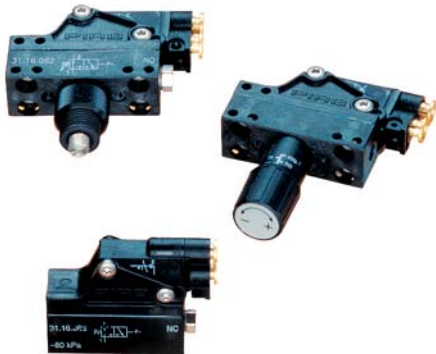


## Vacuum switches, pneumatic



- Converts a vacuum level to a pneumatic signal.
- Vacuum-actuated membrane linked to a pneumatic switch.
- Available preset or with adjustable vacuum level.

### Technical data

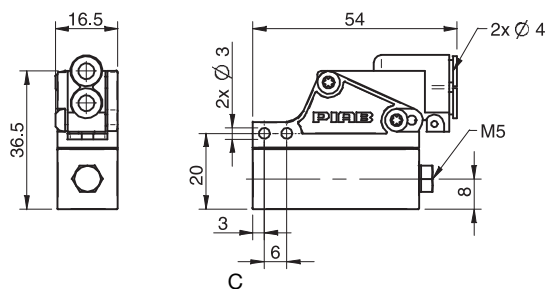
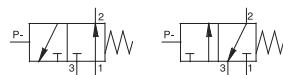
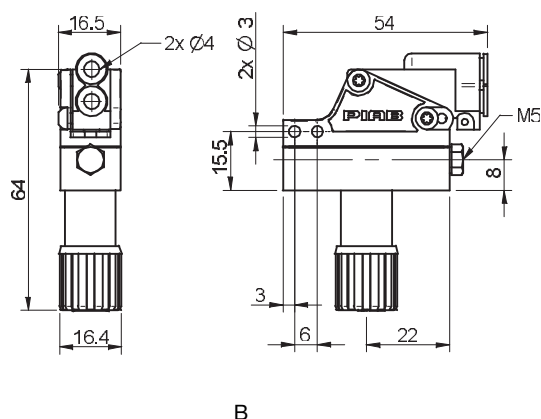
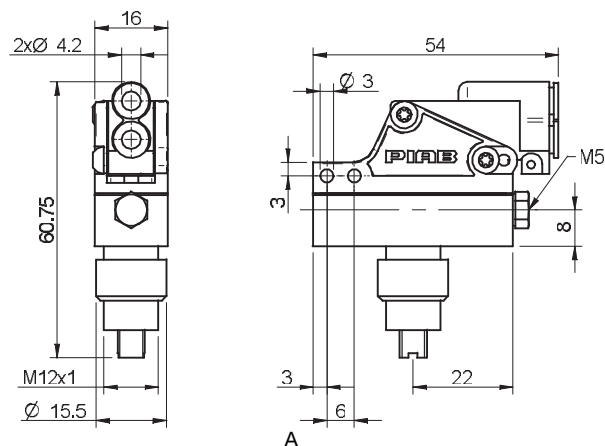
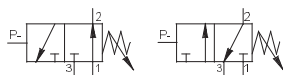
Description	Unit	Value
Feed pressure, range	MPa	0.15–0.8
Feed pressure, max @ vacuum connection	MPa	0.6
Material		PA, SS, NBR, POM, Al, CuZn
Temperature range	°C	-10-60
Weight	g	39
Connection, compressed air	mm	2 x Ø4
Connection, vacuum	mm	M5

### Technical data, specific

Description	Unit	Value								
		3116069	3116062	3116070	3116063	3116083	3116084	3116085	3116087	3116088
Vacuum, level setting		Knob	Screw	Knob	Screw	Preset	Preset	Preset	Preset	Preset
Signal range	-kPa	10–95	10–95	15–95	15–95	10±2	25±4	65±8	30±5	70±10
Function output		NO	NO	NC	NC	NO	NO	NO	NC	NC
Hysteresis	kPa	3	3	12	12	3	3	3	12	12

## Ordering information

	Description	Art. No.
A	Vacuum switch, pneumatic, adjustable with screw (NO)	3116062
A	Vacuum switch, pneumatic, adjustable with screw (NC)	3116063
B	Vacuum switch, pneumatic, adjustable with knob (NO)	3116069
B	Vacuum switch, pneumatic, adjustable with knob (NC)	3116070
C	Vacuum switch, pneumatic, preset (NO 10 -kPa)	3116083
C	Vacuum switch, pneumatic, preset (NO 25 -kPa)	3116084
C	Vacuum switch, pneumatic, preset (NO 65 -kPa)	3116085
C	Vacuum switch, pneumatic, preset (NC 30 -kPa)	3116087
C	Vacuum switch, pneumatic, preset (NC 70 -kPa)	3116088



## Ordering information, accessories

Description	Art. No.
Connection set for vacuum switch	0100488

Contents: Barrel nipple G1/8" M5 long, hose connector 4/2 M5. Material: Nickel-plated brass, SS, PA66, NBR, PA6. Fits: All pre-set and adjustable vacuum switches.

## Vacuum switches VS4118/VS4128



- ▶ Pre-set vacuum switch with digital output.
- ▶ Durable and compact design with G1/8" 90° angle swivel connection for easy installation.
- ▶ VS4118 hardwired enables PNP NO/NC or NPN NO/NC functionality.
- ▶ VS4128 suitable for plug in I/Os. Available in PNP NO or NPN NO models.
- ▶ Possible to connect several units serially with T-connectors to provide a common output (VS4128 PNP).

### Technical data

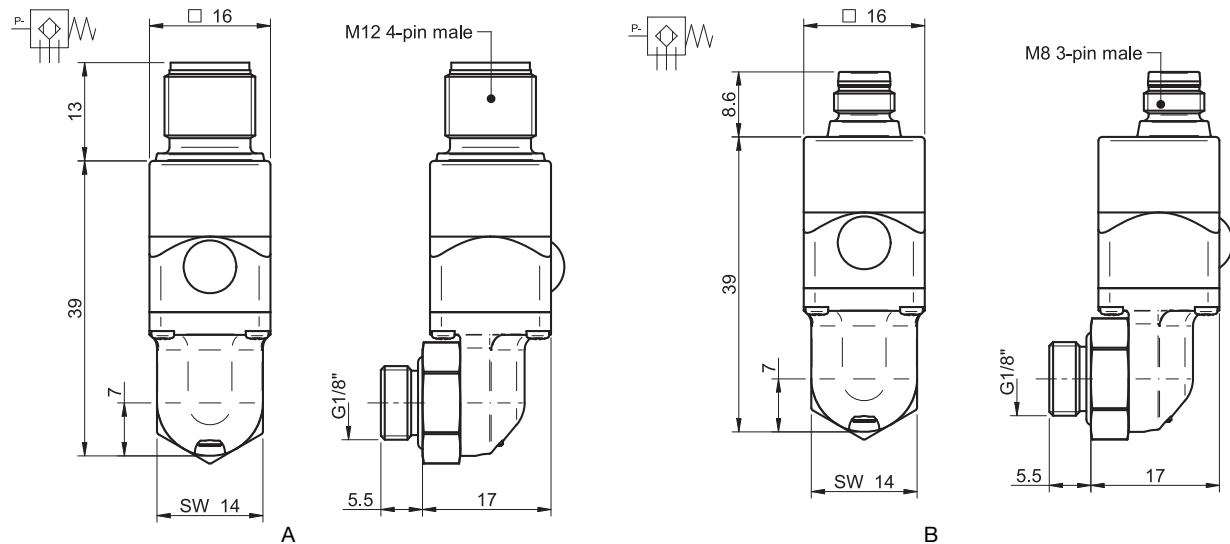
Description	Unit	Value
Feed pressure, max @ vacuum connection	MPa	0.6
Material		AL, SS, CuZn, PA
Temperature range	°C	-25 – 85
Weight	g	23
Connection, vacuum		G1/8"
Function		NO/NC
Hysteresis	kPa	8
Voltage	VDC	24 (12-30)
Safety classification		IP65
Current, max inductive	A	0,1
Current, max resistive	A	0,4
Voltage drop, max (100mA/24V inductive load)	VDC	0.055
Response time	ms	4
Display		LED indicator

### Technical data, specific

Description	Unit	Value							
		0110630	0124449	0110631	0124450	0110632	0110730	0110731	0110732
Signal range	-kPa	30±4	30±4	50±4	50±4	70±4	30±4	50±4	70±4
Electric connection		M12 4-pin	M12 4-pin	M12 4-pin	M12 4-pin	M12 4-pin	M8 3-pin	M8 3-pin	M8 3-pin
Dimension, WxDxH	mm	52x16x17	52x16x17	52x16x17	52x16x17	52x16x17	47.6x16x17	47.6x16x17	47.6x16x17

## Ordering information

	Description	Art. No.
A	Vacuum Switch VS4128 30 -kPa, M12 PNP NO	0110630
A	Vacuum Switch VS4128 50 -kPa, M12 PNP NO	0110631
A	Vacuum Switch VS4128 70 -kPa, M12 PNP NO	0110632
A	Vacuum switch VS4128 30 -kPa, M12 NPN NO	0124449
A	Vacuum Switch VS4128 50 -kPa, M12 NPN NO	0124450
B	Vacuum Switch VS4118 30 -kPa, M8 PNP/NPN NO/NC	0110730
B	Vacuum Switch VS4118 50 -kPa, M8 PNP/NPN NO/NC	0110731
B	Vacuum Switch VS4118 70 -kPa, M8 PNP/NPN NO/NC	0110732



## Ordering information, accessories

Description	Art. No.
Cable M8 3-pin female L=2m	0108141
Cable M12 4-pin female L=1.5m	0118961
Cable M12 4-pin female, LED indicator, PUR, L=5m	0118013

## T-connector M12



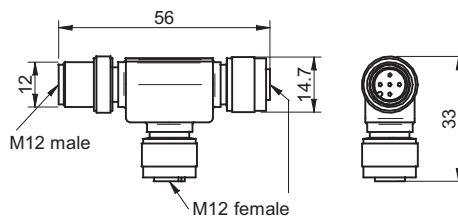
- ▶ Serially connects two or several vacuum switches, VS4128, into one common output to the PLC or BUS-I/O.
- ▶ Quick and simple installation with standard male to female M12 eurofast cable assemblies.
- ▶ Suitable if the PLC or BUS-I/O is limited to one or two input signals from a vacuum system with several vacuum switches.

### Technical data

Description	Unit	Value
Material		TPU, Zn
Temperature range	°C	-25 – 90
Weight	g	25
Voltage, max	VDC	60
Safety classification		IP65
Current, max	A	4
Humidity	%RH	90
Electric connection		3x M12 4-pin
Dimension, WxDxH	mm	56x14,7x33

### Ordering information

Description	Art. No.
T-connector M12 male, 2xM12 female	0119558



### Ordering information, accessories

Description	Art. No.
Cable M12 4-pin female, M12 4-pin male, PUR, L=2	0118322

## Vacuum switches VS4015/VS4016



- ▶ Pre-set vacuum switch with digital output.
- ▶ Very low weight and small format, push-in or thread connections.
- ▶ PNP NO/NC or NPN NO/NC output functions.

### Technical data

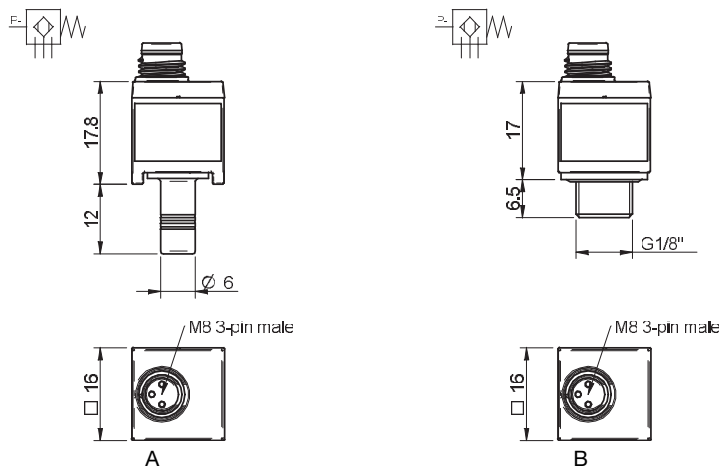
Description	Unit	Value
Feed pressure, max @ vacuum connection	MPa	0.2
Material		PA, TPU, SS, CuZn(Au)
Temperature range	°C	-25 – 85
Weight	g	5
Function		NO/NC
Hysteresis	kPa	6 ± 1
Voltage	VDC	24 (12-30)
Safety classification		IP40
Current, max inductive	A	0,1
Current, max resistive	A	0,4
Voltage drop, max (100mA/24V inductive load)	VDC	0.055
Response time	ms	4
Display		LED indicator
Electric connection		M8 3-pin

### Technical data, specific

Description	Unit	Value					
		0110245	0110246	0110247	0110248	0110249	0110250
Connection, vacuum	mm / inch	Ø6	Ø6	Ø6	G1/8"	G1/8"	G1/8"
Signal range	-kPa	30 +5/-3	50 +5/-3	70 +5/-3	30 +5/-3	50 +5/-3	70 +5/-3
Dimension, WxDxH	mm	16x16x22.3	16x16x22.3	16x16x22.3	16x16x21.5	16x16x21.5	16x16x21.5

### Ordering information

	Description	Art. No.
A	Vacuum switch VS4015, Ø6, 30 -kPa	0110245
A	Vacuum switch VS4015, Ø6, 50 -kPa	0110246
A	Vacuum switch VS4015, Ø6, 70 -kPa	0110247
B	Vacuum switch VS4016, G1/8" male, 30 -kPa	0110248
B	Vacuum switch VS4016, G1/8" male, 50 -kPa	0110249
B	Vacuum switch VS4016, G1/8" male, 70 -kPa	0110250



### Ordering information, accessories

Description	Art. No.
Cable M8 3-pin female L=2m	0108141

## Vacuum switches, electro-mechanical



- ▶ Converts a vacuum level to an electric signal, VAC or VDC.
- ▶ Vacuum-actuated membrane linked to an electro-mechanical switch.
- ▶ Integrated cable with open ends included.
- ▶ Available preset or with adjustable vacuum level.

### Technical data

Description	Unit	Value
Feed pressure, max @ vacuum connection	MPa	0,6
Material		PBTP, PVC, PA, SS, NBR, POM, Al, CuZn
Temperature range	°C	-20 – 80
Weight	g	62
Connection, vacuum	mm	M5
Function		NO/NC
Hysteresis	kPa	10
Cable		3 x 0.75 mm <sup>2</sup> x 0.5 m
Voltage, max	VAC/VDC	250/30
Safety classification		IP67
Current, max	A	5

### Technical data, specific

Description	Unit	Value			
		3116068	3116061	3116095	3116096
Vacuum, level setting		Knob	Screw	Preset	Preset
Signal range	-kPa	15–95	15–95	25±5	65±10
Dimension, WxDxH	mm	48x16.5x72	48x16.5x64.5	48x16.5x44.5	48x16.5x44.5

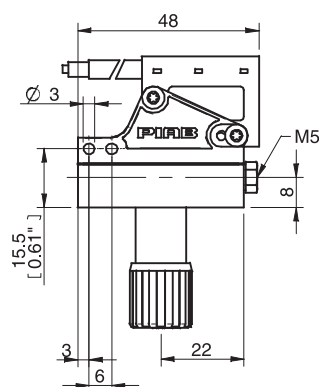
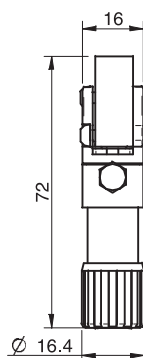
#### Note:

NO, Normally Open, in electrical circuits corresponds to an open circuit breaker, which means that, if the gate is open, no current can pass through.

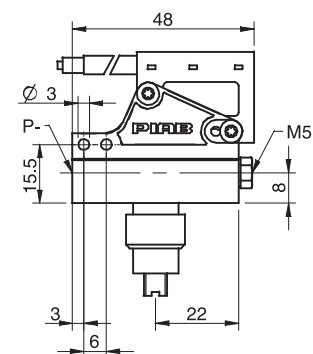
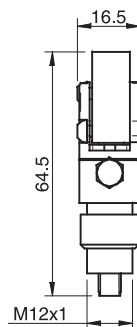
NO, Normally Open, in pneumatic circuits corresponds to an open valve, which means that, if the valve is open, compressed air passes through.

## Ordering information

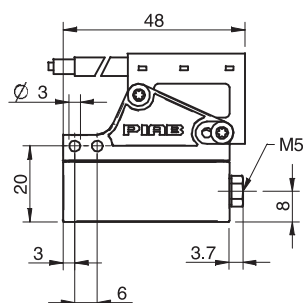
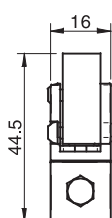
	Description	Art. No.
A	Vacuum switch, electro-mechanical, adjustable with knob	3116068
B	Vacuum switch, electro-mechanical, adjustable with screw	3116061
C	Vacuum switch, electro-mechanical, preset (Signal range 25 -kPa)	3116095
C	Vacuum switch, electro-mechanical, preset (Signal range 65 -kPa)	3116096



A



B



C

## Ordering information, accessories

Description	Art. No.
Connection set for vacuum switch	0100488

Contents: Barrel nipple G1/8" M5 long, hose connector 4/2 M5. Material: Nickel-plated brass, SS, PA66, NBR, PA6. Fits: All pre-set and adjustable vacuum switches.

## Vacuum switches, inductive universal



- ▶ Converts a vacuum level to a digital signal, 24 VDC.
- ▶ Vacuum-actuated membrane linked to a proximity-inductive universal switch.
- ▶ Integrated cable with open ends included.
- ▶ PNP NO/NC or NPN NO/NC output functions.
- ▶ The switch must be connected in series with the load.

### Technical data

Description	Unit	Value
Feed pressure, max @ vacuum connection	MPa	0.6
Material		PBTP, PVC, PA, SS, NBR, POM, Al, CuZn
Temperature range	°C	-25–80
Weight	g	71
Function		PNP NO/NC, NPN NO/NC
Hysteresis	kPa	2
Cable		2 x 0.14 mm <sup>2</sup> x 2m
Voltage	VDC	24 (5–36)
Safety classification		IP67
Current, max	A	0.2
Voltage drop, max	VDC	4.6

### Technical data, specific

Description	Unit	Value				
		0104350	3116064	3116089	3116090	3116091
Vacuum, level setting		Knob	Knob	Preset	Preset	Preset
Connection, vacuum	mm	Ø6	M5	M5	M5	M5
Signal range	-kPa	10–95	10–95	10±1	30±3	70±5
Dimension, WxDxH	mm	48.5x16.5x63.8	47.5x16.5x63.8	47.5x16.5x36.5	47.5x16.5x36.5	47.5x16.5x36.5

### Supplement

PNP NO = Normally Open, Positive logic. As the switch is activated, the gate at the feed current (+) closes and contact is established.

PNP NC = Normally Closed, Positive logic. As the switch is activated, the gate at the feed current (+) opens and contact is interrupted.

NPN NO = Normally Open, Negative logic. As the switch is activated, the gate at ground (-) closes and contact is established.

NPN NC = Normally Closed, Negative logic. As the switch is activated, the gate at ground (-) opens and contact is interrupted.

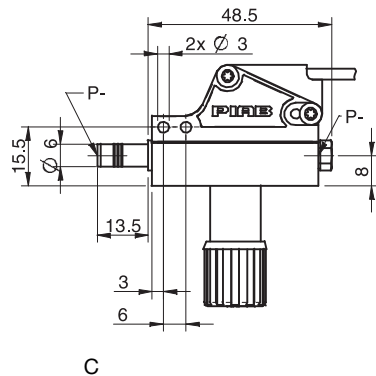
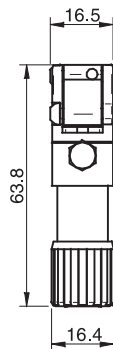
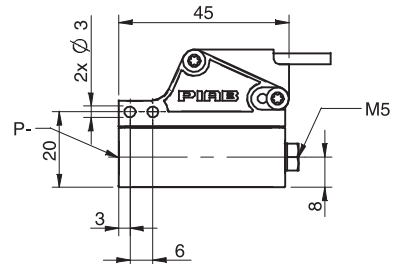
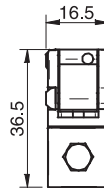
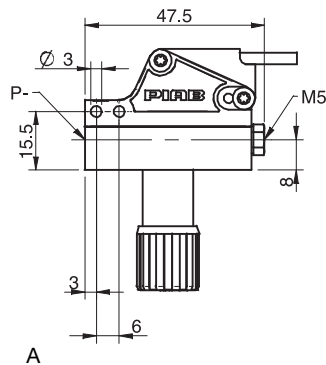
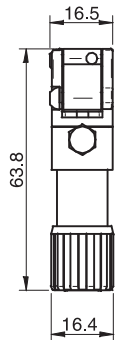
### Note:

NO, Normally Open, in electrical circuits corresponds to an open circuit breaker, which means that, if the gate is open, no current can pass through.

NO, Normally Open, in pneumatic circuits corresponds to an open valve, which means that, if the valve is open, compressed air passes through.

## Ordering information

	Description	Art. No.
A	Vacuum switch, inductive universal, adjustable with knob	3116064
B	Vacuum switch, inductive universal, preset (Signal range 10 -kPa)	3116089
B	Vacuum switch, inductive universal, preset (Signal range 30 -kPa)	3116090
B	Vacuum switch, inductive universal, preset (Signal range 70 -kPa)	3116091
C	Vacuum switch, inductive universal, adjustable with knob Ø6	0104350



## Ordering information, accessories

Description	Art. No.
Connection set for vacuum switch	0100488

Contents: Barrel nipple G1/8" M5 long, hose connector 4/2 M5. Material: Nickel-plated brass, SS, PA66, NBR, PA6. Fits: All pre-set and adjustable vacuum switches.

## Vacuum switch, MM8



- ▶ Converts vacuum to an analogue output signal and an adjusted vacuum level to a digital output.
- ▶ Adjustable hysteresis.
- ▶ Separate cable with open ends included.

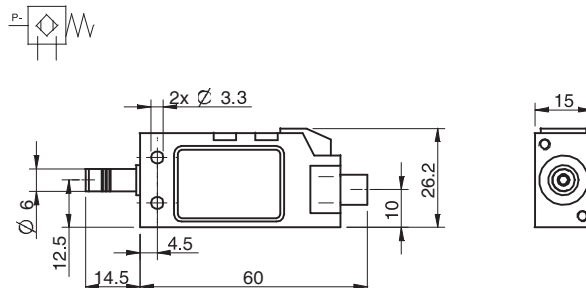
### Technical data

Description	Unit	Value
Feed pressure, max @ vacuum connection	MPa	0.2
Material		PC, POM, NBR, SS
Temperature range	°C	-20–70
Weight	g	68
Connection vacuum	mm	Ø6/M5
Signal range	-kPa	0–100
Function		NO
Hysteresis	% F.S.	1–5
Voltage	VDC	24 (10.8–30)
Voltage, output	VDC	1–15
Safety classification		IP40
Current, max output	A	0.08
Current, max analogue output (load resistance min. 5k $\Omega$ )	A	0.001
Voltage drop, max	VDC	4.6
Humidity	% RH	35–85
Response time	ms	2
Accuracy, @ 25°C	% F.S.	±3
Current consumption	mA	17
High-voltage resistance	VAC	500
Insulation, resistance @ 500 VDC	MOhm	100
Vibration resistant, 1,5 mm, XYZ, 2 h	Hz	10–500
Electric connection		M8 4-pin
Dimension, WxDxH	mm	26x15x60

*Non-lubricated air, non-corrosive gases, compatible with Polycarbonate and Polyacetal.*

### Ordering information

Description	Art. No.
Vacuum switch, adjustable, PNP NO MM8	0107729
Vacuum switch, adjustable, NPN NO MM8	0107730



## Vacuum switch, DM8



- Converts adjusted vacuum levels to 2 separate digital outputs.
- Digital vacuum level display.
- Integrated cable with M8 connector included.

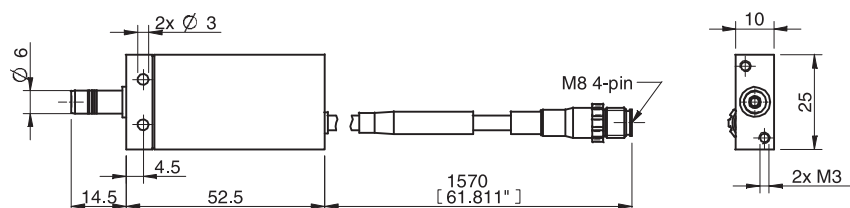
### Technical data

Description	Unit	Value
Feed pressure, max @ vacuum connection	MPa	0.2
Material		PC, POM, NBR, Al
Temperature range	°C	-20–60
Weight	g	52
Connection vacuum	mm	Ø6/M5
Signal range	-kPa	0–100
Function		NO
Hysteresis	% F.S.	2
Cable	m	1.5
Voltage	VDC	12–24
Safety classification		IP40
Current, max output	A	0.08
Humidity	% RH	35–85
Response time	ms	2
Accuracy, @ 25°C	% F.S.	±3
Current consumption	mA	35
High-voltage resistance	VAC	500
Insulation, resistance @ 500 VDC	MOhm	100
Display		LED indicators, numeric
Electric connection		M8 4-pin
Dimension, WxDxH	mm	25x10x53

Non-lubricated air, non-corrosive gases, compatible with Polycarbonate and Polyacetal.

### Ordering information

Description	Art. No.
Vacuum switch, adjustable, PNP NO DM8	0107732
Vacuum switch, adjustable, NPN NO DM8	0107733



## Vacuum switch, LM8



- Converts an adjusted vacuum level to a digital output.
- Very low weight and small format with push-in connection.
- Integrated cable with M8 connector included.

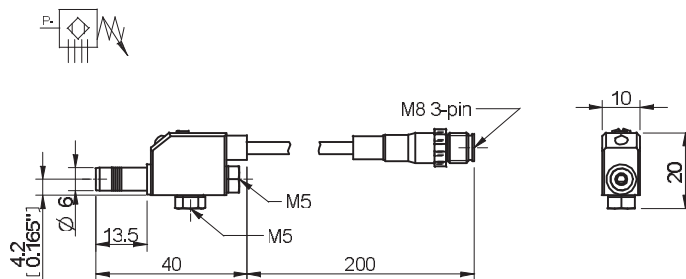
### Technical data

Description	Unit	Value
Feed pressure, max @ vacuum connection	MPa	0.2
Material		PC, Al, SS
Temperature range	°C	-100– 60
Weight	g	55
Connection vacuum	mm	Ø6/M5
Signal range	-kPa	0–100
Function		NO PNP
Hysteresis	% F.S.	2
Cable	m	0.2
Voltage	VDC	24 (10.8–30)
Safety classification		IP40
Current, max output	A	0.08
Humidity	% RH	35–85
Response time	ms	1
Accuracy, @ 25°C	% F.S.	±3
Current consumption	mA	20
High-voltage resistance	VDC	500
Insulation, resistance @ 500 VDC	MOhm	100
Vibration resistance, 1.5 mm, XYZ, 2 h	Hz	10–55
Display		LED indicator
Electric connection		M8 3-pin
Dimension, WxDxH	mm	20x10x27

Non-lubricated air, non-corrosive gases, compatible with Polycarbonate and Polyacetal.

### Ordering information

Description	Art. No.
Vacuum switch, adjustable, PNP NO LM8	0107731



## Vacuum switch, M5



- Converts an adjusted vacuum level to a digital output signal for pressure or vacuum.
- NC in vacuum range 0–100 -kPa. NO in pressure range 0–300 kPa.
- Very low weight and small format with M5 90° angle swivel connection.
- Integrated cable with open ends included.

### Technical data

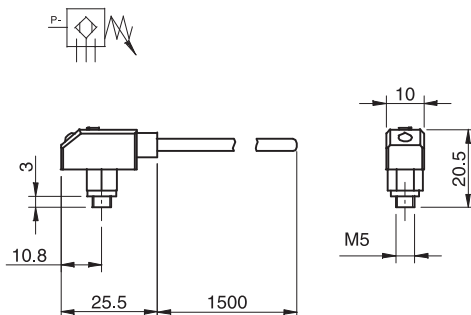
Description	Unit	Value
Feed pressure, max @ vacuum connection	MPa	0.6
Material		PC, SS
Temperature range	°C	-10–60
Weight	g	6
Connection vacuum	mm	M5
Signal range	kPa	-100–300
Function		NO, NC
Hysteresis	% F.S.	2
Cable		3 x 0.14 mm <sup>2</sup> x 1.5 m
Voltage	VDC	24 (10.8–30)
Safety classification		IP40
Current, max output	A	0.08
Humidity	% RH	35–85
Response time	ms	1
Accuracy, @ 25°C	% F.S.	±3
Current consumption	mA	20
High-voltage resistance	VDC	500
Insulation, resistance @ 500 VDC	MOhm	100
Vibration resistance, 1.5 mm, XYZ, 2 h	Hz	10–55
Display		LED indicator
Dimension, WxDxH	mm	26x10x18

*Non-lubricated air, non-corrosive gases, compatible with Polycarbonate and Polyacetal.*

Note: Normally closed, opens at set value from -100~300 kPa.

### Ordering information

Description	Art. No.
Vacuum switch PNP M5	0110358
Vacuum switch NPN M5	0110359



## Vacuum switch/sensor, piCOMPACT10



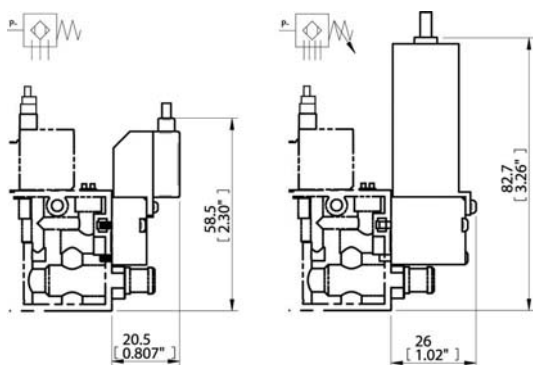
- ▶ Vacuum sensor/switch options for piCOMPACT10.
- ▶ Sensor with analog output 1-5 VDC.
- ▶ Digital switch with LED Display, PNP or NPN output + analog output (1-5 VDC).
- ▶ Easy to set vacuum level, hysteresis and change display units (bar, kPa, inHg, mmHg)
- ▶ 2m cable included, open ends.

### Technical data

Description	Unit	Value	
		Vacuum sensor 1A Analog	Vacuum sensor/switch 1D, 2D Digital/Analog
Vacuum range	-kPa	0-101	0-101
Overpressure, max.	MPa	0.5	0.5
Material		PC, Al	PC, Al
Temperature range	°C	0-50	0-50
Weight	g	32	57
Vacuum connection		M5 threaded female	M5 threaded female
Humidity	%RH	35-85	35-85
Safety classification		IP40	IP40
Voltage supply	VDC	10.8-30, Ripple (Vp-p) 10% max	10.8-30, Ripple (Vp-p) 10% max
Response time	ms	2	2
Dielectric strength, 1 min	VAC	100	100
Accuracy		±1% of F.S.	±2% of F.S.
Repeatability		-	±0.2% of F.S.
Analog output	VDC	1-5 (±0.1), linearity ±0.5% F.S. Output impedance 500 Ω	1-5 (±0.1), linearity ±0.5% F.S. Output impedance 500 Ω
Switch/digital output		-	PNP or NPN open collector Max 125mA (load current)
Display		-	3 1/2 digit 7 segment
Current consumption	mA	20 or less	60 or less
Vibration resistance	Hz	0-55, amplitude 1.5mm XYZ 2h	0-150, amplitude 1.5mm XYZ 2h

### Ordering information, spare parts

	Description	Code	Art. No.
A	No display, analog output vacuum sensor	1A	0125645
B	Display, analog & digital output vacuum sensor PNP	1D	0125648
B	Display, analog & digital output vacuum sensor NPN	2D	0125647



A

B