

Linear Gages

LG200 SERIES 542 — Environment-Resistant and Slim Type

- Slimmer body with approx. 1/5 cross section compared with **542-190 (LG100)**.
 - High-accuracy gage head suitable for in-line and in-laboratory use.
 - Assures the expected repeatability (2σ) in the full measurement range and the narrow-range precision.
 - Protection grade IP67G with sliding durability of 100 million times and more*1 and adoption of highly oil-resistant materials.
- *1 Actual value from in-house tests.
- It can be connected to a compact counter (**EJ** counter) suitable for in-line use or building into a device or a multifunctional counter (**EH** counter)*2 suitable for use in measurement rooms.
- *2 A conversion plug is required.



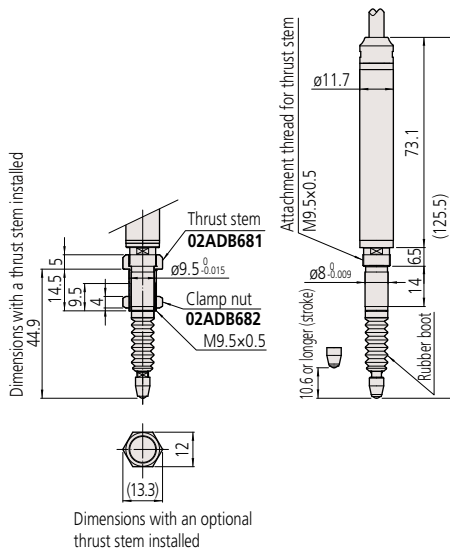
SPECIFICATIONS

Order No.	542-186	542-187	542-188
Measuring range		10 mm	
Resolution	1 μ m	0.5 μ m	0.1 μ m
Measuring accuracy (20 °C)	(1.5 + L/50) μ m L=arbitrary measuring length (mm)		(0.8 + L/50) μ m L=arbitrary measuring length (mm)
Small range accuracy	0.5 μ m (Arbitrary 20 μ m range)		
Repeatability: 2 σ (20 °C)	0.3 μ m		
Measuring force	Contact point downwards	0.8 N or less	
	Contact point horizontal	0.75 N or less	
	Contact point upwards	0.7 N or less	
Position detection method	Optical transmission-type Linear encoder		
Maximum response speed	1500 mm/s		400 mm/s
Output signal	90° phase difference, differential square wave (RS-422A equivalent)		
Minimum edge intervals	500 ns (2 MHz)	250 ns (4 MHz)	
Output signal pitch	4 μ m	2 μ m	0.4 μ m
Mass	Approx. 210 g		
Contact point	\varnothing 3 mm carbide tipped (fixing screw: M2.5 (P=0.45) x5), standard contact point: 901312		
Stem	\varnothing 8 mm		
Bearing	Linear ball type		
Output cable length	Approx. 2.5 m (directly from casing)		
Connector	Plug: HR10A-10P-10P (HIROSE), Compatible receptacle: HR10A-10R-10S (HIROSE), Compatible connector: HR10A-10J-10S (HIROSE)		
Operating temperature (humidity) ranges	0 to 50 °C (RH 20 to 80%, non-condensing)		
Storage temperature (humidity) ranges	-10 to 60 °C (RH 20 to 80%, non-condensing)		
Standard Accessories	Wrench for contact point: 538610		

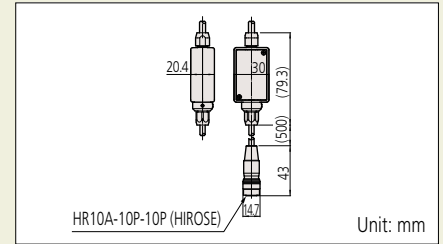
DIMENSIONS

Unit: mm

542-186 / 542-187 / 542-188



Connector



Optional Accessories

- Air lifter: **02ADE230**
- Note 1: Required air pressure: 0.2 to 0.4 MPa (With a 0.1 μ m resolution type: 0.2 MPa)
- Note 2: Spindle extends when air is supplied.



- Rubber boot: **21HAA331** (spare)
- Thrust stem set: **02ADB680** (Thrust stem: **02ADB681**, Clamp nut: **02ADB682**) This is a combination of thrust stem and a clamp nut.
- Spanner wrench: **02ADB683** If required spanner wrench is required for tightening. If using multiple gages, a thrust stem set is required for each gage and one spanner wrench.

Thrust stem set / Spanner Wrench



- Extension cable
5 m: **21HZA197**
10 m: **21HZA198**
20 m: **21HZA199**
- Note 1: Connectable up to 3 pieces, 20 m at maximum.
- Conversion plug
Connection to EH-101P/102P: **21HZA195**
Connection to EH-102Z: **21HZA196**
- Note 2: Connectable to EH-102Z but the function of reference point detection is disabled.

Custom order example

- Measuring force change
- Cable length change (less than 2 m)
- Connector change