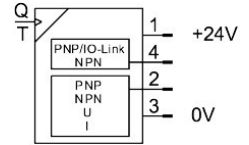


# Flow sensor SFAB-200U-HQ10-PNLK-PNVBA-M12

Part number: 8162830

**FESTO**



## Data sheet

General operating condition

| Feature                                      | Value                                                                            |
|----------------------------------------------|----------------------------------------------------------------------------------|
| Symbol                                       | 00995566                                                                         |
| Approval                                     | RCM trademark<br>c UL us listed (OL)                                             |
| CE mark (see declaration of conformity)      | To EU EMC Directive<br>In accordance with EU RoHS Directive                      |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC<br>To UK RoHS instructions                            |
| Certificate issuing authority                | UL E322346                                                                       |
| Note on materials                            | RoHS-compliant                                                                   |
| Measured variable                            | Mass flow rate<br>Temperature<br>Volume<br>Volumetric flow rate                  |
| Flow direction                               | Unidirectional<br>P1 → P2                                                        |
| Measuring principle                          | Thermal                                                                          |
| Measurement method                           | Heat Loss                                                                        |
| Start value for flow rate measuring range    | 2 l/min                                                                          |
| End value for flow rate measuring range      | 200 l/min                                                                        |
| Temperature measurement start value          | 0 °C                                                                             |
| Temperature measurement end value            | 50 °C                                                                            |
| Operating pressure                           | 0 MPa ... 1 MPa                                                                  |
| Operating pressure                           | 0 bar ... 10 bar                                                                 |
| Operating pressure                           | 0 psi ... 145 psi                                                                |
| Operating medium                             | Argon<br>Compressed air to ISO 8573-1:2010 [7:4:4]<br>Carbon dioxide<br>Nitrogen |
| Media temperature                            | 0 °C ... 50 °C                                                                   |
| Ambient temperature                          | 0 °C ... 50 °C                                                                   |
| Nominal temperature                          | 23 °C                                                                            |
| Accuracy of flow rate                        | ± (3% o.m.v. + 0.3% FS)                                                          |
| Accuracy temperature in ± °C                 | 5 °C                                                                             |
| Repetition accuracy offset in ± %FS          | 0.2 %FS                                                                          |
| Repetition accuracy span in ± %FS            | 0.8 %FS                                                                          |
| Temperature coefficient span in ± %FS/K      | Typ. 0.1%FS/K                                                                    |
| Pressure influence span in ± %FS/bar         | 0.5 %FS/b.                                                                       |
| Switching output                             | 2 x PNP or 2 x NPN, switchable                                                   |

| Feature                                              | Value                                                                                                                                                                                                                                                                                |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Switching function                                   | Window comparator<br>Threshold value comparator                                                                                                                                                                                                                                      |
| Switching element function                           | N/C or N/O contact, switchable                                                                                                                                                                                                                                                       |
| Switch-on time                                       | 10 ms                                                                                                                                                                                                                                                                                |
| Switch-off time                                      | 10 ms                                                                                                                                                                                                                                                                                |
| Max. output current                                  | 100 mA                                                                                                                                                                                                                                                                               |
| Analogue output                                      | 0 - 10 V<br>4 - 20 mA<br>1 - 5 V                                                                                                                                                                                                                                                     |
| Flow characteristic curve start value                | 0 l/min                                                                                                                                                                                                                                                                              |
| Flow characteristic curve end value                  | 200 l/min                                                                                                                                                                                                                                                                            |
| Temperature characteristic curve start value         | 0 °C                                                                                                                                                                                                                                                                                 |
| Temperature characteristic curve end value           | 100 °C                                                                                                                                                                                                                                                                               |
| Output characteristic curve start value              | 0 V                                                                                                                                                                                                                                                                                  |
| Output characteristic curve end value                | 10 V                                                                                                                                                                                                                                                                                 |
| Output characteristic curve starting value           | 4 mA                                                                                                                                                                                                                                                                                 |
| Output characteristic curve end value                | 20 mA                                                                                                                                                                                                                                                                                |
| Max. load resistance current output                  | 500 Ohm                                                                                                                                                                                                                                                                              |
| Min. load resistance voltage output                  | 20 kOhm                                                                                                                                                                                                                                                                              |
| Short circuit current rating                         | yes                                                                                                                                                                                                                                                                                  |
| Overload protection                                  | Available                                                                                                                                                                                                                                                                            |
| Protocol                                             | IO-Link®                                                                                                                                                                                                                                                                             |
| IO-Link, revision ID                                 | V1.1                                                                                                                                                                                                                                                                                 |
| IO-Link, device profile                              | Function Extended identification<br>Function Measurement data, standard resolution<br>Function Multiple switching signal<br>Firmware update<br>Function locator<br>Function Product URI<br>Function Teach single value<br>Identification and diagnostics<br>Smart sensor - SSP 4.1.2 |
| 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                   | 64 bit                                                                                                                                                                                                                                                                               |
| IO-Link, Process data content IN                     | Flow rate measured value 16-bit MDC<br>Flow rate monitoring 2-bit SSC<br>Temperature measured value 16 bit MDC<br>Temperature monitoring 2-bit SSC<br>Volume / mass pulse 1 bit SSC                                                                                                  |
| IO-Link, Service data IN                             | Volume/mass measured value 32 bit                                                                                                                                                                                                                                                    |
| IO-Link, minimum cycle time                          | 1.2 ms                                                                                                                                                                                                                                                                               |
| IO-Link, Data storage required                       | 500 Byte                                                                                                                                                                                                                                                                             |
| Operational voltage range DC                         | 15 V ... 30 V                                                                                                                                                                                                                                                                        |
| No-load supply current                               | 90 mA                                                                                                                                                                                                                                                                                |
| Reverse polarity protection                          | For all electrical connections                                                                                                                                                                                                                                                       |
| Electrical connection 1, connection type             | Plugs                                                                                                                                                                                                                                                                                |
| Electrical connection 1, connector system            | M12x1, A-coded to EN 61076-2-101                                                                                                                                                                                                                                                     |
| Electrical connection 1, number of connections/cores | 5                                                                                                                                                                                                                                                                                    |
| Electrical connection 1, type of mounting            | Screw-type lock<br>Not rotatable                                                                                                                                                                                                                                                     |
| Electrical connection 1, compatible type of mounting | Compatible with rotatable screw-type lock                                                                                                                                                                                                                                            |
| Electrical connection 1, connection pattern          | 00995383                                                                                                                                                                                                                                                                             |
| Type of mounting                                     | With through-hole<br>With H-rail                                                                                                                                                                                                                                                     |
| Mounting position                                    | optional                                                                                                                                                                                                                                                                             |

| Feature                        | Value                                                 |
|--------------------------------|-------------------------------------------------------|
| Pneumatic connection           | For tubing outside diameter of 10 mm                  |
| Product weight                 | 160 g                                                 |
| Material housing               | PA-reinforced                                         |
| Display type                   | Illuminated LCD, multi-colour                         |
| Displayable units              | g<br>g/min<br>l<br>l/min<br>m3<br>m3/h<br>scf<br>scfm |
| Setting options                | IO-Link®<br>Teach-in<br>Via display and keys          |
| Protection against tampering   | IO-Link<br>PIN code                                   |
| Degree of protection           | IP65                                                  |
| Pressure drop                  | <100 mbar                                             |
| Protection class               | III                                                   |
| Corrosion resistance class CRC | 2 - Moderate corrosion stress                         |
| LABS (PWIS) conformity         | VDMA24364-B1/B2-L                                     |