

# Product Selection Guide

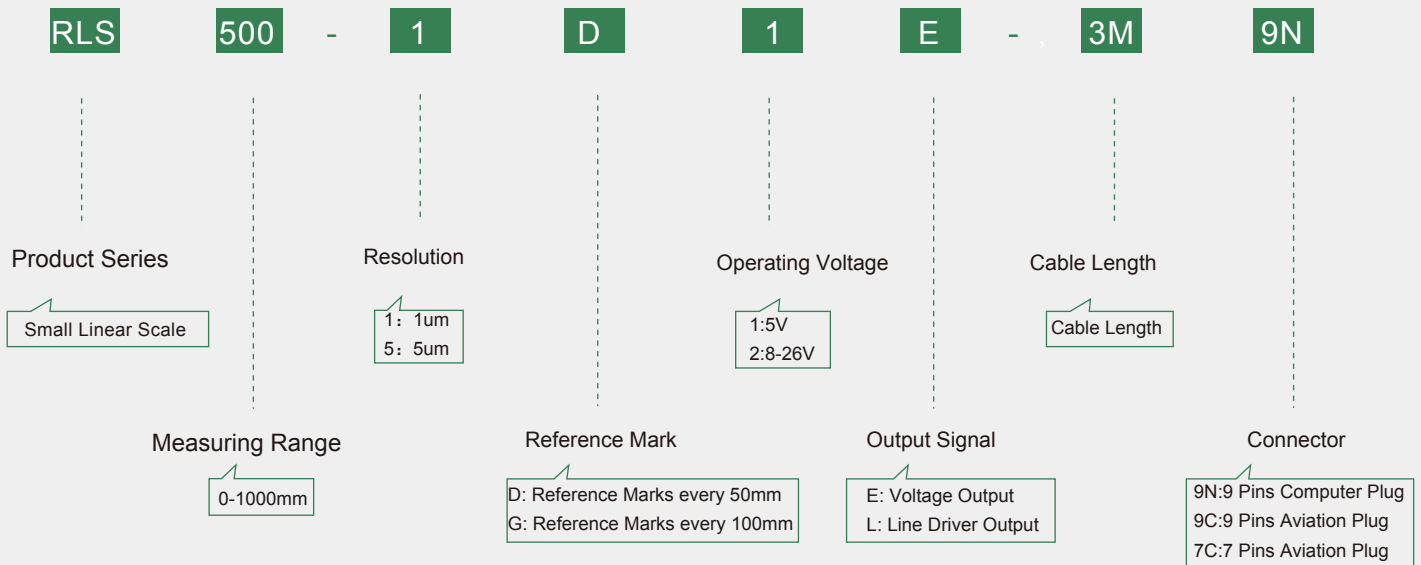


RLS Series



Optical linear scales series RLS are accurate and reliable; thanks to their reduced dimensions they can be applied even on small-sized machine tools (millers, lathes, grinders, spark erosion machines). Sealed Sensor ensures the reliable performance and easy installation. High resolutions up to 1 $\mu$ m.

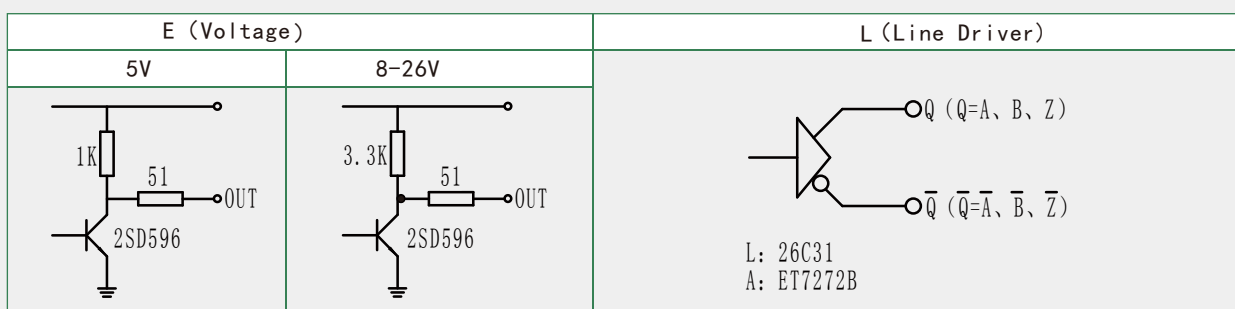
## Part Number



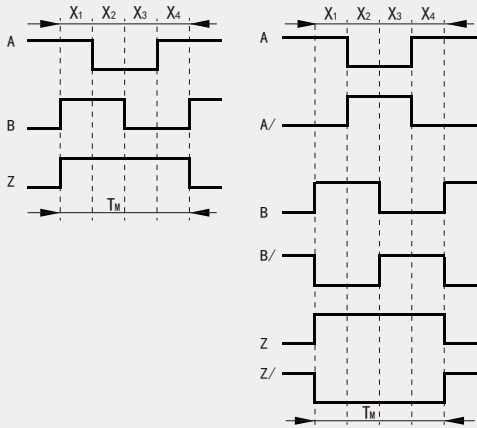
## Technical Specifications

Measuring Range	0-1000mm
Resolution	1 $\mu$ m, 5 $\mu$ m
Accuracy	JB/T10080.2-2000
Reference Mark	Reference marks every 50mm or 100mm
Operating Voltage	5V
Output Signal	Voltage(A,B,Z)/Line Driver (A,B,Z,A/,B/,Z/)
Frequency Response	25m/min,60m/min
Operating Temperature	-20 °C(-40 °C) ~ +85°C
Storage Temperature	-40 °C ~ +55°C
Protection class	IP53

## Output Circuits



# Output Waves



Wave Ratio:  $X1+X2=0.5T \pm 0.1T$        $X2+X3=0.5T \pm 0.1T$

Phase Difference:  $Xn \geq 0.125T$  ( $n=1, 2, 3, 4$ )

Absolute Angle Error:  $\leq 0.2T$

Cycle Error:  $\leq 0.05T$

$T=360^\circ / N$  ( $N$ =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$

$T_m=nT \pm 0.1T$  ( $n \geq 2$ )

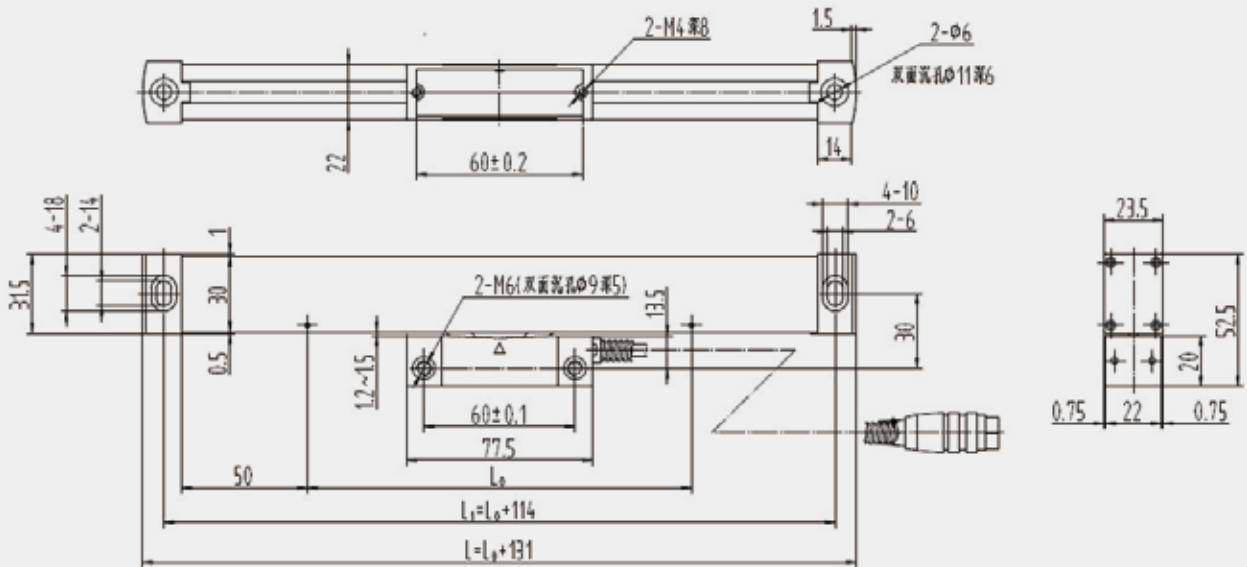
The phase relationship of Z signal and A,B signal is not stipulated.

2、 $T_m=0.5T \pm 0.25T$

$T_m=0.25T \pm 0.125T$

The rising edge of Z signal and B is aligned.

# Dimensions



# Connections

Connector PN	Output Signals	Pins No	1	2	3	4	5	6	7	8	9
7C	Voltage Output(TTL)	Signal	0V	/	A	B	Vcc/VDD	Z	G	/	/
		Cable Color	Black	/	Blue	Green	Red	Yellow	Shield	/	/
9N	Voltage Output(TTL)	Signal	Vcc/VDD	0V	A	B	Z	/	G	G	/
		Cable Color	Red	Black	Blue	Green	Yellow	/	Shield	Shield	/
9C、9N	Line Driver Output	Signal	A	/B	+5V	0V	/A	B	/Z	Z	G
		Cable Color	Gray	Brown	Red	Black	Blue	Green	Yellow	White	Shield

