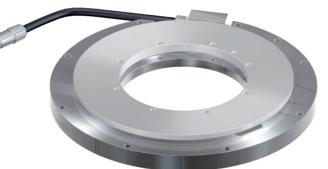
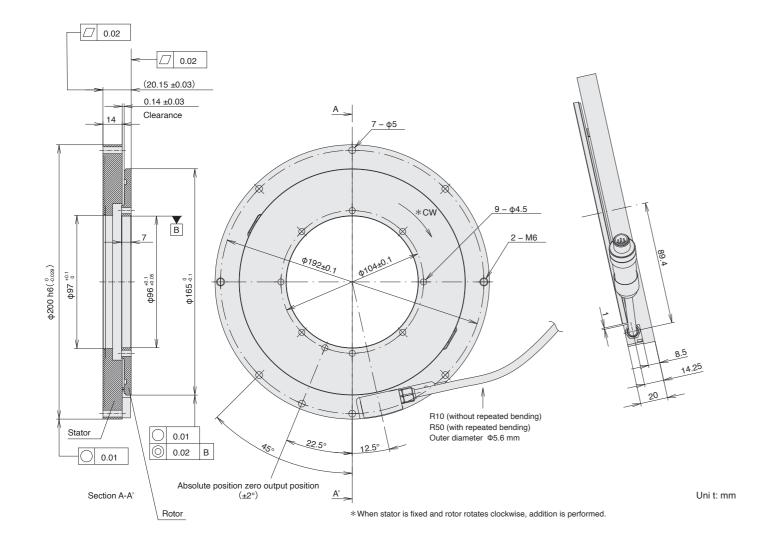
Exposed type

· Magnetic system allows use even in environments with condensation, oil, and other adverse conditions

• 96 mm diameter through-hole allows for design and mounting flexibility

• Dual head configuration reduces the effect of axial runout





Specifications					
Model name	RS97-1024E□A ■■	RS97-1024EGD ■ ■	RS97-1024EGZ ■ ■		
Output wave number	1,024 waves/revolution				
Through hole diameter	ф96 mm				
Accuracy (at 20°C)	±2.5"				
Output signal	Absolute serial bidirectional signal, compliant with EIA-485 Compliant with DRIVE-CLiQ				
Compatible controllers	FANUC	SIEMENS AG			
Resolution	23 bits (8,388,608 pulses/revolution) or 25 bits (33,554,432 pulses/revolution)	pulses/revolution)			
Maximum response revolutions	5,000 min ⁻¹				
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/s² (50 Hz to 2,000 Hz)				
Impact resistance	1,000 m/s² (11 ms)				
Protective design grade	IP65				
Power supply voltage	DC +4.75	DC +17 to +30.8 V			
Maximum consumption current	1.25 W or le 1.2 W or le	2.8 W or less (17 V) 3.3 W or less (30.8 V)			
Consumption current	330 mA (with 5 V co	150 mA (with 24 V controller connection)			
Output connector	JN1HS10PL4S made by Japa	SACC-M12MS-8QH made by Phoenix Contact			
Moment of inertia	9 x 10 ⁻⁴ kg·m² or less				
Mass	Approx. 2 kg (rotor: 0.2 kg/ stator: 1.7 kg) or less				
Compatible cables (types without relay connectors) Maximum cable length	CH23A-***NPFA 30 m	CH23-***NPMA 30 m	CH22-***NSFY 30 m		
Compatible cables (types with relay connectors) Maximum cable length	CH23A-***NPKA + CH23A-***NPFA 30 m	CH23-***NPKA + CH23-***NPMA 30 m	CH22-***NSFF + CH22-***NSFY 30 m		

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

Details of model designation

Encoder RS97-1024E□△■■

[E]Rotor inner diameter

[□] Resolution Type Resolution G 23 bit

[△] Communication protocol Type NC manufacturer Remarks
A FANUC q interface
D Mitsubishi Electric Half duplex
Z SIEMENS AG DRIVE-CLIQ

[■■] Head cable length Type Head cable length
01 1 m

Cables

CH22-□□□○▽*#

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

Type Cable length

15 1.5 m

070 7 m

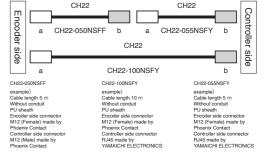
Cable length

N Without conduit

N Without conduit 260 26 m

[*] 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			
Y	RJ45 connector made by YAMAICHI ELECTRONICS	Adopts NC machine tool		
Z	RJ45 connector (water proof) made by YAMAICHI ELECTRONICS	Relay		
F	M12 connector (Male) made by Phoenix Contact	Relay/ Waterproofing		



 $\texttt{CH23-} \square \square \square \bigcirc \triangledown * \#$ CH23 A- \square \square \square \square \bigcirc \triangledown * #

[000]

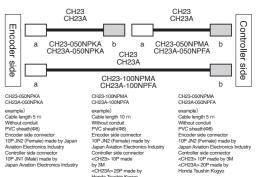
Example)		[O]Conduit specification		
Туре	Cable length	Туре	Conduit specification	
010	1 m	С	With conduit	
005	0.5 m	N	Without conduit	
065	6.5 m			
100	10 m			

able	sheath
ре	Cable specification
)	PVC (68) [Controller side]

E PU (Φ8) [Controller side]

Type	Specification	Remarks	
7		Encoder side connector should be 10P JN2 (Female) made by Japan	
2	Open-end	Aviation Electronics Industry or 2P made by TAJIMI ELECTRONICS	
None	1	Standard	
M	10P made by 3M		Mitsubishi Electric NC, J3
F	20P straight case made by Honda Tsushin Kogyo		FANUC
J	Horizontal drawing case made by HIROSE Electric		FANUC
K	10P JN1 (Male) made by Japan Aviation Electronics Industry		Relay
N	12P R04 (Male) made by TAJIMI ELECTRONICS		Relay (fixed)

[#]Encoder side connector : a				
Type	Specification	Remarks		
Α	10P JN2 (Female) made by Japan Aviation Electronics Industry	Relay		



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

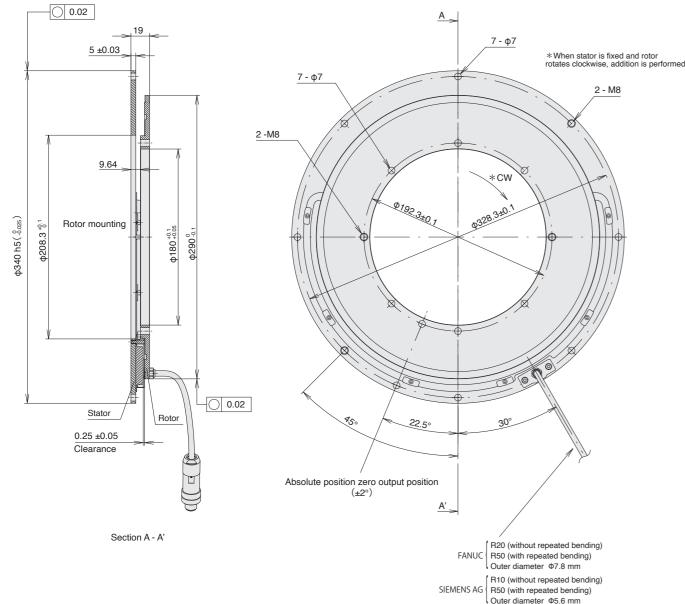


FANUC

SIEMENS

Dimensions

20



Specifications RS97-1024N□A■■ RS97-1024NGZ Model name 1,024 waves/revolution Output wave number Through hole diameter φ180 mm ±2.5" Accuracy (at 20°C) Absolute serial bidirectional signal, compliant with EIA-485 Output signal Compatible controllers **FANUC** Compliant with DRIVE-CLiQ 23 bits (8,388,608 pulses/revolution) or Resolution SIEMENS AG 25 bits (33,554,432 pulses/revolution) Maximum response revolutions 5,000 min⁻¹ 23 bits (8,388,608 pulses/revolution) IEC 61508, EN/BS 62061 SIL 2 **Functional Safety** 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 EN/BS 63000 Product Environment Operating temperature 0 to +60°C -10 to +60°C Storage temperature 150 m/s² (50 Hz to 2,000 Hz) Vibration resistance 1,000 m/s² (11 ms) Impact resistance Protective design grade DC +4.75 to +5.25 V DC +17 to +30.8 V Power supply voltage 1.35 W or less (4.75 V) 2.8 W or less (17 V) Maximum consumption current 1.3 W or less (5.25 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 Elecronics Industry SACC-M12MS-8Q H made by Phoenix Contact Moment of inertia $8.8 \times 10^{-3} \text{ kg} \cdot \text{m}^2$ or less Mass Approx. 3.4 kg (rotor: 0.6 kg / stator: 2.8 kg) or less Compatible cables CH23A-***NPFA CH22-***NSFY (types without relay connectors) 30 m Maximum cable length Compatible cables CH23A-***NPKA + CH23A-***NPFA CH22-***NSFF + CH22-***NSFY (types with relay connectors) 30 m 30 m Maximum cable length Magnescale reserves the right to change product specifications without prior notice. Details of model designation Encoder [△]Communication protoco 「■■] Head cable length [N] Rotor inner diameter ∏1 Resolution Type Resolution 180 mm Type NC manufacturer Type Head cable length RS97-1024N□△■■ G 23 bit A FANUC α interface 01 1 m Z SIEMENS AG DRIVE-CLiQ 02 2 m Cables Type Cable specifica CH22 CH22 CH22-□□□□▽*# a CH22-050NSFF b a CH22-055NSFY [□□□]Cable length Type Specification CH22 M Encoder head connector
F M12 connector (Female) made by Phoenix Contact Written by flush right Standard indication in "m" units, up to 30 m, 0.5 m pitch CH22-100NSFY Type Cable length C With conduit specification C With conduit Type Specification None Open-end
Y RJ45 connector made by YAMAICHI ELECTRONICS Adopts NC machine tool RJ45 connector (water proof) made by YAMAICHI ELECTRONICS R M12 connector (Male) made by Phoenix Contact Ri 260 26 m CH23 A- □ □ □ □ ○ ▽ * # CH23A-050NPKA b CH23A-050NPFA [□□□]
Cable length
(Example) J 20P straight case made by Honda Tsushin Kogyo FANUC K Horizontal drawing case made by HiROSE Electric FANUC N 10P.NH (Male) made by Japan Aviation Electrics Industry 12P R04 (Male) made by TAJIMI ELECTRONICS Relay (fix [O]Conduit specificatio | Type | Cable length | Type | Conduit specification | 010 | 1 m | C | With conduit | N | Without conduit | CH23A-100NPFA CH23A-050NPKA [#] Encoder side connector : a 100 10 m Type Specification F
A 10P JN2 (Female) made by Japan Aviation Electronics Industry

Unit: mm

Type Cable specification
P PVC (Φ8) [Controller side]
E PU (Φ8) [Controller side]