

signum RSLM high accuracy linear encoder



Patents

Features of Renishaw's RSLM linear encoder systems and similar products are the subjects of the following patents and patent applications:

US 4959542	EP 0514081	JP 3,202,316	US 5,241,173	EP 0543513
JP 248,895/1993	US 5,302,820	EP 0748436	US 5,861,953	WO 03/061891
CN1620353A	EP 1469969	JP 2005-515,077	US 2005-0045586	

Further patent applications pending.

Further information

For further information relating to the installation of RSLM linear encoder system, see also the RSLM Data sheet (L-9517-9305) and the **SiGNUM**⁻ system Data sheet and Installation guide (L-9517-9155 and M-9572-0057). These can be downloaded from our website www.renishaw.com and are also available from your local representative.

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Adhesive mounting installation

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[†]Reference marks positioned equi-distant from scale ends.

NOTE:

NOTE: When installing in a groove allow a tolerance for scale width.

^{*}Double-sided adhesive tape is included with all scale lengths

[‡]When scale is to be mounted vertically, position the dowels so that the datum edge is supported

Adhesive mounting installation



Clip/clamp mounting installation

Dimensions and tolerances in mm.



For lengths \leq 190 ensure scale is clamped in the middle as well as at both ends.

See overleaf for limit and selected reference mark alignment.

*Si interfaces should be purchased with limits deactivated.

**Clips omitted for clarity. Reference marks positioned equi-distant from scale ends.
[†]Clips omitted for clarity.

For optimum performance the readhead should be installed close to nominal geometry. Care should be taken to ensure sufficient clearance between the readhead/mounting bracket and clips/datum clamp. Only special M3 low-profile screws should be used. Screws are provided with all clips/datum clamps and spares can be supplied if required.



SiGNUM[®] readhead mounted on RSLM

Dimensions and tolerances in mm.



For **SiGNUM**^{*} readhead installation details refer to **SiGNUM**^{*} SR, Si encoder system installation guide (M-9572-0057).

Reference mark

The reference mark location depends upon the chosen scale version.

- RSLM the reference mark is located in the centre of the scale.
- RSLE the reference mark is located either 20 mm from the end (option A for 10 mm limits) or 70 mm from the end (option B for 20 mm and 50 mm limits).
- RSLC there are multiple customer selectable reference marks along the length of the scale spaced 200 mm apart.
- ▶ RSLD distance coded reference marks with a box size of 80 mm.
- ▶ RSLR is for use with the RGH20 and does not have an *IN-TRAC*[™] reference mark.

For details on phasing the reference mark see the **SiGNUM** SR, Si encoder system installation guide (M-9572-0057) or the RGH20 installation guide (M-9561-0005).

On-scale limits and selected reference mark

Self-adhesive limit markers and reference selector are available in 10 mm, 20 mm and 50 mm lengths as pre-aligned pairs on backing paper.

Limit alignment

The limits are aligned on the scale as shown below (standard readhead configuration only).

- The P limit is located at the cable exit side of the readhead and consists of 2 markers, 1 either side of the incremental track. The markers are pre-aligned with the correct offsets on the backing paper
- The Q limit is located at the opposite end to the cable exit and consists of 1 marker. The marker should be affixed to the opposite edge to the cable exit, as shown in the drawing below.
- The reference mark selector should be affixed on the same edge as the cable exit by the chosen reference mark, as shown in the drawing below.



For dual 10 mm limits measuring length ML = (L - 22.5)For no limits ML = (L - 10)For longer limits contact your local representative.

Installing the limits and reference mark selector

- Ensure the scale is free from dirt and grease by cleaning with a scale wipe (A-9523-4040) or suitable solvent.
- Place the transparent applicator film over the required limit marker and rub firmly until the limit marker adheres to the applicator film. For the P limit, select the pair of markers required.
- applicator film



 self adhesive limit markers on backing paper

Align the markers in the desired location on the scale next to the scale track, as shown in the diagram, then rub firmly on the applicator film until the markers adhere to the scale.



▶ Remove applicator film.



Appendix - use with RGH20

RSLR high accuracy scale is available for use with RGH20 readheads and magnetic reference mark actuators or magnetic limit switch actuators. For more information, see RGH20 series readhead installation guide (M-9561-0005).

RGH20 Installation drawing, adhesive mount

Contact your local representative for information on clip/clamp placement. Dimensions and tolerances in mm.



(Yaw tol. ± 0.5°)

12.8

5.5

*Minimum full thread depth



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