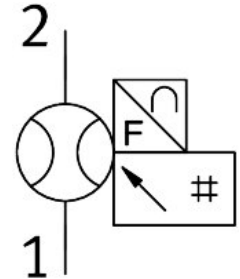
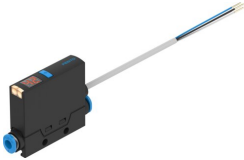


# Flow sensor

## SFAE-5U-Q4-PNLK-PNVB-2.5K

Part number: 8058509

FESTO



## Data sheet

| Feature                                      | Value                                                                  |
|----------------------------------------------|------------------------------------------------------------------------|
| Certification                                | RCM compliance mark                                                    |
| CE marking (see declaration of conformity)   | As per EU EMC directive<br>As per EU RoHS directive                    |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC<br>To UK RoHS instructions                  |
| Note on materials                            | RoHS compliant                                                         |
| Measured variable                            | Volume<br>Volumetric flow rate                                         |
| Flow direction                               | Unidirectional                                                         |
| Measuring principle                          | Thermal                                                                |
| Flow measuring range start value             | 0 l/min                                                                |
| Flow measuring range end value               | 5 l/min                                                                |
| Operating pressure                           | -0.09 MPa...1 MPa<br>-0.9 bar...10 bar<br>-13.05 psi...145 psi         |
| Overload pressure                            | 1.6 MPa<br>16 bar<br>232 psi                                           |
| Operating medium                             | Compressed air as per ISO 8573-1:2010 [7:4:4]<br>Nitrogen              |
| Information on operating and pilot media     | Ester oil < 0.1mg/m <sup>3</sup> , according to ISO 8573-1:2010 [:-:2] |
| Temperature of medium                        | 0 °C...50 °C                                                           |
| Ambient temperature                          | 0 °C...50 °C                                                           |
| Nominal temperature                          | 23 °C                                                                  |
| ADC resolution                               | 12 bit                                                                 |
| Accuracy of flow rate                        | ± (5% o.m.v. + 2% FS)                                                  |
| Zero point repetition accuracy in ± %FS      | 0.5 %FS                                                                |
| Repetition accuracy margin in ± %FS          | 1 %FS                                                                  |
| Switching output                             | 2 x PNP or 2 x NPN switchable                                          |
| Switching function                           | Window comparator<br>Threshold value comparator                        |

| Feature                                        | Value                                                                                                                                                  |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                | Threshold value with variable hysteresis                                                                                                               |
| Switching element function                     | N/C contact/N/O contact, switchable                                                                                                                    |
| On time                                        | 10 ms                                                                                                                                                  |
| Switch-off time                                | 10 ms                                                                                                                                                  |
| Max. output current                            | 100 mA                                                                                                                                                 |
| Analog output                                  | 0 - 10 V<br>1 - 5 V                                                                                                                                    |
| Flow characteristic curve, start value         | 0 l/min                                                                                                                                                |
| Flow characteristic curve, end value           | 5 l/min                                                                                                                                                |
| Output characteristic curve initial value      | 0 V                                                                                                                                                    |
| End value output characteristic curve          | 10 V                                                                                                                                                   |
| Rise time                                      | 10 ms                                                                                                                                                  |
| Min. load resistance of voltage output         | 10 kOhm                                                                                                                                                |
| Display range start value                      | 0 %FS                                                                                                                                                  |
| Display range end value                        | 99 %FS                                                                                                                                                 |
| Short-circuit protection                       | Yes                                                                                                                                                    |
| Overload protection                            | Available                                                                                                                                              |
| Protocol                                       | IO-Link®                                                                                                                                               |
| IO-Link, revision ID                           | V1.1                                                                                                                                                   |
| IO-Link, device profile                        | Firmware update<br>Function Locator<br>Function Product URI<br>Function Quantity detection<br>Identification and diagnosis<br>Smart Sensor - SSP 4.1.1 |
| IO-Link, transmission rate                     | COM3                                                                                                                                                   |
| IO-Link®, SIO mode support                     | Yes                                                                                                                                                    |
| IO-Link, port type                             | Class A                                                                                                                                                |
| IO-Link, process data length output            | 0 bit                                                                                                                                                  |
| IO-Link, process data length input             | 32 bit                                                                                                                                                 |
| IO-Link®, process data content IN              | Flow-Measured value 16 bit MDC<br>Flow rate monitoring 2-bit SSC<br>Volume pulse 1 bit SSC                                                             |
| IO-Link®, service data contents IN             | Device temperature 16 bit<br>Volume measurement value 32 bit<br>Medium temperature 16 bit                                                              |
| IO-Link®, minimum cycle time                   | 0.7 ms                                                                                                                                                 |
| IO-Link®, data memory required                 | 0.5 KB                                                                                                                                                 |
| DC operating voltage range                     | 22 V...26 V                                                                                                                                            |
| Reverse polarity protection                    | for all electrical connections                                                                                                                         |
| Electrical connection 1, connection type       | Cable                                                                                                                                                  |
| Electrical connection 1, connection technology | Open end                                                                                                                                               |
| Electrical connection 1, number of pins/wires  | 4                                                                                                                                                      |
| Cable length                                   | 2.5 m                                                                                                                                                  |
| Max. cable length                              | 20 m for IO-Link® operation<br>30 m                                                                                                                    |
| Type of mounting                               | In-line installation<br>With through-hole<br>With accessories                                                                                          |
| Mounting position                              | Any                                                                                                                                                    |
| Pneumatic connection                           | For plug connection outside diameter 4 mm                                                                                                              |
| Pneumatic connection, outlet direction         | Straight                                                                                                                                               |
| Product weight                                 | 41.2 g                                                                                                                                                 |
| Housing material                               | PA-reinforced                                                                                                                                          |
| Materials in contact with the media            | Epoxy<br>Brass, nickel-plated<br>NBR                                                                                                                   |

| Feature                                                   | Value                                             |
|-----------------------------------------------------------|---------------------------------------------------|
|                                                           | PA-reinforced<br>PI<br>high-alloy stainless steel |
| Display type                                              | LED indicator<br>2-digit                          |
| Degree of protection                                      | IP40                                              |
| Pressure drop                                             | 50 mbar                                           |
| Corrosion resistance class (CRC)                          | 2 - Moderate corrosion stress                     |
| LABS (PWIS) conformity                                    | VDMA24364-B1/B2-L                                 |
| Cleanroom suitability, measured according to ISO 14644-14 | Class 4 according to ISO 14644-1                  |