

# Pressure switches, Transducers and Pressure Indicators

Series PM: adjustable-diaphragm pressure switches, with setting visual scale, with exchange contacts

Series TRP: electro-pneumatic transducers

Series 2950: pressure indicators, ports M5



Series PM diaphragm pressure switches are available with NC (normally closed) contacts and with NO (normally open) contacts.

Series PM681 pressure switches with setting visual scale comply with EN60730 standards and are suitable for signalling pressure through a normally closed Reed contact.

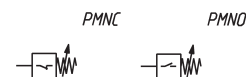
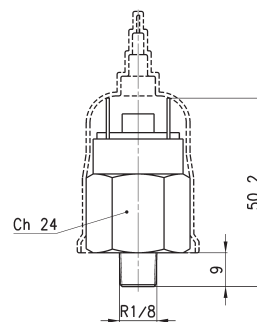
A regulating screw, which can be adjusted using a small screwdriver, allows the switch to be set to the required pressure. The calibrated diaphragm enables an electrical signal to be generated or inhibited depending on the pressure set.

## GENERAL DATA

|                                    |   |
|------------------------------------|---|
| Construction                       | with adjustable diaphragm   |
| Ports                              | R1/8, G1/4 (Serie PM)<br>tube 4/2 (Series TRP)<br>M5 (Series 2950)                  |
| Mounting                           | using thread in body  |
| Max. nr. of pulses per 1'          | 200   |
| Pressure                           | 1 ÷ 10 bar max.   |
| Operating temperature              | -5°C ÷ +60°C  |
| Max. power                         | 100 VA  |
| Voltage                            | 220 V   |
| Isolation voltage                  | 1500 V  |
| Max current                        | 0.5 A   |
| Pressure switches protection class | IP40 (Mod. PM681-1, PM681-3)<br>IP54 (Mod. PM11-NC, PM11-NA)<br>IP65 (Mod. PM11-SC) |


**Series PM adjustable-diaphragm pressure switches**

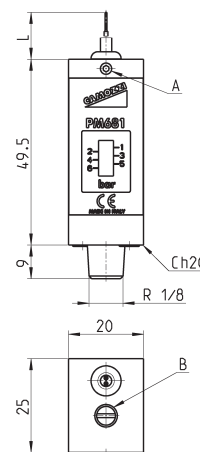
Supplied with a rubber cap providing protection class IP54.



| Mod.           | Function             | Max Voltage | Max Power | Service Type | Insulation voltage | Symbol |
|----------------|----------------------|-------------|-----------|--------------|--------------------|--------|
| <b>PM11-NC</b> | NC = normally closed | 48 V AC DC  | 24 VA     | Heavy        | 500 V              | PMNC   |
| <b>PM11-NA</b> | NA = normally open   | 48 V AC DC  | 24 VA     | Heavy        | 500 V              | PMNO   |

 PMNC = normally closed  
 PMNO = normally open

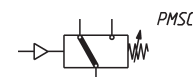
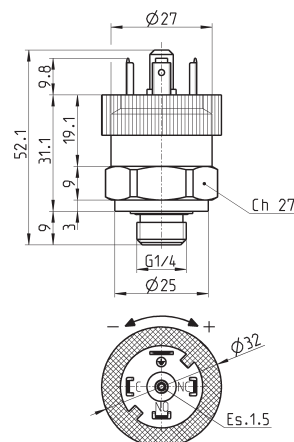
**Series PM681-... - pressure switches with setting visual scale**

 In compliance with EN60730 standard  
 Protection class IP40  
 Electric connection: PVC cable 2 x 0.22 mm  
 Electric contact: Reed SPST NO  
 Body in anodized aluminium and threaded fitting in brass  
 Hysteresis: 0.8 bar max


A = SETTING GRAIN LOCKING    B = ADJUSTMENT SCREW

| Mod.           | L   | Max switch voltage | Max switch current | Max switch capacity | Max fluid temperature | Max pressure | Setting range | Weight |
|----------------|-----|--------------------|--------------------|---------------------|-----------------------|--------------|---------------|--------|
| <b>PM681-1</b> | 1 m | 48 V               | 0.5 A              | 10 W                | 60°C                  | 20 bar       | 1 + 6 bar     | 95 g   |
| <b>PM681-3</b> | 3 m | 48 V               | 0.5 A              | 10 W                | 60°C                  | 20 bar       | 1 + 6 bar     | 95 g   |

**Pressure switch with exchange contacts Mod. PM11-SC**

 Protection class IP65  
 (with connector Mod. 124-830)


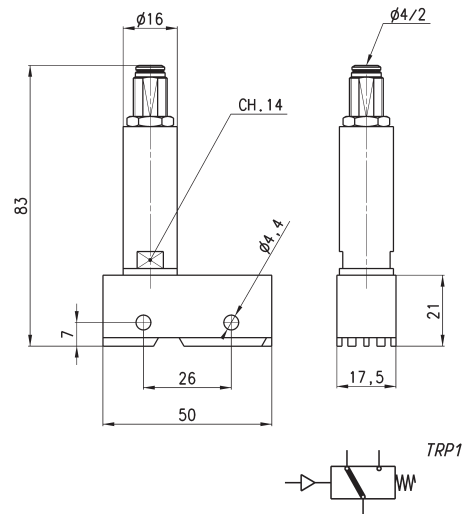
| DIMENSIONS     |          |                  |                       |                |               |                |
|----------------|----------|------------------|-----------------------|----------------|---------------|----------------|
| Mod.           | Function | Max Voltage      | Operating Temperature | Actuation time | Setting range | Max Hysteresis |
| <b>PM11-SC</b> | SC (*)   | 250V AC - 30V DC | -25°C +85°C           | > 0,1 ms       | 2 + 10 bar    | 0.8 bar        |

(\*) SC = exchange contacts

### Electro-pneumatic transducer Series TRP



Series TRP electro-pneumatic transducer is particularly suitable to convert a pneumatic signal into an electrical signal. The contacts are NC (normally closed) or NO (normally open), thus making it possible to generate or eliminate current when the pneumatic signal is present. Minimum operating pressure 2,5 bar.

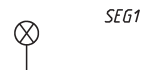
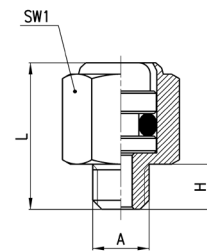


Mod.  
**TRP-8**

### Pressure indicators Series 2950

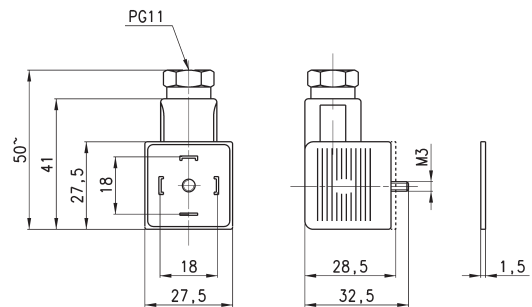


The pressure indicator Mod. 2950-M5 is passive element (no spring, red colour). It is useful for detecting pressure manually without having to remove the connections.



| DIMENSIONS     |    |   |      |     |
|----------------|----|---|------|-----|
| Mod.           | A  | H | L    | SW1 |
| <b>2950 M5</b> | M5 | 4 | 13.5 | 8   |

### 3-pole connector Mod. 124-830 for pressure switch Mod. PM11-SC



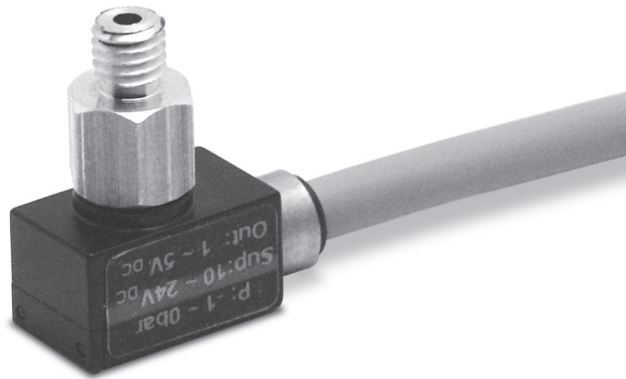
| Mod.             | description                                   | colour | working voltage | cable holding | tightening torque |
|------------------|---|--------|-----------------|---------------|-------------------|
| <b>124-830</b>   | three-pole connector without electronics      | black  | -               | PG9/PG11      | 0.5 Nm            |
| <b>124-830EX</b> | three-pole ATEX connector without electronics | black  | -               | PG9/PG11      | 0.5 Nm            |

# Series SWM electronic miniature vacuum switches

These vacuum switches are used in measuring ranges between -1 and 0 bar.

2

CONTROL



- » Small dimension and reduced weight
- » Available with analog or digital output
- » High measuring accuracy
- » Possibility to connect with M5 thread or 6 mm plug-in tubes

#### Applications:

- Measurement of vacuum values close to the suction pad
- Electric output signal

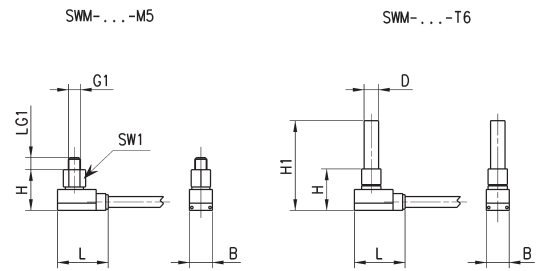
These vacuum switches can be mounted directly at the gripping point of a handling system, also when subject to high acceleration forces.

## GENERAL DATA

|                       |  |
|-----------------------|--|
| Type of vacuum switch | electronic, mini sensor and connection |
| Connection            | - M5 thread<br>- plug-in tubes         |
| Output signal         | analog or digital                      |

| CODING EXAMPLE |  |   |     |   |    |
|----------------|--|---|-----|---|----|
| SW             | M  | - | VA0 | - | T6 |
| <b>SW</b>      | SERIES<br>SW = transducer  |   |     |   |    |
| <b>M</b>       | VERSION<br>m = Micro   |   |     |   |    |
| <b>VA0</b>     | OUTPUT SIGNAL<br>VA0 = analog output<br>VD6 = digital output with switching point set to -600 mbar |   |     |   |    |
| <b>T 6</b>     | CONNECTION<br>T6 = with diam. 6 mm plung in tube<br>M5 = male thread M5                            |   |     |   |    |

Vacuum switches Series SWM



| DIMENSIONS        |     |   |    |      |      |    |     |     |
|-------------------|-----|---|----|------|------|----|-----|-----|
| Mod.              | B   | D | G1 | H    | H1   | L  | LG1 | SW1 |
| <b>SWM-VA0-M5</b> | 9,5 | - | M5 | 16,9 | -    | 21 | 5   | 8   |
| <b>SWM-VA0-T6</b> | 9,5 | 6 |    | 17,2 | 37,2 | 21 | -   | -   |
| <b>SWM-VD6-M5</b> | 9,5 | - | M5 | 16,9 | -    | 21 | 5   | 8   |
| <b>SWM-VD6-T6</b> | 9,5 | 6 |    | 17,2 | 37,2 | 21 | -   | -   |

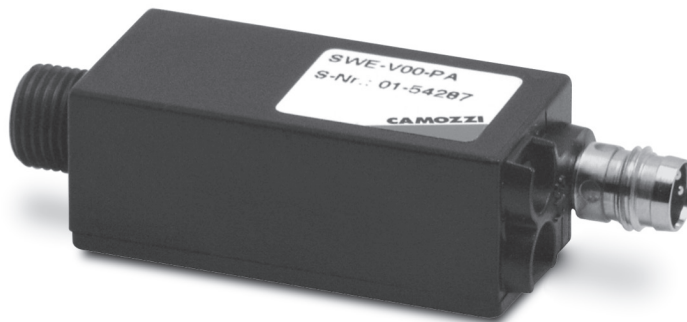
**TECHNICAL DATA**

| Mod.                           | SWM-VA0-M5  | SWM-VA0-T6  | SWM-VD6-M5  | SWM-VD6-T6  |
|--------------------------------|---|---|---|---|
| <b>Fluid</b>                   | Non-aggressive gas, dry air, without lubrication. | Non-aggressive gas, dry air, without lubrication. | Non-aggressive gas, dry air, without lubrication. | Non-aggressive gas, dry air, without lubrication. |
| <b>Work area</b>               | -1 ÷ 0 bar  | -1 ÷ 0 bar  | -1 ÷ 0 bar  | -1 ÷ 0 bar  |
| <b>Max overpressure [bar]</b>  | 5   | 5   | 5   | 5   |
| <b>Precision</b>               | ± 1% work area                                    | ± 1% work area                                    | ± 1% work area                                    | ± 1% work area                                    |
| <b>Hysteresis</b>              | -   | -   | Fixed: ca.20 mbar                                 | Fixed: ca.20 mbar                                 |
| <b>Output signal</b>           | Analogic: 1...5 V                                 | Analogic: 1...5 V                                 | Digital   | Digital   |
| <b>Max output current [mA]</b> | -   | -   | 60  | 60  |
| <b>Switching point</b>         | -   | -   | -600 mbar   | -600 mbar   |
| <b>Signalling</b>              | -   | -   | LED   | LED   |
| <b>Electric connection</b>     | Cable   | Cable   | Cable   | Cable   |
| <b>Voltage</b>                 | 10-24V-DC   | 10-24V-DC   | 10-24V-DC   | 10-24V-DC   |
| <b>IP Protection</b>           | IP 40   | IP 40   | IP 40   | IP 40   |
| <b>Temperature effect</b>      | ± 3% measurement range                            | ± 3% measurement range                            | ± 3% measurement range                            | ± 3% measurement range                            |
| <b>Operating temperature</b>   | 0°C + 50 °C                                       | 0°C + 50 °C                                       | 0°C + 50 °C                                       | 0°C + 50 °C                                       |
| <b>Weight [g]</b>              | 75  | 75  | 75  | 75  |

# Series SWE electronic vacuum/pressure switches

Running out of stock 

These vacuum sensors are available with analog and digital output.



- » Electronically precise measuring
- » Switching point and adjustable hysteresis
- » Analog and digital output

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CONTROL

#### Applications:

**universal electronic vacuum/pressure switch for safety monitoring, optimization of the cycle time or energy saving devices.**

**Thanks to the switching point and the adjustable hysteresis, this electronic vacuum/pressure switch is able to satisfy the user's needs.**

**Analog and digital output: adjustable vacuum limit value and continuous vacuum monitoring.**

#### Electric connection:

- This device functions correctly with a connector Mod. CS-DF04EG-E500 or CS-DR04EG- E500 which should be ordered separately.

## GENERAL DATA

|                                       |  |
|---------------------------------------|--|
| <b>Type of vacuum/pressure switch</b> | electronic with polycarbonate housing                |
| <b>Connection</b>                     | with G1/8 male thread and M5 female thread           |
| <b>Switching point and hysteresis</b> | adjustable through regulation screws                 |
| <b>LED</b>                            | integrated for visual indication of the switch state |
| <b>Electric connection</b>            | supply voltage via 4-pin M8 connector                |

**CODING EXAMPLE**

|           |          |          |            |          |          |          |
|-----------|----------|----------|------------|----------|----------|----------|
| <b>SW</b> | <b>E</b> | <b>-</b> | <b>V00</b> | <b>-</b> | <b>P</b> | <b>A</b> |
|-----------|----------|----------|------------|----------|----------|----------|

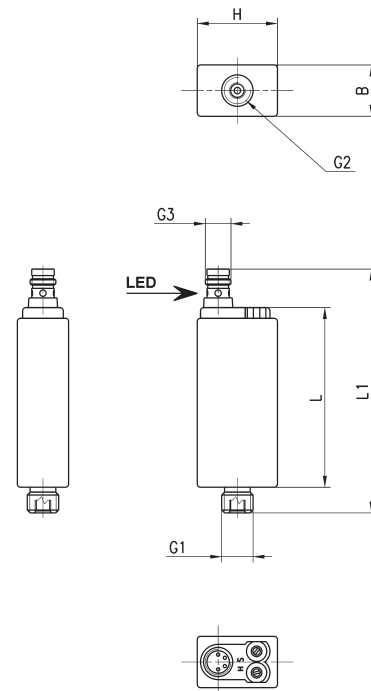
|            |   |
|------------|---|
| <b>SW</b>  | SERIES<br>SW = transducer   |
| <b>E</b>   | VERSION<br>E = ELECTRONIC   |
| <b>V00</b> | MEASUREMENT RANGE<br>V00 = from -1 to 0 bar<br>U10 = from -1 to 10 bar (for version E only) |
| <b>P</b>   | POLARITY<br>P = PNP   |
| <b>A</b>   | PNEUMATIC CONNECTION<br>A = external G1/8 male thread and internal M5 female thread         |

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CONTROL

**Vacuum / Pressure switch Series SWE**

Delivered complete with screwdriver and accessories (screw, seals and tube adaptor) needed for IP65 class.



| DIMENSIONS        |      |      |    |    |      |    |    |
|-------------------|------|------|----|----|------|----|----|
| Mod.              | B    | G1   | G2 | G3 | H    | L  | L1 |
| <b>SWE-V00-PA</b> | 15,7 | G1/8 | M5 | M8 | 19,7 | 44 | 62 |
| <b>SWE-U10-PA</b> | 15,7 | G1/8 | M5 | M8 | 19,7 | 44 | 62 |



TECHNICAL DATA

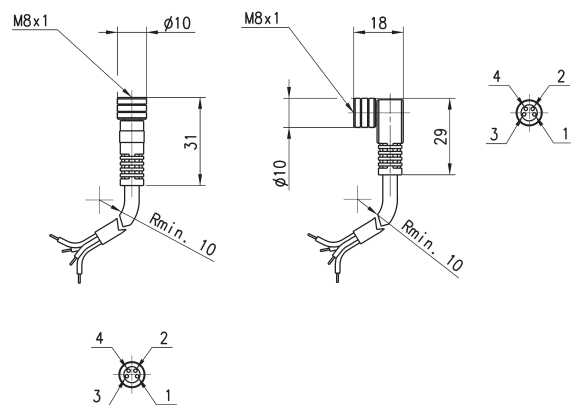
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CONTROL

|                         |  |  |
|-------------------------|--|--|
| Mod.                    | SWE-V00 PA                                       | SWE-U10-PA                                       |
| Fluid                   | Non-aggressive gas, dry air, without lubrication | Non-aggressive gas, dry air, without lubrication |
| Measurement range       | -1 + 0 bar                                       | -1 + 10 bar                                      |
| Max overpressure [bar]  | 5  | 16   |
| Repetition Precision    | ± 1% measurement range                           | ± 1% measurement range                           |
| Hysteresis              | Settable: from 3 to 25 % set value.              | Settable: from 3 to 25 % set value.              |
| Output signal           | 1 Analogic(1...5 V) and 1 digital settable.      | 1 Analogic (1...5 V) ed 1 digital settable.      |
| Max output current [mA] | 125  | 125  |
| Switching time [ms]     | 5  | 5  |
| Signalling              | LED  | LED  |
| Electric connection     | Connector M8 4 pins                              | Connector M8 4 pins                              |
| Pneumatic connection    | G1/8 male and M5 female                          | G1/8 male and M5 female                          |
| Voltage                 | 10.8 - 30 V - DC                                 | 10.8 - 30 V - DC                                 |
| Input current [mA]      | 30   | 30   |
| IP Protection           | IP 40/65 (with flexible cable)                   | IP 40/65 (with flexible cable)                   |
| Temperature effect      | ± 3% measurement range                           | ± 3% measurement range                           |
| Operating temperature   | 0°C + 50°C                                       | 0°C + 50°C                                       |
| Weight [g]              | 30   | 30   |

Circular M8 4-pole connectors, Female

With PU sheathing, non shielded cable.  
Protection class: IP65



| Mod.           | Type of connector        | Cable length (m) |
|----------------|--------------------------|------------------|
| CS-DF04EG-E200 | straight                 | 2                |
| CS-DF04EG-E500 | straight                 | 5                |
| CS-DR04EG-E200 | right angle (90 degrees) | 2                |
| CS-DR04EG-E500 | right angle (90 degrees) | 5                |

# Series SWD electronic vacuum/pressure switches

Running out of stock

With digital display  
High precision, easy to use.



- » Compact and lightweight.
- » Digital display: electronically precise switching with two separate switch outputs
- » Switching point and hysteresis programmable with the key pad.
- » Two separately programmable digital outputs allow to set the upper and lower limit value.
- » Special functions programmable: further adaption is possible.

#### APPLICATIONS:

- electronic vacuum/pressure switch for safety monitoring, optimization of cycle times or energy saving devices;
- it can be installed directly on the gripping point of a handling system;
- setting of the limit vacuum value and continuous vacuum control;
- user friendly and suitable for user's requirements.

#### Electric connections:

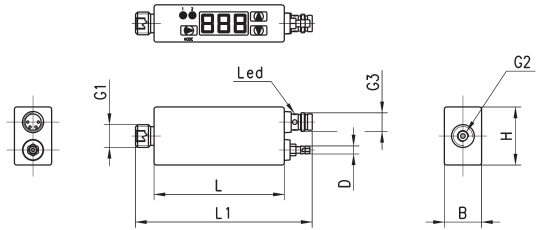
- This device operates correctly with a connector Mod. CS-DF04EG-E500 which should be ordered separately.
- Further details at the end of this section.

### GENERAL DATA

|                                |   |
|--------------------------------|---|
| Type of vacuum/pressure switch | electronic with polycarbonate housing   |
| Connection                     | - vacuum connection G1/8 male thread and M5 female thread<br>- pressure connection G1/8 male thread and M5 female |
| Display                        | 3 digit display pad to regulate setting point   |
| LED                            | integrated for the indication of switching state  |
| Electric connection            | with 4-pole M8 connector  |

| CODING EXAMPLE |   |
|----------------|---|
| <b>SW</b>      | <b>D</b> <b>-</b> <b>V00</b> <b>-</b> <b>P</b> <b>A</b>             |
| <b>SW</b>      | SERIES<br>SW = transducer   |
| <b>D</b>       | VERSION<br>D = electronic with digital display                      |
| <b>V00</b>     | MEASURING RANGE<br>V00 = from -1 to 0 bar<br>P10 = from 0 to 10 bar |
| <b>P</b>       | POLARITY<br>P = PNP   |
| <b>A</b>       | PNEUMATIC CONNECTION<br>A = G1/8 male thread and M5 female thread   |

Vacuum/Pressure switch Series SWD



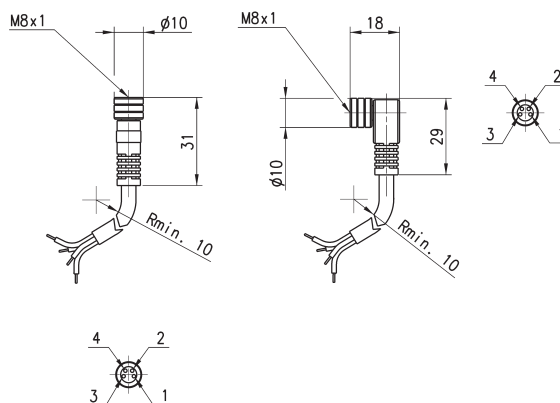
| DIMENSIONS        |    |     |      |    |    |      |      |      |
|-------------------|----|-----|------|----|----|------|------|------|
| Mod.              | B  | D   | G1   | G2 | G3 | H    | L    | L1   |
| <b>SWD-V00-PA</b> | 16 | -   | G1/8 | M5 | M8 | 24,7 | 58,5 | 75,5 |
| <b>SWD-P10-PA</b> | 16 | 3,4 | G1/8 | M5 | M8 | 24,7 | 58,5 | 75,5 |

## TECHNICAL DATA

| Mod.                                | SWD-V00 PA  | SWD-P10-PA  |
|-------------------------------------|---|---|
| <b>Fluid</b>                        | Non-aggressive gas, dry air, without lubrication.         | Non-aggressive gas, dry air, without lubrication.         |
| <b>Measurement range</b>            | -1 ÷ 0 bar  | -1 ÷ 10 bar   |
| <b>Max overpressure [bar]</b>       | 5   | 16  |
| <b>Precision</b>                    | ± 1% measurement range                                    | ± 1% measurement range                                    |
| <b>Hysteresis</b>                   | Settable: from 0 to 100 % of set value or comparator mode | Settable: from 0 to 100 % of set value or comparator mode |
| <b>Output signal</b>                | 2 digital   | 2 digital   |
| <b>Max output current [mA]</b>      | 180   | 180   |
| <b>Signalling</b>                   | 2 x LED   | 2 x LED   |
| <b>View resolution</b>              | 0,01 bar, 5 mmHg, 0,2 inHg, 1 kPa                         | 0,01 bar, 5 mmHg, 0,2 inHg, 1 kPa                         |
| <b>View unit</b>                    | bar, mmHg, inHg, kPa                                      | bar, mmHg, inHg, kPa                                      |
| <b>Measurement value displaying</b> | LED 3-digit 7-segments                                    | LED 3-digit 7-segments                                    |
| <b>Electric connection</b>          | Connector M8 4 Poles                                      | Connector M8 4 Poles                                      |
| <b>Pneumatic connection</b>         | G1/8 male ed M5 female                                    | G1/8 male ed M5 female                                    |
| <b>Voltage</b>                      | 10.8-30V DC   | 10.8-30V DC   |
| <b>Current Consumption [mA]</b>     | < 55  | < 55  |
| <b>IP Protection</b>                | IP 40/65 (with flexible tube)                             | IP 40/65 (with flexible tube)                             |
| <b>Temperature effect</b>           | ± 3% measurement range                                    | ± 3% measurement range                                    |
| <b>Operating temperature</b>        | 0°C ÷ 50 °C   | 0°C ÷ 50 °C   |
| <b>Weight [g]</b>                   | 30  | 30  |

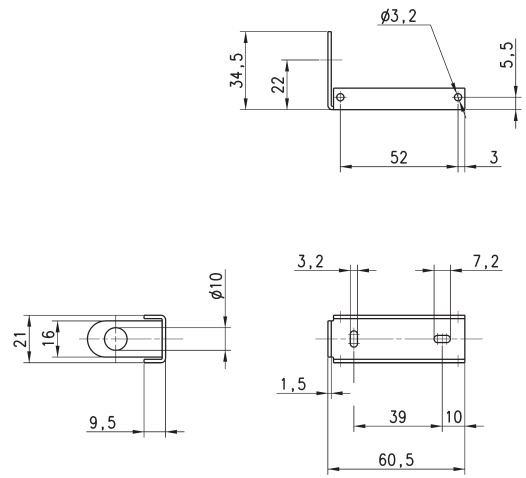
## Circular M8 4-pole connectors, Female

With PU sheathing, non shielded cable.  
Protection class: IP65



| Mod.           | Type of connector        | Cable length (m) |
|----------------|--------------------------|------------------|
| CS-DF04EG-E200 | straight                 | 2                |
| CS-DF04EG-E500 | straight                 | 5                |
| CS-DR04EG-E200 | right angle (90 degrees) | 2                |
| CS-DR04EG-E500 | right angle (90 degrees) | 5                |

Accessories



Mod.  
SWD-B

# Series SWDN electronic vacuum/pressure switches

With digital display  
High precision, easy to use



- » Compact and lightweight
- » Digital indicator: precision electronic insertion with two separated switch outputs
- » Switching point and hysteresis can be programmed with a membrane keypad.

#### APPLICATIONS:

- electronic vacuum/pressure switch for safety monitoring, optimization of cycle times or energy saving devices;
- it can be installed directly on the gripping point of a handling system;
- setting of the limit vacuum value and continuous vacuum control;
- perfectly suitable for customer needs.

#### ELECTRIC CONNECTION:

the device is available with hardwired cable of 2 meters or can be supplied with M8 connector. Accessories and extensions have to be ordered separately. Codes can be found at the end of this section.

## GENERAL DATA

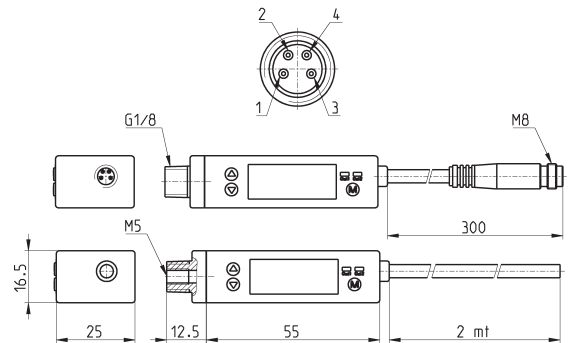
|                                |  |
|--------------------------------|--|
| Type of pressure/vacuum switch | electronic with polycarbonate housing                      |
| Port                           | with external thread G1/8 and internal thread M5           |
| Display                        | 3 digit display with membrane keypad for the values set up |
| LED                            | integrated LED indicators for switching state              |
| Electric connection            | with M8 4-pole connector or pre-wired cable of 2 meters    |

| CODING EXAMPLE |  |     |   |    |   |   |
|----------------|--|-----|---|----|---|---|
| SWDN           | -  | V01 | - | P3 | - | 2 |
| <b>SWDN</b>    | SERIES   |     |   |    |   |   |
| <b>V01</b>     | SET PRESSURE RANGE:<br>V01 = from -1 bar to 1 bar<br>P10 = from 0 bar to 10 bar  |     |   |    |   |   |
| <b>P3</b>      | TYPE OF ELECTRIC CONNECTION:<br>P3 = 2 PNP outputs + 1 analog output 1 - 5 V DC (this version is available with 5-pole cable only)<br>P4 = 2 PNP outputs |     |   |    |   |   |
| <b>2</b>       | ELECTRIC CONNECTION:<br>2 = cable of 2 meters<br>M = M8 4 pin connector  |     |   |    |   |   |



Vacuum/Pressure switch Series SWDN

- 1 = brown (+)
- 2 = white (OUT 2)
- 3 = blue (-)
- 4 = black (OUT 1)



|               |
|---------------|
| Mod.          |
| SWDN-V01-P3-2 |
| SWDN-V01-P4-2 |
| SWDN-V01-P4-M |
| SWDN-P10-P3-2 |
| SWDN-P10-P4-2 |
| SWDN-P10-P4-M |

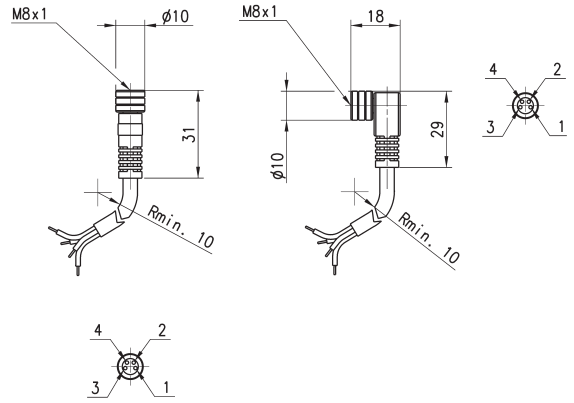
**TECHNICAL DATA**
**CHARACTERISTICS**

|   | SWDN-V01-...  | SWDN-P10-...                   |
|---|---|--------------------------------|
| <b>Rated pressure range (set-value)</b>                           | -1 + 1 bar  | 0 + 10 bar                     |
| <b>Setting pressure range (it can be displayed on the screen)</b> | -1 + 1 bar  | -1 + 10 bar                    |
| <b>Withstand (Maximum) pressure</b>                               | 3 bar   | 15 bar                         |
| <b>Fluid</b>  | Air, non-corrosive gases, incombustible gases   |                                |
| <b>Set pressure resolution:</b>                                   |   |                                |
| kPa   | 0,1   | -                              |
| MPa   | -   | 0,001                          |
| Kgf/cm <sup>2</sup>   | 0,001   | 0,01                           |
| bar   | 0,001   | 0,01                           |
| Psi   | 0,01  | 0,1                            |
| InHg  | 0,1   | -                              |
| mmHg  | 1   | -                              |
| mmH <sub>2</sub> O  | 0,1   | -                              |
| <b>Power supply voltage</b>                                       | 12-24 VDC ± 10%, ripple (P-P) 10% or less   |                                |
| <b>Current consumption</b>  | ≤ 55mA  |                                |
| <b>PNP switch output</b>  | 2 outputs with open collector<br>max. load current of 80mA<br>max. power supply voltage of 24VDC<br>residual voltage ≤ 1V (with load current of 80mA) |                                |
| <b>Repeatability (switch output)</b>                              | ≤ ± 0,2% F.S. ± 1 digit   |                                |
| <b>Analog output (where foreseen)</b>                             | 1 - 5V ± 5% F.S.<br>(within the linear range: ≤ ± 1% F.S.)  | 1 - 5V ± 2,5% F.S.             |
| <b>Hysteresis:</b>  | Hysteresis mode<br>Window comparator mode   | Adjustable<br>Fixed (3 digits) |
| <b>Response time</b>  | ≤ 2,5ms (chattering-proof function: 24ms, 192ms and 768ms)  |                                |
| <b>Output short circuit protection</b>                            | YES   |                                |
| <b>7 segment LED display</b>                                      | 3 ½ digit (sampling rate of 5 times/sec)  |                                |
| <b>Indicator accuracy</b>   | ≤ ± 2% F.S. ± 1 digit (ambient temperature: 25 ± 3°C)   |                                |
| <b>Indicator</b>  | green LED (OUT1), red LED (OUT2)  |                                |
| <b>Environment:</b>   | IP40  |                                |
| <b>Protection class</b>   | IP40  |                                |
| <b>Temperature</b>  | Operation: 0 + 50°C<br>Storage: -20 + 60°C<br>(without condensation or freezing)  |                                |
| <b>Relative humidity</b>  | Operation/Storage: 35 + 85%<br>(without condensation)   |                                |
| <b>Withstand (Max.) voltage</b>                                   | 1000 VAC in 1 min (between case and lead wire)  |                                |
| <b>Insulation resistance</b>                                      | 50MΩ min. (at 500VDC between case and lead wire)  |                                |
| <b>Vibration</b>  | Total amplitude 1.5 mm<br>10Hz-55Hz-10Hz scan for 1 minute<br>2 hours each direction of X, Y and Z  |                                |
| <b>Shock</b>  | 980 m/s <sup>2</sup> (100G)<br>3 times each direction of X, Y and Z   |                                |
| <b>Changes due to temperature</b>                                 | ≤ ± 2% F.S. of detected pressure (25°C) within the operating temperature range  |                                |
| <b>Port size</b>  | G1/8 - M5   |                                |
| <b>Lead wire</b>  | Oil-resistance cable (0,15 mm <sup>2</sup> )  |                                |
| <b>Weight</b>   | About 67 g for the version with 2-meter lead wire<br>About 35 g for the version with male connector   |                                |



Circular M8 4-pole connectors, Female

Protection class: IP65  
Materials: PU non shielded cable



| Mod.           | Type of connector | Cable length (m) |
|----------------|-------------------|------------------|
| CS-DF04EG-E200 | straight          | 2                |
| CS-DF04EG-E500 | straight          | 5                |
| CS-DR04EG-E200 | 90°               | 2                |
| CS-DR04EG-E500 | 90°               | 5                |

# Series SWC electronic vacuum/pressure switches

Running out of stock

With digital display  
High precision, easy to use

2

CONTROL



- » Compact and lightweight
- » Digital display: electronically precise switching with two separate switching outputs.
- » Switching point and hysteresis programmable with the key pad.
- » Two separately programmable digital outputs allow to set the upper and lower limit value.
- » Special functions programmable: further adaptation is possible.

#### Applications:

- electronic vacuum/pressure switch for safety monitoring, optimization of cycle times or energy saving devices;
- it can be installed directly on the gripping point of a handling system;
- setting of the limit vacuum value and continuous vacuum control;
- user friendly and suitable for user's requirements.

#### Electric connections:

- This device functions correctly with a connector Mod. CS-DFO4EG-E500 or CS-DR04EG-E500 which should be ordered separately.
- Further details at the end of this section.

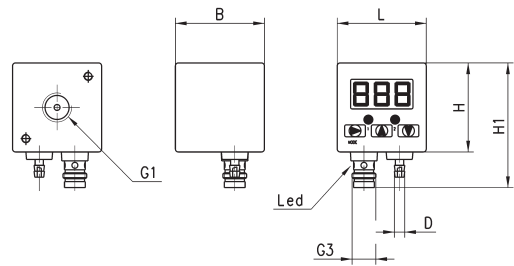
## GENERAL DATA

|                                       |  |
|---------------------------------------|--|
| <b>Type of vacuum/pressure switch</b> | electronic with polycarbonate housing                      |
| <b>Vacuum switch connection</b>       | - vacuum connection with G1/8 male thread                  |
| <b>Pressure switch</b>                | - pressure connection G1/8 male thread                     |
| <b>Display</b>                        | 3 digit display and key pad to regulate the setting points |
| <b>LED</b>                            | integrated LED for the indication of the switching state   |
| <b>Electric connection</b>            | with 4-pin M8 connector                                    |

| CODING EXAMPLE |   |   |     |   |   |  |
|----------------|---|---|-----|---|---|--|
| SW             | C   | - | V00 | - | P |  |
| <b>SW</b>      | SERIES<br>SW = transducer   |   |     |   |   |  |
| <b>C</b>       | VERSION<br>C = cube shape with digital display                      |   |     |   |   |  |
| <b>V00</b>     | MEASURING RANGE<br>V00 = from -1 to 0 bar<br>P10 = from 0 to 10 bar |   |     |   |   |  |
| <b>P</b>       | POLARITY<br>P = PNP   |   |     |   |   |  |



Vacuum/pressure switch Series SWC



| DIMENSIONS       |    |     |      |    |    |    |    |
|------------------|----|-----|------|----|----|----|----|
| Mod.             | B  | D   | G1   | G3 | H  | H1 | L  |
| <b>SWC-V00-P</b> | 29 | 3,4 | G1/8 | M8 | 30 | 40 | 30 |
| <b>SWC-P10-P</b> | 29 | 3,4 | G1/8 | M8 | 30 | 40 | 30 |

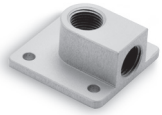
## TECHNICAL DATA

2

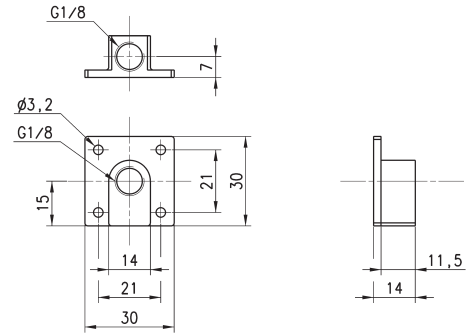
CONTROL

| Mod.                                | SWC-V00-P   | SWC-P10-P   |
|-------------------------------------|---|---|
| <b>Fluid</b>                        | Non-aggressive gas, dry air, without lubrication          | Non-aggressive gas, dry air, without lubrication          |
| <b>Measurement range</b>            | -1 ÷ 0 bar  | 0 ÷ 10 bar  |
| <b>Max overpressure [bar]</b>       | 5   | 16  |
| <b>Precision</b>                    | ± 1% measurement range                                    | ± 1% measurement range                                    |
| <b>Hysteresis</b>                   | settable: from 0 to 100 % of set value or comparator mode | settable: from 0 to 100 % of set value or comparator mode |
| <b>Output signal</b>                | 2 digital   | 2 digital   |
| <b>Max output current [mA]</b>      | 180   | 180   |
| <b>Signalling</b>                   | 2 x LED   | 2 x LED   |
| <b>View resolution</b>              | 0,01 bar, 5 mmHg, 0,2 inHg, 1 kPa                         | 0,01 bar, 5 mmHg, 0,2 inHg, 1 kPa                         |
| <b>View unit</b>                    | bar, mmHg, inHg, kPa                                      | bar, mmHg, inHg, kPa                                      |
| <b>Measurement value displaying</b> | LED 3-digit 7-segments                                    | LED 3-digit 7-segments                                    |
| <b>Electric connection</b>          | Connector M8 4 Poles                                      | Connector M8 4 Poles                                      |
| <b>Pneumatic connection</b>         | G1/8 female   | G1/8 female   |
| <b>Voltage</b>                      | 10.8 - 30 V DC  | 10.8 - 30 V DC  |
| <b>Current consumption [mA]</b>     | < 55  | < 55  |
| <b>IP Protection</b>                | IP 40/65 (with flexible tube)                             | IP 40/65 (with flexible tube)                             |
| <b>Temperature effect</b>           | ± 3% measurement range from 0 to 50°C                     | ± 3% measurement range from 0 to 50°C                     |
| <b>Operating temperature</b>        | 0°C ÷ 50 °C   | 0°C ÷ 50 °C   |
| <b>Weight [g]</b>                   | 35  | 35  |

Bracket Mod. SWC-E

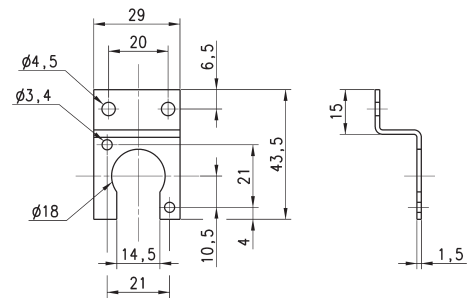


The bracket is delivered complete with fixing screws and O-ring seal.



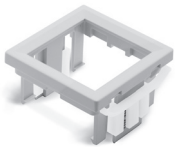
Mod.  
**SWC-E**

Bracket Mod. SWC-B

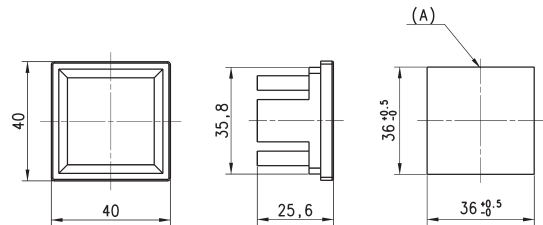


Mod.  
**SWC-B**

Panel mounting bracket Mod. SWC-F



A = dimensions of bay for panel mounting  
Thickness of the panel: from 1 to 6 mm

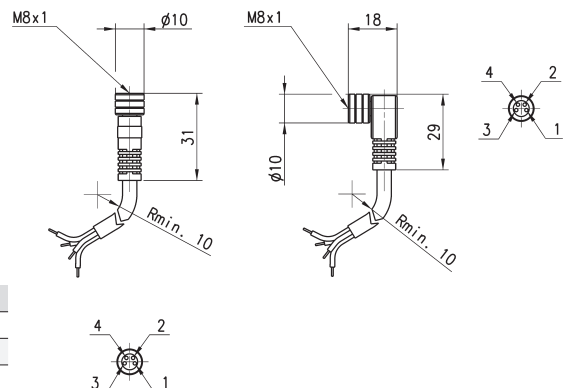


Mod.  
**SWC-F**

Circular M8 4-pole connectors, Female



With PU sheathing, non shielded cable.  
Protection class: IP65



| Mod.                  | Type of connector        | Cable length (m) |
|-----------------------|--------------------------|------------------|
| <b>CS-DF04EG-E200</b> | straight                 | 2                |
| <b>CS-DF04EG-E500</b> | straight                 | 5                |
| <b>CS-DR04EG-E200</b> | right angle (90 degrees) | 2                |
| <b>CS-DR04EG-E500</b> | right angle (90 degrees) | 5                |

# Series SWCN electronic vacuum/pressure switches

With digital display  
High precision, easy to use

2

CONTROL



- » Compact and lightweight
- » Digital indicator: precised electronic insertion with two separated switch outputs
- » Switching point and hysteresis can be programmed with a membrane keypad
- » Upper and lower limit values can be programmed through two PNP switch outputs

#### APPLICATIONS:

- electronic vacuum/pressure switch for safety monitoring, optimization of cycle times or energy saving devices;
- it can be installed directly on the gripping point of a handling system;
- setting of the limit vacuum value and continuous vacuum control;
- perfectly suitable for customer needs.

#### ELECTRIC CONNECTION:

the device is available with hardwired cable of 2 meters or can be supplied with M8 connector. Accessories and extensions have to be ordered separately. Codes can be found at the end of this section.

## GENERAL DATA

|                                       |  |
|---------------------------------------|--|
| <b>Type of pressure/vacuum switch</b> | electronic with polycarbonate housing                      |
| <b>Port</b>                           | with external thread G1/8 and internal thread M5           |
| <b>Display</b>                        | 3 digit display with membrane keypad for the values set up |
| <b>LED</b>                            | integrated LED indicators for switching state              |
| <b>Electric connection</b>            | with M8 4-pole connector or pre-wired cable of 2 meters    |

**CODING EXAMPLE**

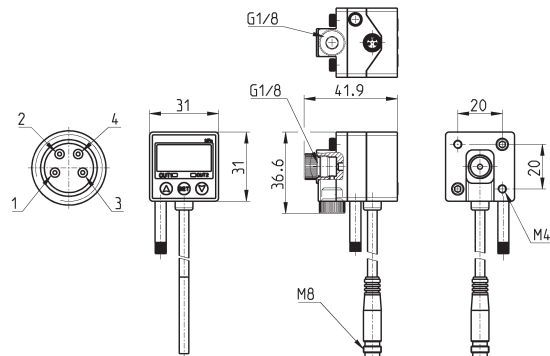
|             |          |            |          |           |          |          |
|-------------|----------|------------|----------|-----------|----------|----------|
| <b>SWCN</b> | <b>-</b> | <b>V01</b> | <b>-</b> | <b>P3</b> | <b>-</b> | <b>2</b> |
|-------------|----------|------------|----------|-----------|----------|----------|

|             |  |
|-------------|--|
| <b>SWCN</b> | SERIES   |
| <b>V01</b>  | SET PRESSURE RANGE:<br>V01 = from -1 bar to 1 bar<br>P10 = from 0 bar to 10 bar  |
| <b>P3</b>   | TYPE OF ELECTRIC CONNECTION:<br>P3 = 2 PNP outputs + 1 analog output 1 - 5 V DC (this version is available with 5-pole cable only)<br>P4 = 2 PNP outputs |
| <b>2</b>    | ELECTRIC CONNECTION:<br>2 = cable of 2 meters<br>M = M8 4 pin connector  |



Vacuum/Pressure switch Series SWCN

- 1 = brown (+)
- 2 = white (OUT 2)
- 3 = blue (-)
- 4 = black (OUT 1)



|                      |
|----------------------|
| Mod.                 |
| <b>SWCN-V01-P3-2</b> |
| <b>SWCN-V01-P4-2</b> |
| <b>SWCN-V01-P4-M</b> |
| <b>SWCN-P10-P3-2</b> |
| <b>SWCN-P10-P4-2</b> |
| <b>SWCN-P10-P4-M</b> |

**TECHNICAL DATA**
**CHARACTERISTICS**

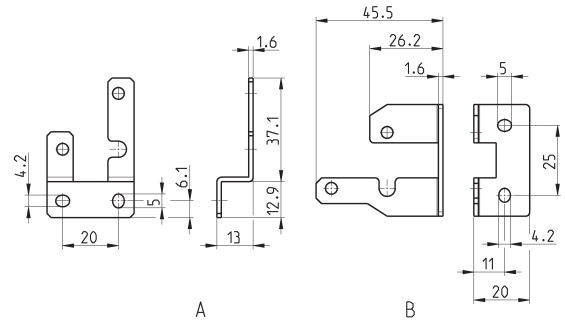
|   |                                 | SWCN-V01-...  | SWCN-P10-...       |
|---|---------------------------------|---|--------------------|
| <b>Rated pressure range (set-value)</b>                           |                                 | -1 + 1 bar  | 0 + 10 bar         |
| <b>Setting pressure range (it can be displayed on the screen)</b> |                                 | -1 + 1 bar  | -1 + 10 bar        |
| <b>Withstand (Maximum) pressure</b>                               |                                 | 3 bar   | 15 bar             |
| <b>Fluid</b>  |                                 | Air, non-corrosive gases, incombustible gases   |                    |
| <b>Set pressure resolution:</b>                                   | kPa                             | 0,1   | -                  |
|   | MPa                             | -   | 0,001              |
|   | Kgf/cm <sup>2</sup>             | 0,001   | 0,01               |
|   | bar                             | 0,001   | 0,01               |
|   | Psi                             | 0,01  | 0,1                |
|   | InHg                            | 0,1   | -                  |
|   | mmHg                            | 1   | -                  |
| <b>Power supply voltage</b>                                       |                                 | 12-24 VDC ± 10%, ripple (P-P) 10% or less   |                    |
| <b>Current consumption</b>  |                                 | ≤ 55mA  |                    |
| <b>PNP switch output</b>  |                                 | 2 outputs with open collector<br>max. load current of 80mA<br>max. power supply voltage of 24VDC<br>residual voltage ≤ 1V (with load current of 80mA) |                    |
| <b>Repeatability (switch output)</b>                              |                                 | ≤ ± 0,2% F.S. ± 1 digit   |                    |
| <b>Analog output (where foreseen)</b>                             |                                 | 1 - 5V ± 5% F.S.<br>(within the linearity range: ≤ ± 1% F.S.)   | 1 - 5V ± 2,5% F.S. |
| <b>Hysteresis:</b>  | Hysteresis mode                 | Adjustable  |                    |
|   | Window comparator mode          | Fixed (3 digits)  |                    |
| <b>Response time</b>  |                                 | ≤ 2,5ms (chattering-proof function: 24ms, 192ms and 768ms)  |                    |
| <b>Output short circuit protection</b>                            |                                 | YES   |                    |
| <b>7 segment LED display</b>                                      |                                 | 3 ½ digit (sampling rate of 5 times/sec)  |                    |
| <b>Indicator accuracy</b>   |                                 | ≤ ± 2% F.S. ± 1 digit (ambient temperature: 25 ± 3°C)   |                    |
| <b>Indicator</b>  |                                 | green LED (OUT1), red LED (OUT2)  |                    |
| <b>Environment:</b>   | <b>Protection class</b>         | IP65  |                    |
|   | <b>Temperature</b>              | Operation: 0 + 50°C<br>Storage: -20 + 60°C<br>(without condensation or freezing)  |                    |
|   | <b>Relative humidity</b>        | Operation/Storage: 35 + 85%<br>(without condensation)   |                    |
|   | <b>Withstand (Max.) voltage</b> | 1000 VAC in 1 min ((between case and lead wire)   |                    |
|   | <b>Insulation resistance</b>    | 50MΩ min. (at 500VDC between case and lead wire)  |                    |
|   | <b>Vibration</b>                | Total amplitude 1.5 mm<br>10Hz-55Hz-10Hz scan for 1 minute<br>2 hours each direction of X, Y and Z  |                    |
|   | <b>Shock</b>                    | 980 m/s <sup>2</sup> (100G)<br>3 times each direction of X, Y and Z   |                    |
| <b>Changes due to temperature</b>                                 |                                 | ≤ ± 2% F.S. of detected pressure (25°C) within the operating temperature range  |                    |
| <b>Port size</b>  |                                 | G1/8 - M5   |                    |
| <b>Lead wire</b>  |                                 | Oil-resistance cable(0,15 mm <sup>2</sup> )   |                    |
| <b>Weight</b>   |                                 | About 105 g for the version with 2-meter lead wire<br>About 71 g for the version with male connector  |                    |



### Mounting bracket Mod. SWCN-B



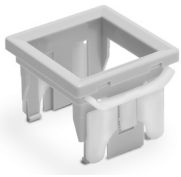
- Supplied with:
- 4 fixing screws M4x5 ISO 724 (fine pitch)
  - 1 fixing bracket for surface mounting (A)
  - 1 fixing bracket for wall mounting (B)



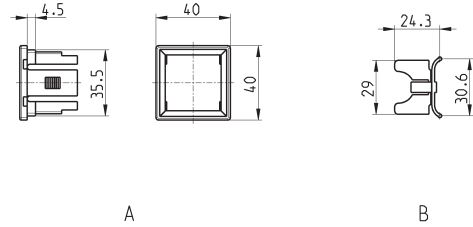
Mod.  
**SWCN-B**

2

### Panel mounting set Mod. SWCN-F



- Supplied with:
- 1 pressure switch holder (A)
  - 2 panel mounting brackets (B)

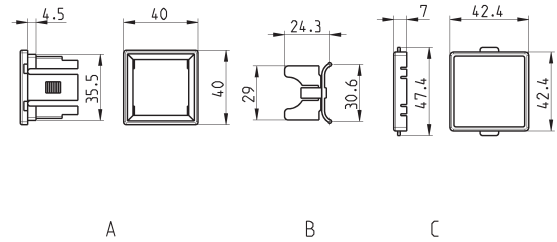


Mod.  
**SWCN-F**

### Panel mounting set + transparent cover Mod. SWCN-FP



- Supplied with:
- 1 pressure switch holder (A)
  - 2 panel mounting brackets (B)
  - 1 transparent cover (C)

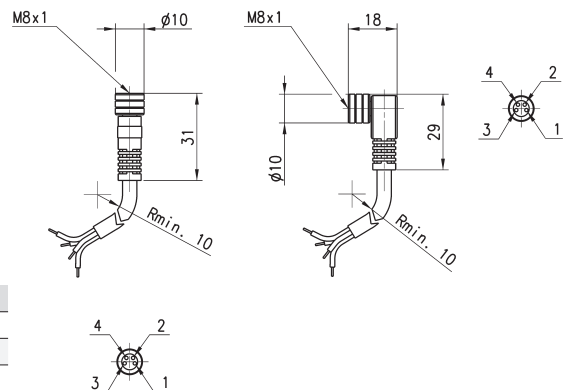


Mod.  
**SWCN-FP**

### Circular M8 4-pole connectors, Female



With PU sheathing, non shielded cable.  
Protection class: IP65

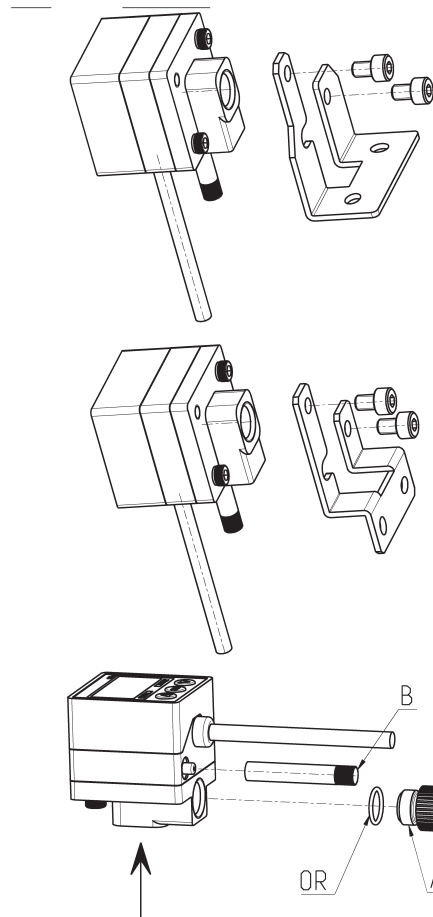


| Mod.                  | Type of connector        | Cable length (m) |
|-----------------------|--------------------------|------------------|
| <b>CS-DF04EG-E200</b> | straight                 | 2                |
| <b>CS-DF04EG-E500</b> | straight                 | 5                |
| <b>CS-DR04EG-E200</b> | right angle (90 degrees) | 2                |
| <b>CS-DR04EG-E500</b> | right angle (90 degrees) | 5                |

**Example of mounting with bracket Mod. SWCN-B and standard accessories**
**A: ADDITIONAL POWER SUPPLY**

In case of use, please unscrew plug A from one side and mount it on the other one.

B: Use of the AIR FILTER TUBE to reach the IP 65 protection class.


**Example of mounting with panel mounting set Mod. SWCN-F**

A = PANEL MOUNTING SET MOD. SWCN-F

B = PRESSURE SWITCH MOD. SWCN-...

C = PANEL

