GYSE-Q-PF Probe

A/B pulse

GPM | Noise Cancel | CE

Quasi-incremental output (detachable probe element)

This is the linear profile version of GYSE-Q. It has the incremental output (A/B pulse), the resolution is Min.1 μm (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

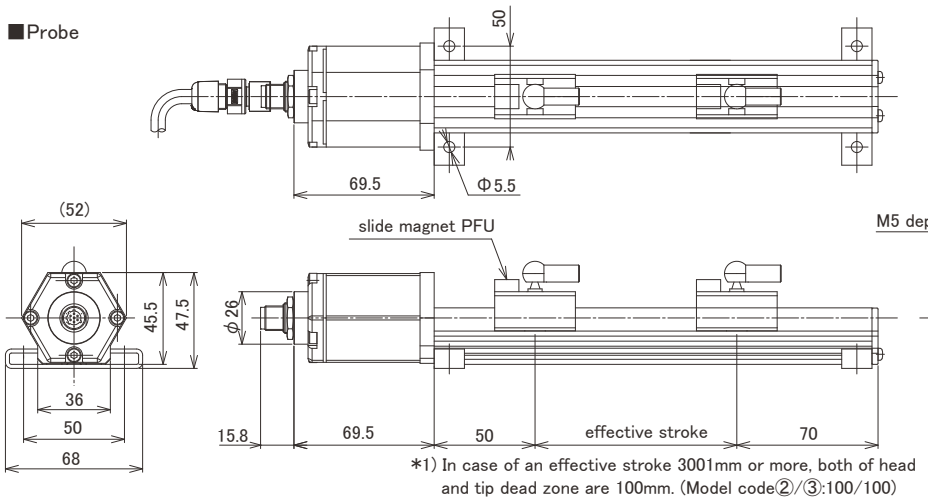
Accuracy	Non-linearity	≦±0.025%FS TYP
	Resolution	0.1mm～0.001mm specified
	Repeatability	≦±0.001%FS (Min. ±3μm)
	Temp. drift	≦±15ppmFS/℃
Output	Position (STD)	A/B pulse, without Z pulse Line driver, pulse freq. 250kHz
	Velocity (Option)	not available
	Alarm	Open drain 50V 0.1A (for magnet missing)
Power supply		+24(±2)VDC (100mA)
Sampling freq.		STD 1kHz(up to stroke 1000mm)
Environment	Operating temp.	−20℃～+75℃
	Storage temp.	−40℃～+75℃
	Vibration	15G(20～100Hz)
	Shocks	100G(2msec)
	IP grade	IP65

・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.

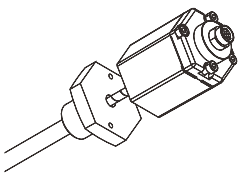
・Fixing clamps are supplied.
stroke ＜600mm：2 pcs
600～1000mm：3 pcs
1001～1500mm：4 pcs
1501～2000mm：5 pcs
One clamp is added every 500mm

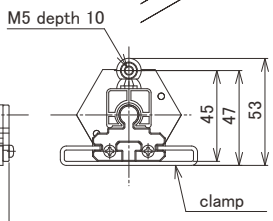
Dimensions

■Probe



■detachable probe element

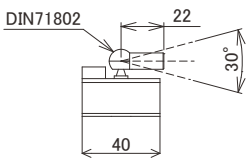




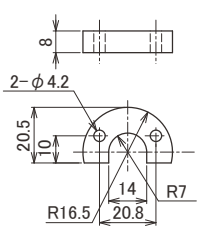
*1) In case of an effective stroke 3001mm or more, both of head and tip dead zone are 100mm. (Model code②/③:100/100)

■magnet

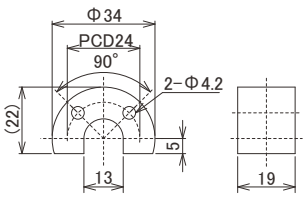
slide magnet
model：PFU
materials：polyacetal



floating magnet
model：No.5N-UK
materials：MC nylon



floating magnet
model：No.5PFT-LG
materials：SS304



・materials ; Probe head : Al alloy, body : Al alloy

■Cable

Wire color	Pin number	Function
red	1	+24VDC
white	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.

■Probe

GYSE-Q-□□□□-□/□-PF-□□-□□-□□-□-□-□

① ② ③ ④ ⑤ ⑥⑦ ⑧ ⑨

①Effective stroke
15～7500mm

②Head dead zone
S：50mm（STD）
□：□mm（option）（specified by customers）

・Possible Min. length depends on the selected magnet.

③Tip dead zone
S：50mm（STD）
□：□mm（option）（specified by customers）

・Possible Min. length depends on the selected magnet.

④Associated magnet
PFU　：PFU slide magnet
FE　：No.5N-UK
BP　：No.5PFT-LG

・Please consult if you select a magnet of other than above.
・This Model code means only specifying associated magnet.
・When you need a magnet, please order separately.

⑤Cable connection
8P：connector
△G□F：pigtail / cable end : free
△G□A：pigtail / cable end : with connector for relay
（□：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) ≦ 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.

⑥Resolution
D2：0.1mm　　D5：0.005mm
D3：0.05mm　　D7：0.002mm
D4：0.01mm（STD）　　D8：0.001mm

⑦Direction
D：When magnet moves toward tip, output increase
R：When magnet moves toward tip, output decrease

⑧Pulse freqency
1：1MHz
2：500kHz（STD in case of ⑥ resoluton：D7, D8）
3：250kHz（STD in case of ⑥ resolution：D2～D5）
4：125kHz
6：31kHz
7：15kHz

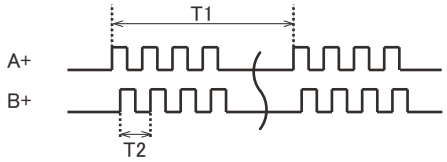
・Allowable magnet speed depends on the selected resolution and pulse freq. Allowable speeds for STD setting are as below.

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

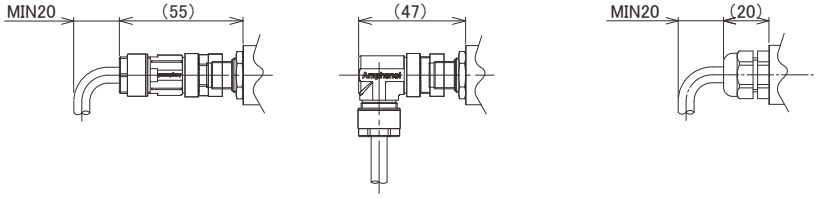
(*)For the noise cancellation function

⑨Clamp
F50　：with fixing clamps
N　：without fixing clamps

【Quadrature output】
・The train of impulses corresponds to the travel distance at each sampling period (T1).
・Pulse frequency (1/T2) is constant.



【Cable connection】
■Connector type（straight）　■Connector type（L-shaped）　■Pigtail type



In case of connector type, connector dimensions are different from the existing product. Please refer to page 109 for the existing one.
・connector : Amphenol (materials : glass fiber reinforced plastic)