

Absolute angle encoder
Exposed type

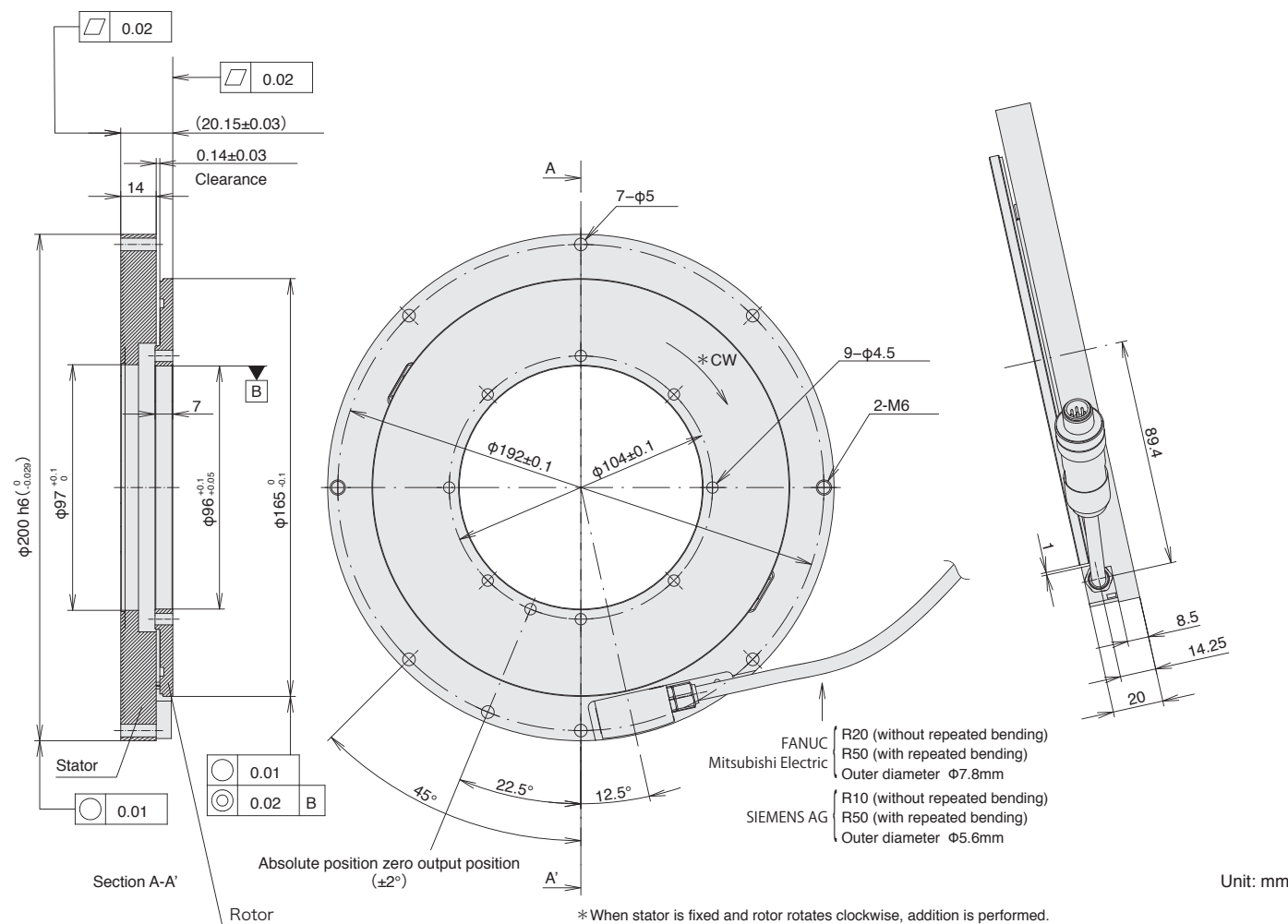
RS97-1024E



- Enables direct communication using the protocol of each supporting manufacturer without the requirement of an amplifier
- Magnetic system allows use even in environments with condensation, oil, and other adverse conditions
- 96mm diameter through-hole allows for design and mounting flexibility
- Dual head configuration reduces the effect of axial runout



Dimensions



Specifications			
Model name	RS97-1024EGA	RS97-1024EGD	RS97-1024EGZ
Output wave number	1,024 waves/revolution		
Through hole diameter	φ96 mm		
Accuracy(at 20°C)	±2.5"		
Output signal	Absolute serial bidirectional signal, compliant with EIA-485		Compliant with DRIVE-CLiQ
Compatible controllers	FANUC	Mitsubishi Electric	SIEMENS AG
Resolution	23 bits (8,388,608 pulses/revolution)		
Maximum response revolutions	5,000 min ⁻¹		
Functional safety	Please consult with each controller manufacturer regarding support for functional safety.		EN ISO13849-1:2008 Cat.3 EN 62061:2005 / IEC 61508:2010 EN61800-5-2:2007
Legal compliance	FCC Part15 Subpart B Class A ICES-003 Class A Digital Device EN55011 Gp1 Class A, EN61000-6-2		
Operating temperature range	0 to +60°C		
Storage temperature range	-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 range	DC+4.75 to +5.25 V		DC+17 to +30.8 V
Maximum consumption current	1.25W or less (4.75V) 1.2W or less (5.25V)		2.3W or less (17V) 3.1W or less (30.8V)
Consumption current	240mA (5V) (when the controller is connected)		120mA (24V) (when the controller is connected)
Output connector	JN1HS10PL4S made by Japan Aviation Electronics Industry		SACC-M12MS-8QH made by Phoenix Contact
Moment of inertia	9x10 ⁻⁴ kgm ² or less		
Mass	Approx. 2kg (rotor: 0.2kg/ stator: 1.7kg) or less		
Compatible cables (types without relay connectors) Maximum cable length	CH23-***NPFA 30 m	CH23-***NPMA 30 m	CH22-***NSFY 30 m
Compatible cables (types with relay connectors) Maximum cable length	CH23-***NPKA + CH23-***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

Scale
RS97-1024EG△■

Cables
CH22 - □□□○▽※#

CH23 - □□□○▽※#

Scale side connector

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

Controller side connector

Type	Specification	Remarks
None	Open-end	Standard
Y	RJ45 connector made by YAMAICHI ELECTRONICS	Adopts NC machine tool
Z	RJ46 connector (water proof) made by YAMAICHI ELECTRONICS	Relay
F	M12 connector (Male) made by Phoenix Contact	Relay/ Waterproofing

Scale side connector

Type	Specification	Remarks
None	Original of Magnescale	Standard
A	10P JN2 (Female) made by Japan Aviation Electronics Industry	Relay
C	12P R04-9125JF8.5 made by TAJIMI ELECTRONICS	Relay (fixed)

Head cable length

Type	Head cable length
01	1 m
02	2 m

Conduit specification

Type	Cable length	Type	Conduit specification
015	1.5m	C	With conduit
070	7m	N	Without conduit (standard)
260	26m		

Cable sheath (covering)

Type	Cable specification
S	PU (Polyurethane, Siemens Motion connect 800+)

Scale side connector examples:

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

Scale side connector examples:

- CH23-050NPKA example) Cable length 5m Without conduit PVC sheath(φ8) Scale side connector Original of Magnescale 10P JN1 (Female) made by Japan Aviation Electronics Industry Controller side connector 10P JN2 (Male) made by Japan Aviation Electronics Industry
- CH23-100NPFA example) Cable length 10m Without conduit PVC sheath(φ8) Scale side connector Original of Magnescale 10P JN1 (Female) made by Japan Aviation Electronics Industry Controller side connector 20P made by Honda Tsushin Kogyo
- CH23-050NPFA example) Cable length 5m Without conduit PVC sheath(φ8) Scale side connector Original of Magnescale 10P JN2 (Female) made by Japan Aviation Electronics Industry Controller side connector 20P made by Honda Tsushin Kogyo

SR27A
SR67A
SR77A
SR87A
RS97-1024E
RS97-1024N
RU97-2048
RU77-4096