

# SA3010



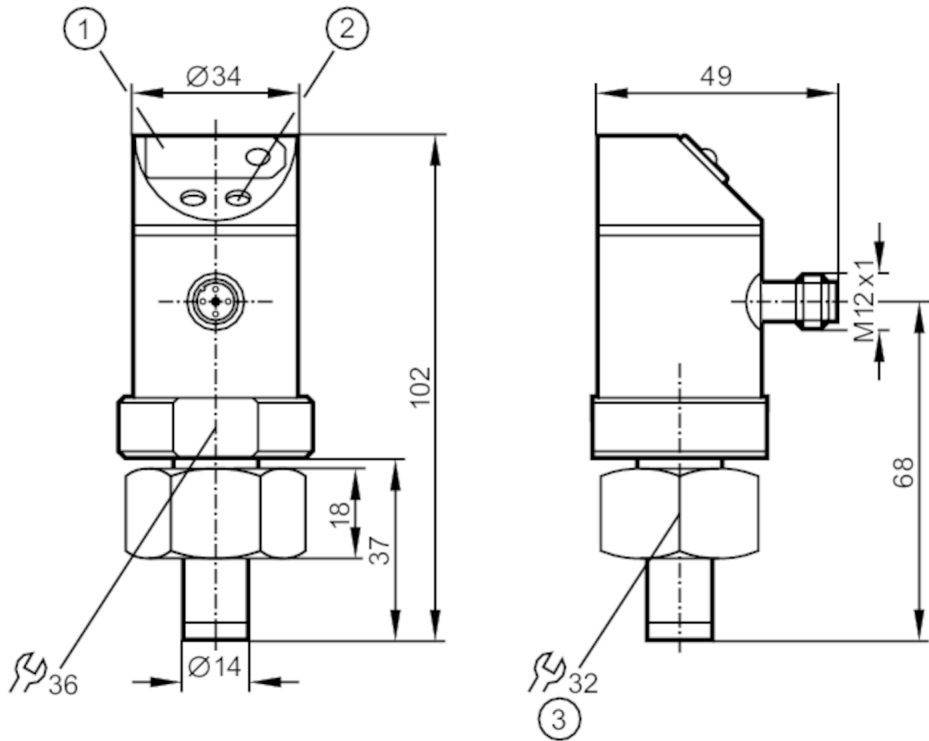
## Flow monitor

SAD18BBDFRKG/W/US-100-IPF

phase-out article

Alternative articles: SA5010

When selecting an alternative article and accessories please note that technical data may differ!



- 1 7-segment LED display
- 2 programming buttons
- 3 internal thread M26 x 1.5



| Product characteristics      |         |                                                                                                  |
|------------------------------|---------|--------------------------------------------------------------------------------------------------|
| Number of inputs and outputs |         | Number of digital outputs: 2; Number of analogue outputs: 1                                      |
| Measuring range              | [l/min] |                                                                                                  |
| Process connection           |         |                                                                                                  |
|                              |         | threaded connection M26 x 1,5 internal thread                                                    |
| Application                  |         |                                                                                                  |
| Special feature              |         | Gold-plated contacts                                                                             |
| Installation                 |         | T-pieces; ((DIN 2353): QL 18-18-18 (NW 15 mm) / QL 22-18-22 (NW 19 mm) / QL 28-18-28 (NW 24 mm)) |
| Media                        |         | water                                                                                            |
| Medium temperature           | [°C]    | 0...80                                                                                           |
| Pressure rating              | [bar]   | 30                                                                                               |
| Pressure rating              | [MPa]   | 3                                                                                                |
| Electrical data              |         |                                                                                                  |
| Operating voltage            | [V]     | 20...28 DC                                                                                       |
| Current consumption          | [mA]    | < 80                                                                                             |



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|                             |              |
|-----------------------------|--------------|
| Protection class            | III          |
| Reverse polarity protection | yes          |
| Power-on delay time [s]     | 10           |
| Measuring principle         | calorimetric |

## Inputs / outputs

|                              |                                                             |
|------------------------------|-------------------------------------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 |
|------------------------------|-------------------------------------------------------------|

## Outputs

|                                                      |                                                    |
|------------------------------------------------------|----------------------------------------------------|
| Total number of outputs                              | 2                                                  |
| Output signal                                        | switching signal; analogue signal; (configurable)  |
| Electrical design                                    | PNP/NPN                                            |
| Number of digital outputs                            | 2                                                  |
| Output function                                      | normally open / normally closed; (parameterisable) |
| Max. voltage drop switching output DC [V]            | 2                                                  |
| Permanent current rating of switching output DC [mA] | 250; (per output)                                  |
| Number of analogue outputs                           | 1                                                  |
| Analogue current output [mA]                         | 4...20; (scalable)                                 |
| Max. load [Ω]                                        | 500                                                |
| Analogue voltage output [V]                          | 0...10; (scalable)                                 |
| Min. load resistance [Ω]                             | 2000                                               |
| Short-circuit protection                             | yes                                                |
| Type of short-circuit protection                     | pulsed                                             |
| Overload protection                                  | yes                                                |

## Measuring/setting range

|                                  |          |
|----------------------------------|----------|
| Measuring range [l/min]          | 0...10   |
| Display range [l/min]            | 0...12   |
| Set point SP [l/min]             | 0.1...12 |
| Reset point rP [l/min]           | 0...11.9 |
| Analogue start point ASP [l/min] | 0...8    |
| Analogue end point AEP [l/min]   | 4...12   |
| In steps of [l/min]              | 0.1      |

## Accuracy / deviations

|                                         |                            |
|-----------------------------------------|----------------------------|
| Flow monitoring                         |                            |
| Repeatability [% of the measured value] | 3 (Q < 30%) / 7 (Q < 100%) |
| Temperature gradient [K/min]            | 200                        |
| Accuracy (in the measuring range)       | ± 10                       |

## Response times

|                   |                |
|-------------------|----------------|
| Flow monitoring   |                |
| Response time [s] | 5; (10%...90%) |

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|                                |     |        |
|--------------------------------|-----|--------|
| Delay time programmable dS, dr | [s] | 0...50 |
|--------------------------------|-----|--------|

### Software / programming

|                           |                                                                                                                                                                                                                            |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter setting options | hysteresis / window; normally open / normally closed; switching logic; current/voltage output; inside pipe diameter; start-up delay; adaptation of displayed values; display can be rotated and switched off; Display unit |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Operating conditions

|                     |      |          |
|---------------------|------|----------|
| Ambient temperature | [°C] | -20...60 |
| Protection          |      | IP 67    |

### Tests / approvals

|      |                           |                   |
|------|---------------------------|-------------------|
| EMC  | EN 61000-4-2 ESD          | 4 kV CD / 8 kV AD |
|      | EN 61000-4-3 HF radiated  | 10 V/m            |
|      | EN 61000-4-4 Burst        | 2 kV              |
|      | EN 61000-4-6 HF conducted | 10 V              |
| MTTF | [years]                   | 184               |

### Mechanical data

|                          |      |                                                         |
|--------------------------|------|---------------------------------------------------------|
| Weight                   | [g]  | 330.5                                                   |
| Housing                  |      | cylindrical                                             |
| Dimensions               | [mm] | Ø 34 / L = 102                                          |
| Materials                |      | stainless steel (316L/1.4404); PBT; PC; PA; EPDM/X; FKM |
| Materials (wetted parts) |      | stainless steel (316L/1.4404); O-ring: FKM 70 Shore A   |
| Process connection       |      | threaded connection M26 x 1,5 internal thread           |
| Probe diameter           | [mm] | 14                                                      |

### Displays / operating elements

|              |                  |                            |
|--------------|------------------|----------------------------|
| Display      | switching status | 2 x LED, red               |
|              | measured values  | 7-segment LED display      |
|              | programming      | 7-segment LED display      |
| Display unit |                  | l/min; gpm; l/h; gph; m³/h |

### Remarks

|               |                       |
|---------------|-----------------------|
| Remarks       | NW = nominal diameter |
| Pack quantity | 1 pcs.                |

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated

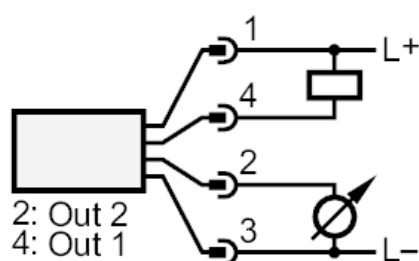
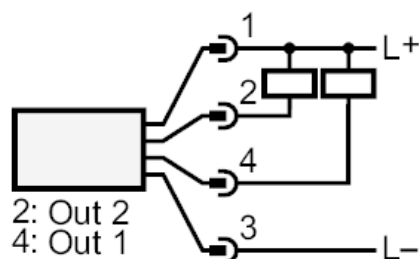
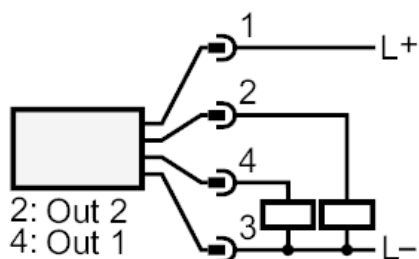




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### Connection



OUT1: switching output  
OUT2: switching output  
analogue output