

GYSE-A-FX6 Probe

Analogue

GPM

Noise
Cancel

CE

Flexible rod type analogue output



The material of the probe rod of GYSE-FX isn't SS304 but PTFE. That's the structure which made the rod part have the flexibility, so position detection by a like curved line is possible (bend R : Min. 200mm). It's able to detect it with a high accuracy because a GYSE series is being used inside the sensor. Max. stroke is 7500mm. And with the captive software (GPM), zero and gain adjustment is possible at user side. It is possible in thin type GYMRA.

Specifications

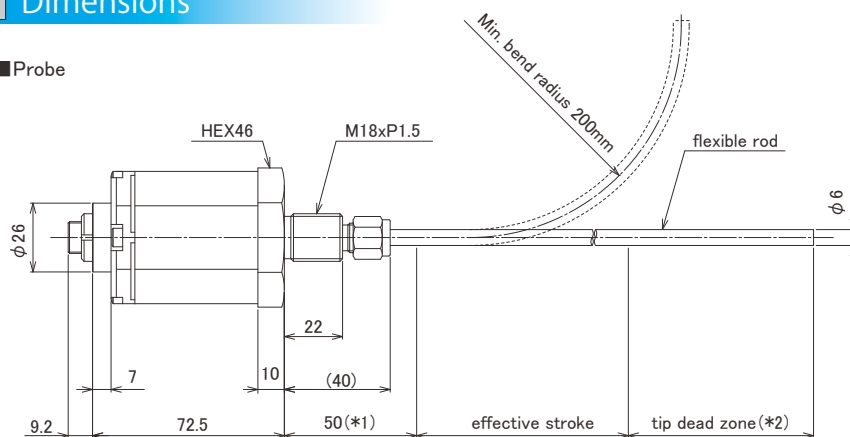
Accuracy	Non-linearity	$\leq \pm 0.025\%FS$ TYP
	Resolution	16bit (1/65536)
	Repeatability	$\leq \pm 0.001\%FS$ (Min. $\pm 3 \mu m$)
	Temp. drift	$\leq \pm 20ppmFS/^{\circ}C$
Output	Position (STD)	0~10V (output current : Max.5mA, load : Min.2k Ω) or 4~20mA (load : Max.500 Ω)
	Velocity (Option)	$\pm 10V$ or 4~20mA Resolution: 16bit (1/65536)
	Alarm	Open drain 50V 0.1A (for lost magnet)
	Power supply	+24(± 2)VDC (70mA)
Environment	Sampling freq.	Std 1kHz (up to stroke 1000mm)
	Max. Pressure	5MPa (probe rod)
	Operating temp.	0 $^{\circ}C$ ~+65 $^{\circ}C$
	Storage temp.	-20 $^{\circ}C$ ~+65 $^{\circ}C$
	Vibration	3G (or 40Hz 1mmPP)
	Shock	10G (2msec)
	IP grade	IP63 (rod)

* 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

Probe



*1) In case of an effective stroke 3001mm or more, head dead zone is 100mm. (Model code ② : 100)

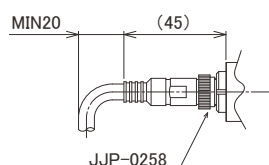
*2) In case of an effective stroke 3001mm or more, tip dead zone is "standard length + 30mm". (Model code ③ : 100/120/130)

Cable

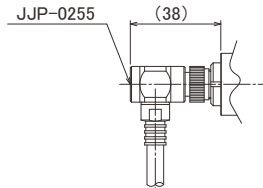
Cable color	Pin number	Function
red	1	+24VDC
white	2	0V
blue	3	OUT1
green	4	COM1
brown	5	OUT2
black	6	COM2
yellow	7	Alarm

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

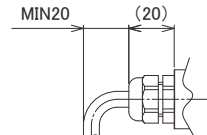
Connector type (straight) (STD)



Connector type (L-shaped) (option)



Pigtail type (option)



- materials Probe head: Al alloy, Probe rod: PTFE
- magnet ; Select one from group GG on page 109.
- The tip dead zone length depends on the selected magnet or float.
- connector ; straight or L-shaped (housing parts : BS with Ni plating)
- Applied cable diameter: $\Phi 6.6 \sim \Phi 7.5$, Wire size: 0.5mm²
- cable length ; Max.10m (0~10V output), Max.100m (4~20mA output)

■ Probe

GYSE-A-□□□□-□/□-N-FX6-□□-□□-□/N-EF

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

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.

③ Tip 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, M3, M11N, BA	F25N, F28N
90mm		F28S, F30S
100mm	T144, T163	F40S, F42S, F50S

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

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

④ Thread/Rod diameter

N-FX6: M18xP1.5, flexible rod Φ6

⑤ Associated magnet or float

<magnet>	<float>
M2PN : No.2PN (STD)	F28S : Φ28 SS316L
M0SM : No.Φ SPM	F30S : Φ30 SS316L
M0LM : No.Φ LPM	F40S : Φ40 SS316 (B)
M3 : No.3	F42S : Φ42.5 SS316
M11N : No.11N	F50S : Φ50 SS316L
T144 : No.T14-M4	F54S : Φ54 SS304
T163 : No.T16-M3	F25N : RF-A10 plastic
BA : 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

CN: connector (STD)

△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)

(*) In case of using extension cable

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

Current output: sensor cable (m) + extension cable (m) ≤ 100m

• Please consider extension cable on page 112.

• In case that you need loose mating connector, ordering connector (straight or L-shaped) separately is necessary.

⑦ Position 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□□: bipolar output (-□V~+□V)

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

CR□□: bipolar output (+□V~-□V)

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

V Z/F: option (specified voltage)

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

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]

⑧ 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.