

Full-scale

HANDHELD DIGITAL MANOMETER

PG-100N/B Series

- New lineup of PG-100 series for measuring gas and liquid pressure
- Easy, one-handed operation
- Easy-to-read large LCD display
- For compound pressure and low pressure(PG-100N) and absolute pressure(PG-100B)
- Automatic power off function, one-touch zero-point calibration
- Long battery life, lasts more than 1000hrs with two AAA dry batteries
- Analog output available
- Pressure unit selectable type also available (PG-100∗-∗∗∗∗-W)

A Nidec Group Company

COPAL ELECTRONICS

All for dreams



For air type

PG-100N



NEW

liquid available type

PG-100B

List of Model Number

Pressure reference	Gauge(Compound)					Absolute
Rated pressure （kPa）	-10～10	-100～100	-100～1000	-100～100	-100～1000	0～100 （abs）
kPa	PG-100N-101R-＊	PG-100N-102R-＊	PG-100N-103R-＊	PG-100B-102R-＊	PG-100B-103R-＊	PG-100B-102A-＊
MPa			PG-100N-103R-M＊		PG-100B-103R-M＊	
mmHg	PG-100N-101R-H＊	PG-100N-102R-H＊		PG-100B-102R-H＊		
Unit of display	PG-100N-101R-W＊	PG-100N-102R-W＊	PG-100N-103R-W＊	PG-100B-102R-W＊	PG-100B-103R-W＊	PG-100B-102A-W＊

Standard Specification

Model number	PG-100N			PG-100B		
	101R	102R	103R	102R	103R	102A
Pressure reference	Gauge （Compound）					Absolute
Rated pressure	−10～10kPa （−75.0～75.0mmHg）	−100～100kPa （−750～750mmHg）	−100～1000kPa （mmHg undisplayable）	−100～100kPa （−750～750mmHg）	−100～1000kPa （mmHg undisplayable）	0～100kPa abs （mmHg undisplayable）
Max. pressure	20kPa	200kPa	1500kPa	200kPa	1500kPa	200kPa abs
Indication system	3-1/2-digit LCD					
Resolution	1digit					
Indication unit	kPa, MPa, mmHg, in.Hg, mmAq, psi, bar ※					
Function	Auto power off, Display hold, Battery replacement display (LOBAT), Zero point adjustment					
Indication accuracy （at 25℃）	±0.5%F.S.±2digits					
Indication accuracy （at 25±25℃）	±1.5%F.S.±2digits	±1.0%F.S.±2digits				±2.0%F.S.±2digits
Available media	Non-corrosive gases			Gases / liquids compatible with SUS316L		
Operating temp.	0℃ to 50℃ （No freezing）					
Operating humidity	15 to 85% RH or below （No condensing）					
Driving power	3 VDC, AAA dry cell x 2					
Pressure port	M5 female screw （P=0.8）					
IP protection	IP40 （IEC standards） ※※					
Outer dimensions	55 （W） ×16.9 （D） ×110 （H）					
Weight	Approx. 100g					
Battery service life	Approx. 1,000 hours					
Analog output						
Power supply	5±0.5V DC, 5mA maximum, External supply					
Output voltage	±1.000V （Proportionate to display value）					
Output accuracy	±10mV （Indicated value standard）					
Other						
Accessories	PG-100N：2 fittings (half union for 6mm OD tube, barb fitting for 4mm OD tube), 2 AAA batteries, strap PG-100B：Fitting (half union for 6mm OD tube), 2 AAA batteries, strap, protective cover					
Option(Sold seperately)	Soft carrying case					

※Only W type can switch all display unit.　　※※Out-of-specification when the analog output function is used.

Model Number Designation

PG－100B－103R－M　X1　T

①　②　③　④　⑤　⑥

①Series name	PG-100	
②Available Media	B	Gases/Liquids
	N	Non-corrosive gases
③Pressure Range	101R	-10～10kPa ＊
	102R	-100～100kPa
	103R	-100～1000kPa
	102A	0～100kPa abs ＊＊
④Indication Unit	Blank	kPa
	M	mPa
	H	mmHg※
	W	With unit switching function※※
⑤Inspection Report	Blank	Not attached
	X1	Inspection report attached
	X2	Inspection report and calibration certificate attached）
⑥Certificate	Blank	Not attached
	T	Traceability certificate attached

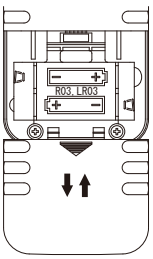
＊……Only for PG-100N
＊＊ … Only for PG-100B
※　… For particular application. The application is necessary for buying this model.
※※ … Foreign sales. The application is necessary for buying this model.

Operation Method/Functional Explanation

[Insertion of Batteries]

lide the battery cover on the back of the product body downward to open the cover. Insert the batteries in the direction as illustrated, check that the batteries are correctly and firmly in place, and slide the battery cover again to close.

電池取付図



[Operation Method]

①Turning the power ON
With the power turned off, press the【POWER】button under open air atmospheric pressure, and check that the minimum digit for the pressure indication is within 0±10 digits.（For the pressure range "102A", 100（kPa abs.）will be displayed when the power button is turned on under atmospheric pressure.）

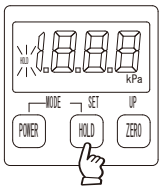
②Zero adjustment
After turning on the power, if a difference is detected between the zero values in open air atmospheric pressure, press the【ZERO】button for three seconds or longer and performs the zero adjustm（The zero adjustment function is invalid in 102A range, because it is based on an absolute vacuum.）

③Measurement
When pressure is applied, the measured value is displayed on the LCD.

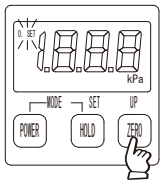
④Turning the power OFF
With the power turned on, press the【POWER】button to turn off the power. When the auto power off function is activated, the power is turned off according to the preset time.

[Functional Explanation]

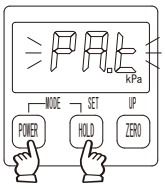
①Hold
When pressure is applied, the measured value is displayed. Press the【HOLD】button to retain the pressure value displayed at that time. At this time, the "HOLD" mark is displayed on the LCD. Press the button again to cancel the hold.



②Offset
When the pressure exceeds ±1%FS, press the【ZERO】button for three seconds or longer to enable subsequent indication of variations with the zero value set to 0. At this time,"0.SET" is displayed on the LCD. Press the【ZERO】button for three seconds or longer again to return the indication to the previous display.



③Switching of auto power off function
With the power turned off, press the【POWER】button for one second or longer while pressing the【HOLD】button to set the mode to the switching mode of the auto power off function. Choose the mode from four modes including ["P3": 3 min.],["P20":20 min.],["PAt": 20 min. after the pressure reaches zero], and ["PoF":Disabled].Press the【ZERO】button to select the mode and press the【HOLD】button to enter the mode. While the switching mode is activated, if any button operation is not made for 20 seconds, the mode shifts to the measurement mode at the preset value displayed at that time.
In the initial state,["P3": 3 min.] is set.



≪Operation Mode≫

With the power turned OFF, press【HOLD】and【POWER】for one second or longer.

《Switching of Auto Power OFF Function》
ZERO button: SELECT
HOLD button: ENTER
①3 minutes
②20 minutes
③20 minutes after the pressure reaches zero
④Disabled

With the power turned OFF, press【ZERO】and【POWER】for one second or longer.

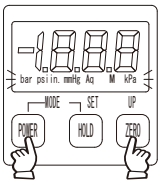
《Unit Switching Function》（Only for －W model）
ZERO button: SELECT
HOLD button: ENTER
①kPa　⑤mmAq
②MPa　⑥psi
③mmHg　⑦bar
④in.Hg

④Unit switching function（Only for －W model）

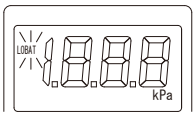
Pressure range	Unit switching （－W model）						
	kPa	MPa	mmHg	in. Hg	mmAq	psi	bar
101R※	○	－	○	○	○	○	○
102R	○	○	○	○	－	○	○
103R	○	○	－	○	－	○	○
102A※※	○	○	○	○	－	○	○

※. . . Only for PG-100N　※※. . . Only for PG-100B

With the power turned off, press the【POWER】button for one second or longer while pressing the【HOLD】button to set the mode to the unit switching mode. While the unit indication is blinking, press the【ZERO】button to select the mode and press the【HOLD】button to enter the mode.



⑤Battery replacement timing
When the battery voltage is low, "LOBAT" is displayed on the LCD. Replace the batteries. The batteries are two AAA dry cells. The used batteries should be discarded according to the instructions of the respective local governments. After replacing the batteries, be sure to perform the zero adjustment（See OperationMethod（2）.

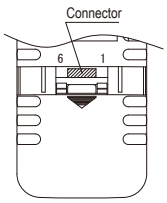


⑥Excessive pressure error
When pressure exceeding 130% of the rated pressure is applied, the indication will start to blink. Check the source pressure, and use the product within the range of the rated pressures.

Analog Function

Open the battery cover on the back of the main body and insert the pre-wired connector according to the table shown below. After applying external power,press the【POWER】button to turn on the power. Be sure to use the product with the batteries removed. The mode will not switch to the analog output mode unless the batteries are removed.

Connector No.	Description
1	External power input （5V）
2	Analog output terminal （±1V）
3	GND
4	CAL
5	CAL
6	CAL



Manufacturer	Housing	Contact	Wire gauge
JST Mfg. Co., Ltd.	ZHR-6	SZH-002T-P0.5	AWG28～26
		SZH-003T-P0.5	AWG32～28

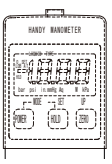
Analog voltage as indicated will be output to the analog output terminal.
Pressure range, rated pressure and output voltage are shown to the table below.
No voltage or signal should be applied to the CAL terminal since it is for adjustment use only.
Failure to heed this warning may result in product malfunction or damage to the main body.

Pressure range	Rated pressure［kPa］	Output voltage［V］
101R※	-10.00～10.00	-1.000～1.000
102R	-100.0～100.0	-1.000～1.000
103R	-100～1000	-0.100～1.000
102A※※	0.0～100.0※※※	0.000～1.000

※. . . Only for PG-100N
※※. . . Only for PG-100B
※※※. . . Unit：kPa abs.

Attachment of protect cover（Object ：PG-100B）

Please attach the protect cover to the main body from top side（the side of pressure port）to the end completely. Be careful about the front side of the cover. Strap can't be attached with the protect cover on the main body.

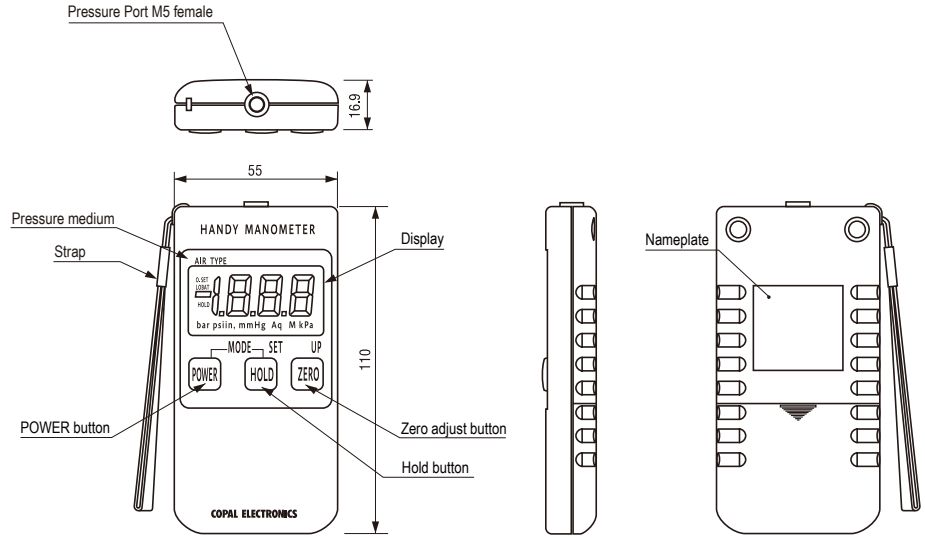




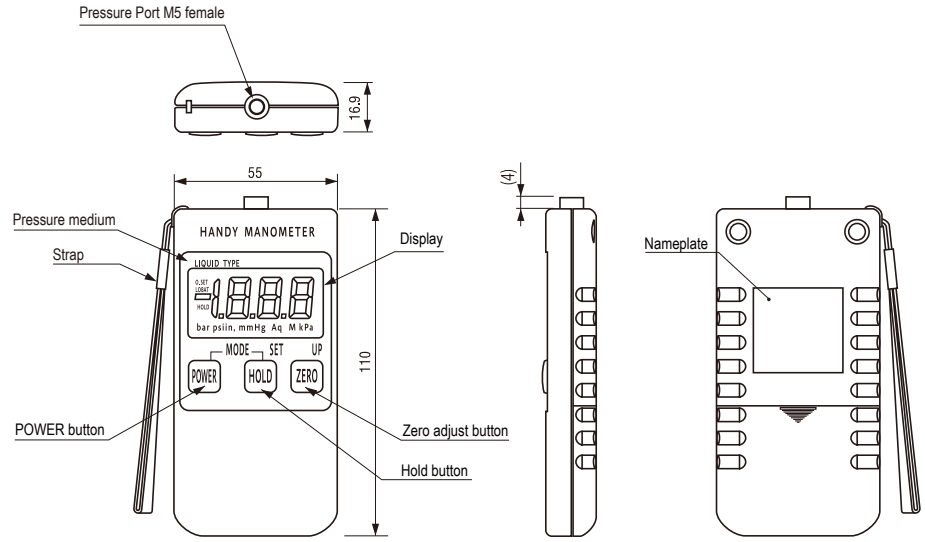
Top view

Outline dimensions (Unit:mm)

PG-100N Outline drawing



PG-100B Outline drawing



A Nidec Group Company

COPAL ELECTRONICS →All for dreams

www.nidec-copal-electronics.com

NIDEC COPAL ELECTRONICS, INC.
367 Van Ness Way, Suite 601
Torrance, CA 90501 U.S.A
Phone:+1-310-618-0225 Fax:+1-310-618-9984

NIDEC COPAL ELECTRONICS (SHANGHAI) CO.,LTD.
Unit A, 4/F, No.4 Bldg., No.253, Ai Du Rd., Wai Gao Qiao
Free Trade Zone, Shanghai, CHINA P.C.200131
Phone:+86-21-5046-3009 Fax:+86-21-5046-3115

NIDEC COPAL ELECTRONICS (TAIWAN) CO., LTD.
18F-1, No.57, Sec.2, Tun Hwa S.Rd., Taipei, TAIWAN
Phone +886-2-27030577 Fax:+886-2-27010577

NIDEC COPAL ELECTRONICS CORP.
7-5-25 Nishi-Shinjuku, Shinjuku-ku, Tokyo 160-0023 JAPAN
Phone:+81-3-3364-7055 Fax:+81-3-3364-7098

NIDEC COPAL ELECTRONICS GMBH
Mergenthalerallee 79-81
65760 Eschborn GERMANY
Phone:+49-6196-92775-0 Fax:+49-6196-92775-75

NIDEC COPAL ELECTRONICS KOREA CORP.
2F Jin-il Bldg., 52-7 Banpo-Dong, Seocho-Gu,
Seoul 137-040 KOREA
Phone:+82-2-3482-5861 Fax:+82-2-3482-5860

NIDEC COPAL ELECTRONICS SINGAPORE PTE. LTD.
180B Bencoolen Street #07-05 The Bencoolen Singapore 189648
Phone +65-6535-0056 Fax:+65-6535-0087

■Specifications are subject to change without notice.