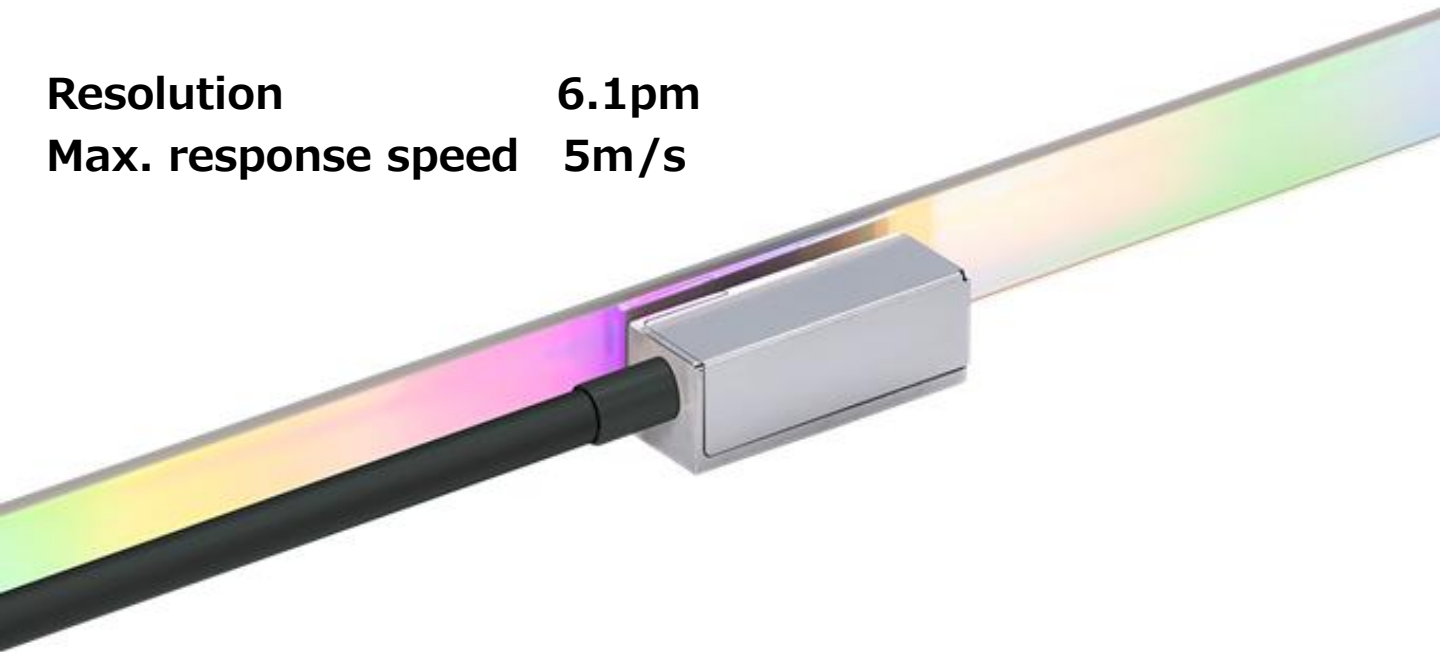


**Resolution** 6.1pm  
**Max. response speed** 5m/s



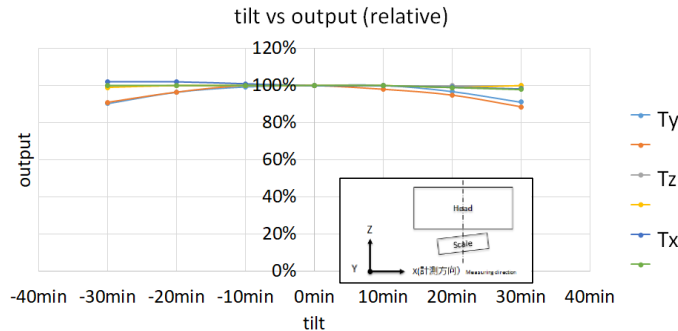
Laserscale for motion control to achieve both high resolution and high speed

## High resolution & speed

BL50H uses 1.6μm grating pitch. Grating interferometer type scanning head outputs fine signal pitch of 400nm. Dedicated interpolator divides this signal up to 6.1pm resolution. Also, maximum response speed is 5m/s.

## Wide tolerance for angle

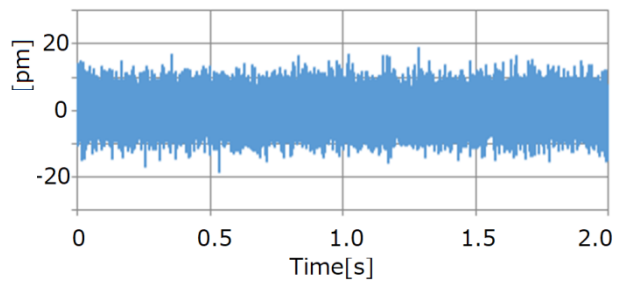
Optimized detection optics in BL50H enable wide angular tolerance of ±30min by constant output characteristics to all rotational directions.



# BL50H series

## Low noise

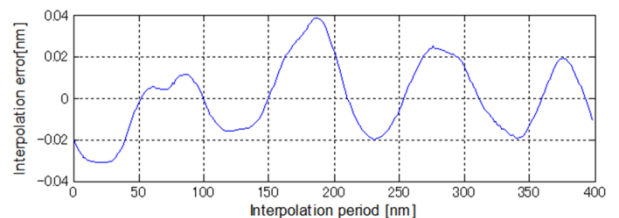
BL50H series provide S/N ratio of 13pm under condition of LPF6kHz.



## Excellent interpolation accuracy

BL50H realizes excellent interpolation accuracy with combination to BD700 interpolator.

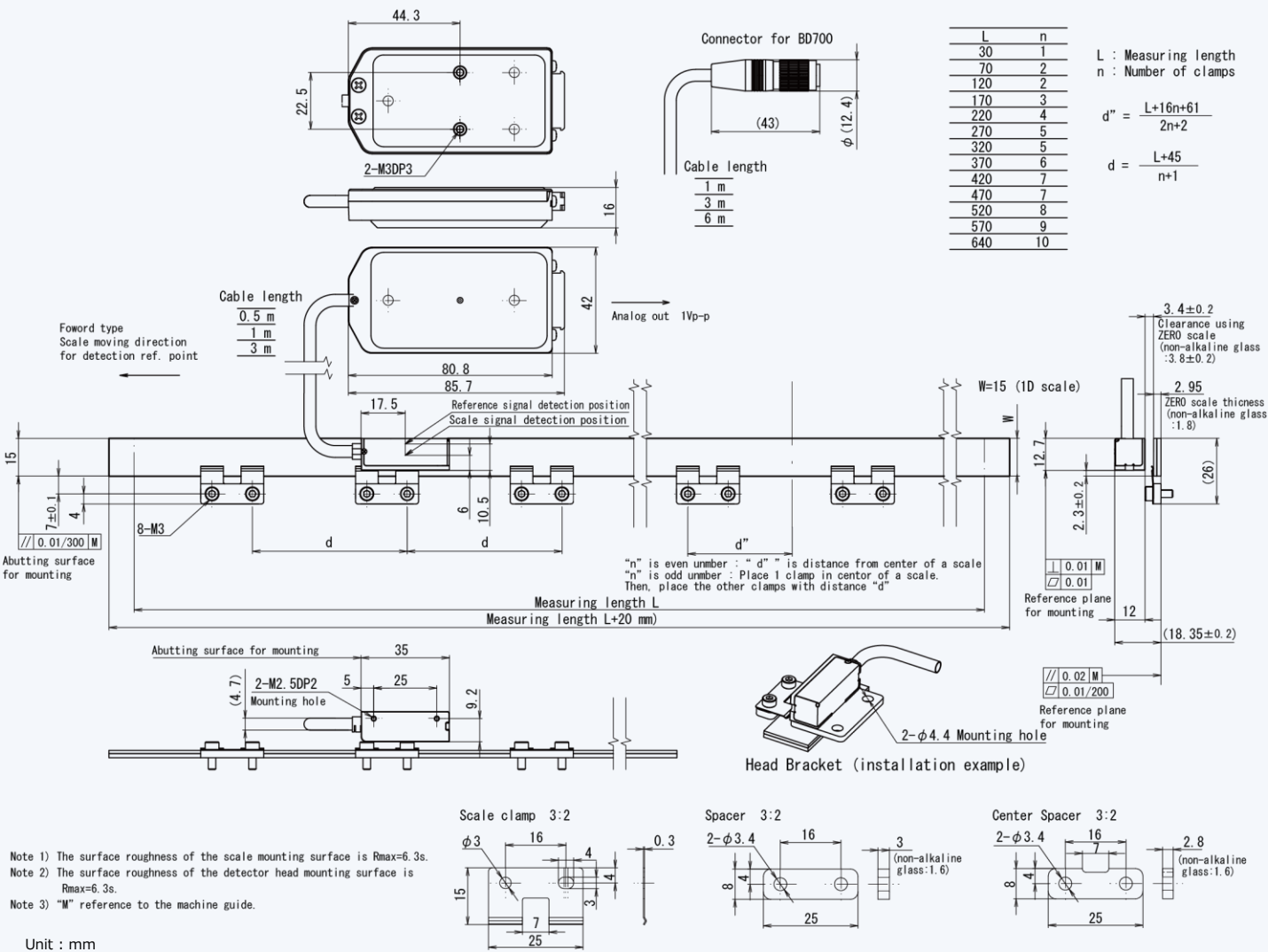
± 50pm/400nm



## Long-life laser diode

Long-life laser diode (the life is longer by 5 times of the conventional product) is used on BL50H, one piece of the laser diode is equipped in one scanning head unit.

There is also special type available which is operative in temperature 40 deg. C or more. For detail, please contact our sales office.



## Specifications

Scale unit	
Model name	BL50H-SZ * * * * *
Scale material	ZERO glass $0.1 \times 10^{-6} / ^\circ\text{C}$
Measuring length	30 to 1,070mm
Grating pitch	1.6 $\mu\text{m}$
Reference point position	User definable (within the range of measuring length) or None
Accuracy (at 20°C)	$\pm 0.5\mu\text{m}/30$ to 120mm, $\pm 1\mu\text{m}/170$ to 270mm, $\pm 3\mu\text{m}/320$ to 670mm ( $\pm 1.5\mu\text{m}$ with special specification), $\pm 5\mu\text{m}/770$ to 970mm ( $\pm 3\mu\text{m}$ with special specification), $\pm 5\mu\text{m}/1,070\text{mm}$ , $\pm 0.2\mu\text{m}/1,070\text{mm}$ or less (with BD700 compensation)
Interpolation accuracy	$\pm 50\text{pm}$ (with interpolator BD700)

Head unit	
Model name	BL50H-FS * * * * D
Output signal	Interpolator BD700 connection (*)
Signal pitch	400nm
Maximum resolution	6.1pm
Maximum response speed	3m/s (5m/s with special handling)
Clearance	ZERO glass : $3.4 \pm 0.2\text{mm}$ Alkali-free glass : $3.8 \pm 0.2\text{mm}$
Angle tolerance	Yaw : $\pm 8.7\text{mrad}$ Pitch : $\pm 8.7\text{mrad}$ Rolling : $\pm 8.7\text{mrad}$
Head cable length	1m, 3m, 6m
Operating temperature	+10 to +40°C (No condensation)

(\*) : Converted to A/B phase, serial interface of various companies, and analog output by BD700 interpolator  
 ● Magnescale reserves the right to change products and specifications without prior notice.

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