

# Digital Linear Gauge Sensor

**GS-1713A/1730A** (10 $\mu$ m resolution)

**GS-1813A/1830A** (1 $\mu$ m resolution)

*Splash proof!*



*Dust proof!*

Introducing compact and lightweight digital linear gauge sensors that are easily installed in current production equipment. With a dust-proof and splash-proof structure that conforms to protection class IP64, the gauges can withstand harsh environments. Suitable for use in dusty environments and areas subject to drips and splashes. Endurance testing shows all models may be used beyond 6.5 million sliding times. We have achieved high accuracy without sacrificing durability.

**ONOSOKKI**

Optimal for work in production lines

# Dust and splash proof

*New standard of linear gauge sensors*

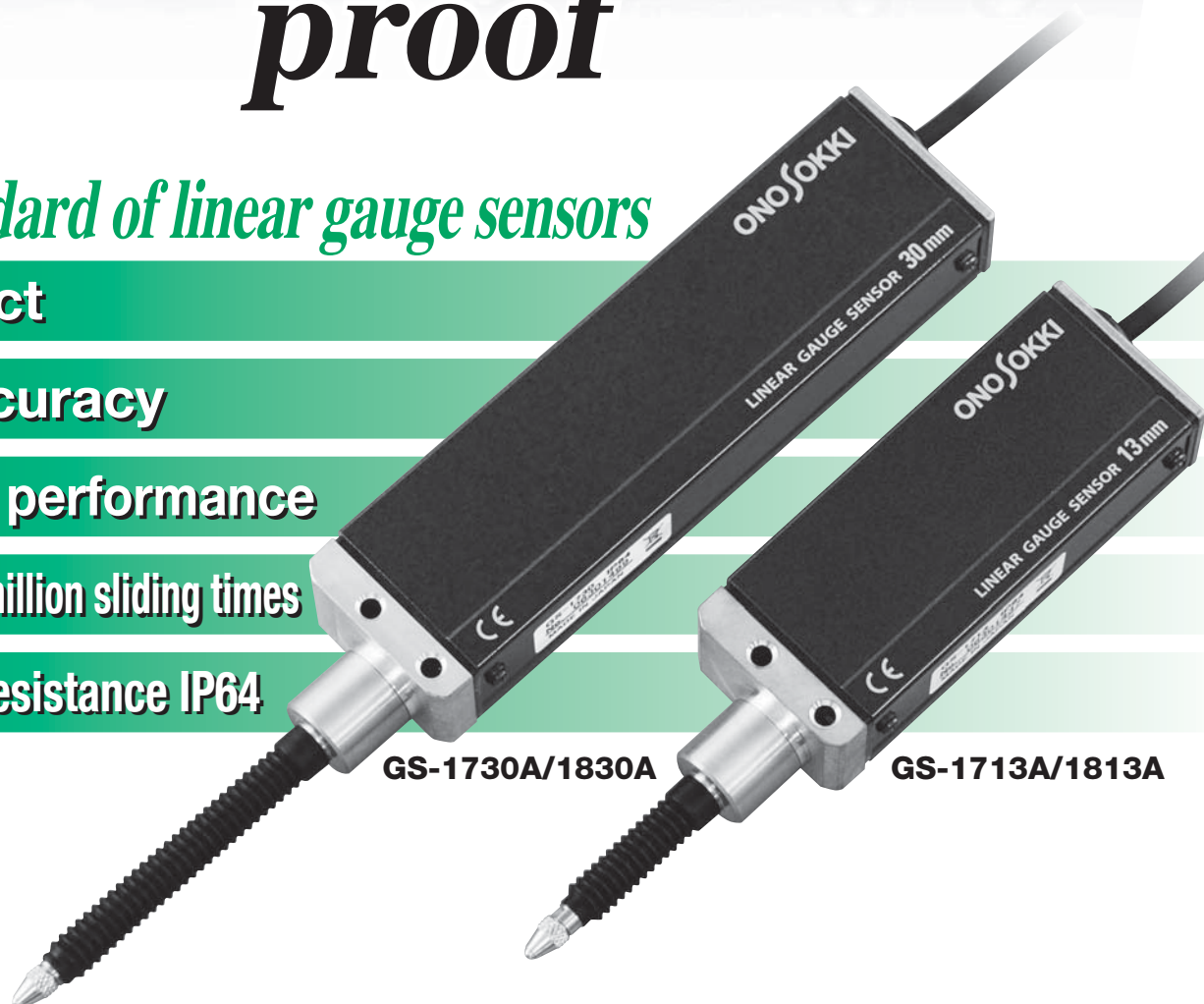
**Compact**

**High accuracy**

**High cost performance**

**More than 6.5 million sliding times**

**Environment resistance IP64**



## Features

- All models are dust and splash proof conforming to the protection class IP64 of environmental resistance.
- Compatible with all of our digital gauge counters.
- Can be connected to a PLC\* using 2-phase square wave output signal.

\*PLC: Programmable Logic Controller

## Compatible digital gauge counters

**DG-4320**  
BCD output



**DG-4340**  
BCD output with  
comparator function



**DG-5100**  
High-resolution  
\*AA-8910 Conversion cable is necessary



**DG-2310**  
2ch with multi function



# Digital Linear Gauge Sensor GS-1713A/1730A/1813A/1830A

## Specification

Item	Model name	GS-1713A	GS-1730A	GS-1813A	GS-1830A
Measurement range		13 mm	30 mm	13 mm	30 mm
Resolution		10 $\mu$ m		1 $\mu$ m	
Accuracy (at +20 °C)		3 $\mu$ m		2 $\mu$ m	3 $\mu$ m
Maximum spindle velocity*1		1 (4) m/s		0.3 (1.2) m/s	
Measurement force (downward)*2		1.3 N or less	1.9 N or less	1.3 N or less	1.9 N or less
Measurement force change range (option)*3		0.6 to 1.3 N	0.7 to 1.9 N	0.6 to 1.3 N	0.7 to 1.9 N
Number of sliding times (proven in our endurance test)		6.5 million times			
Protection class (excluding connector part)		IP64			
Stem diameter		$\phi$ 15 mm <sup>+0/-0.009</sup>			
Power supply		4.5 to 5.5 VDC			
Power consumption (when 5 VDC)		120 mA or less			
Signal output (when 5 VDC)		Two-phase square wave, phase difference: 90° $\pm$ 20° Output voltage Hi: 4.5 V or more / Lo: 0.4 V or less			
Output impedance		Approx. 22 $\Omega$			
Vibration resistance (when the power is off)*4		98 m/s <sup>2</sup> in each of the three axial directions (75 minutes per each), 10 cycles of 10 Hz to 150 Hz sweeping			
Shock resistance (when the power is off)*4		980 m/s <sup>2</sup> in each of direction for each of three axes, three times for each of $\pm$ X, Y and Z directions, sine half-wave, pulse duration 6 ms			
Operating temperature range		0 to +40 °C			
Storage temperature range		-10 to +55 °C			
Cable length		Approx. 1.9 m			
Weight (including cable, connector)		Approx. 250 g	Approx. 310 g	Approx. 250 g	Approx. 310 g
Conforming standard		CE marking EN61326-1 : 2006 FCC Part 15B *Disconnected or modified signal cable is not applicable to CE marking. *EMC conforming cable can be extended up to 20 m.			
Accessories		Instruction manual, spanner			

\*1. When used with Ono Sokki's Gauge Counter. The values within parentheses ( ) is electrical spindle velocity used with the DG-4320/DG-4340/DG-5100.

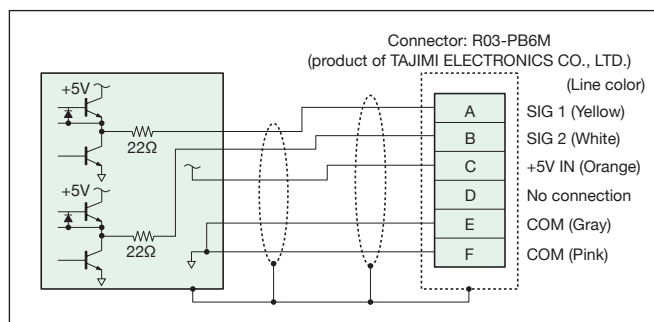
\*2. A spindle may not return completely if it is facing upwards. When you want to use the spindle with upward attachment, modification (charged option) is necessary to reduce the measurement force.

\*3. The value when facing downwards. A spindle may not return completely if it is facing upwards or side ways, when the measurement force is changed.

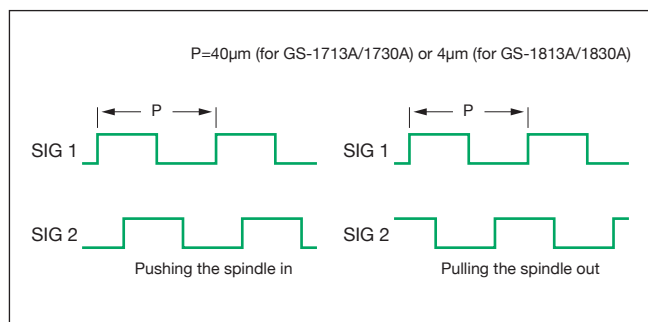
\*4. Vibration/shock resistance values described in above are not guaranteed during measurement operation.

## Output specification

Pin arrangement of output connector and output circuit



## Output signal



## Extension cable (option)

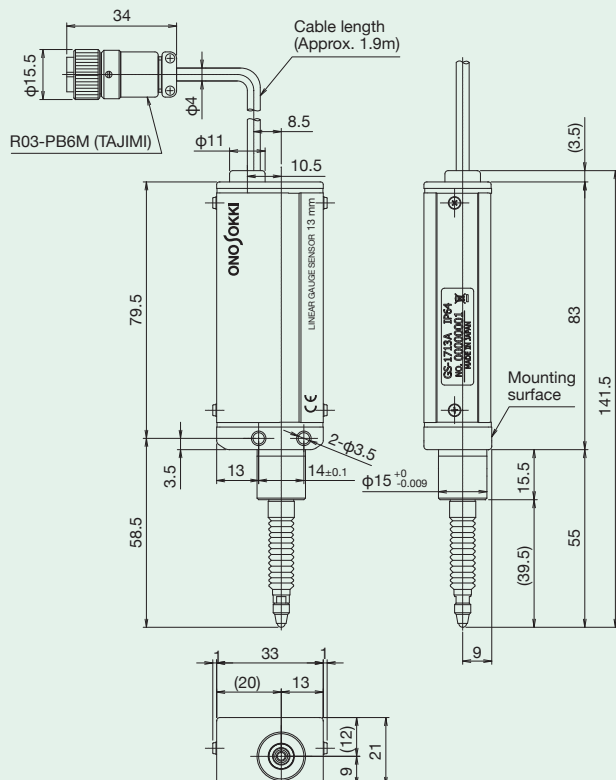
Model name	Product name	Cable length	Applicable sensor	Connector	Shape	Connector	Applicable counter	Remarks
AA-8801	Signal extension cable	5m	BS/GS series	R03-JB6F (TAJIMI ELECTRONICS CO., LTD.)		R03-PB6M (TAJIMI ELECTRONICS CO., LTD.)	DG series counters for Linear gauge sensors	Can be extended up to 30m from sensor.
AA-8802		10m						
AA-8803		20m						
AA-8804		30m						
AA-8910	Conversion cable	0.2m				HR10A-7P-6P	DG-5100	



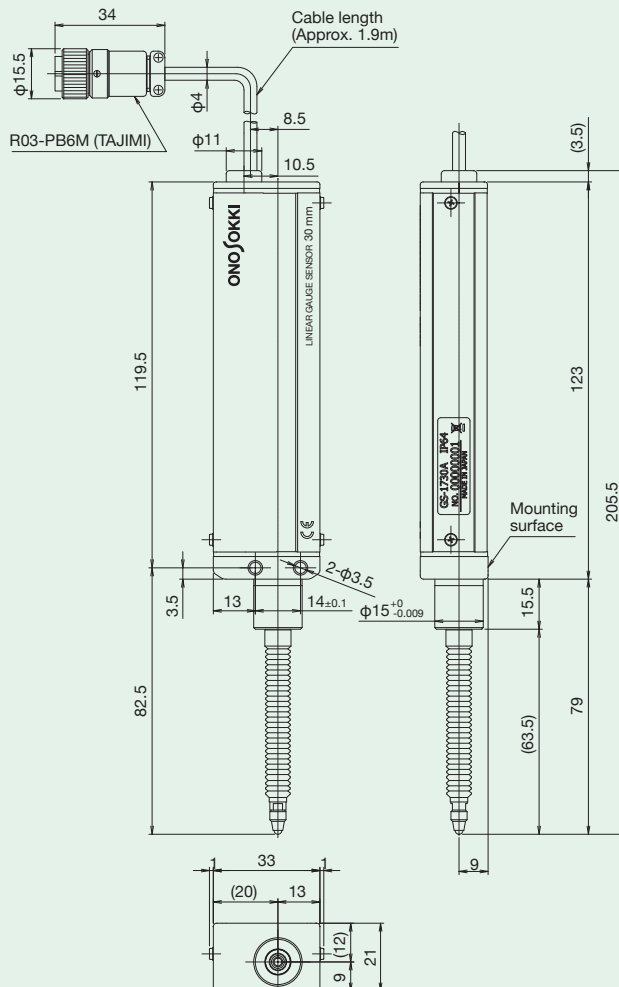
## Outer Dimension

(Unit: mm)

### GS-1713A/1813A



### GS-1730A/1830A

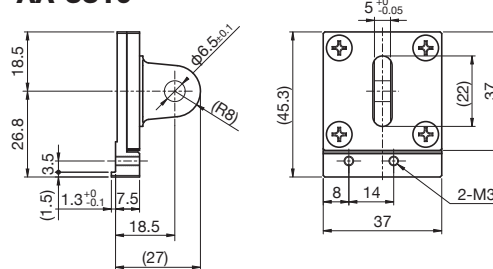


## Options (sold separately)

Finger lift	AA-969
Gauge stand	ST-0230
Spare dust proof rubber	AA-4102 (13mm), AA-4103 (30mm)
Extension spindle	AA-844 (30mm), AA-845 (50mm)
Measurement tip	Various types
Mounting fixture	AA-3310
Extension cable	AA-8801 (5m), AA-8802 (10m), AA-8803 (20m), AA-8804 (30m), AA-8910 (Conversion Cable, 0,2 m)

We also offer several other accessories not listed in this catalogue. For details, please contact your nearest distributor or send an e-mail to us; [overseas@onosokki.co.jp](mailto:overseas@onosokki.co.jp).

### AA-3310



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