novasina
The Art of Precision Measurement

General catalogue

2009

Differential pressure and air velocity measurement instruments

for

Clean rooms
Micro environments
Laminar flow systems
Filter monitoring
HVAC applications

Manufacturer:
Novasina AG
Neuheimstrasse 12, CH-8853 Lachen, Switzerland
Telephone +41 55 642 67 67 Fax +41 55 642 67 70
www.novasina.com E-Mail : info@novasina.ch

Doc. 300001029_00

www.novasina.com

Index

Mass flow
Differential pressure measurement instruments

Novasina's new precision differential pressure measuring instruments are capable of measuring pressure differences in very low ranges of +/- 20 Pa and +/- 100 Pa. This devices have been developed for monitoring and controlling in clean rooms, laminar flow boxes, fan filter units as well as for mini environments.

Measurement ranges	:	**-20 ... +20 Pa** and **-100 ... +100 Pa**	
Measurement interval	:	**150 ms ... 1350 ms**	*(configurable)*
Operating temperature	:	**0….+50°C**	*(not condensing)*
Measurement accuracy	:	**+/- 0.25 % FS**	*(full scale)* or
		+/- 1.5% m.v.	*(measured value)*
Max. resolution	:	0.016 Pa	*(20-series)*
		0.07 Pa	*(100-series)*
Offset-Drift(at 20°C)	:	**<0.1 Pa/Year**	
Max. overpressure	:	+/- 2 bar	*(+/- 200'000 Pa)*
Configuration	:	Palm PDA : PascalTool-Palm as from OS Version 3.0	
		Windows : PascalTool-Win (Win98 / NT / 2000 / XP)	

Differential pressure measurement systems Pascal mass flow

Precise, fast, versatile, stable and robust

The Novasina differential pressure gauges are high precision measurement instruments for monitoring and controlling pressure differences of gaseous media in low ranges. The measurement method is based on the principle of mass flow measurement similar to the anemometric measurement method.

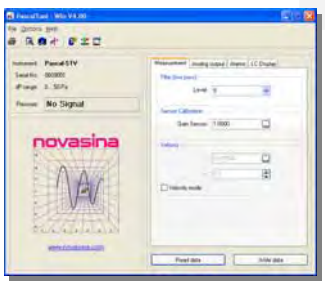
The sensor implementing this innovative method does not have any moving parts such as diaphragms etc. This makes very high accuracy, reproducibility, reliability and long-term stability possible.

The user friendly programs, PascalTool-Palm or PascalTool-Win simplify the calibration and configuration of the instruments. These software is available as free download from our homepage and can be installed easily on the appropriate hardware (Palm or Windows-PC).

For more information please visit our homepage.

www.novasina.com

Configuration with PascalTool-Win:
can be easily performed with a PC
Windows 95, 98, NT, 2000, XP or newer



Technical data :

Dimensions	: 68x119x29mm
Weight	: 160 g
Measurement ranges:	-20 ... +20 Pa
	-100 ... +100 Pa
Measurement intervals:	150 ... 1350 ms
Max. resolution:	0.016 Pa (20-series)
	0.07 Pa (100-series)
Measurement accuracy:	+/- 0.25 % of full scale
	or +/- 1.5% of meas. value
Temperature effect:	<0.05% m.v./°C
Atm. pressure effect:	0.1% m.v./hPa
Hysteresis:	0.00%
Offset drift (at 20°C):	<0.1 Pa/Year
Max. overpressure:	2 bar
Operating temp.:	0 ... 50°C (not condensing)
Power supply:	10.5 ... 35 VDC
Protection:	IP 54 / EMC

Pascal mass flow product line

111 5961 Switch 20

PascalSwitch 20

High precision instrument for monitoring pressure differences in low ranges of –20 to 20 Pa. The measurement method is based on the principle of mass flow measurement which enables very high accuracy, reproducibility, reliability and long-term stability. The integrated LED's show when a freely programmable threshold is crossed.

Technical data:

- Measurement range 0 ... 20 Pa
- 2 adjustable threshold values
- 2 relays (make- and break)
- Configuration by PascalTool-Palm and PascalTool-Win
- Power supply 11 ... 31.5 VDC
- Power consumption max.1.2 Watt
- Weight: 340g

111 5962 Switch 100

PascalSwitch 100

Same construction as the *PascalSwitch 20* but with a –100 to +100 Pa range sensor.

Typical applications for the PascalSwitch are:
Pressure monitoring in single clean rooms and local warning. Air locks, filter monitoring, mini environments, laminar flow boxes.

Technical data:

- Measurement range 0 ... 100 Pa
- 2 Adjustable threshold values
- 2 Relays (make- and break)
- Configuration by PascalTool-Palm and PascalTool-Win
- Power supply 11 ... 31.5 VDC
- Power consumption max.1.2 Watt
- Weight: 340g

111 5963 Dat 20

PascalDat 20

The *PascalDat 20* is a high precision device for measuring and controlling pressure differences in low ranges of -20 to +20 Pa. The measurement method is also based on the principle of mass flow measurement. This device has a scalable analogue output and is suitable for monitoring as well as for controlling. Specially designed for clean rooms, it makes rapid and accurate on-site differential pressure measurements in a simple way.

Technical data:

- Measurement range -20...+20 Pa
- Digital interface RS 232
- Analog output: 0...10V, 2...10V 0...20mA, 4...20mA
- Configuration by PascalTool-Palm and PascalTool-Win
- Power supply 11.5 ... 31.5 VDC
- Power consumption max. 3 Watt
- Weight: 340g

111 5964 Dat 100

PascalDat 100

Same construction as the *PascalDat 20* but with a –100 to +100 Pa range sensor.

Typical applications for the PascalDat are:
Monitoring and controlling of differential pressure in clean rooms, mini environments and insulators as well as fan filter units and airflow velocity in laminar flow boxes.

Technical data:

- Measurement range -100+100 Pa
- Digital interface RS 232
- Analog output: 0...10V, 2...10V 0...20mA, 4...20mA
- Configuration by PascalTool-Palm and PascalTool-Win
- Power supply 11.5 ... 31.5 VDC
- Power consumption max. 3 Watt
- Weight: 340g

111 6844 Vision 20

PascalVision 20

This gauge is a high performance device for measuring, controlling and displaying pressure differences in the low range of -20 to +20 Pa. The measurement method is based on the principle of mass flow measurement. This device has a scalable analogue output and is suitable for monitoring as well as for controlling. Specially designed for clean rooms, it rapidly makes and displays accurate, on-site differential pressure measurements in a simple way.

Technical data:

- Measurement range -20...+20 Pa
- LCD-Display
- Digital interface RS 232
- Analog output: 0...10V, 2...10V 0...20mA, 4...20mA
- Configuration by PascalTool-Palm and PascalTool-Win
- Power supply 11.5 ... 31.5 VDC
- Power consumption max. 3 Watt
- Weight: 340g

111 6845 Vision 100

PascalVision 100

Same construction as the *PascalVision 20* but with a –100 to +100 Pa range sensor.

Typical applications for the PascalVision are:
Monitoring, controlling and displaying of differential pressure in clean rooms, mini environments and insulators as well as fan filter units and airflow velocity in laminar flow boxes.

Technical data:

- Measurement range-100..+100 Pa
- LCD-Display
- Digital interface RS 232
- Analog output: 0...10V, 2...10V 0...20mA, 4...20mA
- Configuration by PascalTool-Palm and PascalTool-Win
- Power supply 11.5 ... 31.5 VDC
- Power consumption max. 3 Watt
- Weight: 340g

Special versions

111 6386 Switch-C 20

PascalSwitch-C 20

The *PascalSwitch-C 20* is identical to the *PascalSwitch 20*, except that it is equipped with a **special RS-232 interface for simple point-to-point communication with a PC instead of relay outputs.**

Technical data:

- Measurement range 0 ... 20 Pa
- 2 Adjustable threshold values
- 2 Relays (make and break)
- Configuration by PascalTool-Palm and PascalTool-Win
- Power supply 11 ... 31.5 VDC
- Power consumption max.1.2 Watt
- RS-232 interface to PC

Weight: 340g

111 6387 Switch-C100

PascalSwitch-C 100

Same construction as the *PascalSwtich-C 20* but with a –100 to +100 Pa range sensor.

Technical data:

- Measurement range-100..+100 Pa
- 2 Adjustable threshold values
- 2 Relays (make and break)
- Configuration by PascalTool-Palm and PascalTool-Win
- Power supply 11 ... 31.5 VDC
- Power consumption max.1.2 Watt
- RS-232 interface to PC

Weight: 340g

Accessories

111 5966 Power supply

External power supply-EUR

90 ... 260VAC

External power supply for a voltage range of 90 to 260 VAC with Euro-plug.

The secondary side of the power supply can be connected directly to all Pascal gauges (open end cable).

Technical data:

Primary side:
Voltage range: 90 ... 260VAC
Euro-plug

Secondary side (open end cable):
Voltage: 24VDC +/- 5%

The open cable end is prepared for connection.

Weight: 90g

111 5967 Power supply US

External power supply-US/JP

90 ... 260VAC

External power supply for a voltage range of 90 to 260 VAC with US-Japanese plug.

The secondary side of the power supply can be connected directly to all Pascal gauges (open end cable).

***Technical data*:**

Primary side (plug):
Voltage range: 90 ... 260VAC
US- and Japanese-plug

Secondary side (open end cable):
Voltage: 24VDC +/- 5%

The open cable end is prepared for connection.

Weight: 110g

111 6332 Nozzle cylinder

Connecting nozzle straight

Straight connecting diameter changing nozzle from 6 mm to hose with inner diameter 8 mm (standard hose diameter for Novasina Pascal gauges).

***Technical data*:**

- Material: Plastic / FPM
- Diam. reduction from 8 to 6 mm
- Fixable with a cable clamp
- Dimensions: ø 10/8/5 x 12 mm
- Weight : 1g

111 5968 Nozzle 90°

Connecting nozzle 90°

Connecting nozzle for wall mounting

***Technical data*:**

- Material: Plastic / FPM
- 90° diversion for wall hole mounting in clean rooms
- Fixable with a cable clamp
- Dimensions: ø 8/5 x 20 x 31 mm
- Weight : 2g

111 6305 Cover cap

Cover cap

Spare part

Cover cap for housing fixing screws

Suitable for all *Pascal* types

***Technical data*:**

- Material: PE 750
- Dimensions: ∅ 9.5/7.8 x 8 mm
- Weight: 0.5g

111 6333 Protective plug

Protective plug

Spare part

Protective plug for interface socket

Suitable for all *Pascal* types

***Technical data*:**

- Material: rubber
- Dimensions: ø 8/3.5 x 10 mm
- Weight: 0.5g

111 5969 Palm software

PascalTool-Palm

Configuration program for Palm PDA

Configuration program PascalTool-Palm to set and change the parameters in *PascalSwitch*, *PascalDat* and *PascalVision*. Can be downloaded from a PC onto a Palm.

Delivered on a CD.

Requirements:

Windows PC with CD drive incl. Palm software for downloading Palm applications

Palm Computing Platform OS-Version 3.0 or higher

Usable with PascalSwitch, PascalDat and PascalVision

111 6848 Win software

PascalTool-Win

Configuration program for Windows

Configuration program PascalTool-Win to set and change the parameters in *PascalSwitch, PascalDat* and *PascalVision.*

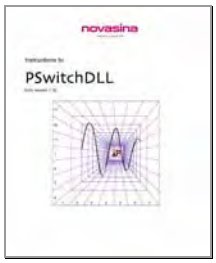
Delivered on a CD.

Requirements:

Windows PC with CD drive

Windows 95 / NT / 2000 / XP

Usable with PascalSwitch, PascalDat and PascalVision



111 6376 PSwitch DLL

Development SW Pascal SwitchDLL

PSwitchDLL (Dynamic Link Library) makes it possible to integrate up to 99 *PascalSwitch* gauges into a Process Control System. Measured values are received in the background and are immediately available on request without any time lag. Pressure values from the *Pascal-Switch* are compensated for hose length, atmospheric pressure and ambient humidity. Header files are available for Borland Delphi 5.0 and Borland C++ Builder 5.0. Support for other development systems are the responsibility of the user. An event-routine can be defined, callable whenever data is received.

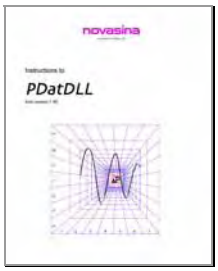
Requirements:

Windows PC with CD drive

Windows 95/98 / NT / 2000 / XP
RS-232 interface

Usable only with PascalSwitch C

Weight: 250g



111 7545 PDat DLL

Development SW kit Pascal DatDLL

With this *PDatDLL* (Dynamic Link Library) you are able to integrate up to 99 *PascalDat I Vision* into a Process Control System. The measuring values will be received in the background and are immediately available on request without any time lag. The *PascalDat* or *Vision* can be configured by this DLL. Header files are available for Borland Delphi 5.0. Support for other development systems are the responsibility of the user. Two event-routines can be defined that are callable when data is received or an error is flagged.

Requirements:

Windows PC with CD drive

Windows 95/98 / NT / 2000 / XP
RS-232 interface

Usable with PascalDat and PascalVision only

Weight: 250g

111 6849 Cable PC

Programming cable to PC (DB9)

Programming cable for connecting a PC to a *Pascal-Switch, PascalDat* or *PascalVision*

Existing of:

- Cable length: 1,5 m
- Special Cinc-plug on Pascal side
- D-Sub 9 plug on the PC side
- Weight: 95g

111 5970 Cable P III

Programming cable to Palm III or VII

Programming cable for connecting a Palm III or VII to a *PascalSwitch*, *PascalDat* or *PascalVision*

***Technical data*:**
- Cable length: 1,0 m
- Special Cinc-plug on Pascal side
- Special Palm plug on Palm side
- Weight: 45g

111 5971 Cable P V

Programming cable to Palm V or IBM WorkPad

Programming cable for connecting a Palm V or IBM WorkPad to a *PascalSwitch*, *PascalDat* or *PascalVision*

***Technical data*:**
- Cable length: 1,0 m
- Special Cinc-plug on Pascal side
- Special Palm plug on Palm side
- Weight: 50g

111 6307 Cable M100

Programming cable to Palm M100 or 105

Programming cable for connecting a Palm M100 or 105 to a *PascalSwitch*, *PascalDat* or *PascalVision*

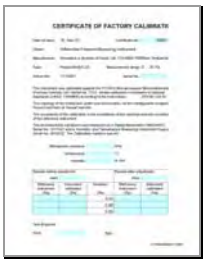
***Technical data*:**
- Cable length: 1,0 m
- Special Cinc-plug on Pascal side
- Special Palm plug on Palm side
- Weight: 35g

111 7548 Cable M125

Programming cable to Palm M125, 130, 5XX or 7XX

Programming cable for connecting a Palm M125, 130, 5XX or 7XX to a *PascalSwitch*, *PascalDat* or *PascalVision*

***Technical data*:**
- Cable length: 1,0 m
- Special Cinc-plug on Pascal side
- Special Palm plug on Palm side
- Weight: 45g



111 7603 Certificate

Factory calibration

at 3 measurement points

Factory calibration and check on a checking station under standard conditions including appropriate documents und certificates.

Attention: *Due to the requested configuration and compensation of hose lengtsh, absolute pressure and relative air humidity, an FDA validation requires performing an IQ and OQ on the application.*

Factory calibration including certificate at 3 measurement points.

Only possible without an installed hose.

The tests are done by a calibrated and certified reference differential pressure gauge.

111 6074 Configuration

Customer specific configuration

On demand, specific configurations can be defined as factory settings.

All requested parameters must be provided in advance in a specially prepared Excel spreadsheet form.

The Excel-based form should be filled in by the end-user to ensure accurate configuration.

112 0146 Calibox

Mobile dP calibrator CALIBOX 100

Mobile calibration instrument for on site calibration of differential pressure gauges in very low ranges up to 100 Pa.

A dynamic pressure generator and a PascalVision precision differential pressure measurement device incl. external LC-display are integrated in a robust hard plastic carrying case.

For calibration of all types of differential pressure gauges (with or without membrane).

***Technical data*:**
- Dimensions : W 340 x L 360 x H 180 mm
- Weight: approx. 5 kg
- Pressure range: 0 … 100 Pa
- Power supply: 85 … 265 VAC
- LC Display for generated pressure
- Hose nozzles for 4 and 12 mm hoses incl. protection caps

Membrane
Differential pressure measurement instruments

Thanks to a new sensor technology, optimised measurement electronics, software and an **integrated automatic zero-point calibration**, this instruments excel with their extremely accurate and stable readings.

Various software functions for adjustment, password protection, measurement filters and intervals, scaleable outputs as well as alarm settings emphasise the versatility of this instrument. Its application areas are consequently vast and it is ideal for demanding dp-controls.

For the first time ever a membrane differential pressure instrument offers such outstanding performances at such competitive prices!

Main features:

Measurement ranges	:	**0...+50 Pa** / **0...+200 Pa**	*(unidirectional)*
Measurement accuracy	:	50 : **+/- 0.6%**	*(of the full scale)*
at 20°C		200 : **+/- 0.2%**	*(of the full scale)*
Hysteresis	:	**+/- 0.15 Pa**	*(over the full scale)*
Typical offset drift	:	**+/- 0.15 Pa**	*(automatic zero-point calibration)*
Configuration	:	**PascalTool WIN software** (Win98 / NT / 2000 / XP)	

Differential pressure measuring system Pascal-ST/Z

Accurate, fast, versatile, stable, robust

The Pascal-*ST/Z* differential pressure measuring devices are precision instruments for monitoring and controlling pressure differences of gaseous media in low ranges. The measurement principle is based on the static differential pressure detection with a silicon membrane.

Beside a high robustness and accuracy this devices offer an easy and intuitive handling and start up. The zero calibration is performed automatically and so the instrument is ready for use immediately after its installation.

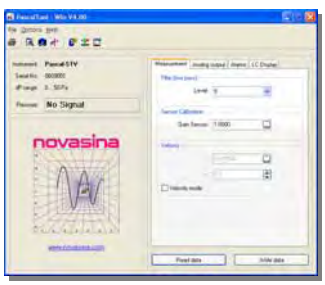
All other configurations can be done using the user friendly **PascalTool-Win** software (from version V 4.11). The software can be downloaded for free from the Novasina homepage and installed on a local personal computer (Windows).

For more information please visit our homepage.

www.novasina.com

Technical data:

Dimensions:	68 x 119 x 29 mm
Weight:	ca. 160 g
Meas. ranges:	0...+50 Pa 0...+200 Pa
Max. resolution:	0.1 Pa (50-series) 0.1 Pa (200-series)
Meas. accuracy:	50: +/- 0.6% (of full scale) 200:+/- 0.2% (of full scale)
Temperature effect:	50 : < 0.01 Pa /°C 200 : < 0.03 Pa /°C
Hysteresis:	+/- 0.15 Pa (const. Temp.)
Offset-Drift:	+/- 0.15 Pa (auto zero)
Max. overpressure:	+/- 20'000 Pa
Operating temp.:	5...45°C
Power supply:	10.5... 35 VDC
Protection:	IP 54 / EMC



Configuration with PascalTool-Win:
can be easily performed with a PC
Windows 95, 98, NT, 2000, XP or newer

Pascal-ST/Z product line

260 0036 Pascal STS 50 Z

Pascal-*STS* 50 Z

Measurement instrument for monitoring and alarm for differential pressures in low ranges of 0 to +50 Pa (unidirectional). The measurement principle is based on a silicon membrane for static measurement. The installation is a closed system (no air mass flow). The exceeding or under-running of the **freely selectable alarm levels** are displayed by integrated LED. Two galvanic separated, corresponding to the LED, relays can be used for an external alarm installation.

Technical data:
Measurement range: 0 ... 50 Pa
2 selectable thresholds
red/green LED indicators
2 relays (close/make contact)
Configuration by PascalTool-Win software
Power supply: 11.5 ... 31.5 VDC
Power consumption max. 2.5 Watt
Relays contacts: 2 x 48V, 2 A
Weight: 320 gr

260 0040 Pascal STS 200 Z

Pascal-*STS* 200 Z

Measurement instrument for monitoring and alarm for differential pressures in low ranges of 0 to +200 Pa (unidirectional). The measurement principle is based on a silicon membrane for static measurement. The installation is a closed system (no air mass flow). The exceeding or under-running of the **freely selectable alarm levels** are displayed by integrated LED. Two galvanic separated, corresponding to the LED, relays can be used for an external alarm installation.

Technical data:
Measurement range: 0 ... 200 Pa
2 selectable thresholds
red/green LED indicators
2 relays (close/make contact)
Configuration by PascalTool-Win software
Power supply: 11.5 ... 31.5 VDC
Power consumption max. 2.5 Watt
Relays contacts: 2 x 48V, 2 A
Weight: 320 gr

260 0037 Pascal STVS 50 Z

Pascal-*STVS* 50 Z

Same instrument with alarm functions as the Pascal-STS 50 Z, with additional integrated LCDisplay though. The display can be set to different units using the configuration software.

The device can also measure and display, by converting the differential pressure, the air velocity value. This setting can be done by the PascalTool WIN software.

Technical data:
Measurement range: 0 ... 50 Pa
2 selectable thresholds
red/green LED indicators
2 relays (close/make contact)
Configuration by PascalTool-Win software
Display: LCD Dot Matrix
Power supply: 11.5 ... 31.5 VDC
Power consumption max. 2.5 Watt
Relays contacts: 2 x 48V, 2 A
Weight: 320 gr

260 0041 Pascal STVS 200 Z

Pascal-*STVS* 200 Z

Same instrument with alarm functions as the Pascal-STS 200 Z, with additional integrated LCDisplay though. The display can be set to different units using the configuration software.

The device can also measure and display, by converting the differential pressure, the air velocity value. This setting can be done by the PascalTool WIN software.

Technical data:
Measurement range: 0 ... 200 Pa
2 selectable thresholds
red/green LED indicators
2 relays (close/make contact)
Configuration by PascalTool-Win software
Display: LCD Dot Matrix
Power supply: 11.5 ... 31.5 VDC
Power consumption max. 2.5 Watt
Relays contacts: 2 x 48V, 2 A
Weight: 320 gr

260 0034 Pascal STD 50 Z

Pascal-*STD* 50 Z

Measurement instrument for monitoring and alarm for differential pressures in low ranges of 0 to +50 Pa (unidirectional). The measurement principle is based on a silicon membrane for static measurement. The installation is thus a closed system (no air mass flow). The measured value goes on for controlling or data collection on a configurable **analogue output** (U: 0/2...10V, I: 0/4...20 mA). The exceeding or under-running of the free selectable alarm levels are displayed by integrated LED.

Technical data:
Meas. range: 0 ... 50 Pa
Output: analogue output
U : 0/2...10VDC (max.500 Ohm)
I : 0/4...20mA (max.500 Ohm)
freely scalable & adjustable
Configuration by PascalTool-Win software
Power supply: 11.5 ... 31.5 VDC
Power consumption max. 2.5 Watt
Weight: 320 gr

260 0038 Pascal STD 200 Z

Pascal-*STD* 200 Z

Measurement instrument for monitoring and alarm for differential pressures in low ranges of 0 to +200 Pa (unidirectional). The measurement principle is based on a silicon membrane for static measurement. The installation is thus a closed system (no air mass flow). The measured value goes for controlling or data collection on a configurable **analogue output** (U: 0/2...10V, I: 0/4...20 mA). The exceeding or under-running of the free selectable alarm levels are displayed by integrated LED.

Technical data:
Measurement range: 0 ... 200 Pa
Output: analogue output
U : 0/2...10VDC (max.500 Ohm)
I : 0/4...20mA (max.500 Ohm)
freely scalable & adjustable
Configuration by PascalTool-Win software
Power supply: 11.5 ... 31.5 VDC
Power consumption max. 2.5 Watt
Weight: 320 gr

260 0035 Pascal STV 50 Z

Pascal-*STV* 50 Z

Measurement instrument for monitoring and alarm for differential pressures in low ranges of 0 to +50 Pa (unidirectional). The measurement principle is based on a silicon membrane for static measurement. The installation is thus a closed system (no air mass flow). The measured value is displayed on a Dot Matrix LCDisplay. This value goes for controlling or data collection on a configurable **analogue output** (U: 0/2...10V, I: 0/4...20 mA). The exceeding or under-running of the free selectable alarm levels are displayed by integrated LED.

Technical data:
Measurement range: 0 ... 50 Pa
Output: analogue output
U : 0/2...10VDC (max.500 Ohm)
I : 0/4...20mA (max.500 Ohm)
freely scalable & adjustable
Configuration by PascalTool-Win software
Display: LCD Dot Matrix
Power supply: 11.5 ... 31.5 VDC
Power consumption max. 2.5 Watt
Weight: 320 gr

260 0039 Pascal STV 200 Z

Pascal-*STV* 200 Z

Measurement instrument for monitoring and alarm for differential pressures in low ranges of 0 to +200 Pa (unidirectional). The measurement principle is based on a silicon membrane for static measurement. The installation is thus a closed system (no air mass flow). The measured value is displayed on a Dot Matrix LCDisplay. This value goes for controlling or data collection on a configurable **analogue output** (U: 0/2...10V, I: 0/4...20 mA). The exceeding or under-running of the free selectable alarm levels are displayed by integrated LED.

Technical data:
Measurement range: 0 ... 200 Pa
Output: analogue output
U : 0/2...10VDC (max.500 Ohm)
I : 0/4...20mA (max.500 Ohm)
freely scalable & adjustable
Configuration by PascalTool-Win software
Display: LCD Dot Matrix
Power supply: 11.5 ... 31.5 VDC
Power consumption max. 2.5 Watt
Weight: 320 gr

111 6848 Software

PascalTool-Win

Configuration program for Windows

Configuration program PascalTool-Win to set and change the parameters in *Pascal* STS, STVS, STD, STV / Z

->Delivered on a CD.

Requirements:
Windows PC with CD drive
Windows 95 / NT / 2000 / XP
Usable with Pascal STS, STVS, STD, STV / Z

Accessories

111 5966 Power supply

External power supply-EUR

90 ... 260VAC

External power supply for a voltage range of 90 to 260 VAC with Euro-plug.

The secondary side of the power supply can be connected directly to all Pascal gauges (open end cable).

Technical data:
Primary side:
Voltage range: 90 ... 260VAC
Euro-plug
Secondary side (open end cable):
Voltage: 24VDC +/- 5%
The open cable end is prepared for connection.
Weight: 90g

111 5967 Power supply US

External power supply-US/JP

90 ... 260VAC

External power supply for a voltage range of 90 to 260 VAC with US-Japanese plug.

The secondary side of the power supply can be connected directly to all Pascal gauges (open end cable).

***Technical data*:**

Primary side (plug):
Voltage range: 90 ... 260VAC
US- and Japanese-plug

Secondary side (open end cable):
Voltage: 24VDC +/- 5%

The open cable end is prepared for connection.

Weight: 110g

111 6849 Cable PC

Programming cable to PC (DB9)

Programming cable for connecting a PC to a *Pascal-Switch,-Dat, -Vision or any Pascal-ST type.*

Existing of:

- Cable length: 1,5 m
- Special phone jack on Pascal
- D-Sub 9 plug on the PC side
- Weight: 95g

252 3481 Zero-cal. plug

Zero calibration plug to Pascal-ST

(only for old Pascal-ST without automatic zero point calibration)

Zero calibration plug **as spare part** for zero calibration of former Pascal-ST version with following PN:
252 1062; -1066, -1067; -1068; -1077; -1079; -1080; -1081.

The Pascal-ST firmware recognises the plug automatically and performs the zero calibration without any other additional configuration.

Technical data:

Special plug with internal short circuit bridge

Weight: 10 gr

Available separately as spare part

111 7603
Factory calibration

Factory calibration

at 3 measurement points

Factory calibration and check on a checking station under standard conditions including appropriate documents und certificates.

The calibration is performed at 3 measurement points that has to be indicated by the customer.

The factory certificate is not compliant to an official international certificate of an accredited metrology institute.

Technical data:

Factory calibration including certificate at 3 measurement points.

The tests are done by a calibrated and certified reference differential pressure gauge.

111 6333 plug black

Protection plug black

Protection plus for RS-232 front socket. Colour, black.

Available for all *Pascal* models **as spare part**

Technical data:
Material: plastic / FPM
Dimensions: ø 8/3.5 x 10
Colour: black
Weight: 0.5 gr

111 7038 plug white

Protection plug white

Protection plus for RS-232 front socket. Colour, white.

Available for all *Pascal* models **as spare part**

Attention: This protection plug is made of silicone!

Technical data:
Material: plastic / FPM
Dimensions: ø 8/3.5 x 10
Colour: white
Weight: 0.5 gr

Membrane
Differential pressure measurement instruments
for HVAC applications

Differential pressure measurement, made easy!

The PascalMaxx, a measurement instrument for pressure ranges up to 2000 Pa, which are typically used in HVAC (Heating, Ventilation, Air Conditioning) applications, is provided with the most modern technology. Thanks to the high quality membrane sensor, optimised measurement electronics and **integrated automatic zero-point calibration** this device is able to measure pressure differences at high levels with best accuracy, repeatability and stability.

Various functions, which can be chosen and set by the front keypad buttons make this system extremely versatile and adaptive. For each application, even the most specific, this instrument can be configured and integrated perfectly.

Another highlight is the unique cost efficiency. For the first time ever, a measurement instrument in this price segment offers such manifold possibilities. See for yourself!

Main features:

Measurement ranges	:	**0...+500 Pa** / **0...+2000 Pa** *(unidirectional)*
Measurement accuracy	:	500 : **+/-1.0%** *(of the full scale)*
at 20°C		2000 : **+/- 0.5%** *(of the full scale)*
Offset drift	:	< 2 Pa / year *(automatic zero-point calibration)*
Configuration	:	*by keypad buttons*

Differential pressure measuring system PascalMaxx

Accurate, fast, versatile, adptive, robust, stable, cost efficient

With the new PascalMaxx, Novasina widens its HVAC line. After the HygroMaxx for rel. humidity and temperature measurement Novasina launches now the new differential pressure measurement instrument for ranges up to 2000 Pa.

The PascalMaxx outstands by its versatility and easy operability. A real added value is offered by the **integrated fully automatic zero-point calibration system**, which is adjusting drifts continuously and makes the measurement device stable and insensitive to mounting position.

Other features:
- scalable analogue output U/I
- relay contact for alarm threshold
- setting of contact status of relay (NO / NC)
-> possibility of a 2 point control
- password protection system
- 2 point calibration capability (zero and gain)
- big, clear readable LCDisplay

For more information please visit our homepage.

www.novasina.com

Technical data:

Dimensions:	110x118x50 mm
Weight:	approx. 200 g
Meas. ranges:	0...+500 Pa 0...+2000 Pa
Max. resolution:	0.1 Pa (500 Pa range) 1 Pa (2000 Pa range)
Meas. accuracy:	500: +/- 1.0% (of full scale) 2000:+/- 0.5% (of full scale)
Temperature effect:	500 : < 0.09 Pa /°C 2000 : < 0.09 Pa /°C
Offset-Drift :	< 2 Pa / year (automatic zero-point cal.)
Max. overpressure:	+/- 35'000 Pa
Operating temp.:	0...50°C
Power supply:	19.2 ... 28.8 VDC
Protection:	IP 41 / EMC

PascalMaxx product line

*Pascal*Maxx 500 Z

Measurement instrument for monitoring and controlling the differential pressure in HVAC applications. Measurement range 0 to +500 Pa (unidirectional). The measurement principle is based on a piezo-resistive silicon membrane. Together with the analogue signal output U/I this instrument is provided with an integrated 230V relay, whose contact thresholds can be freely set by the device keypad buttons. The big, clear LCDisplay facilitates the reading of the measurement values.

Technical data:
Meas. range: 0 ... 500 Pa
1 adjustable threshold
1 analogue output U/I

Power supply: 19.2 ... 28.8 VDC
Power consumption max. 2.5 Watt

Relay: 230V, 2 A
Weight: approx. 200 gr

260 0091
PascalMaxx 500 Z

*Pascal*Maxx 2000 Z

Measurement instrument for monitoring and controlling the differential pressure in HVAC applications. Measurement range 0 to +2000 Pa (unidirectional). The measurement principle is based on a piezo-resistive silicon membrane. Together with the analogue signal output U/I this instrument is provided with an integrated 230V relay, whose contact thresholds can be freely set by the device keypad buttons. The big, clear LCDisplay facilitates the reading of the measurement values.

Technical data:
Meas. range: 0 ... 2000 Pa
1 adjustable threshold
1 analogue output U/I

Power supply: 19.2 ... 28.8 VDC
Power consumption max. 2.5 Watt

Relay: 230V, 2 A
Weight: approx. 200 gr

260 0083
PascalMaxx 2000 Z

Accessories

External power supply 90...260VAC - EUR

External primary power supply, for voltage range 90 to 260 VAC with Euro plus system.

From the secondary side this power supply can be connected directly to all ***Pascal*Maxx** types.

Technical data:
Primary side :
Voltage range: 90 ... 260VAC
Euro plug
Secondary side:
Voltage: 24V DC +/- 5%

Cable ends unshielded and ready for connection.
Weight: 90 gr

252 4210
power supply 24V EUR

External power supply 90...260VAC - US/JP

External primary power supply, for voltage range 90 to 260 VAC with Euro plus system.

From the secondary side this power supply can be connected directly to all ***Pascal*Maxx** types.

Technical data:
Primary side :
Voltage range: 90 ... 260VAC
US/JP plug
Secondary side:
Voltage: 24V DC +/- 5%

Cable ends unshielded and ready for connection.
Weight: 110 gr

252 4211
power supply 24V US/JP

111 7603
Factory calibration

Factory calibration

at 3 measurement points

Factory calibration and check on a checking station under standard conditions including appropriate documents und certificates.

The calibration is performed at 3 measurement points that has to be indicated by the customer.

The factory certificate is not compliant to an official international certificate of an accredited metrology institute.

Technical data:

Factory calibration including certificate at 3 measurement points.

The tests are done by a calibrated and certified reference differential pressure gauge.

260 0096
Spare plug set

Spare plug set to *Pascal*Maxx

Spare plug set for ***Pascal*Maxx** PCB, for power supply, analogue outputs and relay.

Spare plug set PascalMaxx:

Plug : 2 pole power supply
3 pole relay
4 pole analogue output

Weight : total 20 g

260 0097
Filter set

Filter set

Protection filter for applications with high pollution.

The filter hoses can be connected with the connectors and the main hoses to the instrument nozzles.

Composed of:

- 2 pcs hose with filter
- 2 pcs Ø4 / Ø4 mm hose connector
- 2 pcs Ø4 / Ø6 mm hose connector