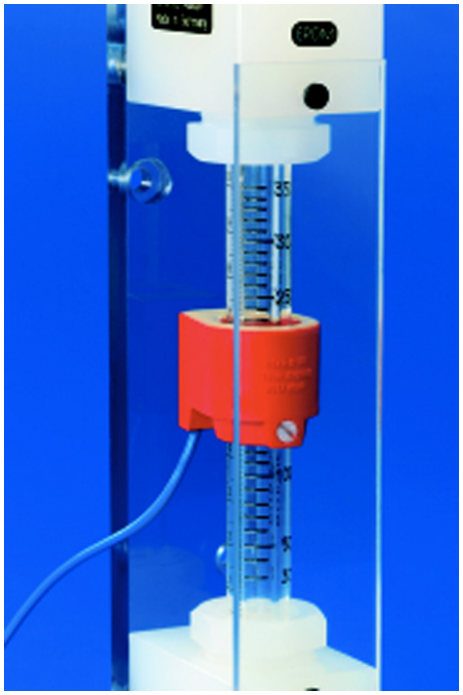
# 4 Measurement Acquisition – Annular proximity switch

| | Measuring tube Ø | | |
|---|---|---|---|
| Measurement acquisition | 10 | 17 | 28 |
| Inductive limit switch | x | x | |
| Magnetic switch | | | x |
| Photoelectric sensor | x | x | |

Depending on the diameter of the measuring tube, it is possible to use 3 different methods of measurement acquisition:
— Inductive limit switch (annular proximity switch)
— Magnetic switch (reed switch)
— Photoelectric sensor


Inductive limit switch (annular proximity switch)

## Inductive limit switch (annular proximity switch)

The inductive limit switch is the most frequently used form of measurement acquisition. It can only be used, if the float has ferromagnetic properties, for 10 and 17 mm diameter measuring tubes.

**Principle of operation:**
The annular proximity switch signals that the specific flow rate has been exceeded or has dropped below a specific flow rate. It behaves like a switch that opens when the float moves from bottom to top and closes in the opposite direction. The open or closed annular proximity switch remains in its position due to its bistabile behaviour, even if the float moves a long way from the switch. As the ”OPEN” switch position must correspond to the alarm position, the annular proximity switch with connection cable outlet facing downwards must be used as a max. switch, and with cable outlet facing upwards as a min. switch. The circuit necessary for operation in accordance with DIN 19234 (NAMUR) is taken from a monostable relay (relay WE 77/ Ex-1). On connection to an intrinsically safe circuit the annular proximity switch is also ex safe.

**Technical data:**

| | |
|---|---|
| Self-capacitance: | 190 nF |
| Self-inductance: | 20 mH |
| Voltage: | 4,5 – 13 V DC |
| Current consumption: | >>0<< < 1 mA; |
| | >>1<< > 2,2 mA |
| Temperature: | -20°C bis +70°C |
| Weight: | 40 g |
| IP-rating: | IP 67 |
| Connection: | 2m : 2 x 0,14 mm² |
| Ex class: | E Ex ia II CT 6 |

**Article number:**
4S7759KU1 = Ø 10 mm
4S7759KU2 = Ø 17 mm