



MF680 (PE)

Portable multifunction calibrator

The MF680 multifunction process calibrator manufactured by Gometrics combines technology, robustness and ease of use. It is ideal for the adjustment or field calibration of a great variety of process instruments, especially when a compromise between performance, dimensions and cost is necessary.

The MF680 calibrator is a microprocessor-based digital pressure gauge. In standard configuration, it is equipped with an internal stainless steel strain gauge sensor for ranges above 1 bar. It is also possible to use the gauge with external pressure modules equipped with the same sensors encapsulated in 316 stainless steel blocks. It has two connectors on the side for communications purposes. The terminals on the top of the instrument allow the operator to easily measure or generate electrical signals at common process levels.

Its multi-function capability makes it extremely versatile for calibrating different instruments: digital indicators, manometers, pressure gauges, contact type pressure alarms and pressure or electrical transmitters. It has an intuitive and multi-language menu for easy access to pressure measurement, current and voltage measurement or generation functions, as well as contact switches status detection.

The equipment incorporates advanced features such as leak testing, a transmitter function with 24 Vdc power loop in active or passive mode, optional external pressure module sensors or error expression in %. The convenient datalogger function for data recording is also included in all models. The instrument is designed to evolve technologically: to benefit from future enhancements, the user will only need to upgrade the firmware via the USB connector built into the side.

The new MF680 not only measures pressure, but can also measure or generate current simultaneously, with both variables displayed at the same time on the dual display, making it remarkably easy to use and time-efficient. In addition, it is possible to work in percentage values for the input and output signals (or directly in percentage error), which reduces the possibility of error in the calibration of pressure transmitters.

The MF680 is supplied with calibration certificate, carrying bag, connecting cables, batteries and charger. It is backed by a three-year warranty and Gometrics' commitment to after-sales service.

- Relative pressure
- Absolute pressure
- Vacuum
- Combined ranges (vacuum-pressure)



A product manufactured and marketed by



ES France - Département Bio-tests & Industries
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 90
Fax. 01 47 01 16 22



e-mail : bio@es-france.com
Site Web : www.es-france.com

MF680 (PE). Portable multifunction calibrator

The new MF680 brings together a set of features that make it very versatile and unique in this segment of portable calibrators. Based on the experience accumulated in recent years developing the Gometrics DPM6100, T210, T220 and T230 models in the successful TINYCAL series, Gometrics has designed a versatile instrument with cutting-edge technology that represents a breakthrough in this field.

Technical characteristics

Pressure	
Uncertainty (one year)*	0.25% FS – 0.10% FS – 0.05% FS
Internal sensor ranges	Min. 0-25mbar – Max. 0-350bar
External module ranges	Min. 0-25mbar – Max. 0-1000bar
Resolution	See table below
Process connection	1/8" BSP M conical 60°
Leak test	Yes
Switch test	Yes
Datalogger	Yes
Barometric sensor	Optional
Certification	Accredited EN17025 certificate (ENAC)
Electrical signals	
Uncertainty*	0.025% FS
Measurement range mA	0 - 55 mA with external loop supply 0 - 30 mA with internal loop supply
Measurement range mV	0 - 200 mV
Measurement range V	0 - 50 Vdc
Resolution	See table below
Power supply 24Vcc internal	Yes
Simultaneous reading	Yes
Indication of error in %	Yes
Generation mA	0 - 25 mA
Generation mV	0 - 200 mV
Generation V	0 - 10 Vdc
General characteristics	
Dimensions	Long: 185 mm Large: 97 mm Depth 52 mm
Weight	500 g
Batteries	Rechargeable NiMH
Autonomy (typical)	12 hours
Charger	Yes
CE marking	Yes
After-sales service	Yes
Warranty	3 years

*Includes non-linearity, hysteresis, repeatability, thermal drift between 20°C and 26°C and 1-year stability

The MF680 calibrator is supplied with

- Transport bag
- Electrical connection cables
- USB cable for PC connection
- Battery charger
- Instruction handbook
- ENAC calibration certificate in pressure (EN17025)



Range by input type

Range code	Relative (G)	Vacuum (V)	Combined (E) ⁽¹⁾	Absolute (A) ⁽²⁾	Reading display resolution
025	0 - 25	-25 / 0	-25 / +25		0,001
070	0 - 70	-70 / 0	-70 / +70		0,002
300	0 - 300	-300 / 0	-300 / +300	0 - 300 ⁽³⁾	0,01
101	0 - 1	-1 / 0	-1 / +1	0 - 1	0,00002
201	0 - 2		-1 / +2	0 - 2	0,00005
701	0 - 7		-1 / +7	0 - 7	0,0002
172	0 - 17		-1 / +17		0,0005
352	0 - 35		-1 / +35		0,001
702	0 - 70				0,002
173	0 - 170				0,005
353	0 - 350				0,01
104	0 - 1000 ⁽⁴⁾				0,02

⁽¹⁾ For combined ranges the uncertainty is given in % of SPAN

⁽²⁾ Not available with 0.05% FS accuracy

⁽³⁾ Not available with 0.1% FS accuracy

⁽⁴⁾ Execution with exte

■ mbar

■ bar

Electrical Signal Resolutions

	Generation	Measuring
mV	0,005	0,005
V	0,001	0,001
mA	0,001	0,001

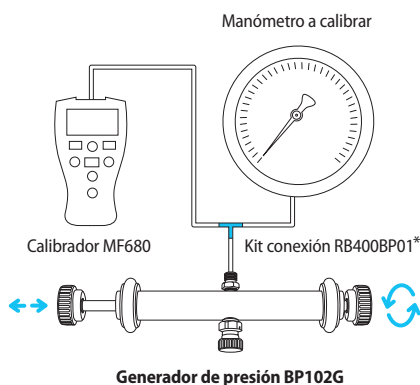
Advanced Features

The new MF680 comes standard with the following advanced features:

- Double reading: pressure and current on the same display
- Active or passive display (with or without 24 Vdc source) configurable from the calibrator itself
- Readings in absolute, percentage or error values in %, also configurable from the keypad
- Datalogger for data logging and storage
- Leak test
- Display of MAX and MIN values of readings
- ENAC calibration certificate for pressure at no extra charge

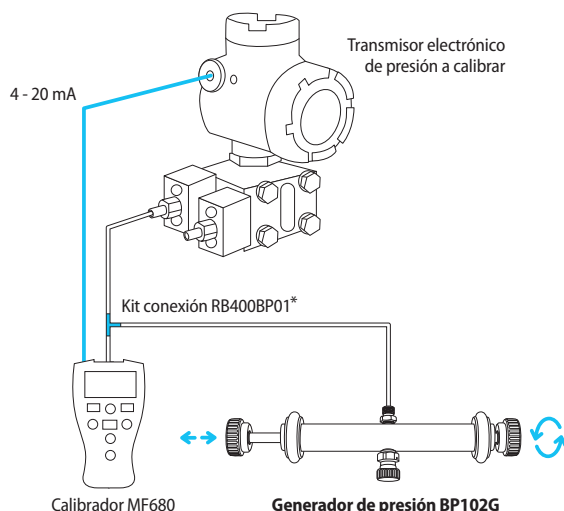


Applications



Calibrate gauge application

Simple system for CALIBRATING a pressure gauge with the BP102G and a standard pressure gauge such as the **MF680** from GOMETRICS



Calibrate Transmitter Application

Simple system for CALIBRATING an electronic pressure transmitter with the **BP102G** and a standard manometer such as the GOMETRICS **MF680** measuring the 4-20 mA signal.

**We recommend the use of the RB400BP01 kit, facilitating connection and sealing of the circuit without the need for tools, simply by hand tightening the connection fittings. Order pump with kit, Ref. BP102KT.*

Ordering Information

MF680 - X Y Z

SERIES

RANGE CODE
(ver tabla)

ENTRY TYPE

G - Gauge pressure
A - Absolute pressure
V - Vacuum pressure
E - Combined ranges

UNCERTAINTY

1 - 0.25% FS
2 - 0.10% FS
3 - 0.05% FS

To include the barometric module, insert -B- between "series" and "range code". For electrical equipment only, include -E- without pressure range code.

Examples:

MF680-353G2 (Pressure and Electrical)

MF680-B-172G2 (PE + Barometric)

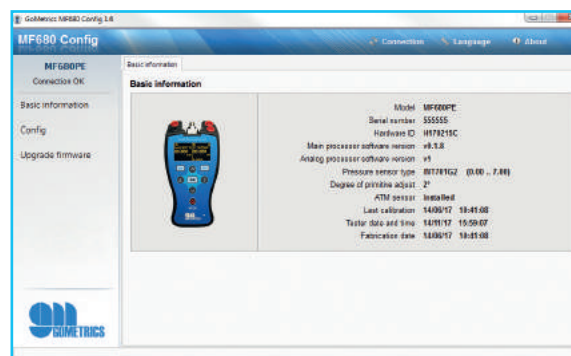
MF680-E-G2 (Electric only)

Optional accessories

- External pressure modules
- Manual pumps for pressure generation
- Custom pouches and carrying cases
- Available in panel version: MF680P

Downloadable PC software for:

- Instrument identification (model and s/n)
- File management (datalogger)
- Calibration and adjustment
- Firmware upgrades



Connection kits and accessories

Pneumatic accessories maximum 20 bar

Reference	Description
RB400BP11	750 mm-long coupling tubing with 2 X 500-mm extensions
RB400BP22	750 mm-long coupling tubing
RS20012G	Coupling 1/8" BSP M conical 60° both ends
RS20012	Coupling 1/8" NPT M by 1/8" BSP M conical 60°
RS20014	Coupling 1/4" BSP by 1/8" BSP M conical 60°
RS20016	Coupling 3/8" NPT M by 1/8" BSP M conical 60°
RS20018	Coupling 1/2" NPT M by 1/8" BSP M conical 60°
RS20012RG	Coupling 1/8" BSP M by 1/8" BSP M conical 60°
RS20014RG	Coupling 1/4" BSP M by 1/8" BSP M conical 60°
RS20016RG	Coupling 3/8" BSP M by 1/8" BSP M conical 60°
RS20018RG	Coupling 1/2" BSP M by 1/8" BSP M conical 60°
RBQSF612	Coupling 1/8" BSP H fast intake from 6mm tube
U10351620	Washer USIT for 1/8" BSP M thread
Kits	
Calibration KIT RB400BP01	made up of: • RB400BP11 • RS20012 • RS20014
Calibration KIT RB400BP02	made up of: • RB400BP22 • RS20012G

High-pressure accessories up to 600 bar

Reference	Description
V6006022	750 mm-long coupling tubing x 6 mm diameter
V60018NPT6	High-pressure Coupling 1/8" NPT M
V60018BSP6	High-pressure Coupling 1/8" BSP M
V60014NPT6	High-pressure Coupling 1/4" NPT M
V60014BSP6	High-pressure Coupling 1/4" BSP M
V60038NPT6	High-pressure Coupling 3/8" NPT M
V60038BSP6	High-pressure Coupling 3/8" BSP M

High-pressure Accessories up to 1000 bar

(stainless steel)

Reference	Description
HK1-1000	SI High-pressure kit in stainless steel made up of: (1) 1-m-long flexible tubing (1) Coupling 1/4" BSP M (1) Coupling 1/4" BSP F // (1) 1/4" BSP M x 1/2" NPT F
HTPA-1000	Kit with 7 SI adaptors, stainless steel, made up of: (1) 1/4" BSP M x 1/8" BSP H // (1) 1/4" BSP M x 1/8" NPT H (1) 1/4" BSP M x 3/8" BSP H // (1) 1/4" BSP M x 1/4" NPT H (1) 1/4" BSP M x 1/2" BSP H // (1) 1/4" BSP M x 3/8" NPT H (1) 1/4" BSP M x 1/2" NPT H

Common accessories (Pneumatic and high-pressure)

Reference	Description
RS4TG	T-coupling 1/4" BSP H
RS8RB4G	Adaptor 1/2" BSP M to 1/4" BSP H
RS40012GG	Coupling 1/8" BSP H x 1/8" BSP H
RS40014GG	Coupling 1/4" BSP H x 1/4" BSP H
RS40012GN	Coupling 1/8" BSP H x 1/8" NPT H
RS40014GN	Coupling 1/4" BSP H x 1/4" NPT H
RS41214GN	Coupling 1/8" BSP H x 1/4" NPT H
U10351620	USIT Washer for 1/8" BSP M
U13702015	USIT Washer for 1/4" BSP M
U16702415	USIT Washer for 3/8" BSP M
U20702815	USIT Washer for 1/2" BSP M