

Specifications of Incremental shaft Encoder		Note	Output Pulse [P/R]
Model	LF -000B-S89 B	With Adapter flange (□68Flange) No Z signal With special Name Plate (LF-xxB-S89B)	Type1
	0.1×P/R		100, 200, 300, 500, 600 900, 1024, 1200, 1500 2000, 2048
Product Type : I R S 6 6 0 - x x x x - 0 0 9 P/R			Type2
			4096, 5000, 6000

Mechanical Specifications		Termination
Shaft Diameter	15 mm	Receptacle : 1108-23A16-8AM-1
Mechanical Perm. Speed	6000 min ⁻¹	Plug : 1108-12A16-8F13.5-1 (or 1108-12A16-8AF13.5-1)
Starting Torque [*1]	≤0.05 N·m	Cap : 1108-16RC (Attached)
Maximum Accel. Speed	40000 rad/s ²	TAJIMI ELECTRONICS CO.,LTD
Moment of Inertia	9.0×10 ⁻⁶ kg·m ²	Connection
Shaft Loading (Radial)	≤50 N	Pin No. Signal
Shaft Loading (Axial)	≤50 N	A A
Mass	0.7 kg	B B
Bearing life		C Vcc
Shaft Load (Axial:10N Radial:20N)		D ---
Operating speed(min ⁻¹)	5000 4000 1800	E Body
Bearing Temp.(°C)	80 50 40	F 0V(A)
Fatigue life(h)	220000 280000 630000	G 0V(B)
Grease life(h)	18000 72000 110000	H 0V(COM)

Environmental Specifications		Output Circuit
Operating Temperature [*1]	-20~+70 °C	
Storage Temperature	-20~+85 °C	
Vibration [*2, 3]	100 m/s ²	
Shock [*2]	1000 m/s ²	
Protection Grade	IP66 Equivalent	

Without Dewfall
Without Dewfall
25~2000Hz, X·Y·Z_Each direction 2h
6ms, Half Sine Plus, X·Y·Z_Each 2 Times
With Plug (Cable DIA. 12.7~13.5 mm)

[*1]The temperature upper limit measured on surface of Encoder body (Cover).
If the temperature upper limit exceed,
Thermal shutdown will work and all signals will not stable.
When the temperature goes down, all signals become normal state.

[*2]Test condition [*3]Continuous Running ≤19.6m/s²

Electrical Specifications		Output Circuit
Output	Complementary	
Supply Voltage (Vcc)	DC10.8~26.4 V	
Supply Current	≤70 mA	
Sink Current	≤40 mA	
Min. Load Resistance	500 Ω	
Output Voltage (H)	≥Vcc-4.0 V	
Output Voltage (L)	≤1.0 V	
Rise time(Typ.)	500 ns	
Fall time(Typ.)	100 ns	
Response Frequency	0~200 kHz	
Insulation resistance	≥20 MΩ	
By-pass Capacitor	0.22 μF	
By-pass Capacitor	0.22 μF	
Determinate Time of ABZ signals	30 ms	

Output Signals	
	Type1
	Type2
	Symmetry of "A" & "B" signals
	Symmetry of "A" & "B" signals
Encoder	Edge Separation
	Edge Separation
CW rotation as viewed to Encoder shaft.	Signal Accuracy
	Signal Accuracy
	Accumulative Angle Error : ≤0.2T
	Accumulative Angle Error : ≤0.4T
	Pitch Error : ±0.01T
	Pitch Error : ±0.1T
	Adjacent Pitch Error : ±0.005T
	Adjacent Pitch Error : ±0.1T
	[T=360°/N]
	[T=360°/N]
	[N: Output pulse of A,B(P/R)]
	[N: Output pulse of A,B(P/R)]

Limited Warranty
SUMTAK warrants its products against defects in materials and workmanship under normal use and service for a periode of ONE(1) year from the date of original shipment.

Dimensions

units:mm

Caution Name Plate

Special Name Plate
LF-xxB-S89B
0.1×P/R

Receptacle
1108-23A16-8AM-1

Plug (Attached) : 1108-12A16-8F13.5-1
(or 1108-12A16-8AF13.5-1)

Cap (Attached) : 1108-16RC

Oil seal
ISD16287
KEEPER CO.

4-5.5 Holes

2-M2.6
(Position not defined)

5⁰_{-0.03} (h9)

Rev.	REVISIONS	DATE	REVISED	APPROVED	DRAWN	CHECKED	APPROVED
Δ	Correct	Apr.26.07	M. Takahashi	[Signature]	Y. Nakamura	[Signature]	[Signature]

56 REP-068

SUMTAK

