

Pressure switches SDE5

Product overview



- Programmable and configurable pressure switch for simple pressure sensing tasks
- Teach-in function for programming
- Integrated microprocessor
- Operating status indicated by an LED visible from all sides

Detailed product information

→ www.festo.com/catalogue/sde5

| Product overview | | | | | | | |
|--------------------------------|--------------------------------|----------|---|----------------------------|----------------------|---------------------------------|--------|
| Method of measurement | Pressure measuring range [bar] | Type | Switching function | Switching element function | Pneumatic connection | Electrical connection | → Page |
| Piezoresistive pressure switch | 0 ... -1 | SDE5-V1 | Threshold value with fixed hysteresis | N/O contact | QS-3 | Plug M8x1, 3-pin; cable, 3-wire | 67 |
| | 0 ... 2 | SDE5-D2 | Threshold value with variable hysteresis | N/C contact | QS-4 | | |
| | 0 ... 10 | SDE5-D10 | Window comparator Freely programmable Switching points set at the factory | Switchable | QS-6 | | |

Pressure switches SDE5

Type codes



SDE5 - D2 - 0 - Q6 - P - M8 - G5 - - -

| Type | |
|--|--|
| SDE5 | Pressure switch |
| Pressure measuring range | |
| V1 | 0 ... -1 bar |
| D2 | 0 ... 2 bar |
| D10 | 0 ... 10 bar |
| Switching function | |
| FP | Freely programmable |
| Threshold value with fixed hysteresis, 1 teach-in pressure | |
| O | N/O contact |
| C | N/C contact |
| Threshold value with fixed hysteresis, 2 teach-in pressures | |
| O1 | N/O contact |
| C1 | N/C contact |
| Threshold value with variable hysteresis, 2 teach-in pressures | |
| O2 | N/O contact |
| C2 | N/C contact |
| Window comparator with fixed hysteresis, 2 teach-in pressures | |
| O3 | N/O contact |
| C3 | N/C contact |
| Pneumatic connection | |
| Push-in connector at both ends | |
| Q3 | For 3 mm tubing O.D. |
| Q4 | For 4 mm tubing O.D. |
| Q6 | For 6 mm tubing O.D. |
| Push-in connector at one end | |
| Q3E | For 3 mm tubing O.D. |
| Q4E | For 4 mm tubing O.D. |
| Q6E | For 6 mm tubing O.D. |
| Electrical output | |
| P | 1 switch output PNP |
| Electrical connection | |
| K | 2.5 m cable |
| M8 | 3-pin M8 plug |
| Connecting cable | |
| SIM cable with straight connection socket | |
| G | 2.5 m long |
| G5 | 5 m long |
| SIM cable with angled connection socket | |
| W | 2.5 m long |
| W5 | 5 m long |
| Teach-in point 1 permanently set | |
| ...X | Permanent switching point setting as per customer's requirement, required switching pressure [bar] |
| Teach-in point 2 permanently set | |
| ...Y | Permanent switching point setting as per customer's requirement, required switching pressure [bar] |

Pressure switches SDE5

Technical data

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| General technical data | | |
|--------------------------------------|--------|---|
| Operating voltage range | [V DC] | 15 ... 30 |
| Max. output current | [mA] | 100 |
| Switch output | | PNP |
| Protection against short circuit | | Pulsed |
| Protection against polarity reversal | | For all electrical connections |
| Protection class | | IP40 |
| Operating medium | | Filtered compressed air, lubricated or unlubricated, grade of filtration 40µm |
| Ambient temperature | [°C] | 0 ... 50 |
| CE mark | | In accordance with EU EMC directive |
| Certification | | c UL us - Recognised (OL) |
| Information on housing materials | | Polyacetate, reinforced; polyamide; polyphenylene sulphide, reinforced |

| Ordering data | | | | | | | |
|--|--------------------------------|----------------------------|-----------------------|----------------------|--------------------|----------------------|---------------------|
| Variant | Pressure measuring range [bar] | Switching element function | Electrical connection | Pneumatic connection | | Part No. | Type |
| | | | | At one end | At both ends | | |
| Threshold value with fixed hysteresis, 1 teach-in pressure | | | | | | | |
| | 0 ... -1 | N/O contact | Plug, M8x1, 3-pin | QS-3 | - | 527 459 | SDE5-V1-0-Q3E-P-M8 |
| | | | | QS-4 | - | 527 460 | SDE5-V1-0-Q4E-P-M8 |
| | | | | QS-6 | - | 527 461 | SDE5-V1-0-Q6E-P-M8 |
| | | | | - | QS-3 | 527 456 | SDE5-V1-0-Q3-P-M8 |
| | | | | - | QS-4 | 527 457 | SDE5-V1-0-Q4-P-M8 |
| | | | | - | QS-6 | 527 458 | SDE5-V1-0-Q6-P-M8 |
| 0 ... 2 | N/O contact | Cable, 3-wire | QS-6 | - | 542 888 | SDE5-D2-0-Q6E-P-K | |
| 0 ... 10 | N/O contact | Plug, M8x1, 3-pin | QS-3 | - | 527 465 | SDE5-D10-0-Q3E-P-M8 | |
| | | | QS-4 | - | 527 466 | SDE5-D10-0-Q4E-P-M8 | |
| | | | QS-6 | - | 527 467 | SDE5-D10-0-Q6E-P-M8 | |
| | | | - | QS-3 | 527 462 | SDE5-D10-0-Q3-P-M8 | |
| | | | - | QS-4 | 527 463 | SDE5-D10-0-Q4-P-M8 | |
| | | | - | QS-6 | 527 464 | SDE5-D10-0-Q6-P-M8 | |
| | | Cable, 3-wire | QS-6 | - | 542 890 | SDE5-D10-0-Q6E-P-K | |
| | | N/C contact | Plug, M8x1, 3-pin | QS-4 | - | 542 889 | SDE5-D10-C-Q4E-P-M8 |
| QS-6 | - | | 542 894 | SDE5-D10-C-Q6E-P-M8 | | | |
| Cable, 3-wire | QS-6 | | - | 542 895 | SDE5-D10-C-Q6E-P-K | | |
| Threshold value with fixed hysteresis, 2 teach-in pressures with mean value calculation | | | | | | | |
| 0 ... -1 | N/O contact | Plug, M8x1, 3-pin | QS-6 | - | 542 886 | SDE5-V1-01-Q6-P-M8 | |
| Threshold value with variable hysteresis, 2 teach-in pressures | | | | | | | |
| 0 ... 10 | N/O contact | Plug, M8x1, 3-pin | QS-6 | - | 542 891 | SDE5-D10-02-Q6E-P-M8 | |
| | | | - | QS-6 | 542 892 | SDE5-D10-02-Q6-P-M8 | |
| Window comparator with fixed hysteresis, 2 teach-in pressures | | | | | | | |
| 0 ... 10 | N/O contact | Plug, M8x1, 3-pin | QS-6 | - | 542 893 | SDE5-D10-03-Q6E-P-K | |
| | N/C contact | Plug, M8x1, 3-pin | QS-6 | - | 542 896 | SDE5-D10-C3-Q6E-P-K | |
| Freely programmable | | | | | | | |
| 0 ... -1 | Selectable | Plug, M8x1, 3-pin | - | QS-6 | 542 887 | SDE5-V1-FP-Q6-P-M8 | |
| 0 ... 10 | Selectable | Plug, M8x1, 3-pin | QS-4 | - | 542 900 | SDE5-D10-FP-Q4E-P-M8 | |
| | | | QS-6 | - | 542 897 | SDE5-D10-FP-Q6E-P-M8 | |
| | | | - | QS-6 | 542 898 | SDE5-D10-FP-Q6-P-M8 | |
| | | Cable, 3-wire | QS-4 | - | 542 901 | SDE5-D10-FP-Q4E-P-K | |
| | | - | QS-6 | 542 899 | SDE5-D10-FP-Q6-P-K | | |

Sensors
Sensors for pressure and vacuum

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Pressure switches SDE5

Modular product system



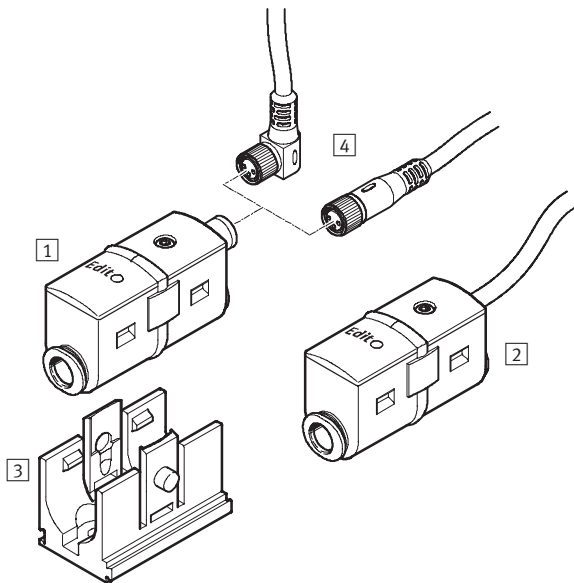
| M Mandatory data | | | | | | O Options | | | |
|----------------------|-----------------|-----------------|--|-------------------------------------|-------------------|-----------------------|--------------------|----------------------------------|----------------------------------|
| Module No. | Sensor function | Pressure range | Switching function | Pneumatic connection | Electrical output | Electrical connection | Connecting cable | Teach-in point 1 permanently set | Teach-in point 2 permanently set |
| 529 027 | SDE5 | V1 D2 D10 | FP O C O1 C1 O2 C2 O3 C3 | Q3 Q4 Q6 Q3E Q4E Q6E | P | K M8 | G W G5 W5 | ...X | ...Y |
| Order example | | | | | | | | | |
| 529 027 | SDE5 | - D10 | - O2 | - Q6 | - P | - M8 | - G5 | - 5,5X | - 5,5Y |

| Ordering table | | | | |
|--|---|-------------|------|------------|
| Size | 5 | Condi-tions | Code | Enter code |
| M Module No. | 529 027 | | | 529 027 |
| Sensor function | Pressure switch | | SDE5 | SDE5 |
| Pressure range | Pressure range 0 ... -1 bar (relative) | | -V1 | |
| | Pressure range 0 ... 2 bar (relative) | | -D2 | |
| | Pressure range 0 ... 10 bar (relative) | | -D10 | |
| Switching function | Freely programmable, N/O contact, N/C contact | | -FP | |
| | Threshold value with fixed hysteresis, 1 teach-in point, N/O contact | | -O | |
| | Threshold value with fixed hysteresis, 1 teach-in point, N/C contact | | -C | |
| | Threshold value with fixed hysteresis, 2 teach-in points, N/O contact | | -O1 | |
| | Threshold value with fixed hysteresis, 2 teach-in points, N/C contact | | -C1 | |
| | Threshold value with variable hysteresis, N/O contact | | -O2 | |
| | Threshold value with variable hysteresis, N/C contact | | -C2 | |
| | Window comparator with fixed hysteresis, N/O contact | | -O3 | |
| | Window comparator with fixed hysteresis, N/C contact | | -C3 | |
| Pneumatic connection | QS3 connection at both ends | | -Q3 | |
| | QS4 connection at both ends | | -Q4 | |
| | QS6 connection at both ends | | -Q6 | |
| | QS3 connection at one end | | -Q3E | |
| | QS4 connection at one end | | -Q4E | |
| | QS6 connection at one end | | -Q6E | |
| Electrical output | 1 switch output PNP | | -P | -P |
| Electrical connection | Cable, 2.5 m | | -K | |
| | 3-pin M8 plug | | -M8 | |
| O Connecting cable (accessory) | 2.5 m SIM cable with straight connection socket | 1 | -G | |
| | 2.5 m SIM cable with angled connection socket | 1 | -W | |
| | 5.0 m SIM cable with straight connection socket | 1 | -G5 | |
| | 5.0 m SIM cable with angled connection socket | 1 | -W5 | |
| Teach-in point 1 permanently set [bar] | 0 ... 10 (required switching pressure) | 2 | ...X | |
| Teach-in point 2 permanently set [bar] | 0 ... 10 (required switching pressure) | 2 3 | ...Y | |



- 1 G, W, G5, W5 Only in combination with M8
 2 X, Y Not in combination with FP, O1, C1
 3 Y Not in combination with O, C
 Must have a value if O2, C2, O3, C3, and X or Y was selected
 Only one decimal place permissible in combination with D10

Pressure switches SDE5

Peripherals overview



| Accessories | |
|-------------|--|
| 1 | Pressure switch SDE-5-...-M8 with plug M8x1 |
| 2 | Pressure switch SDE-5-...-K with cable |
| 3 | Linkable wall bracket with clip-in facility for switches (included in the scope of delivery) |
| 4 | Connecting cable NEBU-M8 |

| Ordering data – Connecting cables | | | Technical data → 169 | |
|---|-----------------|------------------|----------------------|---------------------|
| | Number of wires | Cable length [m] | Part No. | Type |
| M8x1, straight socket | | | | |
|  | 3 | 2.5 | 541 333 | NEBU-M8G3-K-2.5-LE3 |
| | | 5 | 541 334 | NEBU-M8G3-K-5-LE3 |
| M8x1, angled socket | | | | |
|  | 3 | 2.5 | 541 338 | NEBU-M8W3-K-2.5-LE3 |
| | | 5 | 541 341 | NEBU-M8W3-K-5-LE3 |

Pressure switches SDE5

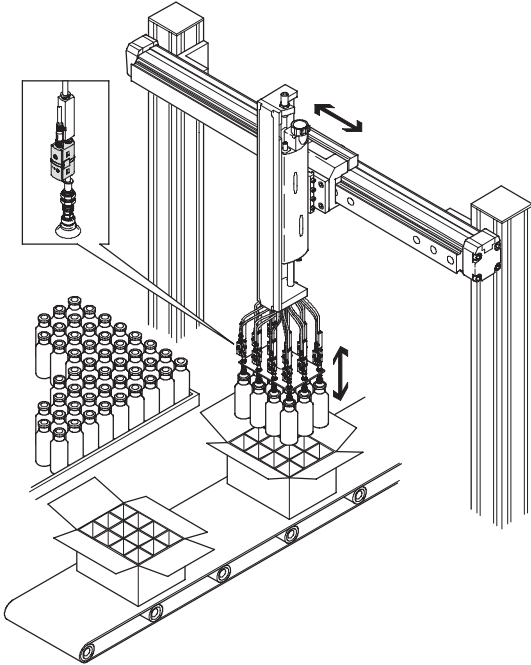
Application examples

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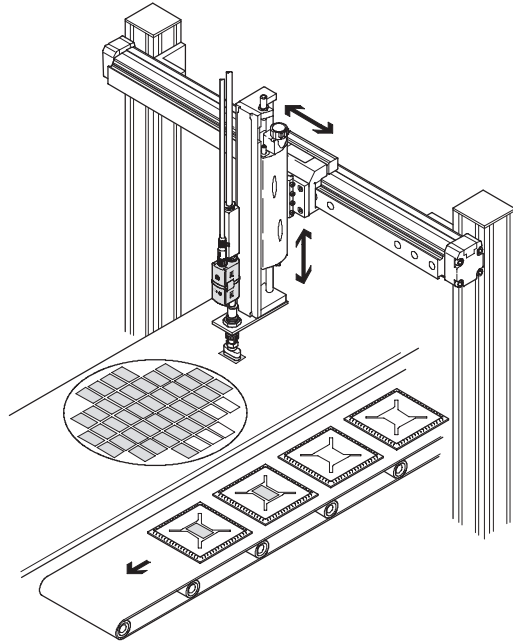
Sensors
Sensors for pressure and vacuum

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Vacuum monitoring

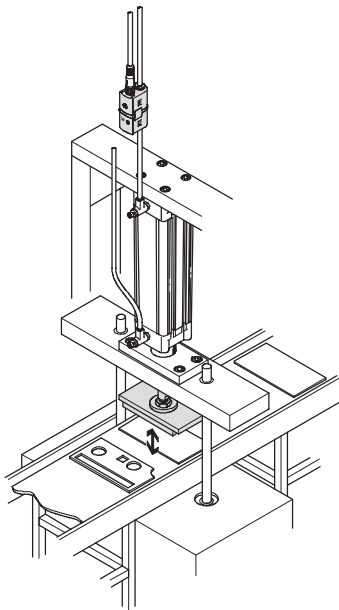


- Vacuum switch SDE5 in combination with a vacuum generator VN for vacuum monitoring in the handling of bottles

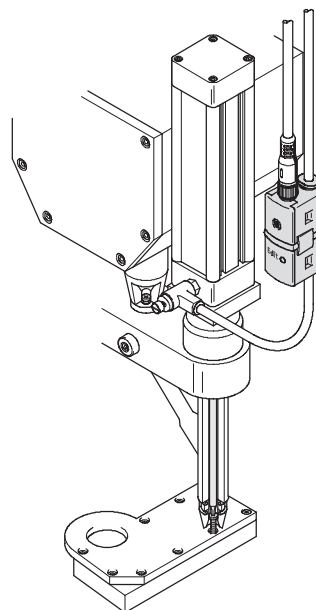


- Vacuum switch SDE5 as suction monitoring in the handling of small parts, such as computer chips

Pressure monitoring



- Pressure switch SDE5 as pressure monitor for the pressing in of punched parts



- Pressure switch SDE5 as "inline variant" for pressure range monitoring on a pneumatic screw driver.