novasina
The Art of Precision Measurement

Pascal-STV/ZB

DIFFERENTIAL PRESSURE MEASUREMENT INSTRUMENT WITH ANALOG OUTPUT & DISPLAY

Bidirectional differential pressure measurement in pocket size

WITH AUTOMATIC ZERO-POINT CALIBRATION

- **CLEAN ROOMS**
- **LAMINAR FLOWBOXES**
- **FUME HOODS**
- **FILTER SYSTEMS**
- **AIR LOCKS**
- **ISOLATORS**

General information

The Pascal-ST/ZB bidirectional differential pressure transmitters are mainly used for clean room applications where accuracy and reliability are a must and space is limited.

The measurement technology is based on the static principle with piezo-resistive bidirectional membrane.

The state-of-the-art electronics and firmware in combination with the automatic zero-point calibration allow very accurate and stable readings without any drift.

Pascal-ST/ZB models are available for 2 measurement ranges, -25 to +25 and -100 to +100 Pa.

Depending on the application, various model types are available, with integrated alarm switches or with analogue output, with or without display.

All instruments can be programmed, configured and adjusted using the PascalTool-WIN PC software.

The Pascal-STV/ZB disposes of a scalable and adjustable analogue output (mA or V). This makes it fit for integration and adaptation to controlling systems (PLC). A digital output (RS-232) is also integrated by default.

This compact size product range among differential pressure measuring instruments excels by robust design and highest long-term performance.

Features

- ☑ High cost efficiency
- ☑ Excellent accuracy and reproducibility
- ☑ Automatic Zero-Point calibration
- ☑ No position dependency
- ☑ Long term stable
- ☑ Easy adjustable and configurable by PC
- ☑ Password protection
- ☑ Easy mounting and startup
- ☑ Scalable & adjustable analogue outputs
- ☑ Alarm visualisation by LED
- ☑ Integrated 2-line LCDisplay
- ☑ Possibility to measure the air velocity
- ☑ SWISS-MADE Quality

Applications

Measurement and control of low air differential pressures and air velocities:

- Industrial HVAC installations for processes
- Clean rooms applications
- Isolators, Laminar Flowboxes
- Hospitals, operating rooms
- Laboratories, Testing rooms
- Monitoring systems

Configuration software PascalTool-WIN

Versions :

Pascal-STV 25 ZB : P/N 260 1241

Meas. range :	-25...+25 Pa (bidirectional)
Power supply :	24VDC
Signal output :	0/4...20mA, 0/2...10V, RS-232

Pascal-STV 100 ZB : P/N 260 1242

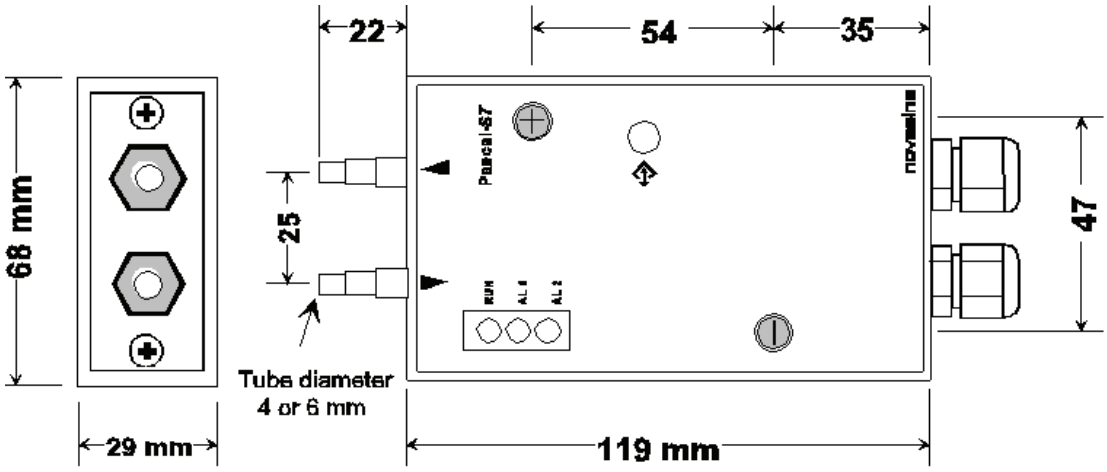
Meas. range :	-100...+100 Pa (bidirectional)
Power supply :	24VDC
Signal output :	0/4...20mA, 0/2...10V, RS-232

65 — 0.26
60 — 0.24
55 — 0.22
50 — 0.20
45 — 0.18
40 — 0.16
35 — 0.14
30 — 0.12
25 — 0.10
20 — 0.08
15 — 0.06
10 — 0.04
5 — 0.02
0 Pa — 0 in H_2O

Technical data see overleaf

Technical data

Type	Pascal-STV 25 ZB	Pascal-STV 100 ZB
Part no.	**260 1241**	**260 1242**
Measurement range	-25 ... +25 Pa	-100 ... +100 Pa
Max. permissible operating pressure	+/- 25 Pa	+/- 100 Pa
Accuracy at 20°C	typical ± 0.15 Pa	typical ± 0.25 Pa
Temperature effect	max. ± 0.20 Pa (at constant operation temperature out of adjustment temperature)	
Max. resolution	0.1 Pa	
Measurement interval	approx. 20 measurements / second	
Hysteresis	< ± 0.15 Pa	
Offset-Drift under „TLV“ conditions	± 0.15 Pa (with automatic zero-point calibration)	
Max. permissible overpressure	± 20'000 Pa	
Operating temperature	5 ... 45°C	
Display	Dot matrix 2 line LCD (36 x 14 mm)	
Analogue outputs (scalable and adjustable)	0 ... 10 V / 2 ... 10 V (burden to ground >10 kOhm) 0 ... 20 mA / 4 ... 20 mA (burden <500 Ohm)	
Digital interface	RS-232 (ASCII-string, complex protocol)	
Power supply	10.5....35 VDC	
Power consumption	max. 2.5 W (in operation)	
Protection	IP 54 / EMC	
Measurement medium	dry, not condensing, non aggressive gases	



Accessories + Spare parts	Part no.
External power supply 90...260 VAC 50/60 Hz -> 24VDC US/JP/EUR plug	**252 4210**
PascalTool Win CD (alternative as freeware as download from Novasina homepage)	**111 6848**
Configuration cable for communication with Pascal instrument	**111 6849**
Factory calibration certificate on 3 measuring points (must be ordered separately)	**111 7603**
Customer specific configuration	**111 6074**
Mobile dP calibrator and reference instrument CALIBOX 200 (range 0....200 Pa)	**260 0538**

Plug - P/N 252 4210

RS-232 cable 1.5m
with D-Sub 9 - P/N 111 6849

CALIBOX 200 - P/N 260 0538

Novasina AG, Neuheimstrasse 12, CH-8853 Lachen, Switzerland
Phone +41-55-642 67 67, Fax +41-55-642 67 70, e-mail: info@novasina.ch, www.novasina.com

Technical data subject to changes without notice

005164.00

novasina
The Art of Precision Measurement

Pascal-STD/ZB

DIFFERENTIAL PRESSURE MEASUREMENT INSTRUMENT WITH ANALOG OUTPUT

Bidirectional differential pressure measurement in pocket size

WITH AUTOMATIC ZERO-POINT CALIBRATION

65 — 0.26
60 — 0.24
55 — 0.22
50 — 0.20
45 — 0.18
40 — 0.16
35 — 0.14
30 — 0.12
25 — 0.10
20 — 0.08
15 — 0.06
10 — 0.04
5 — 0.02
0 Pa — 0 in H_2O

- CLEAN ROOMS
- LAMINAR FLOWBOXES
- FUME HOODS
- FILTER SYSTEMS
- AIR LOCKS
- ISOLATORS

General information

The Pascal-ST/ZB bidirectional differential pressure transmitters are mainly used for clean room applications where accuracy and reliability are a must and space is limited.

The measurement technology is based on the static principle with piezo-resistive bidirectional membrane.

The state-of-the-art electronics and firmware in combination with the automatic zero-point calibration allow very accurate and stable readings without any drift.

Pascal-ST/ZB models are available for 2 measurement ranges, -25 to +25 and -100 to +100 Pa.

Depending on the application, various model types are available, with integrated alarm switches or with analogue output, with or without display.

All instruments can be programmed, configured and adjusted using the PascalTool-WIN PC software.

The Pascal-STD/ZB disposes of a scalable and adjustable analogue output (mA or V). This makes it fit for integration and adaptation to controlling systems (PLC). A digital output (RS-232) is also integrated by default.

This compact size product range among differential pressure measuring instruments excels by robust design and highest long-term performance.

Features

- ☑ High cost efficiency
- ☑ Excellent accuracy and reproducibility
- ☑ Automatic Zero-Point calibration
- ☑ No position dependency
- ☑ Long term stable
- ☑ Easy adjustable and configurable by PC
- ☑ Password protection
- ☑ Easy mounting and startup
- ☑ Scalable & adjustable analogue outputs
- ☑ Alarm visualisation by LED
- ☑ Possibility to measure the air velocity
- ☑ SWISS-MADE Quality

Applications

Measurement and control of low differential air pressures and air velocities:

- Industrial HVAC installations for processes
- Clean rooms applications
- Isolators, Laminar Flowboxes
- Hospitals, operating rooms
- Laboratories, Testing rooms
- Monitoring systems

Configuration software PascalTool-WIN

Versions :

Pascal-STD 25 ZB : P/N 260 1243

Meas. range : -25...+25 Pa (bidirectional)
Power supply : 24VDC
Signal output : 0/4...20mA, 0/2...10V, RS-232

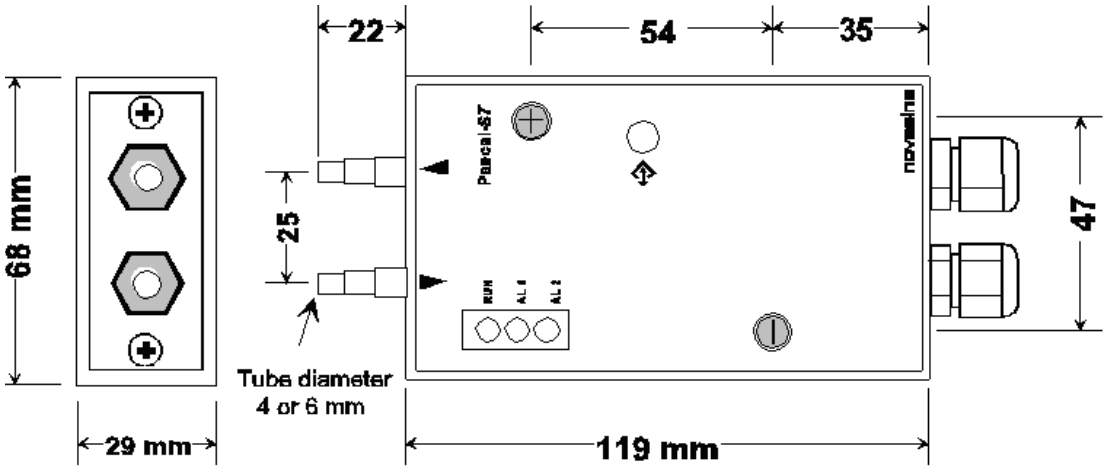
Pascal-STD 100 ZB : P/N 260 1244

Meas. range : -100...+100 Pa (bidirectional)
Power supply : 24VDC
Signal output : 0/4...20mA, 0/2...10V, RS-232

Technical data see overleaf

Technical data

Type	Pascal-STD 25 ZB	Pascal-STD 100 ZB
Part no.	**260 1243**	**260 1244**
Measurement range	-25 ... +25 Pa	-100 ... +100 Pa
Max. permissible operating pressure	+/- 25 Pa	+/- 100 Pa
Accuracy at 20°C	typical ± 0.15 Pa	typical ± 0.25 Pa
Temperature effect	max. ± 0.20 Pa (at constant operation temperature out of adjustment temperature)	
Max. resolution	0.1 Pa	
Measurement interval	approx. 20 measurements / second	
Hysteresis	< ± 0.15 Pa	
Offset-Drift under „TLV“ conditions	± 0.15 Pa (with automatic zero-point calibration)	
Max. permissible overpressure	± 20’000 Pa	
Operating temperature	5 ... 45°C	
Analogue outputs (scalable and adjustable)	0 ... 10 V / 2 ... 10 V (burden to ground >10 kOhm) 0 ... 20 mA / 4 ... 20 mA (burden <500 Ohm)	
Digital interface	RS-232 (ASCII-string, complex protocol)	
Power supply	10.5....35 VDC	
Power consumption	max. 2.5 W (in operation)	
Protection	IP 54 / EMC	
Measurement medium	dry, not condensing, non aggressive gases	



Accessories + Spare parts	Part no.
External power supply 90...260 VAC 50/60 Hz -> 24VDC US/JP/EUR plug	**252 4210**
PascalTool Win CD (alternative as freeware as download from Novasina homepage)	**111 6848**
Configuration cable for communication with Pascal instrument	**111 6849**
Factory calibration certificate on 3 measuring points (must be ordered separately)	**111 7603**
Customer specific configuration	**111 6074**
Mobile dP calibrator and reference instrument CALIBOX 200 (range 0....200 Pa)	**260 0538**

Plug - P/N 252 4210

RS-232 cable 1.5m
with D-Sub 9 - P/N 111 6849

CALIBOX 200 - P/N 260 0538

Novasina AG, Neuheimstrasse 12, CH-8853 Lachen, Switzerland
Phone +41-55-642 67 67, Fax +41-55-642 67 70, e-mail: info@novasina.ch, www.novasina.com

Technical data subject to changes without notice

005162.00

novasina
The Art of Precision Measurement

Pascal-STVS/ZB

DIFFERENTIAL PRESSURE MEASUREMENT INSTRUMENT WITH SWITCH RELAYS & DISPLAY

Bidirectional differential pressure measurement in pocket size

WITH AUTOMATIC ZERO-POINT CALIBRATION

- **CLEAN ROOMS**
- **LAMINAR FLOWBOXES**
- **FUME HOODS**
- **FILTER SYSTEMS**
- **AIR LOCKS**
- **ISOLATORS**

General information

The Pascal-ST/ZB bidirectional differential pressure transmitters are mainly used for clean room applications where accuracy and reliability are a must and space is limited.

The measurement technology is based on the static principle with piezo-resistive bidirectional membrane.

The state-of-the-art electronics and firmware in combination with the automatic zero-point calibration allow very accurate and stable readings without any drift.

Pascal-ST/ZB models are available for 2 measurement ranges, -25 to +25 and -100 to +100 Pa.

Depending on the application, various model types are available, with integrated alarm switches or with analogue output, with or without display.

All instruments can be programmed, configured and adjusted using the PascalTool-WIN PC software.

The Pascal-STVS/ZB model type has 2 integrated programmable alarm switches and can be used for a 2-point control purposes e.g. for air lock access or filter saturation level monitoring.

This compact size product range among differential pressure measuring instruments excels by robust design and highest long-term performance.

Features

- ☑ High cost efficiency
- ☑ Excellent accuracy and reproducibility
- ☑ Automatic Zero-Point calibration
- ☑ No position dependency
- ☑ Long term stable
- ☑ Easy adjustable and configurable by PC
- ☑ Password protection
- ☑ Easy mounting and startup
- ☑ 2 freely adjustable alarm outputs
- ☑ Alarm visualisation by LED
- ☑ Integrated 2-line LCDisplay
- ☑ Possibility to measure the air velocity
- ☑ SWISS-MADE Quality

Applications

Measurement and control of low differential air pressures and air velocities:

- Industrial HVAC installations for processes
- Clean rooms applications
- Isolators, Laminar Flowboxes
- Hospitals, operating rooms
- Laboratories, Testing rooms
- Monitoring systems

Configuration software PascalTool-WIN

Versions :

Pascal-STVS 25 ZB: P/N 260 1245

Meas. range :	-25...+25 Pa (bidirectional)
Power supply :	24VDC
Alarm signals :	2 switch relays with adjustable time delay & hysteresis

Pascal-STVS 100 ZB: P/N 260 1246

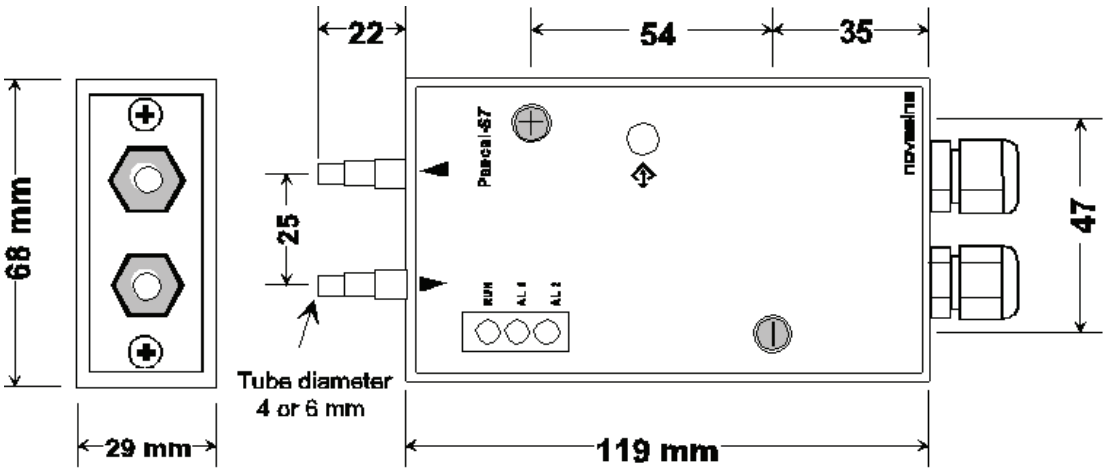
Meas. range :	-100...+100 Pa (bidirectional)
Power supply :	24VDC
Alarm signals :	2 switch relays with adjustable time delay & hysteresis

65 — 0.26
60 — 0.24
55 — 0.22
50 — 0.20
45 — 0.18
40 — 0.16
35 — 0.14
30 — 0.12
25 — 0.10
20 — 0.08
15 — 0.06
10 — 0.04
5 — 0.02
0 Pa — 0 in H_2O

Technical data see overleaf

Technical data

Type	Pascal-STVS 25 ZB	Pascal-STVS 100 ZB
Part no.	**260 1245**	**260 1246**
Measurement range	-25 ... +25 Pa	-100 ... +100 Pa
Max. permissible operating pressure	+/- 25 Pa	+/- 100 Pa
Accuracy at 20°C	typical ± 0.15 Pa	typical ± 0.25 Pa
Temperature effect	max. ± 0.20 Pa (at constant operation temperature out of adjustment temperature)	
Max. resolution	0.1 Pa	
Measurement interval	approx. 20 measurements / second	
Hysteresis	< ± 0.15 Pa	
Offset-Drift under „TLV“ conditions	± 0.15 Pa (with automatic zero-point calibration)	
Max. permissible overpressure	± 20’000 Pa	
Operating temperature	5 ... 45°C	
Display	Dot matrix 2 line LCD (36 x 14 mm)	
Switch relays	Galvanic separated NO/NC, <= 48VAC/DC, 2A (max. 60 VA ohmic)	
Digital interface	RS-232 (ASCII-string, complex protocol)	
Power supply	10.5....35 VDC	
Power consumption	max. 2.5 W (in operation)	
Protection	IP 54 / EMC	
Measurement medium	dry, not condensing, non aggressive gases	



Accessories + Spare parts	Part no.
External power supply 90...260 VAC 50/60 Hz -> 24VDC US/JP/EUR plug	**252 4210**
PascalTool Win CD (alternative as freeware as download from Novasina homepage)	**111 6848**
Configuration cable for communication with Pascal instrument	**111 6849**
Factory calibration certificate on 3 measuring points (must be ordered separately)	**111 7603**
Customer specific configuration	**111 6074**
Mobile dP calibrator and reference instrument CALIBOX 200 (range 0....200 Pa)	**260 0538**

Plug - P/N 252 4210

RS-232 cable 1.5m
with D-Sub 9 - P/N 111 6849

CALIBOX 200 - P/N 260 0538

Novasina AG, Neuheimstrasse 12, CH-8853 Lachen, Switzerland
Phone +41-55-642 67 67, Fax +41-55-642 67 70, e-mail: info@novasina.ch, www.novasina.com

Technical data subject to changes without notice

005166.00