

CARMAR ACCURACY CO., LTD.

Pen Linear Gauge PLG



Connecting Precision, Defining Accuracy.

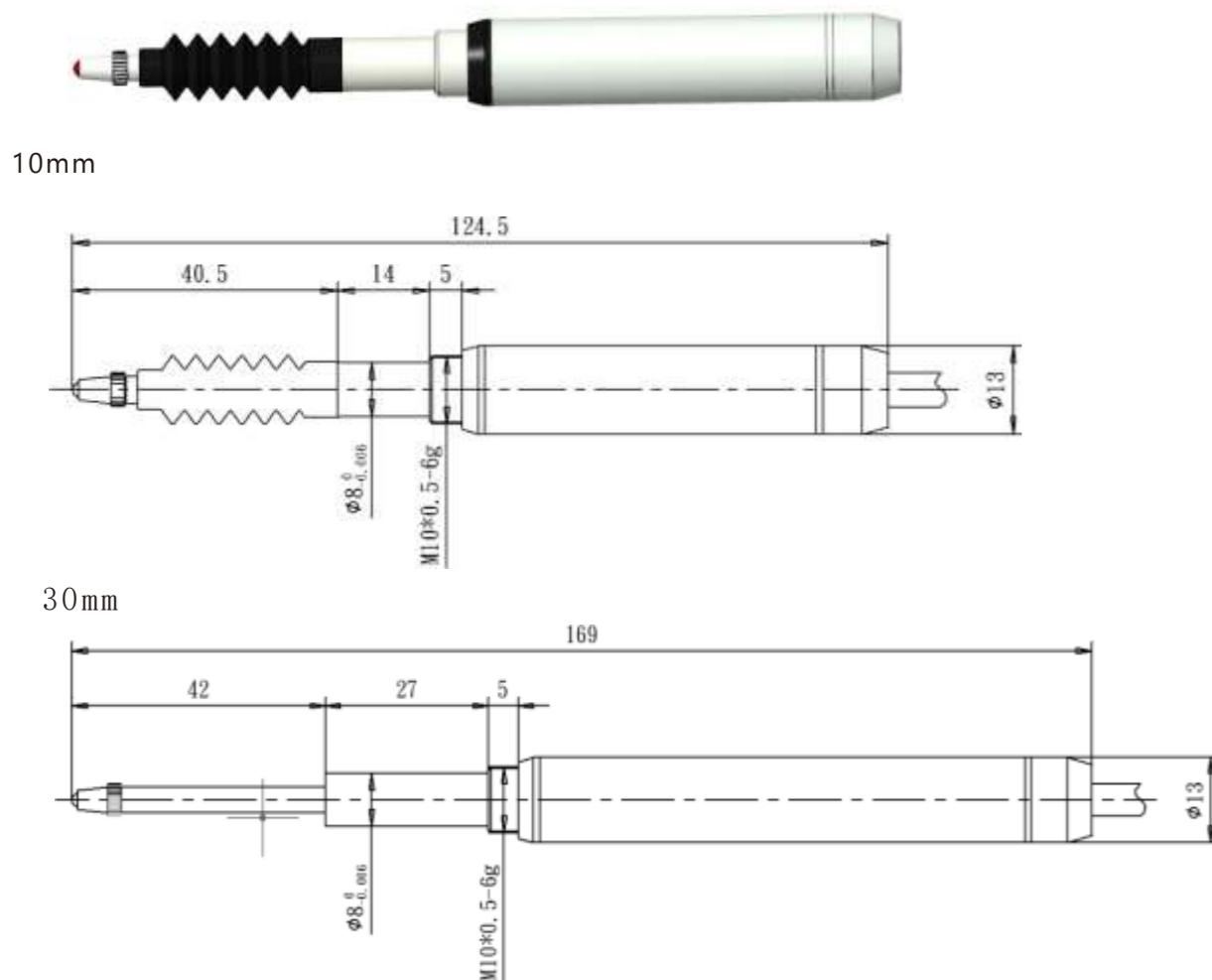
Pen Lengh Gauge PLG

The PLG series length gauge is a high-precision length measurement sensor designed for small measuring ranges. It has a compact installation space, a long service life, and finds applications in areas such as product measurement, multi-point inspection, measuring equipment testing, and position measurement.

Product Features

1. Utilizes a glass grating with high precision and a low coefficient of expansion, along with high-precision ball bearings.
2. Incorporates a reflective signal acquisition module.
3. Achieves a resolution of up to $0.1\mu\text{m}$.
4. Supports interchangeable M2.5 scale heads.

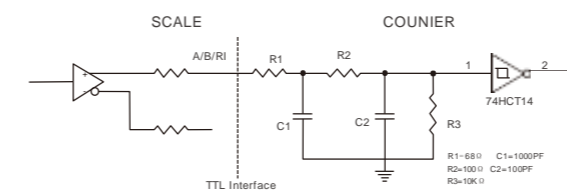
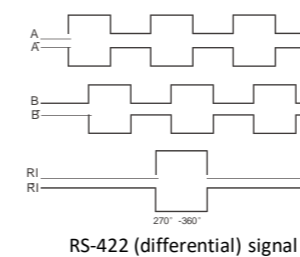
Dimensions



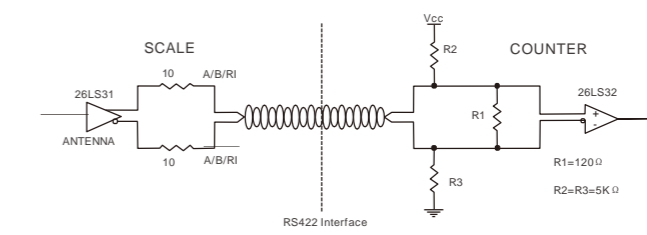
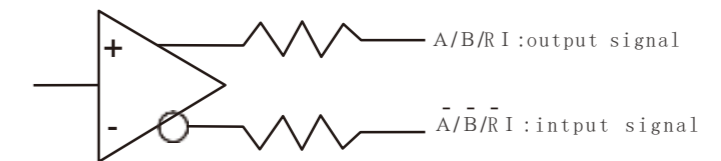
Product Parameters

Travel range	10 mm		30 mm			
Measuring range	0-11 mm		0-31 mm			
Signal	TTL/HTL/RS422 Incremental Signal					
Resolution	0.1 μm	0.2 μm	0.5 μm	1 μm	2 μm	4 μm
Accuracy	$\pm 2\mu\text{m}$			$\pm 3\mu\text{m}$		
Reference point	Approximately 5 mm from the end					
Measurement Force	<1.5N					
Speed	<30m/min					
Power	5VDC(<150MA)					
Working Temperature	10~+40C° Standard temperature of 20 degrees					
Storage Temperature	-10~+50C°					
Cable Length	Standard configuration includes 3m (maximum length = 20m) with 9 PD standard connectors.					
Thread of the Measuring Head	M2.5					

Interface reference circuit diagram

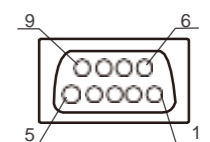


The output signal interface circuit diagram



Connector definition

PINS	1	2	3	4	5	6	7	8	9
SIGNAL	+5V	0V	A	B	RI	RI-	A-	B-	FG
COLOR	red	black	brown	yellow	orange	green	purple	blue	ground



Ordering model



WTS Series Linear Gauge

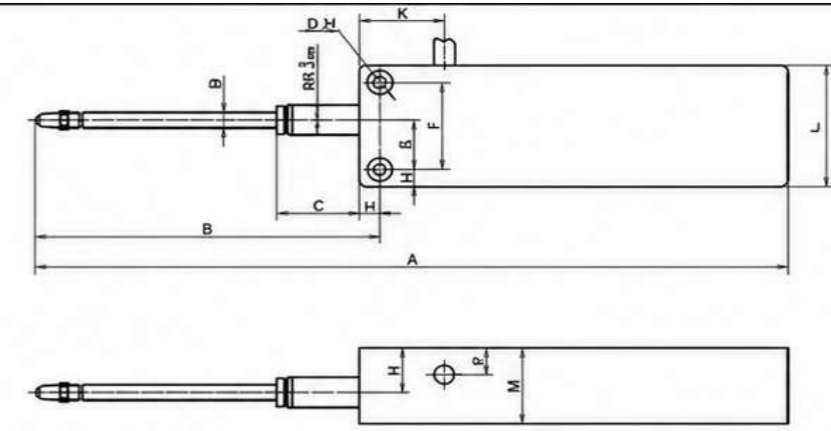
Product Overview

The WTS Series Linear Gauge is a small-range, high-precision length measurement sensor. Its compact design requires minimal installation space and offers a long service life.

Product Features

- Adopts high-precision glass grating with low thermal expansion coefficient
- Uses high-precision miniature ball bearings
- Reflective signal acquisition module
- 5V–24V signal compatible
- Interchangeable M2.5 gauge heads (various probe tips available)

Measuring Range	10 mm	20 mm	30 mm	50 mm
Measuring Range (within)	0-10 mm	0-20 mm	0-30 mm	0-50 mm
System Accuracy	+/-2um		+/-3um	
Resolution	0.2um,0.5um,1um,5um			
Output Signal Type	TTL/HTTL/RS422 Incremental Signal			
Reference Point	Approximately 3 mm from the end			Approximately 7 mm from the end
Measuring Force	<1N	<1N	<1.5N	<2N
Max. Response Speed	<18m/min			
Power Supply	5VDC-24VDC(<300MA)			
Operating Temperature	10~+40C°Standard (20°C)			
Storage Temperature	-10~+50C°			
Cable	Standard 3 m (MAX length=20m),9PD standard connector			
Mounting Thread	M2.5			

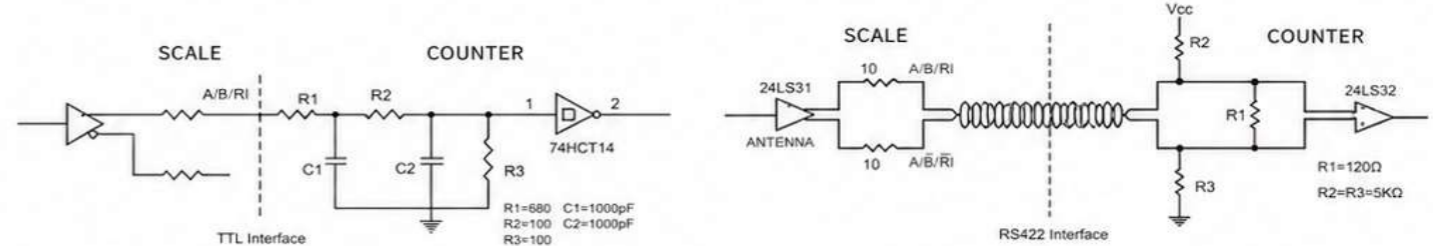
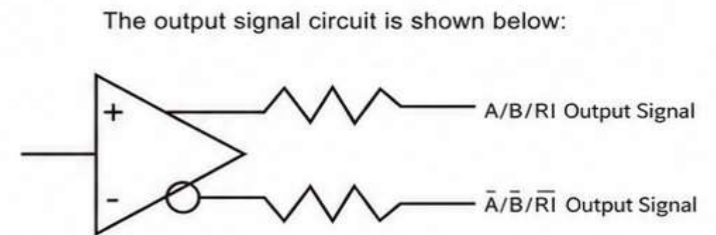
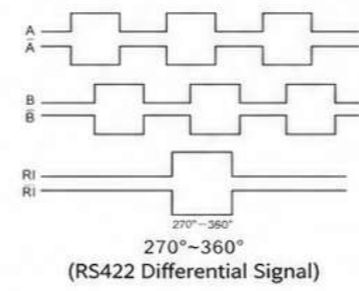


Dimensions

Unit:mm

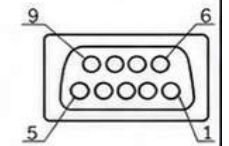
Measuring Range	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
10	117	56	15.5	5	4.5	23	13.5	8	4	3.4	19	32	19	11.5	7
20	149	66	20.5	5	4.5	23	13.5	8	4	3.4	19	32	19	11	7
30	186	85	20.5	5	4.5	23	13.5	8	4	3.4	21	32	20	12	7
50	272	125	37.5	6	5	28	16.5	14	8	3.4	25	38	24	12.5	7

Output Circuit Reference



Connector Definition

Pin No.	1	2	3	4	5	6	7	8	9
Signal	+5~24V	0V	A	B	RI	RI-bar	A-bar	B-bar	FG
Wire Color	Red	Black	Brown	Yellow	Orange	Green	Purple	Blue	Shield



Order Code

WTS —

Resolution Measuring Range