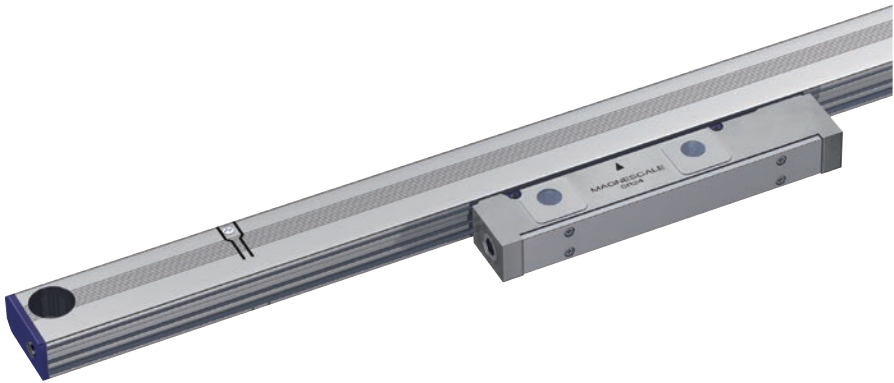


Incremental linear encoder
Enclosed type

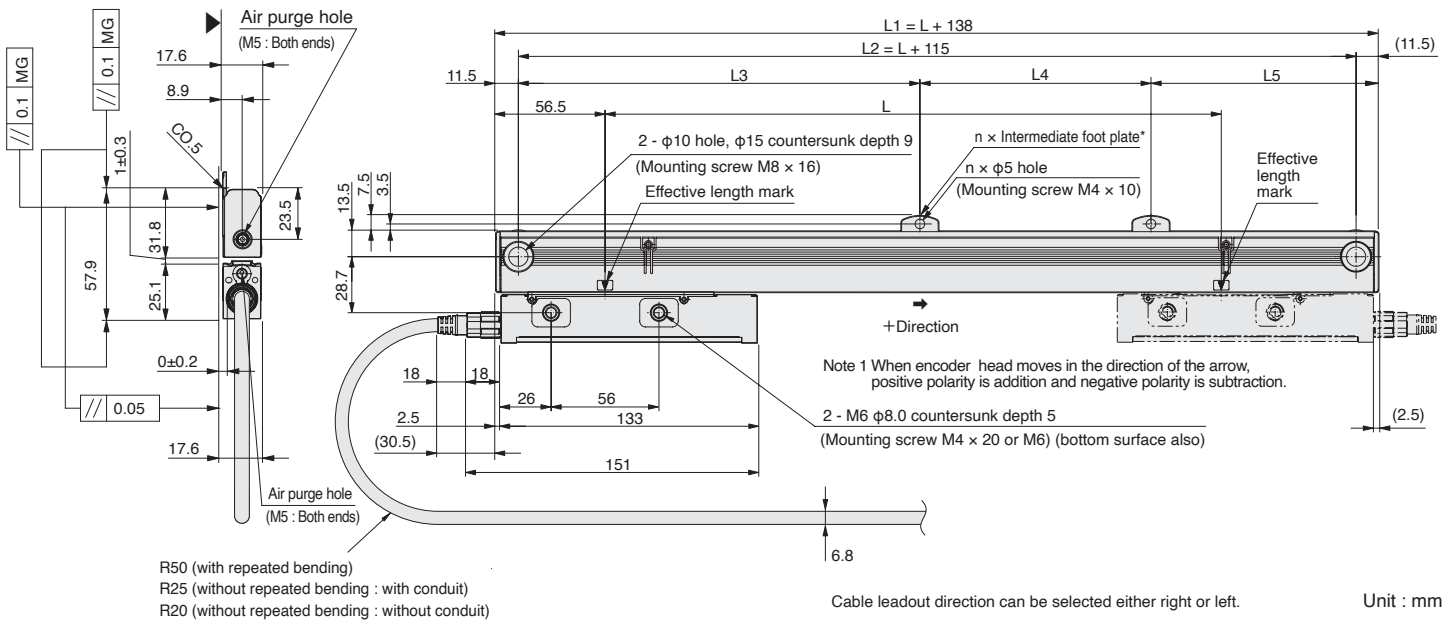
SR24

- Slim design allows installation in narrow spaces
- Magnetic system enables use even in environments with condensation, oil, and other adverse coditions
- Same thermal expansion as iron



A/B/Refelence point

Dimensions (Cable lead-out direction : Left)



Effective length	Overall length	Mounting pitch					Number of intermediate foot plates
L	L1	L2	L3	L4	L5	n	
70	208	185	—	—	—	0	
120	258	235	—	—	—	0	
170	308	285	—	—	—	0	
220	358	335	—	—	—	0	
270	408	385	—	—	—	0	
320	458	435	—	—	—	0	
370	508	485	—	—	—	0	
420	558	535	—	—	—	0	
470	608	585	—	—	—	0	
520	658	635	—	—	—	0	
570	708	685	—	—	—	0	
620	758	735	—	—	—	0	
670	808	785	392.5	—	392.5	1	
720	858	835	417.5	—	417.5	1	

Effective length	Overall length	Mounting pitch					Number of intermediate foot plates
L	L1	L2	L3	L4	L5	n	
770	908	885	442.5	—	442.5	1	
820	958	935	467.5	—	467.5	1	
920	1,058	1,035	517.5	—	517.5	1	
1,020	1,158	1,135	567.5	—	567.5	1	
1,140	1,278	1,255	627.5	—	627.5	1	
1,240	1,378	1,355	677.5	—	677.5	1	
1,340	1,478	1,455	727.5	—	727.5	1	
1,440	1,578	1,555	520	520	515	2	
1,540	1,678	1,655	550	550	555	2	
1,640	1,778	1,755	585	585	585	2	
1,740	1,878	1,855	620	620	615	2	
1,840	1,978	1,955	650	650	655	2	
2,040	2,178	2,155	720	720	715	2	

MG : Machine guide * Intermediate foot plate : One location when L ≥ 670 mm, two locations when L ≥ 1440 mm

- Notes
- The surface indicated by the ▲ marks is the installation surface.
 - Movement outside the effective length (L) will damage the encoder head. It is recommended that the mechanical movable length (stroke) be set to 10 mm or more to the inside of both ends of the effective length (L).

Specifications

Model name	SR24-xxx○□◆###
Effective length (L: mm)	70 to 2,040
Thermal expansion coefficient	12 ±1 × 10 ⁻⁶ /°C
Accuracy (at 20°C)	(3 + 3L/1,000) μmp-p or (5 + 5L/1,000) μmp-p, L : Effective length (mm)
Reference point	Center point, Multi-point (40 mm pitch), User-selected point (1 mm pitch)
Output signal	A/B/Reference point, line driver signal, compliant with EIA-422
Resolution	Selectable from 0.05, 0.1, 0.5 and 1 μm (Factory set)
Maximum response speed	50 m/min (Resolution : 0.1 μm, Minimum phase difference: at 50 ns)
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 +50 °C
Storage temperature	-20 to +55 °C
Vibration resistance	150 m/s ² (50 Hz to 3,000 Hz)
Impact resistance	350 m/s ² (11 ms)
Protective design grade	IP54 (Air purge not included), IP65 (Air purge included)
Power supply voltage	DC +4.75 to +5.25 V (with connectiong terminal)
Maximum power consumption	1.3 W or less (4.75 V to 5.25 V)
Consumption current	250 mA (with 5 V controller connection)
Mass	Approx. 0.39 kg + 1.53 kg/m or less
Compatible cables (types without relay connectors) Maximum cable length	CH23-***NV 13 m
Compatible cables (types with relay connectors) Maximum cable length	CH23-***NVU + CH23-NPUW + CH23-NPZW 30 m*1

*1 Three-piece configuration; cannot be used in two-piece configuration.
Magnescale reserves the right to change product specifications without prior notice.

Details of model designation

Encoder

SR24 - xxx○□◆###

[xxx] Effective length (cm)

[○]Accuracy grade

Type	Accuracy grade
A	(5 + 5L/1,000) μmp-p
S	(3 + 3L/1,000) μmp-p

L : Effective length (mm)

[□]Resolution and direction (μm)

Type	Direction	Resolution	Type	Direction	Resolution
B		0.05	G		0.05
C	+	0.1	H	-	0.1
D		0.5	J		0.5
E		1	K		1

[#]Reference point position (Arbitrary position can be specified)

Type	Reference point position
X	Center of effective length
Y	Multi-point

[◆]Minimum phase difference

Type	Phase difference(ns)	Type	Phase difference(ns)	Type	Phase difference(ns)
A	50	F	300	L	1,250
B	100	G	400	M	2,500
C	150	H	500	N	3,000
D	200	J	650		
E	250	K	1,000		

Note : No setting for the following combinations
Resolution 0.05 μm / Minimum phase difference 1000 to 3000 ns
Resolution 0.1, 0.5 μm / Minimum phase difference 3000 ns

CH23 - □□□○▽※#

[□□□]Cable length (Example)

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
V	PVC (φ6.8) [Encoder side]
C	PU (φ6.8) [Encoder]
P	PVC (φ6) [Controller side]
E	PU (φ6) [Controller side]

[#] Controller side connector : b

Specification	Remarks	記号
Earth wire		Without With
Open-end	Encoder side connector should be 11P LF13WB (female) made by HIROSE Electric	Z —
	Standard	None —
D-Sub 9P		D —
10P made by 3M	Mitsubishi Electric NC, J3	L —
20P straight case made by Honda Tsushin Kogyo	FANUC	E P
20P horizontal drawing case made by HIROSE Electric	FANUC	H R
11P LF13WB (male) made by HIROSE Electric	Relay	U —

[#] Encoder side connector : a

Specification	Remarks	Type
Original of Magnescale	Standard	None
11P LF13WB (female) made by HIROSE Electric	Relay	W

