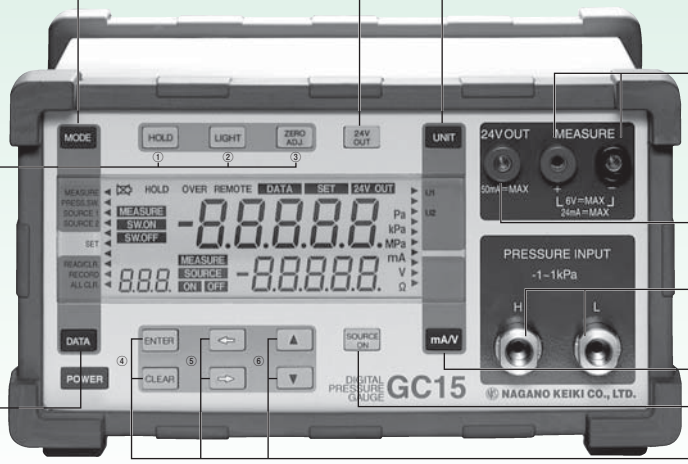
GC15・16
Precision Digital Pressure Gauges

"Easy and speedy" calibration on various pressure sensor and switch

●Calibrate mode set key
MEASURE:
Output voltage or current is measured as the pressure changes.
PRESS.SW.:
Switch operation point and electrical resistance is checked.
SOURCE 1:
By generating the output signal, the output pressure of the equipment is checked.
(Calibrator mode)
SOURCE 2:
Proportionate voltage or current is available as pressure changes.
(Transmitter mode)

①Hold key
②Back light key
③Zero adjustment key

●Date store mode key
Store point: 1,000 Data
The use of RS-232C or GP-IB communications.



●24V DC Power source output key
●Pressure unit change key
Convert function: 2 point (U1, U2)
●Electric signal input terminal
●24V DC Power source output terminal
●Pressure measurement port
●Electric signal change key
●Electric signal output key
④Data store/clear key
⑤Display figure selection key
⑥Set point electrical signal output INCREASE/ DECREASE key

On the basis of the measurement standard supply system of the Measurement Law, it is possible to provide national standards of pressure and traceable certificate.

Outline and features

GC15 0 to 100Pa → 0 to 50kPa, 18 range including positive and negative display

For measuring gaseous substances
Because a silicon capacitance pressure sensor is used, it is possible to measure micro differential pressure with high sensitivity. In addition, despite fine pressure measurement, it features a high pressure resistance.

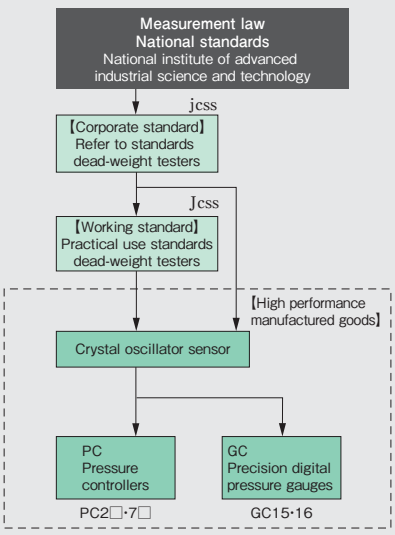
GC16 0 to 200kPa → 0 to 35MPa, 13 range including compound gauge

For measuring gaseous and liquid substances
Because an evaporated type sensor with a stainless steel diaphragm is used, it is possible to measure gaseous and liquid substances. In addition, it features that the pressure resistance is higher and the collected fluid is less.

Equipped with a variety of functions suitable for calibration

- **Pressure measurement and voltage / current measurement function**
  Calibration applications of pressure transmitter.
- **Pressure measurement and voltage / current output functions**
  Possible to select the voltage / current output from any setting function and pressure proportional output functions.
  Calibration of the electro-pneumatic converter and recording to the analog recorder of measured pressure are possible.
- **Pressure measurement and contact input, and resistance value measurement functions**
  Configuration application of pressure switch.
  Possible to measure by automatically holding the switch operating pressure value and the contact resistance.
- **Dual power supply of battery and 100 to 240V AC**
  Battery can be used continuously for approximately 8 hours.
  (Approx. 6 hours when optional GP-IB is mounted.)
- **Equipped with RS-232C. GP-IB is optional**
  Operable from the computer, it is used for transferring the recorded data.
- **Averaging function**
  Measurement data can be set to the moving average number of times within the range from 1 to 16 based on sampling per 0.3-second.
- **Recording function of measurement data**
  Up to 1000 measurement data at the time of calibration can be recorded. Labor-saving in the recording by writing at the time of calibration, additionally you can reduce the clerical error.
- **Compact and lightweight**
  230(W)×130(H)×270(D) Weight: Approx. 3.7kg (Including battery)

Pressure traceability system



GC15・16

Precision Digital Pressure Gauge

GC15

Wide range, accurately, and high pressure resistant.

GC16

Sensor has compatibility to measure water, oils gases.

■Pressure range and display unit〈GC15〉

Pressure Range		Pa	kPa
Differential pressure (Positive pressure display only)	0 to 100Pa	100.0	0.1000
	0 to 200Pa	200.0	0.2000
	0 to 500Pa	500.0	0.5000
	0 to 1kPa	1000.0	1.0000
	0 to 2kPa	2000.0	2.0000
	0 to 5kPa	5000	5.000
	0 to 10kPa	10000	10.000
	0 to 20kPa	20000	20.000
	0 to 50kPa	50000	50.00

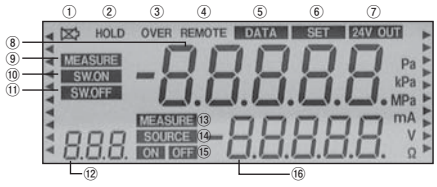
Pressure Range		Pa	kPa
Differential pressure (Positive and Negative pressure display)	±100Pa	100.0	0.1000
	±200Pa	200.0	0.2000
	±500Pa	500.0	0.5000
	±1kPa	1000.0	1.0000
	±2kPa	2000	2.000
	±5kPa	5000	5.000
	±10kPa	10000	10.000
	±20kPa	20000	20.00
	±50kPa	50000	50.00

*In addition to pressure display above, it is possible to perform conversion of 2 sets with the scaling function.

■Pressure range and display unit〈GC16〉

Pressure Range			kPa	MPa
Gauge pressure	———	Compound	-100 to 100kPa	100.00	0.1000
	0 to 200kPa		-100 to 200kPa	200.00	0.2000
	0 to 0.5MPa		-0.1 to 0.5MPa	500.0	0.5000
	0 to 1MPa		-0.1 to 1MPa	1000.0	1.0000
	0 to 2MPa		-0.1 to 2MPa	2000.0	2.0000
	0 to 5MPa			5000	5.000
	0 to 10MPa			10000	10.000
	0 to 20MPa			20000	20.000
	0 to 35MPa			35000	35.00

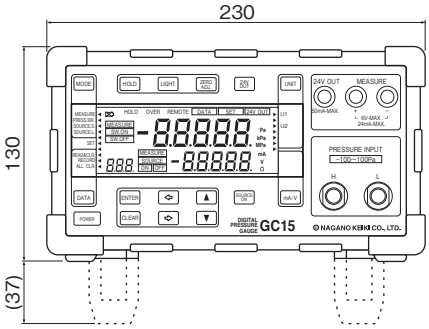
*In addition to pressure display above, it is possible to perform conversion of 2 sets with the scaling function.

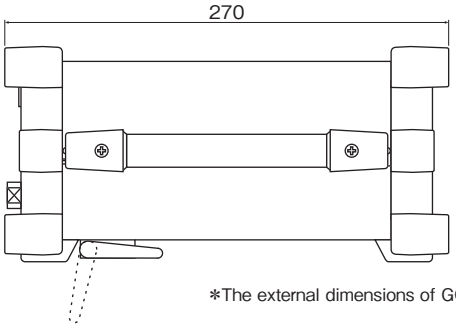


①Internal battery state warning
②Hold display
③Pressure range over warning
④Remote function indication
⑤Recording data display
⑥Setting mode display
⑦24V DC sensor power use indication
⑧Pressure display (5 digits)
⑨Pressure measurement mode display
⑩Set point of pressure switch indication ON
⑪Set point of pressure switch indication OFF
⑫Data count display (3 digits)
⑬Electric signal input mode display
⑭Electric signal output mode display
⑮Electric signal output display ON/OFF
⑯Electric signal display (5 digits) (Input/Output)

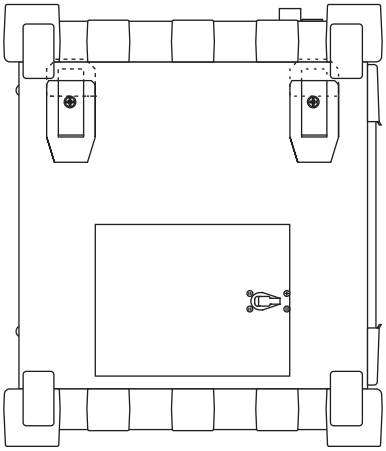
Dimensions

Unit: mm

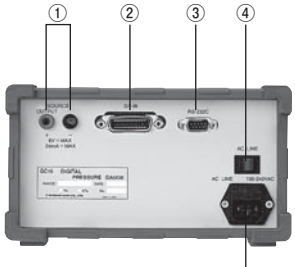




*The external dimensions of GC16 are the same as GC15.



This models has installed on various output interface



①Electric signal output terminal
②Interface port (Option)
③RS-232C Interface port
④AC Main power switch
⑤AC Power input socket

List of specification

Item			Description	
			GC15 (Micro pressure measurement)	GC16 (Gauge pressure measurement)
Pressure range			±100Pa→±500Pa, 0 to 100Pa→0 to 500Pa	-0.1 to 0.1MPa→-0.1 to 2MPa
			±1kPa→±50kPa, 0 to 1kPa→0 to 50kPa	0 to 0.2MPa→0 to 35MPa
Maximum allowable pressure			5kPa or lower, 50kPa, 10kPa or higher, 100kPa	200% of pressure range
Fluid			Dry air・N_2	Gas, liquid (Corrosion-resistant fluid)
Gas, wetted parts material			Silicon, glass, aluminum, silicone PC, A5056BD, SUS303	SUS630 (17-4PH) SUS303
Measurement range	Pressure		-10 to 110% of pressure range (Range of guaranteed accuracy, 0 to 100%F.S.)	
	Voltage		-6 to 6V DC (Range of guaranteed accuracy: -5.75 to 5.75V DC) (Input impedance Approx. 1MΩ or higher)	
	Current		-24 to 24mA DC (Range of guaranteed accuracy: -23 to 23mA DC) (Input impedance Approx. 25Ω)	
Accuracy (23±3℃)	Pressure		± (0.2%F.S.+1 digit) 500Pa or lower: ± (0.5%F.S.+1 digit)	± (0.1%F.S.+1 digit), ± (0.07%F.S.+1 digit)*1
	Voltage, Current		±(0.05%F.S.+1 digit)	
Temperature coefficient	Pressure	Zero	±0.01%F.S./℃ 500Pa or lower ±0.02%F.S./℃	±0.005%F.S./℃
		Span	±0.01%F.S./℃ 500Pa or lower ±0.02%F.S./℃	±0.005%F.S./℃
	Voltage, Current		±0.005%F.S./℃	
Display system			LCD (Back light)	
Display			Pressure values: 5 digits (Character height 17mm) Input voltage, electric current, resistance values: 5 digits (Character height 12mm) Unit: V, mA, Ω Output voltage, electric current values: Common use Recording data number: 3 digits (Character height 8mm) Battery level: Voltage drop display Others: Present mode display, Status display monitor, Unit monitor	
Display unit			Pa, kPa, Scaling conversion 2 setting	kPa, MPa, Scaling conversion 2 setting
Display update			0.3s / time	
Response time			Approx. 3s (Guarantee accuracy, at average of 8 times)	
Operating temperature range			0 to 40℃	
Storage temperature range			-10 to 50℃	
Operating humidity range			20 to 85%RH (No condensation)	
Transmitter supply voltage 24V DC supply unit			Voltage output: 24±2V DC Current output: 50mA DC maximum	
Voltage, Current output			Voltage output: 0 to 6V DC (Range of guaranteed accuracy: 0 to 5.75V DC) Current output: 0 to 24mA DC (Range of guaranteed accuracy: 0 to 23mA DC) Accuracy: ±(0.05%F.S.+1 digit) (23±3℃) Temperature coefficient: ±0.005%F.S./℃	
External interface			RS-232C: 1 port (Dsub 9 pins) GP-IB (Option)	
Data memory function			1,000 data (RS-232C or GP-IB data control)	
Power source			AC Power source: 100 to 240V AC (Voltage allowable fluctuation range: 85 to 264V AC) Built in battery: LEAD battery (Use time: Approx. 8h) (With GP-IB type: Approx. 6h)	
Consumption electric current			AC Power source: 18VA maximum Built in battery: 20VA maximum (Charge time: Approx. 10h)	
Warm-up period			Approx. 5 minutes	
Pressure inlet			Rc1/8, H・L, 2 port (Front)	Rc1/4 (Front)
Dimensions			230(W)×130(H)×270(D)	
Weight			Approx. 3.7kg (Includes battery)	
Accessories			Power cable (3 terminal L type), Conversion socket, Manual	
Other functions			With one touch of zero adjustment Switch operation point Hold function Average function Auto power off function Analog output scaling function Remote access function by outside interface	

*1 Accuracy ±(0.07% F.S.+1 digit) of GC16 is only range from -0.1 to 0.5, 1, 2 MPa and from 0 to 0.5, 1, 2 MPa.

Model number configuration

Please specify the model number, each specs and the range for ordering.

Model

G	C	1	□	—	①	②	③	—	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮
Precision Digital Pressure Gauge										×	×	×	×	×	×	×	×	×	×	
Model number									Selective spec.				Additional spec. (Option)							

Model	5	Differential pressure type (GC15) Connection: Rc1/8
	6	Gauge pressure type (GC16) Connection: Rc1/4

① Accuracy	1	Standard GC15 ±(0.2%F.S.+1 digit), ±(0.5%F.S.+1 digit) GC16 ±(0.1%F.S.+1 digit)
	2	High precision ±(0.07%F.S.+1 digit) GC16 Only Pressure range: 0 to 0.5, 1, 2MPa, -0.1 to 0.5, 1, 2MPa

② Connection	6	Rc1/8 (GC15 Dedicated)
	7	Rc1/4 (GC16 Dedicated)

③ External interface	0	RS-232C
	1	RS-232C + GP-IB

Please specify applicable range code as well as pressure range and engineering unit.

④ Pressure range			Accuracy
	GC15		
	1	0 to 100, 200, 500Pa	±0.5%F.S.
	2	0 to 1, 2, 5, 10, 20, 50kPa	±0.2%F.S.
	3	±100, ±200, ±500Pa	±0.5%F.S.
	4	±1, ±2, ±5, ±10, ±20, ±50kPa	±0.2%F.S.
	GC16		
	1	0 to 200kPa	±0.1%F.S.
	2	0 to 0.5, 1, 2, 5, 10, 20, 35MPa	±0.1%F.S.
	3	-100 to 100, -100 to 200kPa	±0.1%F.S.
	4	-0.1 to 0.5, 1, 2MPa	±0.1%F.S.
	GC16 High precision		
	A	0 to 0.5, 1, 2MPa	±0.07%F.S.
	B	-0.1 to 0.5, 1, 2MPa	±0.07%F.S.

⑮ Document	0	Nil
	1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, test report (1 pc 1 copy), inspection / traceability certificate, standard inspection report, attended inspection

[Component for Maintenance]
- ·Battery
- ·Charger
- ·Electrical terminal parts (2P) + measure cable (3P)
- ·Body case (Portable aluminum case) (Bottom right photo)

[Option]
Hand pump, (Bottom left photo)
- ·PP11-001, For air, 1MPa
- ·PP12-001, For oil, 20MPa
- ·PP13-001, For oil, 50MPa
- ·PP11-001, Spare parts for maintenance
- ·PP12-001, Spare parts for maintenance
- ·PP13-001, Spare parts for maintenance

[Calibration]
- ·Calibration
- ·JCSS Calibration (When adjustments are necessary in the JCSS calibration, general maintenance is required.)

＊Specify by code "X" if there is no applicable specification.