GC15・16
Precision Digital Pressure Gauges

Easy and speedy calibration for 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 can be monitored.
SOURCE 1:
By generating the output signal, the output pressure of the equipment can be monitored. (Calibrator mode)
SOURCE 2:
Outputs current and voltage proportional to measuring pressure.
(Transmitter mode)

①Hold key
②Back light key
③Zero adjustment key

●Date store mode key
Store point: 1,000 Data.
Remote data communication available through 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 specified by Measurement Law, it is possible to provide national standards of pressure and traceable certificate.

Overview and features

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

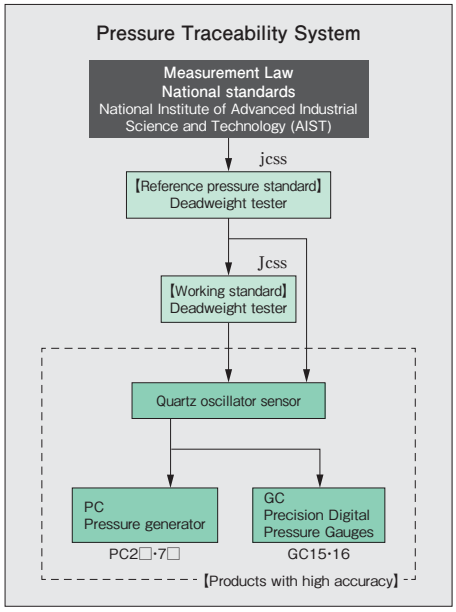
For measuring gases
As silicon capacitance pressure sensor is used, it is possible to measure micro differential pressure with high sensitivity. Despite fine pressure measurement, it can withstand high pressure.

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

For measuring gases and liquids
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 higher pressure resistance and prevents liquid pool.

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**
  Application for pressure switch calibration.
  Possible to measure switch operating point and contact resistance by automatically holding function.
- **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 featured.)
- **Equipped with RS-232C. GP-IB is optional**
  Operation from the computer is possible for transmitting 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.
  Handwrite recording labor-saving at the time of calibration, additionally reducing human error.
- **Compact and lightweight**
  230 (W)×130 (H)×270 (D) Weight: Approx. 3.7kg (Including battery)



GC15・16

Precision Digital Pressure Gauges

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

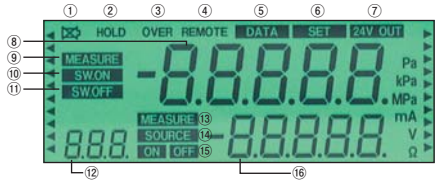
Pressure Range		Pa	kPa
Differential pressure (Positive and Negative pressure display)	±100Pa	100.0	0.1000
	±200Pa	200.0	0.2000
	±500Pa	500.0	0.5000
	±1kPa	1000.0	1.0000
	±2kPa	2000	2.000
	±5kPa	5000	5.000
	±10kPa	10000	10.000
	±20kPa	20000	20.00
	±50kPa	50000	50.00

※ In addition to pressure display and unit above, it is possible to convert to 2 arbitrary units of measure by scaling function.

■Pressure range and display unit 〈GC16〉

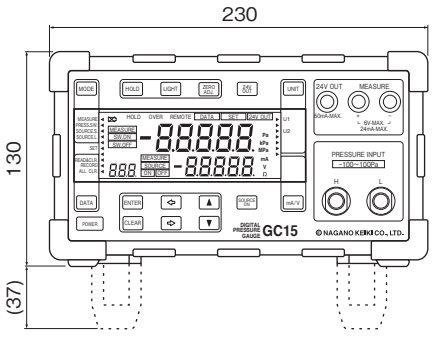
Pressure Range				kPa	MPa
Gauge pressure	————	Compound	-100 to 100kPa	100.00	0.1000
	0 to 200kPa		————	200.00	0.2000
	————		-100 to 200kPa	200.0	0.2000
	0 to 0.5MPa		-0.1 to 0.5MPa	500.0	0.5000
	0 to 1MPa		-0.1 to 1MPa	1000.0	1.0000
	0 to 2MPa		-0.1 to 2MPa	2000.0	2.0000
	0 to 5MPa			5000	5.000
	0 to 10MPa			10000	10.000
	0 to 20MPa			20000	20.000
	0 to 35MPa			35000	35.00

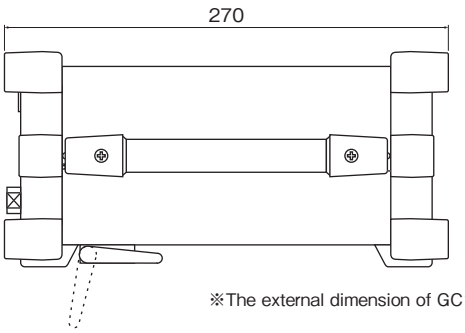
※ In addition to pressure display and unit above, it is possible to convert to 2 arbitrary units of measure by scaling function.



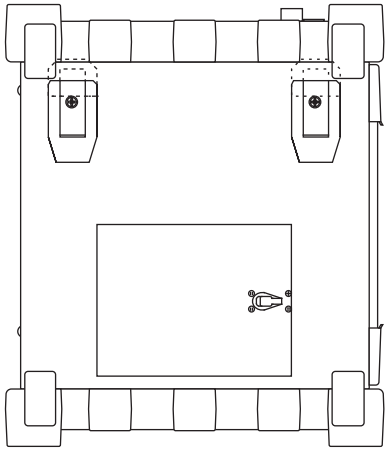
①Battery life warning
②Hold display
③Overpressure warning
④Remote function indication
⑤Recording data display
⑥Setting mode display
⑦24V DC sensor power use indication
⑧Pressure display (5 digits)
⑨Pressure measurement mode display
⑩Pressure switch operation (ON) indication
⑪Pressure switch operation (OFF) indication
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





※The external dimension of GC16 is same as GC15.



This model features 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 (Fine 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
Media			Dry air・Nitrogen	Gas, liquid (Compatible with wetted parts)
Gas, wetted parts			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.+1digit) 500Pa or lower: ± (0.5%F.S.+1digit)	± (0.1%F.S.+1digit), ± (0.07%F.S.+1digit) ※1
	Voltage・Current		± (0.05%F.S.+1digit)	
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 (Backlight)	
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 with input voltage and electric current display Recording data number: 3 digits (Character height 8mm) Battery level: Battery life 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 (Reaching guarantee accuracy boundary at 8 times average setting)	
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 max.	
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.+1digit) (23±3℃) Temperature coefficient: ±0.005%F.S./℃	
External interface			RS-232C (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 max. Built in battery: 20VA max. (Charge time: Approx. 10h)	
Warm-up period			Approx. 5 minutes	
Pressure connection			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 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.+1digit) of GC16 is only range available for range -0.1 to 0.5, 1, 2MPa and 0 to 0.5, 1, 2MPa.

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 Gauges										×	×	×	×	×	×	×	×	×	×	

Model number | Product specifications | Additional specifications (Optional)

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

② Connection

6	Rc1/8 (GC15 only)
7	Rc1/4 (GC16 only)

③ External interface

0	RS-232C
1	RS-232C + GP-IB

Please specify pressure range and unit of measure along with corresponding ordering code.

④ Pressure range

GC15		Accuracy
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 Documents

0	Not required
1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Inspection procedure Calibration test report (One-part one sheet) Inspection / Traceability certificate Calibration test report for pressure standard Attending inspection

「Component for Maintenance」
- Battery
- 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 JCSS calibration is required, general maintenance is also required.)

＊Specify code "X" to refer N/A