

# High Resolution Linear Gauge Sensor

## GS-3800 series



- Ball spline bearing and development of new optical system achieve more accurate measurement compared with existing models.
- Robust structure of the GS-3800 series enables usage on a production line keeping high precision measurement. (IP66G)

### Specification

| Item   | Model name | GS-3813   | GS-3830      |
|--|------------|---|--------------|
| Measurement range  |            | 13mm  | 30mm         |
| Resolution   |            | 0.1μm   |              |
| Accuracy (at 20°C)   |            | 1μm   |              |
| Measurement force (downward)*1                             |            | 2.3N or less  | 2.7N or less |
| Maximum spindle velocity*2                                 |            | 1.2m/s  |              |
| The number of sliding times (proven in our endurance test) |            | 15 million times or more  |              |
| Protection class (not including connector part)            |            | IP66G (Proof structure against dust, water, oil)  |              |
| Stem diameter  |            | φ15 <sup>+0.009</sup> mm  |              |
| Power requirement  |            | 4.5 to 5.5VDC   |              |
| Power consumption (when 5VDC)                              |            | 150mA or less   |              |
| Signal output (when 5VDC)                                  |            | 90° phase-differential, square wave, applicable to RS422A, line driver output (equivalent to 26C31)   |              |
| Vibration resistance (When the power is off.)*3            |            | 196m/s <sup>2</sup> in each of the three axial directions (75 minutes per each), 10 cycles of 10Hz to 150Hz sweeping  |              |
| Shock resistance (When the power is off.)*3                |            | 1960m/s <sup>2</sup> in each direction for each of three axes, three times for each of ±X, Y and Z directions, sine half-wave, pulse duration 6ms   |              |
| Operating temperature range                                |            | 0 to +40°C  |              |
| Cable length   |            | Approx. 5m  |              |
| Weight (including cable, connector)                        |            | Approx. 350g  | Approx. 420g |
| Accessories  |            | Instruction manual, spanner   |              |
| Options (sold separately)                                  |            | AA-969: Finger lifter<br>ST-0230: Gauge stand<br>AA-844 (30mm)/AA-845 (50mm): Extension spindle<br>AA-4104 (13mm)/AA-4105 (30mm): Dust protective rubber (spare)<br>AA-3300: Mounting fixture<br>AA-8901 (5m)/AA8902 (10m)/ AA-8903 (20m)/ AA-8904 (30m) :Extension cable |              |

\*1. An attachment may not return completely if it is facing upwards.

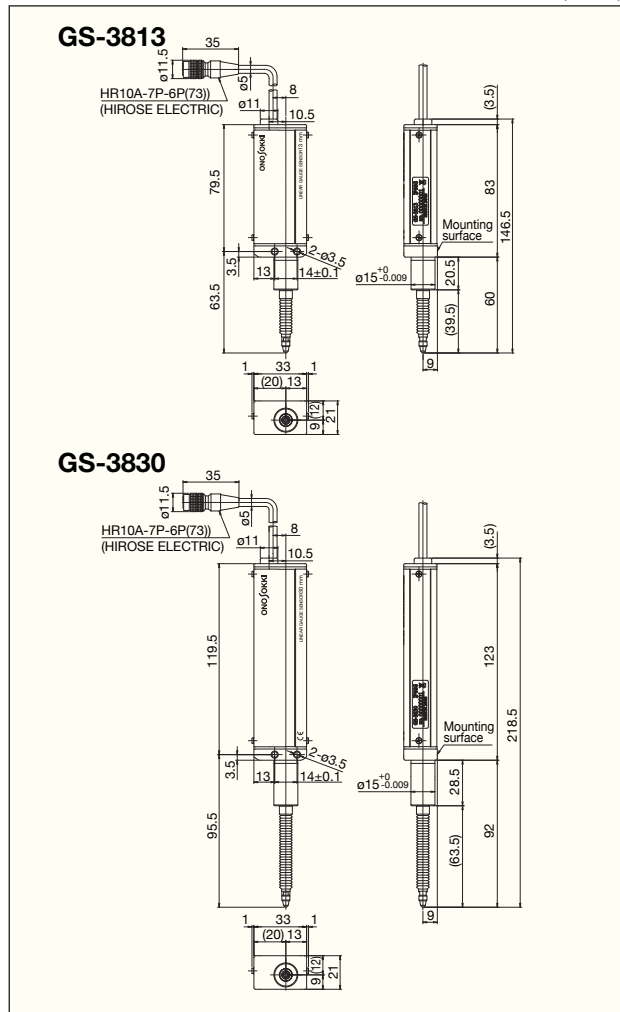
\*2. When used with the DG-5100.

\*3. Shock/vibration resistance values described in above are not guaranteed during measurement operation.

● Disconnected or modified signal cable is not applicable to CE marking.

### Outer Dimensions

(unit: mm)



# High Resolution Digital Gauge Counter

# DG-5100



- The DG-5100 has improved counting speed to use with the linear gauge sensor at 0.1µm resolution.
- Various optional cards can be provided for your necessary functions; BCD output, analog output, comparator output, RS-232C interface, and DC power supply functions. (Up to three optional cards)

## Specification

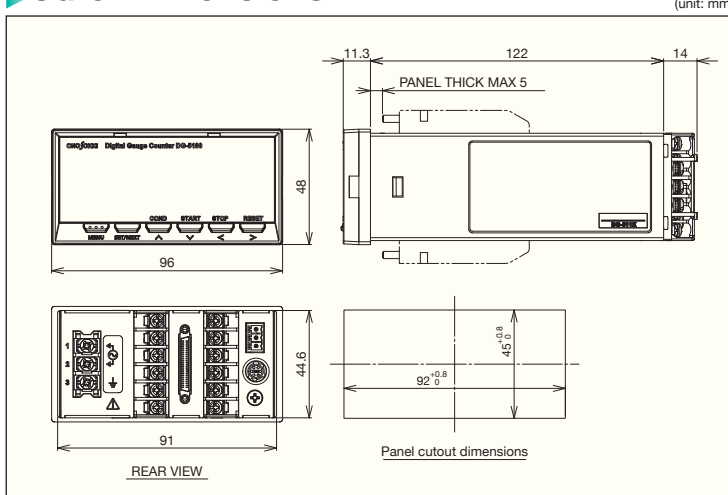
|                               |  |
|-------------------------------|--|
| Applicable sensors            | GS, BS series  |
| Display                       | Fluorescent display tube, 7 digits                                       |
| Measurement range             | 0.0000 to ±999.9999/0.000 to ±9999.999/0.00 to ±99999.99mm               |
| Input signal                  | 90°phase-differential, square wave, line driver output or voltage output |
| External control input signal | Hold, reset  |
| Power requirement             | 100 to 240VAC  |
| Operating temperature range   | 0 to +40°C   |
| Storage temperature range     | -10 to +55°C   |
| Outer dimensions              | 96(W) x 48(H) x 148(D)mm   |
| Weight                        | Approx. 370g   |
| Accessories                   | Instruction manuals, MC1,5/3-ST3,5 (for INPUT connector)                 |

\* When connecting to the sensor other than the GS-3800 series, a conversion cable AA-8910 (20cm, sold separately) is required.

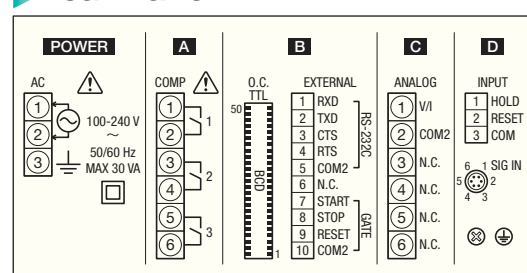
## Option

|                                     |   |
|-------------------------------------|---|
| <b>DG-0522</b><br>BCD output        | Open collector (update time: within 10ms)   |
| <b>DG-0530</b><br>Analog output     | Output method: Selectable from voltage or current<br>Conversion method: 12bit D/A<br>Output voltage: -10 to +10V/F.S. (F.S. is optionally setup.)<br>Output current: Selectable from 0 to 16mA or 4 to 20mA/F.S. (F.S. is optionally setup.)<br>Load resistance: 100kΩ or more at voltage output, 500Ω or less at current output<br>Linearity error: ±0.3%/F.S. |
| <b>TM-0301</b><br>DC Power supply   | 12 to 24VDC   |
| <b>TM-0340</b><br>Comparator output | 1-make contact output (mechanical relay)<br>COPM1, COPM2, COPM3   |
| <b>TM-0350</b><br>RS-232C           | Communication method: Serial communication (asynchronous)<br>Baud rate: Selectable from 9600bps, 19200bps<br>Reading of measurement data, setting and reading of parameter  |

## Outer Dimensions



## Rear Panel



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