

Digital Signal Output Type



Incremental encoder and absolute encoder are optional for the digital signal output type. Output signals are square wave ABZ signals or Gray code signals. Measurement range is up to 4000mm. Linear accuracy: 0.05% FS. Resolution based on the different configuration can reach 0.001mm / pulse in maximum. Working temperature: -30 ° C-+90 ° C.

Part Number

SF	115	D	4000	A	1	E	-	1M
Draw Wire Sensor Series	Box Size	Output Type	Measuring Range	Resolution	Operating Voltage	Output Signal		Cable Length
	115*115mm		0-6000mm		1:DC5V 2:DC8-26V			Standard 1M
	Incremental Encoder Type		Digital Output		E: Voltage F: Pushpull C: Open Collector L: Line Driver (5V) A: Wide Voltage Line Driver (8-26V)			

Mechanical Specifications

Measuring Range	0—4000mm optional
Housing	Aluminium alloy, oxidation surface treating, wear and corrosion prevention
Wire Rope	0.6mm high flexible imported plastic coated wire rope
Wire retraction force (min)	appr. 1N
Wire extension force (max)	appr. 2.5N
Linear Accuracy	0.05%FS
Repeatability Accuracy	0.01%
Life	>10 million times

Electrical Specifications

Sensor Element	Incremental Encoder				
Electrical Connection	Cable Radial, 1m				
Output Model	Voltage	Push-Pull	Open Collector	Line Driver (5V)	Wide Voltage Line Driver (8-26V)
Operating Voltage	DC5V/8-26V				
Sensor Resolution(mm)	0.225	0.1125	0.09	0.0625	0.045
Encoder Resolution (ppr)	1000	2000	2500	3600	5000
Max. Reciprocating Speed	1000mm/s				
Reciprocating Frequency	50 Hz(See Reciprocating Amplitude)				

Environmental Specifications

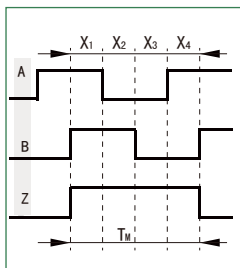
Temperature Range	-30°C—90°C
Vibration Resistance	10HZ—1500HZ 10G
Protection Class	IP54(Standard)
Weight(kg)	0.85

Output Circuit

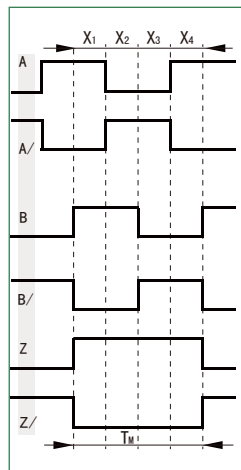
E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		

Note: C, F output provide ground protection diode

Output Waveform



Waveform for C, E, F output



Waveform for L, A output

- Wave Ratio : $X1+X2=0.5T \pm 0.1T$
 $X2+X3=0.5T \pm 0.1T$
- Phase Different : $Xn \geq 0.125T$ ($n=1, 2, 3, 4$)
- Absolute Angle Error: $\leq 0.2T$
- Cycle Error : $\leq 0.05T$
- $T=360^\circ / N$ (N =lines count per revolution)
- Width of Z signal
- 1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)
- The phase relationship of Z signal and A,B signal is not stipulated.
- 2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Cable Color	Red	Yellow	White	Black	Green	Grey	Brown	Orange	Shield
Line Driver	Vcc	Z	B	OV	A	B/	A/	Z/	G
Voltage	Vcc	Z	B	OV	A	–	–	–	G
Open Colletor	Vcc	Z	B	OV	A	–	–	–	G
Push-pull	Vcc	Z	B	OV	A	–	–	–	G

Mechanical Drawings

