All-in-one Series

GYSE-A Probe

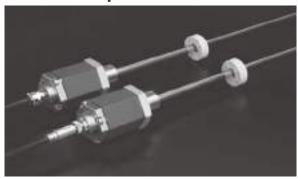








High performance analogue output (detachable probe element)



GYSE-A is a high performance analog output probe, and has the high resolution of 16bit. It has also velocity output. Using two pcs of magnet on the probe as another option, detecting each magnet position or relative distance between the two is possible. The inside probe element can be detached from the outer housing, and with the captive software (GPM), zero and gain adjustment is possible at user side. The sensor inside element flexible option is available and also most suitable for the exchange when space is small.

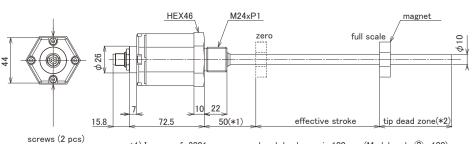
Specifications

Accuracy	Non-linearity	≦±0.025%FS TYP
	Resolution	16bit (1/65536)
	Repeatability	$\leq \pm 0.001\%$ FS (Min. $\pm 3 \mu$ m)
	Temp. drift	≦±20ppmFS/°C
Output	Position	$0\sim 10V$ (output current : Max.5mA, load : Min.2k Ω)
	(STD)	or 4∼20mA(load : Max.500Ω)
	Velocity	$\pm 10V$ (output current : Max.5mA, load : Min.2k Ω)
	(Option)	or 4∼20mA(load : Max.500Ω)
	Alarm	Open drain 50V 0.1A (for magnet missing)
Power supply		+24(±2)VDC (80mA)(*1)
Sampling freq. (*2)		Std 1kHz(total rod length : up to 1250mm)
Environment	Max. Pressure	35MPa(probe rod)
	Operating temp.	−20°C~+75°C
	Storage temp.	-40°C∼+75°C
	Vibration	15G(20~100Hz)
	Shock	100G(2msec)
	IP grade	IP67

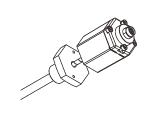
- •The above mentioned accuracy applies to sensors with an effective length of 300mm or more.
- •The specification of stroke less than 300mm is equal that of stroke 300mm.
- (*1)The consumption current is 100mA in case of adding OUT2 option (Model 8).
- (*2)Sampling freq. is available to Max. 3.75kHz by option. It depends on the total rod length (shows in Model (9)), and the consumption current increases.

Dimensions



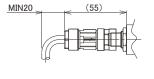


detachable probe element

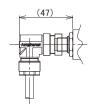


- for detachment
- *1) In case of 3001 mm or more, head dead zone is 100 mm. (Model code ② : 100)
- *2) In case of 3001mm or more, tip dead zone is standard length + 30mm. (Model code ③: 100/120/130)

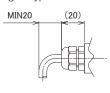
■Connector type(straight)



■Connector type (L-shaped)



■Pigtail type



■ Cable

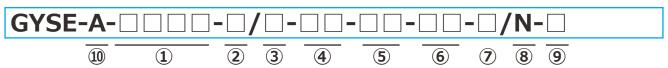
Wire	Pin	Function			
color	number	Function			
red	1	+24VDC			
while	2	0V			
blue	3	OUT1			
green	4	COM1			
brown	5	OUT2			
black	6	COM2			
yellow	7	Alarm			

•shield should be connected to FG of user's unit.

In case of connector type, connector dimensions are different from the existing product. Please refer to page 109 for the existing one.

- *materials; Probe head: Al alloy, Probe rod: SS304
- *magnet: Select one from group GG on page 110
- •The tip dead zone length depends on the selected magnet or float.
- •connector : Amphenol (materials : glass fiber reinforced plastic)
- •Suitable cable diameter: $\Phi 4.0 \sim \Phi 7.0$, Wire size: 0.14 0.82mm².
- *cable length; Max.10m (0-10V output), Max.100m (4-20mA output)

■ Probe



1 Effective stroke

15~7500mm

2) Head dead zone

S:50mm(STD)

☐: ☐mm(option)(specified by customers)

•Possible Min. length depends on the selected magnet or float.

3Tip dead zone

S:70mm/90mm/100mm(STD)

•S (STD length) depends on the selected magnet or float in (5).

tip DZ	magnet	float			
70mm	M2PN, M0SM, M0LM,	F25N, F28N			
	M3, M11N, BA				
90mm		F28S, F30S			
100mm	T144, T163	F40S, F42S, F50S, F54S			

☐:☐mm(option)(specified by customers)

·Possible Min. length depends on the selected magnet or float.

4Thread/Rod diameter

M :M24xP1.0, rod Φ10(STD) N :M18xP1.5, rod Φ10 U :3/4-16UNF-3A, rod Φ10 M8 :M24xP1.0, rod Φ8

N8 : M18xP1.5, rod Φ8 U8 : 3/4-16UNF-3A, rod Φ8 M14: M24xP1.0, rod Φ13.8

Z : EF (flexible element) only (without outer housing)

5 Associated magnet or float

<magnet> M2PN: No.2PN (STD) : Ф28 SS316L F28S M0SM : No. ΦSPM : Ф30 SS316L F30S M0LM: No.ΦLPM F40S Φ40 SS316(B) F42S Ф43 SS316L M3 : No.3 M11N F50S : Ф50 SS316L :No.11N F54S Ф54 SS304 T144 :No.T14-M4 :No.T16-M3 F25N : RF-A10 plastic T163 :RF-A6 plastic BA : No.2KYN-17-LG F28N

•Please consult if you select a magnet or a float of other than above.

•This Model code means only specifying associated magnet or float.

•When you need a magnet or float, please order separately.

6 Cable connection

8P:connector

 $\triangle G \square F$: pigtail / cable end : free

△G□A: pigtail / cable end : with connector for relay

 $(\Box : cable length(m), Max.10m)(*)$

(∆:cable type

S:standard, H:high temp. cable, R:robot cable, UL:cUL cable)

CN: existing connector (Please refer to P.109 of option.)

(*) In case of using extension cable

Voltage output : sensor cable (m) + extension cable (m) ≤ 10 m

Current output : sensor cable (m) + extension cable (m) \leq 100m

•Please consider extension cable on page 114.

•In case that you need loose mating connector, ordering connector

(straight or L-shaped) separately is necessary.

⑦Position output (OUT1)

AD:0~10V (When magnet moves toward tip, output increase)

AR: 10~0V (When magnet moves toward tip, output decrease)

BD:4~20mA (When magnet moves toward tip, output increase)

BR: 20~4mA (When magnet moves toward tip, output decrease)

 $CD \square \square$: bipolar output $(-\square V \sim +\square V)$

(for example CD10:-10V~+10V)

 $CR \square \square$: bipolar output $(+\square V \sim -\square V)$

(for example CR05:+5V~-5V)

V Z/F: option (specified voltage)

(for example V1/5:1 \sim 5V, V9.5/0.5:9.5 \sim 0.5V)

I Z/F: option (specified current)

(for example I5.2/20:5.2~20mA, I18/5:18~5mA)

[Z=output at zero position, F=output at full position]

®Option: Analogue output (OUT2)

•N:without option(STD)

Position output: select from (7)

Velocity output (Note1)

VA[]: ±10V WB[]: 4~20mA

[]: max. velocity (1.00~999 mm/s)

<ex.9R99 : max. velocity = 9.99 mm/s>

(Note1)

VA: When magnet stops, output is 0V.
When moving toward probe tip, +10V.

WB: When magnet stops, output is 4mA.
When moving in any direction, 20mA.

9Option

blank:without option

SRT:SRT option (6) Cable connection: pigtail type only)

H0:probe rod 100°C

EF: flexible element (rod Φ10 only)

X2:2kHz sampling (total rod length: Max. 750mm)

X3:3kHz sampling (total rod length: Max. 600mm)

X4:3.75kHz sampling (total rod length: Max. 450mm)

74.0.70KHZ Sampling (total rod longth : Max. 400mm

•Please confirm the details of options on page 106 - 109.

 Without EF option (standard), GYSE-A probe element is detachable though the rod parts is rigid. With EF option, as to accuracy or other specs, please consult factory.

10 Two Magnets Option

A : one magnet (standard)

A2MR: two magnets (relative distance between the two)(*)

A2ME: two magnets (each magnet position)(*)

(Please consult factory)

(*) When using standard magnets, Min. proximity distance between 2 magnets is 75mm. When using other magnets, please consult us.