GE
Measurement & Control

eurotron instruments NL

PACE1001 Barometer

Precision Barometric Indicator and Recorder

A high precision Druck indicator and recorder, designed for barometric monitoring in laboratories, airfields and other applications.

Features

- Utilises GE's unique range of Resonant Pressure Sensor technology
- Pressure ranges 750-1150 mbar (10.9-16.7 psi, 75-115 Kpa), absolute
- Choice of precision up to 0.025 mbar/0.0003625 psi
- Data Logging as standard with on screen replay
- Selectable numeric or graphic display
- High resolution touch screen operation
- Intuitive icon driven task menu structure
- Airfield Task as standard: Display QFE, QFF or QNH in pressure units or as altitude in feet or meters
- Leak Test Option
- Switch Test/Analogue Output option
- Switch Test/Voltage Free Contact option
- RS232, IEEE connectivity, Ethernet and USB as standard
- Min/Max/Average display
- Compatible with software packages
- 28 selectable pressure units plus 4 user defined units
- Various service support options available

PACE 1001 Precision Barometric Indicator and Recorder

The new PACE 1001 precision barometric indicator brings together the latest measurement technology from GE to offer an elegant, fast, flexible and economical solution to barometric indication & monitoring.

PACE 1001 Barometer employs digitally characterized pressure sensors which offer the quality, stability and precision associated with this latest generation of resonant devices.

The PACE1001 Barometer offers three levels of precision to accommodate specification and budget requirements, optional external IDOS universal pressure modules can be connected to add more pressure measurement capability.

The colour touch screen display of the PACE 1001 Barometer can be configured by a user to indicate pressure measurement simultaneously from up to three sensors either graphically or numerically.

The measurements displayed can be logged to an internal memory over a customized time period, sample rate and trigger ready for replay on the display, can also be saved to a USB storage device or exported to a PC.

Pressure sensor measurements can be re-transmitted via one of the communication ports.

The Airfield task is supplied as standard with the PACE1001 Barometer and enables the user to display QFE, QFF or QNH in pressure units or as altitude in feet or meters.

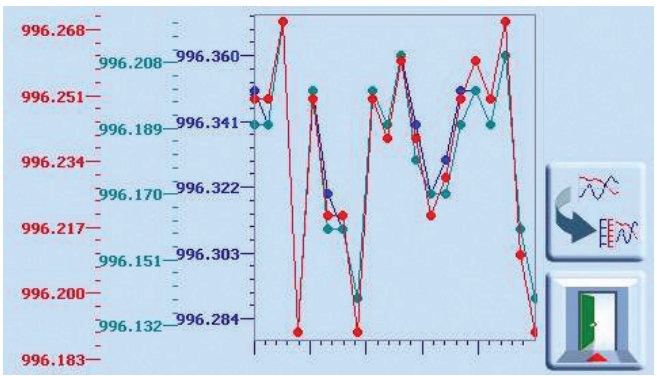
PACE 1001 Barometer Options

Leak Test

Leak Test measures leak rate over the measure dwell time. At the start of the test, the instrument measures the applied test pressure of the user system. The instrument records the pressure change during measure dwell time. On completion the display shows the leak rate results, with leak rate per second or per minute in the current pressure units selected.

Switch Test – standard with the Analogue Output or Voltage Free Contacts option

Switch Test automates the testing of pressure switch devices. Following the test, displayed is the pressure at which contacts open and close and the switch hysteresis. Switch Test task can also be set to capture switch toggle max, min and average values.



Analogue Output

The Analogue Output can be programmed via the setup menu screen to output a signal proportional to the instrument range selected. This allows the instrument to interface with PC or PLC I/O cards, remote displays, chart recorders or other data logging equipment.

Users can select outputs of 0 to 10 V, 0 to 5 V, -5 to 5 V and 0/4 to 20 mA. Precision with respect to host instrument measured pressure 0.05% FS over the host instrument operating temperature range, variable update rate to 80 readings per second. The option is programmable between minimum and FS pressure for proportional output against pressure.

Volt Free Contacts

Volt Free Contacts enable control of peripheral devices such as vacuum pumps, ovens, etc. Each VFC option has three independent volt-free NO/NC relay contacts. A number of conditions can be set within a PACE1001 instrument to trigger a relay toggling its contacts.

Specifications

Pressure measurement	
Barometer pressure range	750-1150 mbar absolute, 10.9-16.7 psi absolute, 75-115 kPa absolute
Over range indication:	10% above mbar/bar full scale pressure range.
Pressure media:	Dry, oil free, non-corrosive gas, air
Display	
Panel	¼ VGA wide format 4.3 inch colour graphics LCD c/w integral touch screen
Comms update rate	8 times per second
Display update rate readout	2 times per second ± 9999999
Pressure units	mbar, bar, Pa(N/m^2), hPa, kPa, MPa, mmHg @ 0°C, cmHg @ 0°C, mHg @ 0°C,, inHg @ 0°C, mmH_2O @ 4°C, cmH_2O @ 4°C, mH_2O @ 4°C, mmH_2O @ 20°C, cmH_2O @20°C, mH_2O @ 20°C, kg/m^2, kg/cm^2, torr, atm, psi, lb/ft^2, inH_2O @ 4°C, inH_2O @ 20°C, inH_2O @ 60°F, ftH_2O @ 4°C, ftH_2O @ 20°C, ftH_2O @ 60°F, User Defined 1, User Defined 2, User Defined 3, User Defined 4 (Feet & Meters in Airfield task)
Performance over the calibrated temperature range	
PACE1001 Barometer Standard Precision	Standard precision is 0.10 mbar or 0.001450 psi. Includes non-linearity, hysteresis, repeatability and temperature effects between 15°C (59°F) and 45°C (113°F).
PACE1001 Barometer High Precision	High precision is 0.05 mbar or 0.000725 psi. Includes non-linearity, hysteresis, repeatability and temperature effects between 15°C (59°F) and 45°C (113°F).
PACE1001 Barometer Premium Precision	Premium precision is 0.025 mbar or 0.0003625 psi. Includes non-linearity, hysteresis, repeatability and temperature effects between 15°C (59°F) and 45°C (113°F)
PACE1001 Barometer long term stability	0.1 mbar, 0.001450 psi/annum
Electrical	
Power Supply	90 VAC to 130 VAC @ 47 to 63 Hz & 180 VAC to 260 VAC @ 47 to 63 Hz. 15 VA
Communications	
Communication	RS232, USB and IEEE-488, SCPI, DPI141, DPI142 and DPI150 emulation. LabVIEW drivers Ethernet (VXI-II & Sockets using SCPI).
Data log	
Data log	Display screen shot stored in CSV format, onto memory card or external USB storage device. User defined update rate from 1 second

Environmental	
Temperature	Operating 10°C to 50°C (50°F to 122°F) Calibrated 15°C to 45°C (59°F to 113°F) Storage -20°C to 70°C (-4°F to 158°F)
Sealing	IP20 (EN60529), indoor use only
Humidity	5% RH to 95% RH non-condensing.
Vibration	Compliant with Def. Stan. 66-31 8.4 Cat 3 and MIL-T-28800E Cat 2
Shock	Mechanical shock conforms to EN61010
Conformity	Electrical safety - Global (IEC61010-1, UL61010-1, CSA 22.2, No. 61010-1 and CB test certificate), LVD (EN 61010-1). EMC EN61326, PED, ROHS & WEEE. CE marked
Physical	
Weight	3.2kg (excluding external PSU & packaging) to 6.5 lbs (including external PSU & packaging)
Dimensions	218 mm wide x 88mm (2U) high x 250 mm deep (8.6in x 3.5 (2U) x 9.8 in)
Pressure connection	G 1/8 Female (1/8 NPT Female by adaptor, standard for North America) .

Ordering information

Please state the following (where applicable)

1. Model PACE1001 Barometer

One internal barometric sensor

- I1001STANDARD-BARO —standard precision
- I1001HIGH-BARO—high precision
- I1001PREMIUM-BARO—premium precision

2. Options

The range of optional features includes:

- Leak Test – Automatically measures leak rates in the desired units/minute or units/seconds
- Switch Test/Analogue Output – Accurate calibration of pressure switches/integration into older ATE applications
- Switch Test/Voltage Free Contacts – Accurate calibration of pressure switches/automatically triggering ancillary devices

3. PACE chassis – Area of use/mains lead

Please state area of use for instrument set up:
Europe
North America
Japan
Asia
Rest of the world

Please state area of use for mains lead:
UK
Japan
EU
USA
South Africa/India
China
Australia/New Zealand

4. PACE barometer unit selection

Please state unit selection.

mbar	psi	kPa
750-1150 mbar a	10.9 – 16.7 psi a	75-115 kPa a

External IDOS universal pressure module

PACE1001 from the rear

5. Physical accessories

Please order the following as separate line items:

Part number	Description
IO-ADAPT-G1/4	Adaptor G1/8 Male to G 1/4 Female
IO-ADDAPT-G1/8	G1/8 male to G1/8 female
IO-ADAPT-1/8NPT	Adaptor G1/8 Male to 1/8 NPT Female
IO-ADAPT-1/4NPT	Adaptor G1/8 Male to 1/4 NPT Female
IO-ADAPT-7/16UNF	Adaptor G1/8 Male to 7/16 – 20 UNF Female
IO-ADAPT-AN4	Adaptor G 1/8 Male to AN4 37 Deg Male
IO-ADAPT-AN6	Adaptor G 1/8 Male to AN6 37 Deg Male
IO-ADAPT-BARB	Adaptor G 1/8 Male to 1/4 Hose
IO-ADAPTOR-KIT	Contains one of each of the above adaptors
IO-ADAPT-9/16AC	Adaptor 9/16 18 UNF Autoclave Female to 1/8 NPT Female
IO-SNUBBER-1	Snubber reference port
IO-DIFF-KIT-LP	Differential connection kit low pressure: Helps reduce the impact of thermal and/or pressure changes in ambient conditions occurring during the measurement cycle
IO-RMK-P1000	19" rack mount kit
IO-PAN-P1000	19" panel mount kit

6. Supporting services

Services ordering information:

Please order the following as separate line items:

Calibration

Part number	Description
UKAS	PACE1000 Accredited Pressure Calibration

PACE Family

PACE – pressure calibration & test solutions

PACE1000 – Precision Pressure Indicator
PACE1001 Barometer – Precision Barometric Indicator and Recorder
PACE5000 – Single Channel Pressure Controller Chassis
PACE6000 – Dual Channel Pressure Controller Chassis

CM0 – Standard precision high speed pressure controller module
CM1 – High precision high speed pressure controller module
CM2 – Premium precision high speed pressure controller module

Related products

GE manufacture a wide range of pressure transducers, transmitters, indicators, calibrators, controllers and Air Data test systems. Our range of portable calibrators also cover temperature and electrical parameters.

Please refer to www.ge-mcs.com for further information.

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