

# DG-4000 series

Compatible with our linear gauge sensors to measure dimension, thickness and displacement.

## Lineup of DIN Sized Digital Gauge Counters



### DG-4120

Basic type with BCD signal output

### DG-4140

Comparator results displayed on a backlit LCD (OK-Green, NG-Red)

### DG-4240

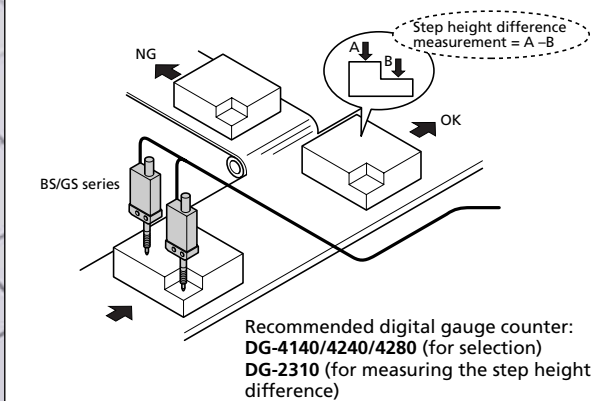
Comparator results indicated by LEDs (UPPER/OK/LOWER)

### DG-4280

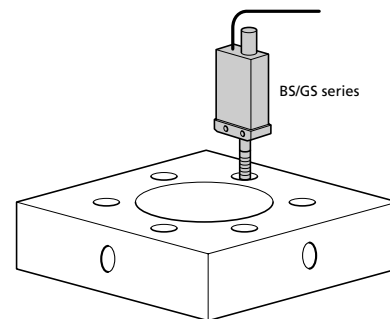
Comparator with a 4-step preset function

## Various applications to match your requirements. We are always ready to respond to your most demanding manufacturing and quality control needs.

### Step Height Difference Measurement and Selection of Parts

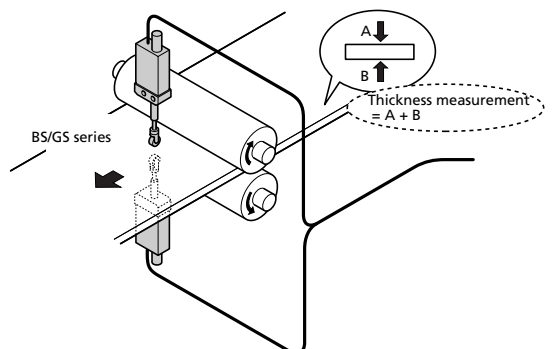


### Measurement of the Hole Depth of Molded Products

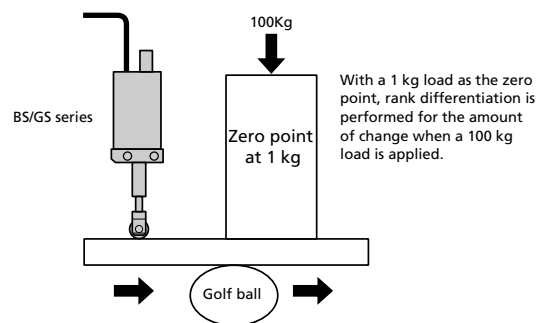


Recommended digital gauge counter: DG-4000 series

### Material Thickness Measurement



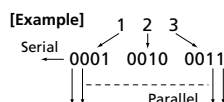
### Golf Ball Rank Differentiation



## ● A Brief Explanation of Terms

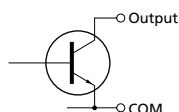
### BCD

Short for Binary-Coded Decimal, a format for representing decimal numbers (integers from 0 to 9) in binary code (0 and 1) in which each digit is represented by four bits (1, 2, 4, 8).



### Open collector (BCD)

A circuit configuration designed to dissipate power. It is mainly used for connecting to sequencer photocoupler inputs.

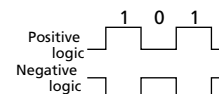


### TTL

Short for Transistor-Transistor Logic (IC), this term is used to express the voltage level of a pulse. A high signal state (Hi level) is generally defined as a signal +2.4V and above, and a low signal state (Lo level) as a signal 0.4V and below. This voltage is called the TTL level.

### Positive logic/ Negative logic

For a digital signal, positive logic is when "1" is used to represent the Hi level, and "0" the low level. On the other hand, if "1" is used to represent the Lo level and "0" the Hi level, this is called negative logic.



### Comparator

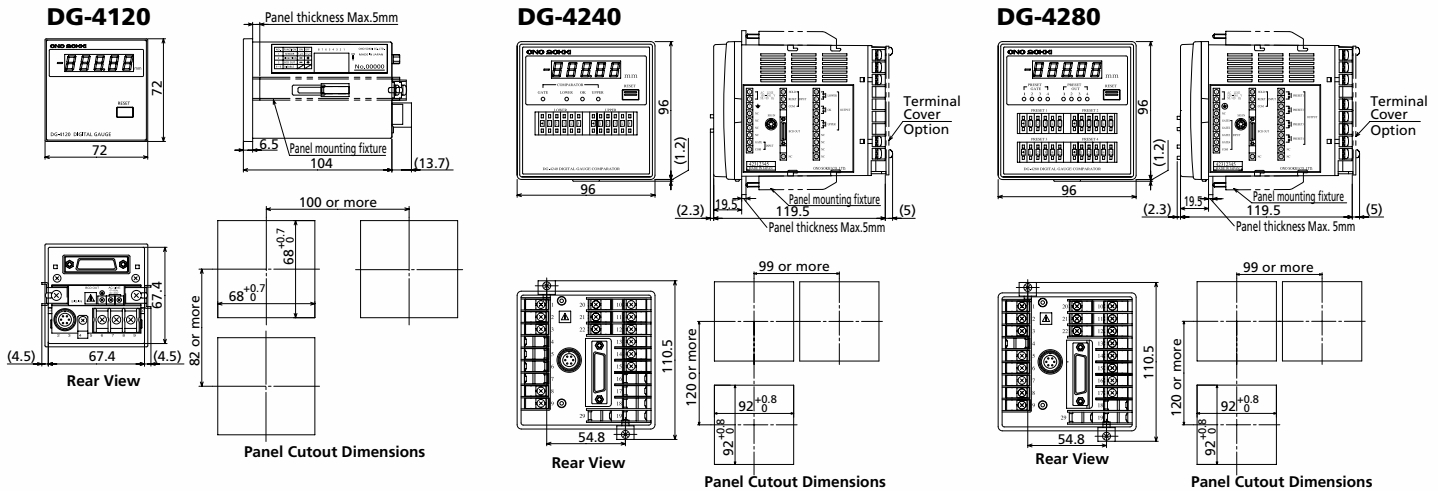
This function is used to compare the size of a measured value with that of a set value. There are two types of output, contact output and non-voltage contact (open collector) output.

# Digital Gauge Counters **DG-4120/4140/4240/4280**

## ● Specifications

Item	Model name	DG-4120	DG-4240	DG-4280
Display		LED, 5-digits for numeric values and 1 digit for polarity (-)		
Display range		0.000 to ±99.999, 0.00 to ±999.99 (mm)		
Signal input		Phase difference rectangular waveform at 90° from DC to 75kHz		
External control signal		Hold, Reset (BCD connector)	Hold, Reset Comparator gate (Terminal)	Hold, Reset Preset gate 1 to 4 (Terminal)
Digital output		BCD data, Polarity, Error (Switchover of positive/negative logic, open collector output)		
Relay output (Register load)		-	Signal contact output for each, Capacity 30 VDC/2A	
Comparator setting		-	Digital switches at the front panel (Push type), 5 digits and polarity	
Power supply		100 to 240 VAC 50/60Hz, Approx. 7VA		
Operating temperature		0 to 40°C		
Storage temperature		-10 to 55°C		
Outer dimensions		72 (W) x 72(H) x 118(D) mm	96 (W) x 96(H) x 127(D) mm	
Accessories		Instruction manual Panel mount fixture Terminal cover (*Power cable is an option.)	Instruction manual Panel mount fixture (*Power cable is an option.)	

## ● External drawings



\* For the specifications of model DG-4140, an exclusive catalog is available. Please contact us or nearest distributor accordingly.

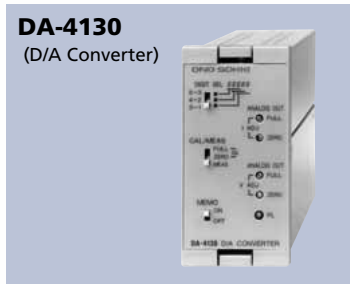
## ● Peripheral equipment (options)

**RQ-1410**  
(Digital Printer)



- Accessories (option)  
AA-8103 BCD cable (3 m)  
AA-5100 Printing paper  
(1 set = 10 rolls)

**DA-4130**  
(D/A Converter)



- Output Signal: 0 to ± 10V, 16mA/0 to ±999 counts
- The selected 3-digit signal from the gauge counter is converted.
- Accessories (option)  
AA-8101 BCD cable (3 meter)  
AX-2050 power cable (100V input)

# DG-2310 Digital Gauge Counter

## Features

- 2 channels input to measure the displacement of two points
- Various output signals for external data processing
- Calculation, peak hold, comparator, offset functions



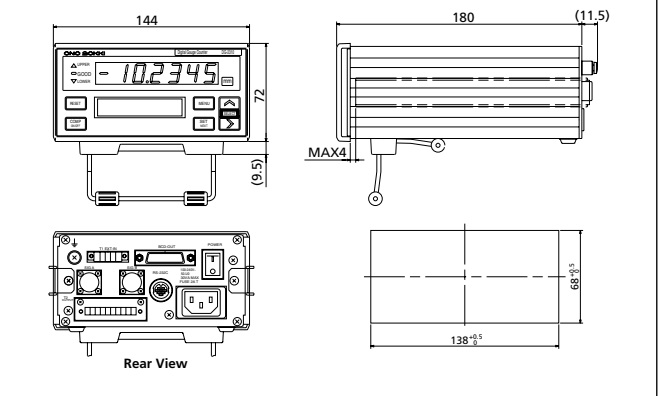
## Specifications

		DG-2310
No. of inputs		2 channels (Compatible with our GS/BS series gauge sensors)
Display		Main display: LED - Polarity (-) & numerical values (6 digits) Sub display: LCD - 16 characters x 2 lines Comparator display: LED - Upper & Lower/Red Good/Green
External input signal		For reset, peak hold, hold, key-protection operations (by voltage or non-voltage contact signal)
BCD signal		Output: BCD, Polarity, judgment, error: open collector (Max. 30V) Input: Reset/Hold, Hi: +4 to +5.25V, Lo: 0 to 1V
Output signal	Analog	0 to ±10V (Full Scale), 12-bit D/A, Refresh rate: less than 10ms
	RS-232C	Baud rate: 2400/4800/9600 bps
	Comparator	Setting range at 0 to ±999999, output: LOWER/GOOD/UPPER Semiconductor relay, 30 VAC/0.1A, Refresh rate: less than 10ms
Calculation		A+B, A-B, B
Peak hold		MAX, MIN, MAX-MIN (RANGE)
Offset		Setting range at 0 to ±999999
Resolution		0.5μm, 1μm, 10μm (It should be set with the resolution of the sensor.)
Power supply		100 to 240 VAC (50/60Hz)
Operating temp.		0 to 40°C
Storage temp.		-10 to 55°C
Size		144(W) x 72(H) x 180(D)mm
Weight		Approx. 1.3 kg

Figure-An example of measuring the height difference between two points of a small part by using two linear gauge sensors and the calculation functions of DG-2310. (Gauge sensors are sold separately.)



## External drawing



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\* Outer appearance and specifications are subject to change without prior notice.

URL: <http://www.onosokki.co.jp/English/english.htm>