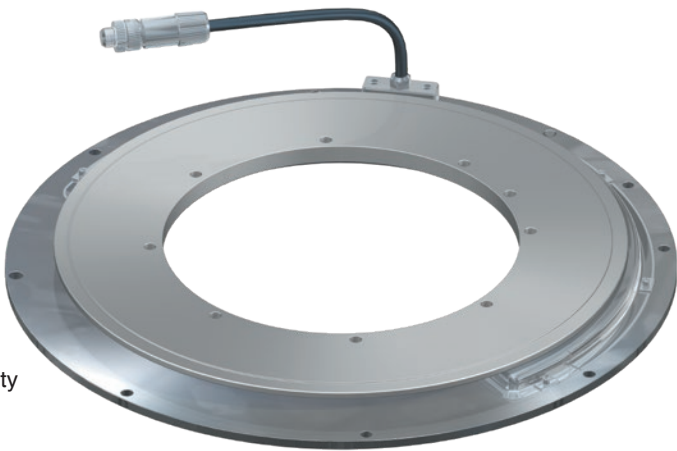


Absolute angle encoder
Exposed type

RS97-1024N

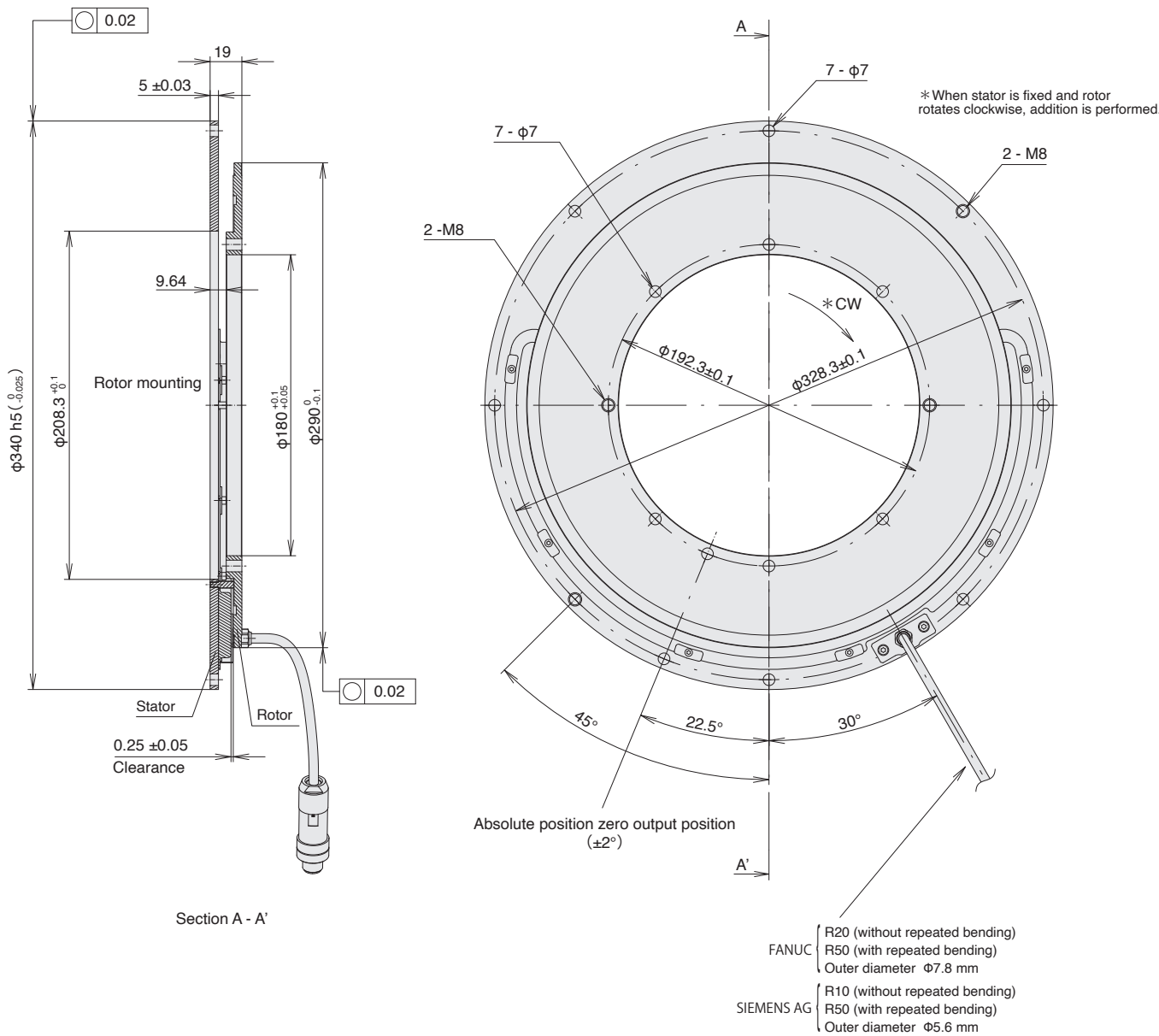
- Magnetic system enables use even in environments with condensation, oil, and other adverse conditions
- 180 mm diameter through-hole allows for design and mounting flexibility
- Dual head configuration reduces the effect of axial runout



FANUC

SIEMENS

Dimensions



Specifications

Model name		RS97-1024N□A■	RS97-1024NGZ■
Output wave number	1,024 waves/revolution		
Through hole diameter	φ180 mm		
Accuracy (at 20°C)	±2.5"		
Output signal	Absolute serial bidirectional signal, compliant with EIA-485		
Compatible controllers	FANUC		Compliant with DRIVE-CLiQ
Resolution	23 bits (8,388,608 pulses/revolution) or 25 bits (33,554,432 pulses/revolution)		SIEMENS AG
Maximum response revolutions	5,000 min ⁻¹		23 bits (8,388,608 pulses/revolution)
Functional Safety	—		IEC 61508, EN/BS 62061 SIL 2 EN/BS/ISO 13849-1 Cat. 3 / PL d EN/BS 61800-5-2
Product Safety	FCC Part15 Subpart B Class A ICES-003 Class A Digital Device EN/BS 61000-6-2, EN/BS 61000-6-4		
Product Environment	EN/BS 63000		
Operating temperature	0 to +60°C		
Storage temperature	-10 to +60°C		
Vibration resistance	150 m/s ² (50 Hz to 2,000 Hz)		
Impact resistance	1,000 m/s ² (11 ms)		
Protective design grade	IP65		
Power supply voltage	DC +4.75 to +5.25 V		DC +17 to +30.8 V
Maximum consumption current	1.35 W or less (4.75 V) 1.3 W or less (5.25 V)		2.8 W or less (17 V) 3.3 W or less (30.8 V)
Consumption current	300 mA (with 5 V controller connection)		150 mA (with 24 V controller connection)
Output connector	JN1HS10PL2 made by Japan Aviation Electronics Industry		SACC-M12MS-8Q H made by Phoenix Contact
Moment of inertia	8.8 × 10 ⁻³ kg·m ² or less		
Mass	Approx. 3.4 kg (rotor: 0.6 kg / stator: 2.8 kg) or less		
Compatible cables (types without relay connectors) Maximum cable length	CH23A-***NPFA 30 m		CH22-***NSFY 30 m
Compatible cables (types with relay connectors) Maximum cable length	CH23A-***NPKA + CH23A-***NPFA 30 m		CH22-***NSFF + CH22-***NSFY 30 m

Magnescape reserves the right to change product specifications without prior notice.

Details of model designation

Encoder

RS97-1024N□△■

[N] Rotor inner diameter
180 mm

[□] Resolution

Type	Resolution
G	23 bit
J	25 bit

[△] Communication protocol

Type	NC manufacturer	Remarks
A	FANUC	α interface
Z	SIEMENS AG	DRIVE-CLiQ

[■] Head cable length

Type	Head cable length
01	1 m
02	2 m
03	3 m

Cables

CH22 - □□□○▽*#

[□□□] Cable length
Written by flush right,
indication in "m" units,
up to 30 m, 0.5 m pitch
(Example)

Type	Cable length
015	1.5 m
070	7 m
260	26 m

[○] Conduit specification

Type	Conduit specification
C	With conduit
N	Without conduit

[▽] Cable sheath (covering)

Type	Cable specification
S	PU

[*] Encoder side connector : a

Type	Specification	Remarks
M	Encoder head connector	Standard
F	M12 connector (Female) made by Phoenix Contact	Relay/ Waterproofing

[#] Controller side connector : b

Type	Specification	Remarks
None	Open-end	
Z	Encoder side connector should be 10P JN2 (Female) made by Japan Aviation Electronics Industry or 2P made by TAJIMI ELECTRONICS	
F	10P made by 3M	Mitsubishi Electric NC, J3
J	20P straight case made by Honda Tsushin Kogyo	FANUC
K	Horizontal drawing case made by HIROSE Electric	FANUC
N	10P JN1 (Male) made by Japan Aviation Electronics Industry	Relay
F	12P R04 (Male) made by TAJIMI ELECTRONICS	Relay (fixed)

CH23A - □□□○▽*#

[□□□] Cable length

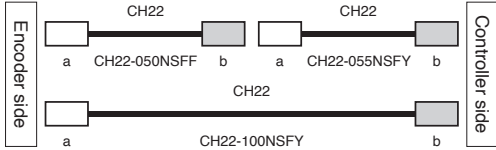
Type	Cable length
010	1 m
005	0.5 m
065	6.5 m
100	10 m

[○] Conduit specification

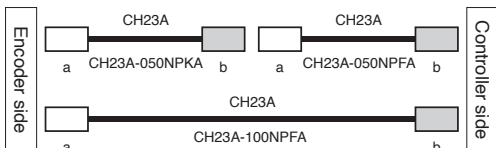
Type	Conduit specification
C	With conduit
N	Without conduit

[▽] Cable sheath

Type	Cable specification
P	PVC (φ8) [Controller side]
E	PU (φ8) [Controller side]



Type	Specification	Remarks
CH22-050NSFF	example) Cable length 5 m Without conduit PU sheath Encoder side connector M12 (Female) made by Phoenix Contact Controller side connector RJ45 made by Phoenix Contact	
CH22-100NSFY	example) Cable length 10 m Without conduit PU sheath Encoder side connector M12 (Female) made by Phoenix Contact Controller side connector RJ45 made by YAMAICHI ELECTRONICS	
CH22-055NSFY	example) Cable length 5 m Without conduit PU sheath Encoder side connector M12 (Female) made by Phoenix Contact Controller side connector RJ45 made by YAMAICHI ELECTRONICS	



Type	Specification	Remarks
CH23A-050NPKA	example) Cable length 5 m Without conduit PVC sheath (φ8) Encoder side connector 10P JN2 (Female) made by Japan Aviation Electronics Industry Controller side connector 10P JN1 (Male) made by Japan Aviation Electronics Industry	
CH23A-100NPFA	example) Cable length 10 m Without conduit PVC sheath (φ8) Encoder side connector 10P JN2 (Female) made by Japan Aviation Electronics Industry Controller side connector 20P made by Honda Tsushin Kogyo	
CH23A-050NPFA	example) Cable length 5 m Without conduit PVC sheath (φ8) Encoder side connector 10P JN2 (Female) made by Japan Aviation Electronics Industry Controller side connector 20P made by Honda Tsushin Kogyo	