

GC32 Digital Differential Pressure Gauge

For gas measurement
(Featuring silicone diaphragm)

Overview

Compact (24 × 48) body size with various functions capable of highly sensitive differential pressure measurement.

Features

- 13 various standard ranges available
- Maximum allowable working pressure: 50kPa (For all standard ranges)
- Compact but easy-to-read display with excellent operability



Functions

Comparator (OUT1, OUT2)
LED operation indicator (Red)

They are red lit when comparator output becomes ON status



Zero adjustment (ADJ. key)

LED differential pressure and setting value indication

Unit (Pa, kPa)

MODE MODE key

Use the mode key for selecting each operation mode and sub mode.

▼ DOWN key

Sets values and selects items. It displays minimum pressure value in measurement mode while holding the key.

▲ UP key

Sets values and selects items. It displays maximum pressure value in measurement mode while holding the key.

Differential Pressure Ranges		Maximum Display Ability for Each Unit of Measure		Accuracy		Temperature Coefficient	
		Pa	kPa	Indication	Analog output	Zero	Span
0 to 50Pa	±50Pa	50.0 (±50.0)	—	±(1.5%F.S.+1digit)	±1.5%F.S.	±0.15%F.S./°C	±0.15%F.S./°C
0 to 100Pa	±100Pa	100.0 (±100.0)	—				
0 to 200Pa	—	200	—				
—	±200Pa	(±200)	—	±(1.0%F.S.+1digit)	±1.0%F.S.	±0.10%F.S./°C	
0 to 500Pa	±500Pa	500 (±500)	—				
0 to 1kPa	—	—	1.000				
—	±1kPa	—	(±1.00)	±(1.0%F.S.+1digit)	±1.0%F.S.	±0.10%F.S./°C	
0 to 2kPa	±2kPa	—	2.00 (±2.00)				
0 to 5kPa	—	—	5.00				

* Maximum display value in () refers ±bidirectional differential pressure.

* Negative sign (-) is displayed when the pressure measured at high pressure port (H) is lower than the pressure measured at low pressure port (L).

Specifications

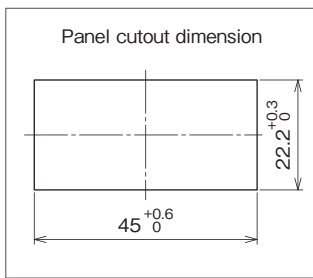
Item	Description		
Media	Gas (Dry air and nitrogen gas) No water or dusts should be contained.		
Installation Environment	Install in location where no gases or liquids may exist that have the potential to become flammable or ignitable under normal operating condition		
Pressure Connection	φ 4.5 barb (Straight)		
Wetted Materials	Silicon, ceramics, glass, aluminum, titanium, Au, silicone, PP, PBT		
Case Material	PC/ABS		
Maximum Allowable Working Pressure	50kPa		
Display	3 1/2 digit LED display (Character height: 10 mm)		
Display Update Rate	200ms		
Power Source	12 to 24V DC ± 10% Ripple (P-P) below 10%		
Current Consumption	50mA DC or less (Excluding output signal)		
Output	Comparator output (Independent) x 2 + analog output x 1		
Comparator Output	Open collector *1	NPN or PNP	
	Maximum Load Current	80mA DC Maximum applying voltage: 30V DC (NPN output) / Residual voltage 1V DC or less	
	Response Time	100ms or less (With no filter setting)	
	Comparator Operation Mode	Hysteresis mode, Window comparator mode	
Analog Output	Output *1	1 to 5V DC	4 to 20mA DC
	Load Resistance	10kΩ or more	500Ω or less (Supply voltage 20V DC or more)
			400Ω or less (Supply voltage 15V DC or more, less than 20V DC)
			250Ω or less (Supply voltage less than 15V DC)
	Response Time	100ms or less (With no filter setting)	
Resolution	Approx. 8mV DC or less	Approx. 0.032mA DC or less	
Input/Output Connector	e-CON compliant		
Environmental Rating	IP40 (Indoor installation)		
Operating Temperature	-10 to 50°C (Non-freezing or condensing)		
Operating Humidity	35 to 85%RH (Non-condensing)		
Acceptable Leakage Rate	1.7×10 ⁻⁴ Pa·m ³ /s *2		
EMC directive	EN61326-1:2013, EN61326-2-3:2013		
RoHS directive	EU RoHS compliance		
UL standard	Standard: UL61010-1 File number: E475503 Power Requirement: Must use NEC (National Electrical Code) Class 2 or LPS (Limited Power source) rated power supply		
Pollution Degree	Standard IEC60664 Class code 2		
Installation category	Standard IEC60664 Level II		
Operating Altitude	Altitude 2,000m or lower		
Weight	Approx. 33g		
Option	Power/Output Mating Cable: 2m, Vinyl tube: 2m		

* 1 Must be determined at the time of factory shipment

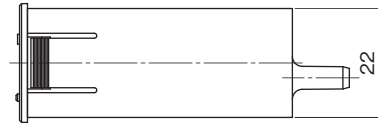
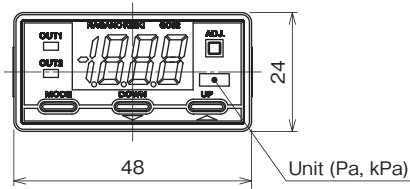
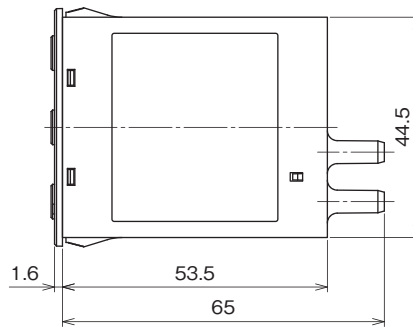
* 2 This product is NOT suitable for use with leakage test requiring strict measurement of leakage amounts.

Dimensions

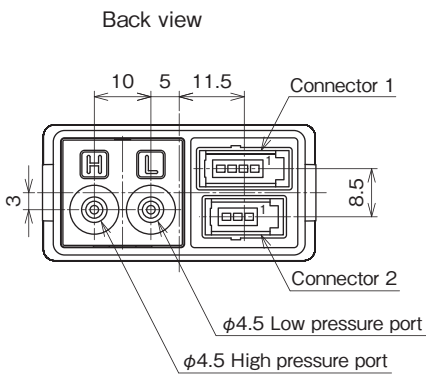
Unit: mm



t 1 to 3mm

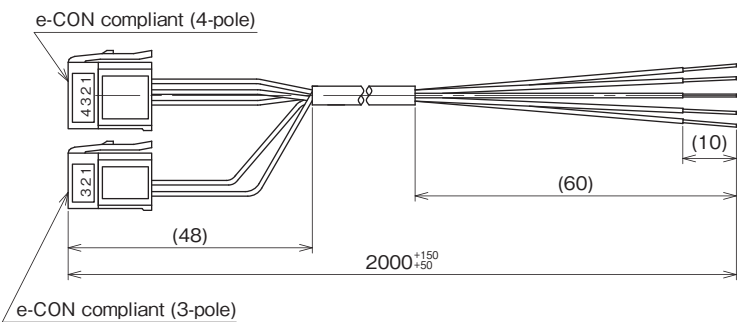


Input/output Connector Pin-out



	Number	Wiring	Notes
Connector 1	1	Power source (+)	
	2	Open collector output (OUT1)	NPN/PNP
	3	Open collector output (OUT2)	
	4	Power source (-)	
Connector 2	1	N.C.	Power source (+) when Connector 1 is not in use
	2	Analog output (+)	1 to 5V DC / 4 to 20mA DC
	3	Analog output (-)	Power source (-) and common when Connector 1 is not in use

Power/Output Connector Cable (Option)



Item	Specifications
Conductor specification	25AWG (0.18mm ² or equivalent)
Insulator outside diameter	0.84mm
Sheath outside diameter	3.5mm

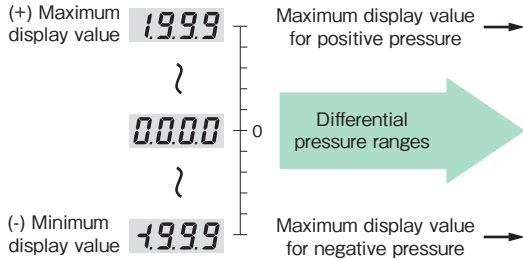
Cable	3-pole terminal number	4-pole terminal number	Wiring
Brown	-	1	Power source (+)
Black	-	2	Open collector output (OUT 1)
White	-	3	Open collector output (OUT 2)
Orange	2	-	Analog output (+)
Blue	3	-	Power source (-) COM

Seven Primarily Functions

1 Flexible rangeability with accurate indication and output scaling.

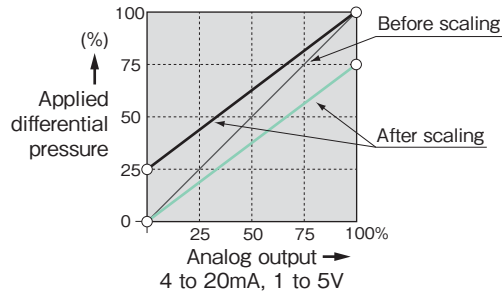
●Display scaling function

LED display value can be set arbitrarily within the maximum 3 1/2 display ability

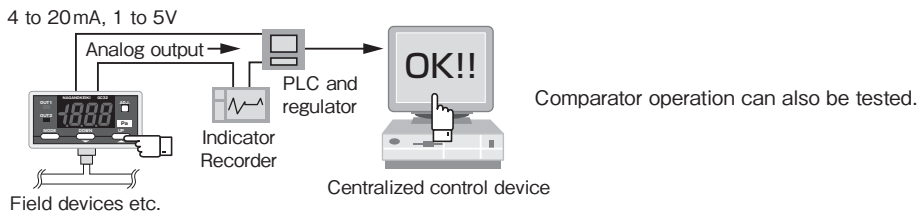


●Analog output scaling function

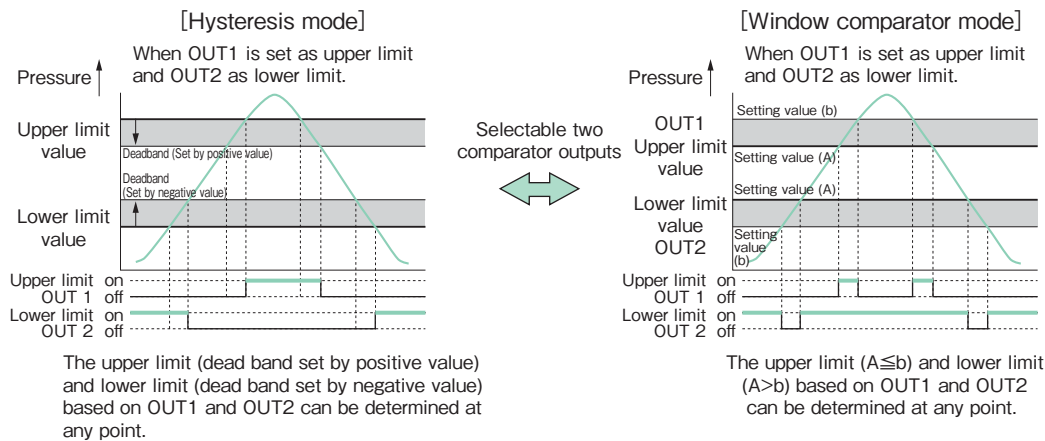
Analog output scaling value can be arbitrarily displayed based on minimum and maximum pressures within the rated differential pressure range and maximum display ability.



2 Loop check function allows user to check display indication, analog and comparator output manually by using up or down key without actually applying pressure to the unit suitable for checking proper wiring and other simulations.



3 Selectable comparator output type



on _____ ON Delay _____ OFF Delay

ON/OFF delay time can also be set toward setting value.

4 Digital filter function is used when pressure fluctuations can result in erratic pressure indication. (Select from: OFF, 500ms, 1s, 2s, 5s, 10s)

5 Zero adjustment is easily available just pressing [ADJ] key greater than 3 seconds with both sides of pressure port open to atmosphere.

6 The unit keeps the maximum and minimum pressure in the internal memory. They are displayed while holding the up or down keys respectively.

7 Other features include key lock function to prevent inadvertent operation, error message indication when pressure is applied beyond rated pressure range or applied pressure is outside of allowable range during zero point adjustment.

