All-in-one Series

GYSE-Q Probe

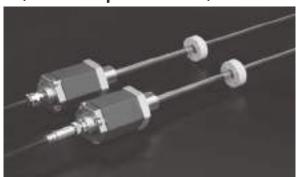
A/B pulse

GPM

Noise Cancel



Quasi-incremental output (detachable probe element)



GYSE-Q probe has the incremental output (A/B pulse), the resolution is Min.1 μ m (Quad divide). The working principle is based on a sampling detection method, in which pulse frequency is fixed to 250kHz or 500kHz (it depends on resolution). GYSE-Q doesn't output the pulse which continued like a linear encoder, so please be careful. 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.

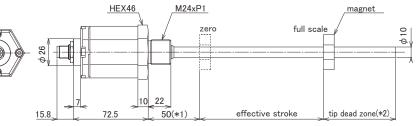
Specifications

Accuracy	Non-linearity	≦±0.025%FS TYP	
	Resolution	0.1mm~0.001mm specified	
	Repeatability	$\leq \pm 0.001\%$ FS (Min. $\pm 3 \mu$ m)	
2	Temp. drift	≦±15ppmFS/°C	
	Position	A/B pulse, without Z pulse	
0	(STD)	Line driver, pulse freq. 250kHz	
Output	Velocity	not available	
두	(Option)		
	Alarm	Open drain 50V 0.1A (for lost magnet)	
	Power supply	+24(±2)VDC (100mA)	
Sampling freq.		STD 1kHz(up to stroke 1000mm)	
	Max. Pressure	35MPa(probe rod)	
l E	Operating temp.	−20°C ~ +75°C	
Environment	Storage temp.	-40°C∼+75°C	
	Vibration	15G(20~100Hz)	
	Shocks	100G(2msec)	
	IP grade	IP67	

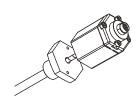
- The above mentioned accuracy applies to sensors with an effective stroke of 300mm or more.
- •The specification of stroke less than 300mm is equal that of stroke 300mm.

Dimensions



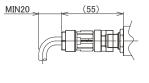


detachable probe element

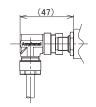


- screws (2pcs)
 for detachment
- *1) In case of stroke 3001mm or more, head dead zone is 100mm. (Model code ②: 100)
- *2) In case of stroke 3001mm or more, tip dead zone is standard length + 30mm. (Model code ③:100/120/130)

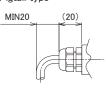
■Connector type(straight)



■ Connector type (L-shaped)



■Pigtail type



■ Cable

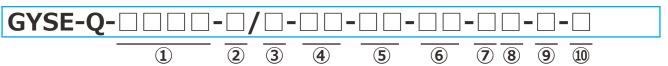
Wire	Pin	Function	
color	number	Function	
red	1	+24VDC	
while	2	0V	
blue	3	A+ pulse	
green	4	A- pulse	
brown	5	B+ pulse	
black	6	B- pulse	
yellow	7	Alarm	

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: Φ4.0~ Φ7.0, Wire size: 0.14 0.82mm²

■ 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	

☐: ☐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 Φ 10 M8 : M24xP1.0, rod Φ 8

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></magnet>		<float></float>	
M2PN	: No.2PN (STD)	F28S	: Ф28 SS316L
M0SM	:No.ΦSPM	F30S	: Ф30 SS316L
M0LM	:No.ΦLPM	F40S	: Ф40 SS316(B)
M3	: No.3	F42S	: Ф43 SS316L
M11N	: No.11N	F50S	: Ф50 SS316L
T144	:No.T14-M4	F54S	: Ф54 SS304
T163	:No.T16-M3	F25N	:RF-A10 plastic
RA	· No 2KYN-17-LG	F28N	· RF-A6 plastic

- •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

 $\Delta G \Box F$: 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

sensor cable (m) + extension cable (m) ≤ 100 m

•Please consider extension cable on page 114.

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

(straight or L-shaped) separately is necessary.

?Resolution

®Direction

 $\ensuremath{\mathsf{D}}\!:\!\ensuremath{\mathsf{When}}$ magnet moves toward tip, output increase

R:When magnet moves toward tip, output decrease

9Pulse frequency

1:1MHz

2:500kHz(STD in case of ⑦ resoluton:D7, D8)

3:250kHz(STD in case of ⑦ resolution:D2~D5)

4:125kHz 6:31kHz 7:15kHz

•Allowable magnet speed depends on the selected resolution and pulse freq. Allowable speeds for STD setting are as below.

Resolution(mm)	Pulse freq.	Max. magnet speed
0.1	250kHz	(*)15m/sec
0.05	250kHz	(*)15m/sec
0.01	250kHz	8m/sec
0.005	250kHz	4m/sec
0.002	500kHz	3.2m/sec
0.001	500kHz	1.6m/sec

(*)For the noise cancellation function

10Option

blank: without option

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

•Please confirm the details of option on page 108.

[Quadrature output]

- •The train of impulses corresponds to the travel distance at each sampling period (T1).
- •Pulse frequency (1/T2) is constant.

