

# GYGS Probe GYGSC Controller

## Thin Head Probe

The GYGS probe is a series of which sensor head is extremely thin (20mm thick) adopting new method of detecting magnetostrictive phenomena. Applying to hydraulic cylinder, its total length becomes space saving. GYGS probe is used in combination with the GYGSC controller, which provides analogue output, 0~10V or 4~20mA, and can also be used in combination with GYHC or GYDC-05 controller, which provides velocity output or digital output. (refer P.19, P.21)



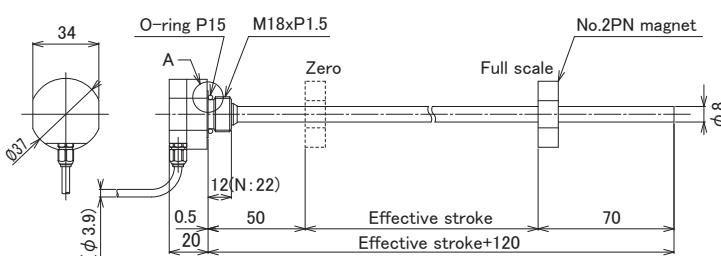
### Specifications

Accuracy	<table border="1"> <tr><td>Non-linearity</td><td>&lt; <math>\pm 0.025\%</math>FS TYP</td></tr> <tr><td>Resolution</td><td>&lt; 0.01%FS</td></tr> <tr><td>Repeatability</td><td>&lt; <math>\pm 0.01\%</math>FS</td></tr> <tr><td>Temp drift</td><td><math>\pm 40\text{ppm}/^\circ\text{C}</math>(probe) <math>\pm 50\text{ppm}/^\circ\text{C}</math>(controller)</td></tr> </table>	Non-linearity	< $\pm 0.025\%$ FS TYP	Resolution	< 0.01%FS	Repeatability	< $\pm 0.01\%$ FS	Temp drift	$\pm 40\text{ppm}/^\circ\text{C}$ (probe) $\pm 50\text{ppm}/^\circ\text{C}$ (controller)				
Non-linearity	< $\pm 0.025\%$ FS TYP												
Resolution	< 0.01%FS												
Repeatability	< $\pm 0.01\%$ FS												
Temp drift	$\pm 40\text{ppm}/^\circ\text{C}$ (probe) $\pm 50\text{ppm}/^\circ\text{C}$ (controller)												
Output	<table border="1"> <tr><td>Voltage output</td><td>0~10V or 10~0V (output current: Max.5mA, load: Min.2k<math>\Omega</math>)</td></tr> <tr><td>Current output</td><td>4~20mA or 20~4mA (load: Min.500<math>\Omega</math>)</td></tr> <tr><td>Power supply</td><td>+24(<math>\pm 2</math>)VDC (100mA)</td></tr> <tr><td>Frequency response</td><td>Std 1kHz(depending on stroke) sampling</td></tr> </table>	Voltage output	0~10V or 10~0V (output current: Max.5mA, load: Min.2k $\Omega$ )	Current output	4~20mA or 20~4mA (load: Min.500 $\Omega$ )	Power supply	+24( $\pm 2$ )VDC (100mA)	Frequency response	Std 1kHz(depending on stroke) sampling				
Voltage output	0~10V or 10~0V (output current: Max.5mA, load: Min.2k $\Omega$ )												
Current output	4~20mA or 20~4mA (load: Min.500 $\Omega$ )												
Power supply	+24( $\pm 2$ )VDC (100mA)												
Frequency response	Std 1kHz(depending on stroke) sampling												
Environment	<table border="1"> <tr><td>Admissible press.</td><td>35MPa(probe rod)</td></tr> <tr><td>Operating Temp</td><td>-20<math>^\circ\text{C}</math>~+80<math>^\circ\text{C}</math>(probe) 0<math>^\circ\text{C}</math>~+60<math>^\circ\text{C}</math>(controller)</td></tr> <tr><td>Storage Temp</td><td>-40<math>^\circ\text{C}</math>~+80<math>^\circ\text{C}</math></td></tr> <tr><td>Vibration</td><td>6G(or 40Hz 2mmPP)</td></tr> <tr><td>Shock</td><td>50G(2msec)</td></tr> <tr><td>Protection</td><td>IP67(probe)</td></tr> </table>	Admissible press.	35MPa(probe rod)	Operating Temp	-20 $^\circ\text{C}$ ~+80 $^\circ\text{C}$ (probe) 0 $^\circ\text{C}$ ~+60 $^\circ\text{C}$ (controller)	Storage Temp	-40 $^\circ\text{C}$ ~+80 $^\circ\text{C}$	Vibration	6G(or 40Hz 2mmPP)	Shock	50G(2msec)	Protection	IP67(probe)
Admissible press.	35MPa(probe rod)												
Operating Temp	-20 $^\circ\text{C}$ ~+80 $^\circ\text{C}$ (probe) 0 $^\circ\text{C}$ ~+60 $^\circ\text{C}$ (controller)												
Storage Temp	-40 $^\circ\text{C}$ ~+80 $^\circ\text{C}$												
Vibration	6G(or 40Hz 2mmPP)												
Shock	50G(2msec)												
Protection	IP67(probe)												
Cable length	1.5m(Standard) (Option Max.50m)												

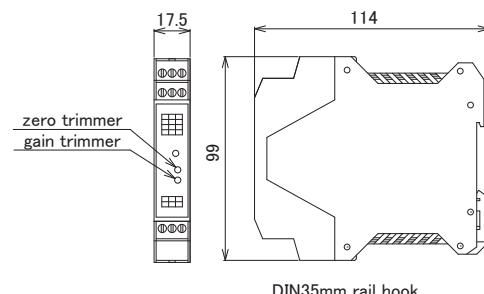
- The above mentioned accuracy applies to sensors with an effective stroke of 300mm or more.
- Zero/Gain adjustments by trimmer of controller is possible, std within  $\pm 3\%$ FS.

### Dimensions

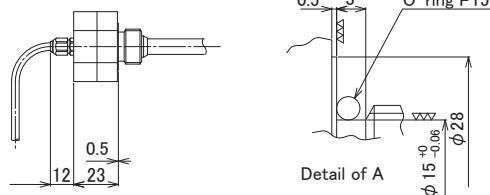
#### Cable radial out type (Standard)



#### Controller



#### Cable axial out type (Option)



- Material probe head: SS304-Bs, probe rod: SS304, cable gland: Bs
- Standard magnet: No.2PN. Other magnets are available from Magnet Grouping GGJ(P.33).
- The tip dead zone length (70mm) depends on the magnet or float type.
- Cable direction of radial output type is adjustable.