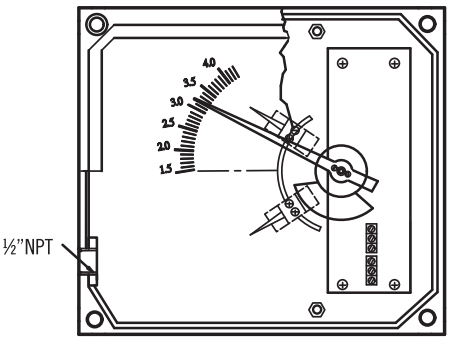
## BR-250S/GS-M (Micro Switch)




Adjustable Micro Switch, Series BR250S/GS-M
1 adjustable alarm contact
Load: 5A/250VAC/125VAC/30VDC
Temperature: -25°C ~ +100°C (AMB)
Hysteresis: ±10% F.S (Dead Band)

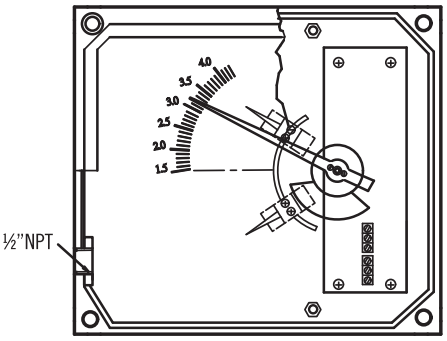
## BR-250S/GS-R (Reed Switch)



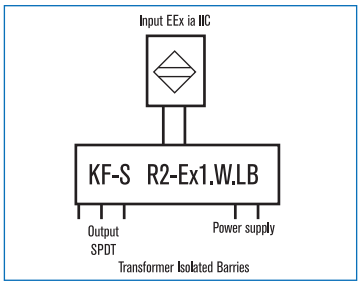

Alarm Switch: One or Two setting point, form A bistable type (N.O type)
Hysteresis: ±10% F.S (Dead Band)
Switch Rating: AC 125V 0.5A / DC 100V 10W / Max. DC 250V<1mA

**1 adjustable alarm**
Contact setting point should be within 10% to 100% of F.S
**2 adjustable alarm**
The second setting point should be a gap 40% from first setting point.

## BR-250S/GS-C (Inductive Switch)



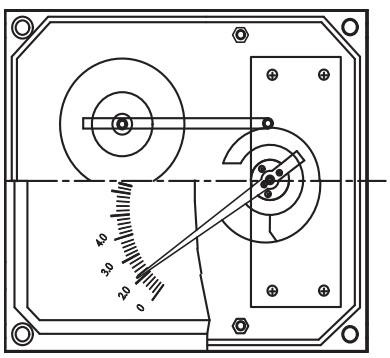

**Adjustable inductive alarm switch**
**Hysteresis: ±1% F.S (Dead Band)**
**Inductive sensors slotted type: 3.5mm slot switch**
**DC. voltage 2 wire's to DIN19234 (NAMUR) for use in hazardous areas.**
– Power supply: 8 VDC (Ri.approx. 1kΩ)
– Current consumption: Active face uncoved 3mA; Active face coved 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
10% to 100% of F.S
For 24VDC: KDF2-SR2-Ex1.W
115VAC: KFA5-SR2-Ex1.W
230VAC: KFA6-SR2-Ex1.W

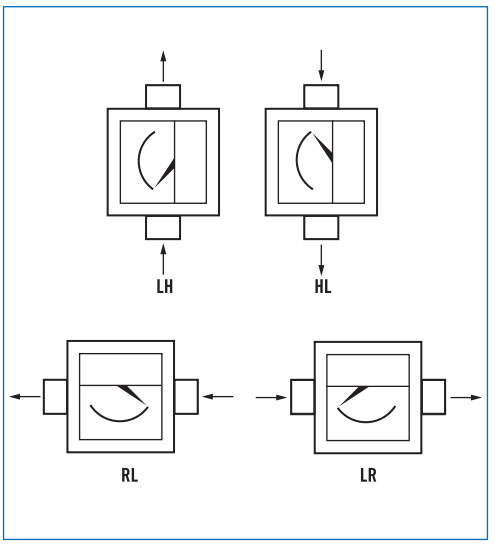
**2 adjustable alarm**
The second setting point should be a gap
65% from first setting point.
For 24VDC: KDF2-SR2-Ex2.W
115VAC: KFA5-SR2-Ex2.W
230VAC: KFA6-SR2-Ex2.W

## BR-250S/GT (Analog Output)



Electric Transmitter BR-250S/GT
Analog output available: 4~20mA (2-wire)
**No Alarm Switch Available**
Power Supplier: 24VDC
Temperature: +25°C ~ +100°C (AMB)

## Flow Direction Type




## Standard Scales

| Tube | L/H 20°C Water | $NM^3/H$ Air 20°C 1.013bar | Pressure Loss psig | Connection | Accuracy |
|---|---|---|---|---|---|
| BR2501S | 30 ~ 300 | 0.8 ~ 8 | ≤3.5 | 1/2" | ±2.5% F.S |
| BR2502S | 40 ~ 400 | 1 ~ 10 | ≤3.8 | 1/2" | ±2.5% F.S |
| BR2503S | 50 ~ 500 | 1.2 ~ 12 | ≤3.7 | 1/2" | ±2.5% F.S |
| BR2504S | 70 ~ 700 | 1.7 ~ 17 | ≤3.6 | 1/2" | ±2.5% F.S |
| BR2505S | 80 ~ 800 | 2 ~ 20 | ≤3.8 | 1/2" | ±2.5% F.S |
| BF2506S | 100 ~ 1000 | 2.7 ~ 27 | ≤4.0 | 1/2" | ±2.5% F.S |
| BF2507S | 150 ~ 1500 | 4 ~ 40 | ≤4.2 | 1/2" | ±2.5% F.S |
| BF2508S | 180 ~ 1800 | 5 ~ 50 | ≤4.5 | 1/2" | ±2.5% F.S |
| BF2509S | 150 ~ 1500 | 4 ~ 40 | ≤3.8 | 3/4" | ±2.5% F.S |
| BF2510S | 200 ~ 2000 | 6 ~ 60 | ≤4.0 | 3/4" | ±2.5% F.S |
| BF2511S | 300 ~ 3000 | 9 ~ 90 | ≤3.4 | 1" | ±2.5% F.S |
| BF2512S | 400 ~ 4000 | 12 ~ 120 | ≤3.6 | 1" | ±2.5% F.S |
| BF2513S | 600 ~ 6000 | 15 ~ 150 | ≤3.9 | 1" | ±2.5% F.S |
| BF2514S | 600 ~ 6000 | 15 ~ 150 | ≤3.6 | 1½" | ±2.5% F.S |
| BF2515S | 800 ~ 8000 | 24 ~ 240 | ≤3.8 | 1½" | ±2.5% F.S |
| BF2516S | 1000 ~ 10000 | 30 ~ 300 | ≤3.9 | 1½" | ±2.5% F.S |
| BF2517S | 1200 ~ 12000 | 35 ~ 350 | ≤4.3 | 1½" | ±2.5% F.S |
| BF2518S | 1200 ~ 12000 | 35 ~ 350 | ≤3.2 | 2" | ±2.5% F.S |
| BF2519S | 1600 ~ 16000 | 50 ~ 500 | ≤3.4 | 2" | ±2.5% F.S |
| BF2520S | 2000 ~ 20000 | 75 ~ 750 | ≤3.8 | 2" | ±2.5% F.S |
| BF2521S | 2500 ~ 25000 | 120 ~ 1200 | ≤4.1 | 2" | ±2.5% F.S |
| BF2522S | 2000 ~ 20000 | 75 ~ 750 | ≤3.0 | 2½" | ±2.5% F.S |
| BF2523S | 3000 ~ 30000 | ---------- | ≤3.2 | 2½" | ±2.5% F.S |
| BF2524S | 3000 ~ 30000 | ---------- | ≤3.4 | 3" | ±2.5% F.S |
| BF2525S | 4000 ~ 40000 | ---------- | ≤3.7 | 3" | ±2.5% F.S |
| BF2526S | 5000 ~ 50000 | ---------- | ≤3.6 | 4" | ±2.5% F.S |
| BF2527S | 6000 ~ 60000 | ---------- | ≤4.2 | 4" | ±2.5% F.S |
| BF2528S | 10000~100000 | ---------- | ≤3.8 | 5" | ±2.5% F.S |
| BF2529S | 12000~120000 | ---------- | ≤4.3 | 5" | ±2.5% F.S |

**NOTE**
Performance Technical Data are effective with date of issue and are subject to change without prior notice.

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## Ordering Information

| BR250S | Code | Type |
|---|---|---|
| | G | Indicating only |
| | GS | Indicating + switch |
| | GT | Indicating 4~20mA (no alarm switch available) |

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

| Code | Housing protection / Case type / Material |
|---|---|
| A1 | IP65 / Rectangle bolt tight type / Aluminum alloy |
| A2 | IP65 / Round screw tight type / Aluminum alloy |
| B1 | IP65 / Round bayonet ring type / SS316 (only for indicating) |
| B2 | IP65 / Round screw tight type / SS316 |
| C | Explosion proof / Aluminum alloy<br>Class I, Groups B, C & D; Class II, Groups E, F & G;<br>NEMA 4,7,9 |

| Code | Body & wetted parts |
|---|---|
| A | SS316, standard |
| B | SS316L |
| O | Option |

| Code | Float material |
|---|---|
| A | SS316 |
| B | SS316L |
| O | Option |

| Code | Connection rating |
|---|---|
| 5 | JIS 5K |
| 10 | JIS 10K |
| 20 | JIS 20K |
| 15 | ANSI 150# |
| 30 | ANSI 300# |
| 60 | ANSI 600# |
| 90 | ANSI 900# |
| T | Other:_____ |

| Code | Connection size |
|---|---|
| 4F | ½" Flange |
| 6F | ¾" Flange |
| 10F | 1" Flange |
| 12F | 1½" Flange |
| 20F | 2" Flange |
| 22F | 2½" Flange |
| 30F | 3" Flange |
| 40F | 4" Flange |
| 50F | 5" Flange |

| Code | Transmitter protection |
|---|---|
| G | IP65 (General type) |
| Ix. | Intrinsically Safe (EExiaIICT6), IP65 |
| O | Without transmitter |

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

| Code | Range |
|---|---|
| S | Standard range |
| | Please directly fill out the flow range in the order code. |

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

| BR250S | | | | | | | + | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**NOTE:**
1. Custom-made flow range and flange size upon request.
2. Please fill in the ordering information and service condition, and fax this sheet along with your inquiry to 886-7-8225588.

**Special instruction, if any:**

_____

_____

_____

**Service Condition:**

Fluid name: _____

Sp. Gr. (density): _____

Viscosity: _____

Press.: _____

Temp.: _____

Full scale: _____