

# Applications

## PRESSURE

- Analog/digital manometers
- Pressure transmitters
- Differential Pressure transmitters
- Electro-pneumatic converters
- Pneumatic- Electro converters
- Pressure switches
- Safety valves
- Electro-pneumatic Positioners
- Pressure sensors with frequency output
- Leakage test
- Pressure receivers/controllers/recorders

## ELECTRIC SIGNALS

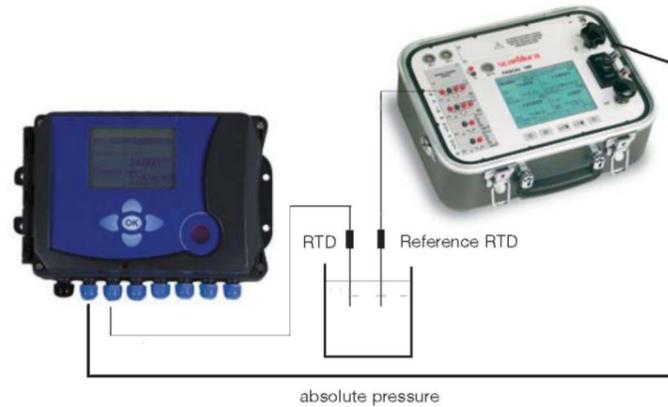
- Signals receivers (mA - mV - V -  $\Omega$  - Hz)
- Voltmeters, Milli-amperes
- Decade resistance boxes
- Programmable indicators
- Signals transmitters
- Adder/Subtractor w/ or w/o indication
- Multiplier/divider units
- Square root extractors w/ or w/o indication
- Pulse measurement/generation instruments
- Single and two loops controllers

## TEMPERATURE

- Thermocouples (TC)
- Thermoresistances (RTD)
- Temperature transmitters
- Temperature recorders
- Digital Temperature Indicators
- Glass thermometers
- Temperature switches
- Temperature indicators/controllers with remote set-point
- Thermoelements calibration (TC and RTD) with the comparison method

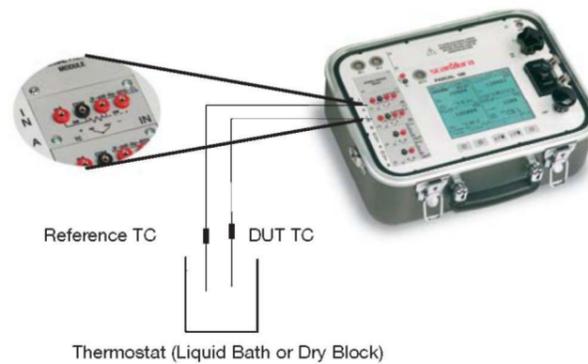
### Ex. n°1: PTZ Gas Volume Converter

Possibility to insert a Z factor for Volume Conversion or standard calibration for each probe



### Ex. n°2: Temperature sensor calibration

Comparison method for thermocouples



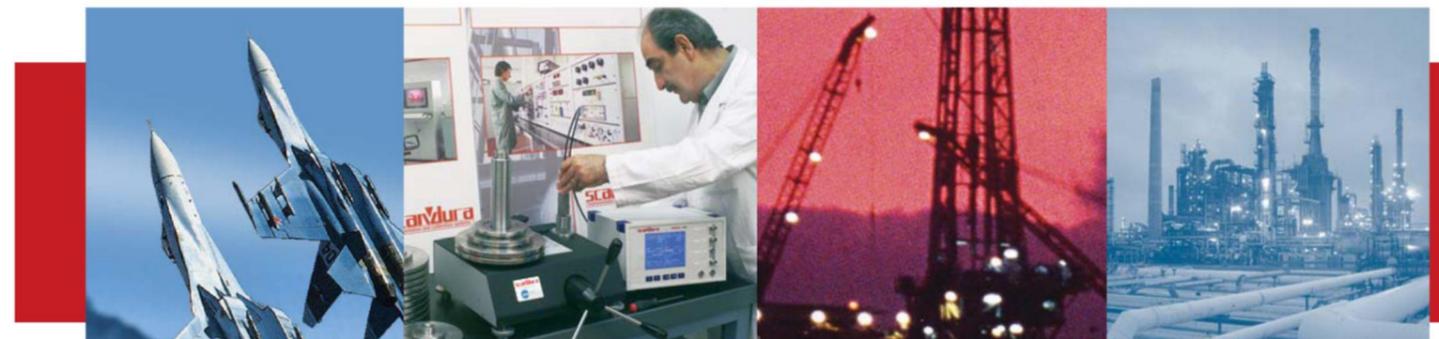
# scanDura

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# Pascal Series

## Multifunction Calibrators

- High accuracy & high resolution
- 4 Simultaneous measurements
- Remote control by PC
- Touch-screen facility
- Fast configuration
- Easy maintenance

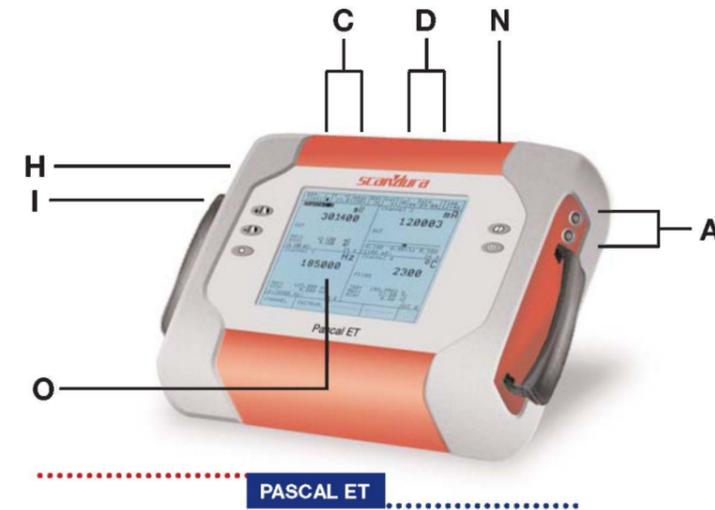
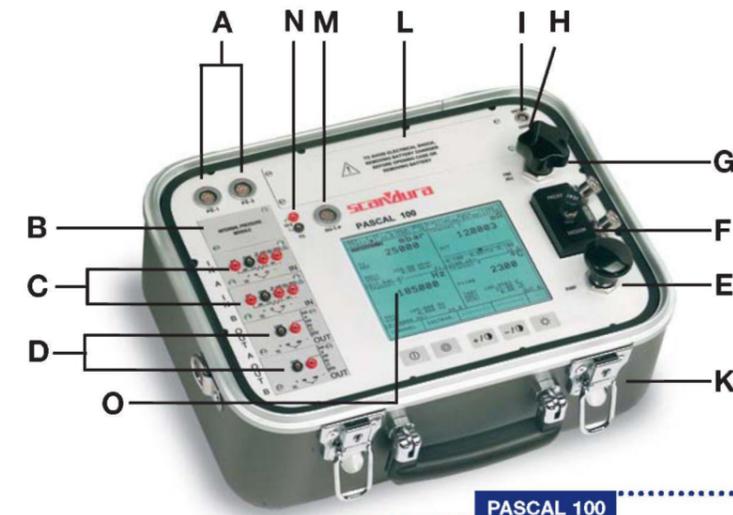


## I: Electrical/Temperature Input module

Function	Range	Max Resolution	Accuracy* up to
DC voltage measurement	± 100 mV, ± 2 V, ± 80 V	0,0001 mV	0,008 % rdg. + 0,003 % f.s.
DC current measurement	± 100 mA	0,0001 mA	0,008 % rdg. + 0,003 % f.s.
Resistance measurement	0 ÷ 400 / 10000 Ω	0,0001 Ω	0,008 % rdg. + 0,002 % f.s.
Frequency measurement	0,5 Hz ÷ 10/20/50 kHz	0,001 Hz	0,01 Hz
Pulse measurement	0,5 ÷ 20 Hz; 1 ÷ 999999 pulse (1 ÷ 80)V	1 Pulse	-
Temperature measurement RTD	Pt100,Pt200,Pt500,Pt1000, Ni100,Ni120,Cu10,Cu100	0,01 °C	0,04 °C
Temperature measurement - TC	J,K,T,F,R,S,B,U,L,N,E,C	0,01 °C	0,008 % rdg. + 0,003 % f.s.

## O: Electrical/Temperature Output module

Function	Range	Max Resolution	Accuracy* up to
DC voltage generation	0 ÷ 100 mV, 0 ÷ 2 V, 0 ÷ 20 V	0,001 mV	0,01 % rdg. + 0,003 % f.s.
DC current generation	0 ÷ 20 mA	0,001 mA	0,02 % rdg. + 0,003 % f.s.
Resistance sourcing	0 ÷ 400 / 10000 Ω	0,0001 Ω	0,008 % rdg. + 0,002 % f.s.
Frequency sourcing	0,5 Hz ÷ 10/20 kHz	0,004 Hz	0,1 Hz
Pulse sourcing	0,5 ÷ 200 Hz; 1 ÷ 999999 pulse (1 ÷ 20)V	1 Pulse	1 Pulse
Temperature simulation - RTD	Pt100,Pt200,Pt500,Pt1000, Ni100,Ni120,Cu10,Cu100	0,01 °C	0,04 °C
Temperature simulation - TC	J,K,T,F,R,S,B,U,L,N,E,C	0,01 °C	0,01 % rdg. + 0,003 % f.s.



## P1,2,3,4 Internal Pressure Ranges:

Code	Range**	Accuracy* (% f.s.)	Typical Resolution
<b>Gauge</b>			
P060G	-60 ÷ 60 mbar	0,08	0,01 mbar
P500G	-500 ÷ 500 mbar	0,015	0,01 mbar
P151G	-900 ÷ 1500 mbar	0,015	0,01 mbar
P701G	0 ÷ 7 bar	0,015	0,1 mbar
P212G	0 ÷ 21 bar	0,015	0,1 mbar
P502G	0 ÷ 50 bar	0,015	1 mbar
P103G	0 ÷ 100 bar	0,015	1 mbar
<b>Absolute</b>			
P251H	35 ÷ 2600 mbar	0,01	0,01 mbar
P151A	0 ÷ 1500 mbar	0,015	0,01 mbar
P251A	0 ÷ 2500 mbar	0,015	0,01 mbar
P501A	0 ÷ 5 bar	0,015	0,1 mbar
P701A	0 ÷ 7 bar	0,015	0,1 mbar
P212A	0 ÷ 21 bar	0,015	0,1 mbar
P811A	0 ÷ 81 bar	0,015	1 mbar

## PE1,2 External Pressure Sensors:

Code	Range**	Accuracy* (% f.s.)	Typical Resolution
<b>Gauge</b>			
PSP-1/1,5	-900 ÷ 1500 mbar	0,025	0,01 mbar
PSP-1/8	-1 ÷ 7 bar	0,025	0,1 mbar
PSP-1/22	-1 ÷ 21 bar	0,025	0,1 mbar
PSP-1/50	0 ÷ 50 bar	0,025	1 mbar
PSP-1/100	0 ÷ 100 bar	0,025	1 mbar
PSP-1/200	0 ÷ 200 bar	0,07	10 mbar
PSP-1/400	0 ÷ 400 bar	0,07	100 mbar
PSP-1/700	0 ÷ 700 bar	0,07	100 mbar
<b>Absolute</b>			
PSP-1/1.5A	0 ÷ 1500 mbar	0,025	0,01 mbar
PSP-1/2.5A	0 ÷ 2500 mbar	0,025	0,01 mbar
PSP-1/81A	0 ÷ 81 bar	0,025	1 mbar

Environmental parameters module:  
Ambient Temperature  
Barometric pressure  
Relative Humidity

\* According to ANSI / ISA - 51.1  
\*\* Other ranges available on request

## Pressure Section:

- Pressure/vacuum generation: built in hand pump from - 900 mbar up to 21.000 mbar
- Fine precision regulator
- Many pressure configurations available: internal sensors can be connected to the internal pump (up to 21 bar) or directly to the external plug
- Overpressure protection valves for low range sensors
- Multiple pressure engineering units available

## Software Functionalities

- Multilanguage menu-driven user interface
- LCD display with 4 simultaneous measures
- Resolution, filter and scale settings
- Ramp and step generation
- Functions to perform specific applications
- Large memory to store calibration procedures, data and reports
- Graphical display of calibration results
- Remote control of the instrument through PC

# Model Selection Guide

PASCAL 100: P100 - xx - xx - xx - x      PASCAL ET: P-ET- xx-xx-x

Electrical / temperature			
One input module	I		I
Two input modules	II		II
One output module	O		O
Two output modules	OO		OO
<b>Pressure</b>			
One internal range		P1	
Two internal ranges		P2	
Three internal ranges		P3	
Four internal ranges		P4	
<b>OPTION</b>			
Environmental parameters (P abs -T-RH)		A	A

Notes:  
- P1 and P2 have one external pressure sensor connector, code PE-1  
- P3 and P4 has two external pressure sensor connectors, codes PE-1 and PE-2  
- Code P251H can be combined with P1 and P2 only  
- Example P100 - II - 0X - P2 - X  
(two input modules - one output module - two internal pressure sensors)