

- For the conversion of linear displacements of up to 2000 mm into angular rotation
- For use with absolute and incremental encoders
- Suitable for fitting to encoders with 58 mm flange and 6 mm shaft diameters
- Easy to mount and to use
- Low space requirement for displacement measurement



Functional description

The linear movement of a 2000 mm long, flexible high strength steel measuring cable is converted into a rotational movement by a measuring drum. The measuring drum, which has a circumference of 102.4 mm, is coupled to the shaft of the encoder. A change of displacement in the measuring cable then corresponds to a change in angle on the shaft of the angle encoder.

The restoring force of a spiral spring holds the measuring cable tight and prevents errors due to slackness. The cable is wound with adjacent turns in a reproducible manner on the drum due to the movement of the drum on a spindle.

Construction

Anodised light alloy case - spiral spring motor - precision measuring drum - steel measuring cable with a fixing eyelet.

Technical Data

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|--------------------------------------|---|
| ■ Measuring range : | 0 to 2000 mm |
| ■ Resolution : | 0.1 mm for 1024 positions or counts per turn of the encoder |
| ■ Measurement deviation : | ± 0.05% referred to the actual position |
| ■ Cable acceleration : | 100 m/s ² max. |
| ■ Cable speed : | 10 m/s max. |
| ■ Required extraction force : | 15 N max. |
| ■ Cable material : | Stainless steel 1.4401 (7 x 19 = 133 strands) |
| ■ Cable diameter : | 0.61 mm |
| ■ Cable length : | 2100 mm |
| ■ Service life of cable and spring : | 5 · 10 ⁵ displacement cycles |
| ■ Operating temperature range : | 0°C to + 60°C |
| ■ Storage temperature range : | - 25°C to + 70°C |
| ■ Protection class : | IP 53 (DIN 40050) |
| ■ Mass : | 650 g |

Assembly

The SWA is always supplied with the encoder mounted on its flange. The following models are suitable for combination with the SWA on account of their electrical and mechanical data:

- CRP 58 Programmable MULTI-TURN Encoder with 1024 positions / 360° and 32 turns (Data Sheet 10113).
- CRE 58 MULTI-TURN Encoder with 4096 positions / 360° and 4096 turns (Data Sheet 10106).
- CE 58 SINGLE-TURN Encoder with 1024 positions / 360° (Data Sheet 10147).
- C3i 58 Electro-Optical Incremental Encoder with 1024 counts / 360° (Data Sheet 1159).
- GIM 5100 Electro-Magnetic Incremental Encoder with 1024 counts / turn (Data Sheet 13500).

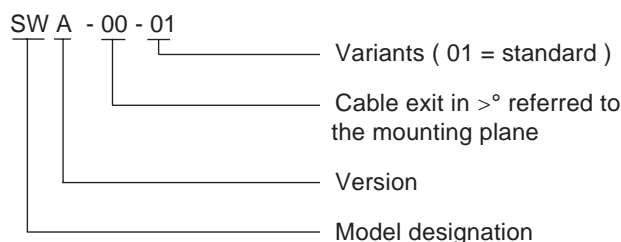
The cable outlet is located as standard in the position shown on the drawing. Deviations from this can be agreed if required.

Mounting information

Normally, the SWA is mounted with two screws to the stationary object and the measuring cable is attached by its eyelet to the moveable object. In order to avoid friction on the cable, the cable exit must be straight and at right angle to the axis of the measuring drum. The cable can be diverted in other directions using cable pulleys. During mounting and in operation the measuring cable must always be under tension. It is essential that the maximum acceleration data during extraction and retraction should be observed.

Important : Do not let the measuring cable jerk. Do not pull the measuring cable beyond its measurement range.

Order code format



Dimensions in mm (1 : 1)

