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Tradinco 
Instruments®
The Calibration Company

2198 Series High Accuracy Pressure Calibrators and Indicators



Tradinco Instruments is proud of her new generation Pressure Calibrators.

This 2198 series is a 19" instrument, available in many configurations, offering the most demanding user maximum functionality and ease of use for all applications. This complete range of indicators and calibrators features various pneumatic and hydraulic configurations to suit all calibration applications.

The Tradinco 2198 series combines maximum functionality and application dedicated configurations, allowing the user to perform his calibrations in a very easy way.

The instrument is menu driven through the numeric tactile keyboard. The large graphic display is easy to read and gives your all the required information. Using the latest SMD technology resulted in an excellent stability of the measurement.

As with all Tradinco products, the 2198 series can also be customised to meet your requirements fully.

Multi-language
Pressure switch test with graphic switch indication
Simultaneous measurement of pressure and electrical signals
Large graphic display with backlight
Adjustable digital display filter for fluctuating pressures.
Storage of calibration procedures

Wide range of pneumatic control configurations
Wide choice of pressure ranges from -1 up to 7000 bar
Pressure sensors protected against overpressure
Dual sensor configurations possible

Transmitter supply
Volt, mA and temperature
measurement



Numeric keyboard
Storage of calibration procedures
Scaling of electric signals to pressure units
Scaling function from current to pressure and %

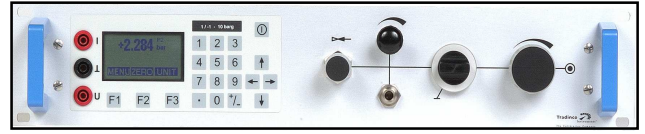
Function keys for easy operation
All pressure units (SI & ANSI) can be selected by the user.
Peak hold and electronic zeros.

Easy operation and multi-functional
Available with RS232 or IEEE488 interface
Custom made configurations possible
Auto ranging between sensors
Supplied with NKO calibration certificate

STANDARD CONFIGURATIONS

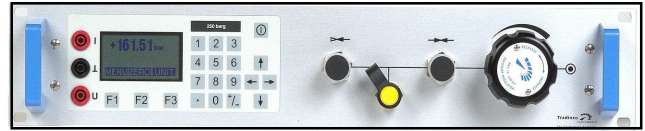
Model 2198 PC

Pneumatic calibrator with pre-adjustment pressure regulator and precision volume regulator. Built-in pneumatic switch for leakage detection. Unit requires an external air supply up to 15 bar.



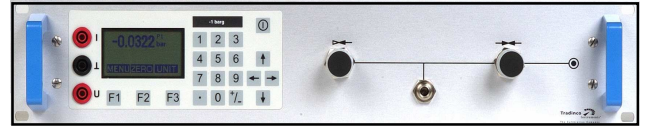
Model 2198 HPC

This is a high pressure calibrator with high pressure precision regulator and two sensitive re-adjustable needle valves used to accurately adjust the test pressures.



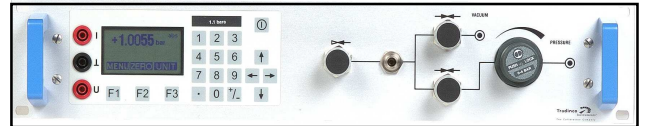
Model 2198 VC

Pneumatic calibrator for vacuum pressure. Two needle valves for fine control of the test pressures. An external vacuum pump is required.



Model 2198 AC

Pneumatic calibrator for absolute pressures. The three needle valves control the test pressures. Vacuum and pressure supply is required.



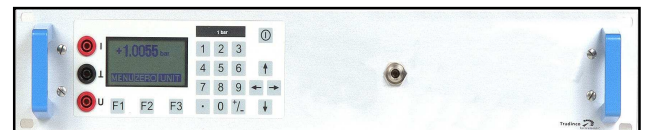
Model 2198 LPC

Low pressure calibrator with integrated handpump, volume regulator and vent valve for generating and fine control of the test pressure. No external pressure supplied is required.



Model 2198 P

Pressure indicator for the accurate measurement of gauge pressure, vacuum and absolute pressure.



Model 2198 DP

Pressure indicator for measuring differential pressures under static pressure. For calibration purposes a separate differential pressure controller is available.

Combined and custom-made configurations are available upon request.

Standard		Instrument	
MP	STANDARD	INPUT	READING UP
1	+ 0.0000	+ 0.0	+ 0.0
2	+ 199.9106	+ 100.0	+ 100.0
3	+ 399.8212	+ 200.0	+ 200.0
4	+ 599.7318	+ 300.0	+ 300.0
5	+ 799.6424	+ 400.0	+ 400.0
6	+ 999.5530	+ 500.0	+ 500.0
7	+ 1199.4636	+ 600.0	+ 600.0
8	+ 1399.3742	+ 700.0	+ 700.0
9	+ 1599.2848	+ 800.0	+ 800.0
10	+ 1799.1954	+ 900.0	+ 900.0
11	+ 1999.1060	+ 1000.0	+ 1000.0

Calibrated by
T.C.I. Technicians
Approved by
T.C.I. Supervisor
A. Technicians
date: 26 March 2002
Berkeley Road

Your Ref.: 141/78
Our Ref.: 60203001
Client: Gabr Industrial Services

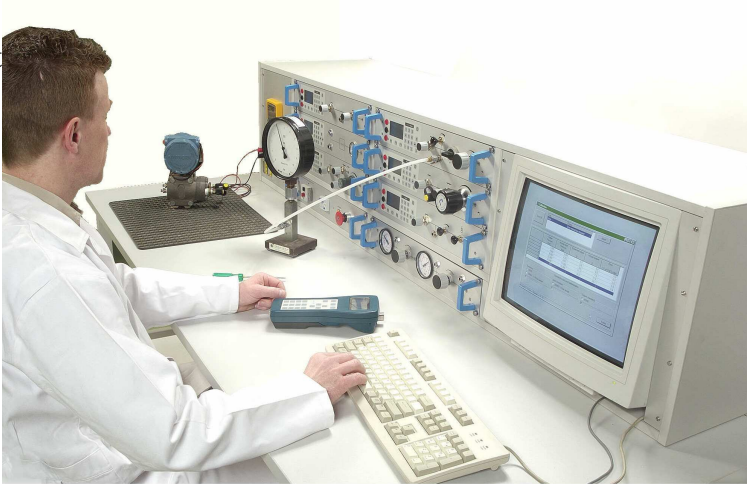
J. S. Searlson
caldate: 26/03/02

The internal pressure sensors of the instrument have excellent linearity and hysteresis characteristics. The Silver Series offers an accuracy of 0.05% of full scale for a very economic price. The Gold Series offers an accuracy of 0.04% of reading, suitable for calibrating the most accurate transmitters. The Gold Series furthermore offers dynamic temperature compensation. This means that the stated accuracy is valid at any temperature between 5°C and 45°C. This unique feature ensures reliable and calibrations under the most diverse conditions.

Example of a free of charge calibration certificate

The 2198 Series is designed for mounting in any 19" rack system such as the Tradinco Targa workbenches. No special mounting supports are required. Furthermore the connections to the instrument are industrial standards.

All 2100 Series models can be equipped with a RS232 or IEEE 488 interface. This allows automatic data transfer between the instrument and the AutoCal Automatic Calibration Systems or any other software which supports bi-directional IEEE 488 or RS232 data transfer.



AutoCal systematically record and organise all calibration data, generate calibration reports and guide technicians through the calibration procedure.

To complement the 2100 Series of pressure calibrators and indicators, there is a complete range of: pneumatic/hydraulic generators, electrical test and calibration equipment, temperature calibrators, indicators, etc.



Next to the comprehensive range of bench-mounted equipment, Tradinco Instruments supplies a wide range of portable test, measurement and calibration equipment for pressure, temperature and electrical process signals.

TECHNICAL SPECIFICATIONS

Orderingcode										
Version	Configuration									
2198LPC	Low pressure calibrator									
2198 PC	Pressure calibrator									
2198 HPC	High pressure calibrator									
2198VC	Vacuum calibrator									
2198AC	Absolute pressure calibrator									
2198P	Pressure indicator									
2198DP	Differential pressure indicator									
Configuration		N	L	P	H	V	A	P	D	
Range		e	P	C	P	C	C	C	P	P
2G	100 mbarg	1	X						X	
BG	160 mbarg	1	X						X	
WG	250 mbarg	1	X						X	
CG	400 mbarg	1	X						X	
DG	600 mbarg	1	X						X	
3G	1 barg		X	X					X	X
3V	-1 barg					X			X	
4A	1.1 bara						X	X	X	
EG	1.6 barg			X					X	
FG	2.5 barg			X					X	
HG	4 barg	1		X					X	
JG	6 barg	1		X					X	
5G	10 barg			X					X	X
5A	10 bara								X	X
KG	16 barg				X				X	X
LG	25 barg				X				X	X
MG	40 barg	1			X				X	
NG	60 barg	1			X				X	
6G	100 barg				X				X	X
PG	160 barg				X				X	X
7G	250 barg				X				X	X
YG	400 barg	1							X	
ZG	600 barg	1							X	
8G	1000 barg	1							X	
9G	2500 barg	1							X	
4B	1.1 bara ref.		X	X	X				X	

Notes:

Each Instrument can be supplied with two integrated pressure sensors. If the range of the second sensor is not within the range of the first sensor or if the ratio between the ranges exceeds 1:10, a separate connection is required. The separate connection is for measurement only and is not controlled.

- 1) Silver Series Only.

Standard delivery includes:
2198 Calibrator, traceable calibration certificate, Windows re-adjustment enable software, electric test leads 2/4 mm, polyflo quickconnector (-1 to 10 bar range) or Minimesse hose and 1/4" npt adaptor (20 to 600 bar range)

Rev.09.02

Accuracy

Pressure measurement:
(Including non-linearity, hysteresis and repeatability):
Silver Series 0.05% FS.
Gold Series 0.04% R between 10 and 100% of full scale and between 5°C and 45°C (dynamic temperature compensation).
Electrical measurement:
0.05% of reading.

Certification

Accredited calibration certificate issued by the Tradinco Calibration Laboratory on pressure sensor, which is accredited by the NKO (Dutch Calibration Organisation). CE certified.

Communication (option)

RS232 or IEEE488.

Dimensions

19" x 260mm x 2HE mm (LxWxH).

Electrical connections

3x4 mm input sockets.

Electrical measurement and output

0-24 mA, 0-10 Vdc. Optional 20V Transmittersupply

Graphic Display

128 x64 Dots.
Simultaneous readout of pressure and mA/V and function keys

Keyboard

20 switches with tactile and audible feedback.

Memory capability (option)

32 calibration procedures

Multi-lingual

Select between English, Dutch, French and German.

Operating temperature range

Ambient temperature; -10 to + 50 °C.
Pressure medium; Max 150 °C.

Overpressure

Maximum 150% of pressure range.

Power supply

115/230 VAC, ± 10%; 50/60Hz

Pressure connection

2198LPC, PC, VC en AC: Polyflo/hose connection
2198HPC: Minimesse
2198DP and P: depending on pressure range

Pressure media

Gas only, all media compatible with stainless steel and buna-n. The 2198P indicator is also suitable for liquid.

Pressure scale units

All pressure units (SI & ANSI) can be selected by user.

Re-adjustment

Re-adjustment by means of advanced menu via a software package included in the delivery.

Resolution

Silver Series: 3, 4 or 5 digits, switchable.
Gold Series: 4, 5 or 6 digits, switchable.

Response

Measurement 200 times per second.
Display update 3 times a second.

Scaling function

mA scaling to any pressure unit or percentage

Signal filtering

Adjustable signal filtering (damping) for unstable sources.

Storage conditions

Clean and dry, maximum temperature 70 °C.

Switch test

Test dry-contact(non powered) pressure switches; display hold pressure value when switch is closed or opened. Switch status graphically shown on display.

Temperature effect

Silver Series; typical 0,015%FS/°C from 20 °C
Gold Series; none between 5 and 45 °C

Weight

1.5 -5 kg.

Zero control.

Pressure, mA and VDC via keyboard.

Technical specifications subject to change without notice.

Distributor: