

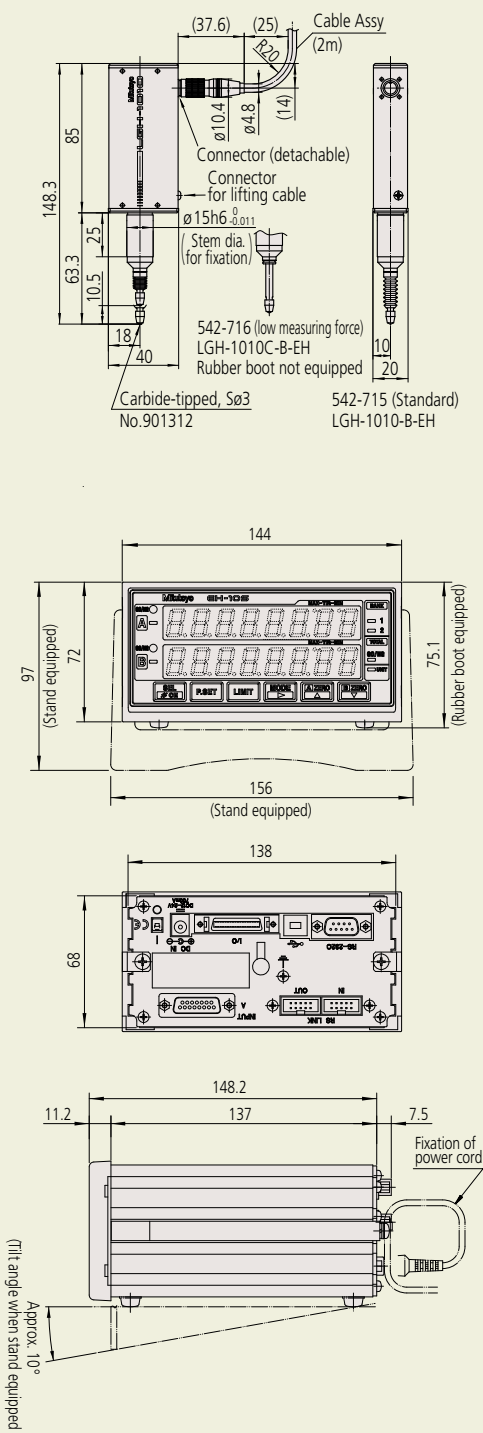


Optional Accessories

- LGH stand: **971750**
- Stem fixture for fixing to top surface: **971751**
- Stem fixture for fixing to bottom surface: **971752**
- Spindle lifting cable: **971753**
- Rubber boot: **238772** (spare for **542-715**)
- I/O output connector (with cover): **02ADB440**

DIMENSIONS

Unit: mm



Linear Gage LGH – High Resolution, High Accuracy

SERIES 542 (0.01μm resolution)

- A gage head featuring a very accurate, ultra-high-resolution photoelectric linear encoder that approaches laser interferometer performance over its measuring range of 10mm. This head is suitable for measuring high-precision components and inclusion in high-accuracy positioning applications.
- Relatively long range, very high accuracy and extreme resolution enable the head to act as a master gage for measuring-instrument calibration in many instances.
- The compact design contributes to reducing measuring system costs and permits downsizing entire system configurations.
- Linear encoder is highly resistant to being affected by unfavorable environmental conditions, such as drafts and rapid atmospheric pressure, temperature and humidity changes.
- A low measuring force model is available (**542-716A**). As low as 0.12N can be selected, which enables measurement of easily-deformed workpieces or thickness of delicate films.
- Responsivity has been improved by 2.8 times (250mm/s => 700mm/s) compared to the previous model.
- Every **LGH** series gage is bundled with a dedicated counter.



SPECIFICATIONS

Linear gage		Standard	Low measuring force
Order No.		542-715A	542-716A
Measuring range		10mm	
Resolution		0.01μm (0.05μm, 0.1μm, 0.5μm, 1μm can be selected from the counter)	
Measuring accuracy (20°C)*		0.2μm	
Repeatability (20°C)*		0.1μm (2σ)	
Retrace error (20°C)*		0.1μm	
Measuring force	Contact point downwards	0.65N or less	Approx. 0.12N
	Contact point horizontal	0.55N or less	Not applicable
	Contact point upwards	0.45N or less	Not applicable
Position detection method		Photoelectric reflection type linear encoder	
Detectable operation speed		In normal measurement: 700mm/sec; for peak detection: 120mm/sec	
Mass of gage head		220g (excluding cable of approx. 150g)	
Contact point		ø3mm carbide-tipped (fixing screw: M2.5 (P=0.45)×5)	
Stem		ø15mm	
Bearing		Linear ball type	
Output cable length		Approx. 2m	
Operating temperature/humidity		0 to 40°C/RH 20 to 80% (no condensation)	
Storage temperature		-10 to 60°C/RH 20 to 80% (no condensation)	
Counter			
Quantizing error		±1 count	
Display range		±999.99999mm	
Functions		Presetting, tolerance judgment, peak measurement, analog output	
Interface		RS-232C/Digimatic/USB (only for SENSORPAK)	
Power supply		Supplied AC Adapter, or +12 to 24 V DC, max. 700mA	
Current Consumption		8.4W (MAX 700mA) (Ensure at least 1A power supply per unit.)	
External dimensions		144(W)×157(D)×75(H)	
Mass		Approx. 900g (AC Adapter excluded)	
Standard accessories		Wrench for contact point, rubber boot, stand, washer (for counter), AC Adapter, AC cord, DC plug, user's manual, inspection certificate	

*Indication accuracy applies when used with counters.