

# SERIES 542 — Slim Type LG200



See video from here

- 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 ( $2\sigma$ ) in the full measurement range and the narrow-range precision.
- Protection grade IP67G with sliding durability of 100 million times and more\*<sup>1</sup> 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**)\*<sup>2</sup> suitable for use in measurement rooms.  
\*2 A conversion plug is required.



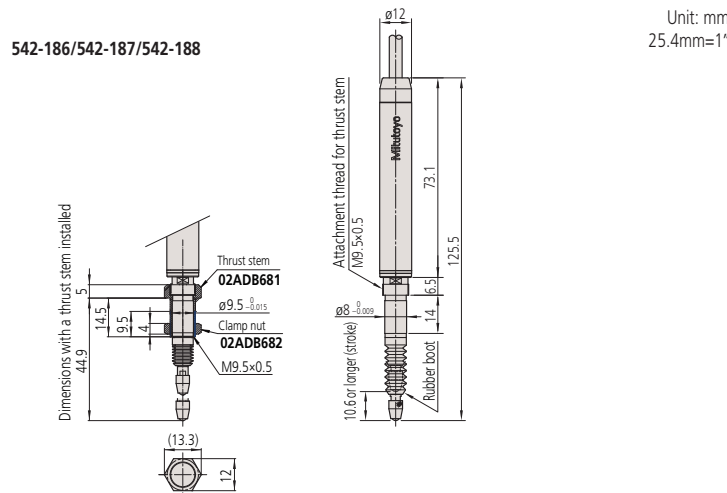
542-186/542-187/542-188



## SPECIFICATIONS

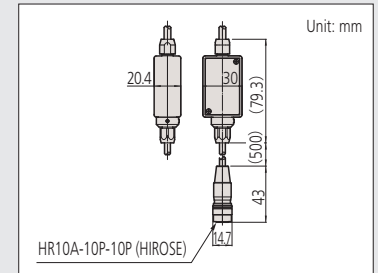
Order No.	542-188	542-187	542-186
Measuring range	10 mm / .4"		
Resolution	0.1 $\mu\text{m}$ / 5 uinch	0.5 $\mu\text{m}$ / .000020"	1 $\mu\text{m}$ / .000050"
Measuring accuracy (20 °C)	(0.8 + L/50) $\mu\text{m}$ L=arbitrary measuring length (mm)	(1.5 + L/50) $\mu\text{m}$ L=arbitrary measuring length (mm)	
Small range accuracy	0.5 $\mu\text{m}$ (Arbitrary 20 $\mu\text{m}$ range)		
Repeatability: 2 $\sigma$ (20 °C)	0.3 $\mu\text{m}$		
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	400 mm/s	1500 mm/s	
Output signal	90° phase difference, differential square wave (RS-422A equivalent)		
Minimum edge intervals	250 ns (4 MHz)		500 ns (2 MHz)
Output signal pitch	0.4 $\mu\text{m}$	2 $\mu\text{m}$	4 $\mu\text{m}$
Mass	Approx. 210 g		
Contact point	$\varnothing$ 3 mm carbide-tipped (fixing screw: M2.5 (P=0.45) $\times$ 5), standard contact point <b>901312</b>		
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: <b>538610</b>		

## DIMENSIONS



Unit: mm  
25.4mm=1"

## Connector



## Optional Accessories

- Air lifter: **02ADE230**
- Note 1: Required air pressure: 0.2 to 0.4 MPa  
(With a 0.1  $\mu\text{m}$  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 3: Connectable up to 3 pieces, 20 m at maximum.
- Conversion Plugs / Cables  
Plug connection to EH-101P/102P: **21HZA195**  
Plug connection to EH-102Z: **21HZA196**  
Cable connection to EH-101P/102P: **21HZA260**  
Cable connection to EH-102Z: **21HZA261**
- Note: 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