

- Very robust construction for mechanical engineering and industrial plant application
- For converting linear displacements of up to 5 m into a rotary movement
- For mounting onto an absolute or incremental encoder
- Easy to install and to use
- Protection grade IP 65 (IP 54)

KEY INFORMATION OVERVIEW

DESIGN & FUNCTION

The linear movement of a flexible steel cable with a length of up to 5 m is converted into a rotary movement with the aid of a measuring drum. The measuring drum is connected to the shaft of an encoder. In this way a change in displacement of the measuring cable causes the shaft of the encoder to rotate by a directly proportional amount which can be recorded.

The restoring force of the spring drive holds the measuring cable tight at all times and prevents any sagging which would otherwise induce an error. The cable is wound up precisely and reproducibly wrap for wrap in the helical groove of the drum.

The nozzle, through which the cable enters the drum, is protected with a brush and a bellow to prevent water or dust entering the drum. Two roller units at the cable entry allow a deflection angle of the cable for up to 20°.

FEATURES AND INTERFACES OF ENCODERS

The cable converter is supplied with or without encoder. Generally encoders and converters are supplied as one unit.

Upon request both items are also available as separate units.

Suitable for mounting on the SWM draw-wire displacement transducer are T-series encoders with digital, incremental or analogue interfaces, C-series and K-series as well as the DAF model series with analog interface.

Preferably, encoders with TWK flange design 58 are used. Encoders with other mounting flanges can be mounted on request.

TECHNICAL DATA
MECHANICAL DATA

Measuring ranges	1, 2, 3, 5 m
Drum circumference at 1, 2 and 3 m	200 mm nom. ¹⁾
Drum circumference at 5 m	333 mm nom. ¹⁾
Permissible cable speed	max. 8 m/s
Force required to draw out the cable (start / end)	15 N max. / 30 N max.
Cable material	stainless steel 1.4401
Cable diameter	0.55 mm nom.
Live span of cable and spring drive	≥ 5 x 10 ⁶ cable strokes
Fleet angle	20° in all directions
Housing material	anodized aluminium
Spring housing material	plastic
Protection grades	housing IP64 cable entry IP54
Working and storage temperature range	-20 °C to +70 °C (-30 °C optional)
Mass	1.0 kg (1 m, 2 m) 1.5 kg (3 m) 2.0 kg (5 m)

1) The actual value is shown on the item when supplied.

ORDER CODE FORMAT

SWM	5	B -	01	STANDARD VERSION
SWM	Cable-type displacement converter SWM			
5	Measuring range	1 2 3 5	1 m 2 m 3 m 5 m	
B	Accessoires	B	With bellows (standard)	
01	Version *	01	Basic version for flange model 58 (other versions on request)	

DOCUMENTATION
DOCUMENTATION

The following documents can be found in the Internet under www.twk.de in the documentation area, model SWM.

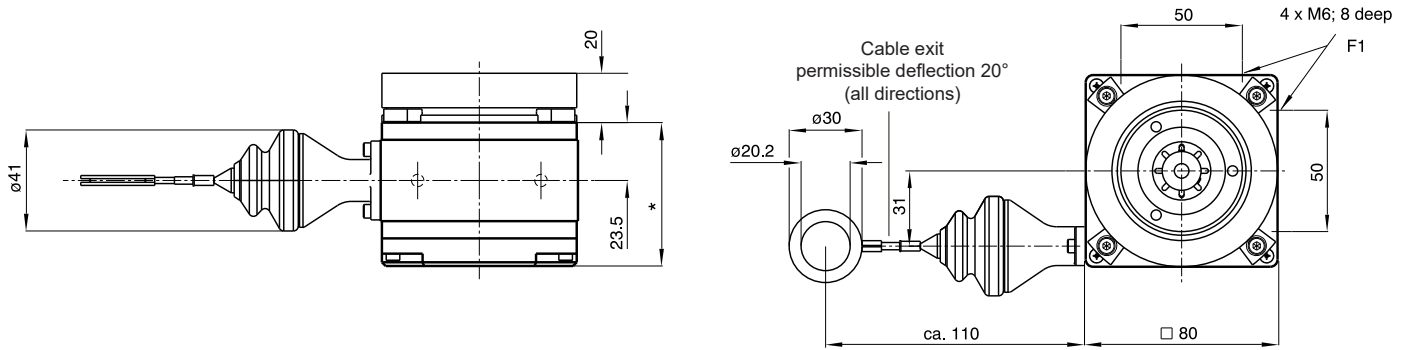
Data sheet	SWM11440
CE Declaration of Conformity	ZE12467
UKCA Declaration of Conformity	ZE16569
Reach compliant	QS15286
RoHS compliant	QS13284

* The basic versions according to the data sheet bear the number 01. Deviations are identified with a variant number and are documented at TWK.

INSTALLATION DRAWINGS

MODEL SWMXB-01 (MEASURING RANGE X = 1 M, 2 M AND 3 M)

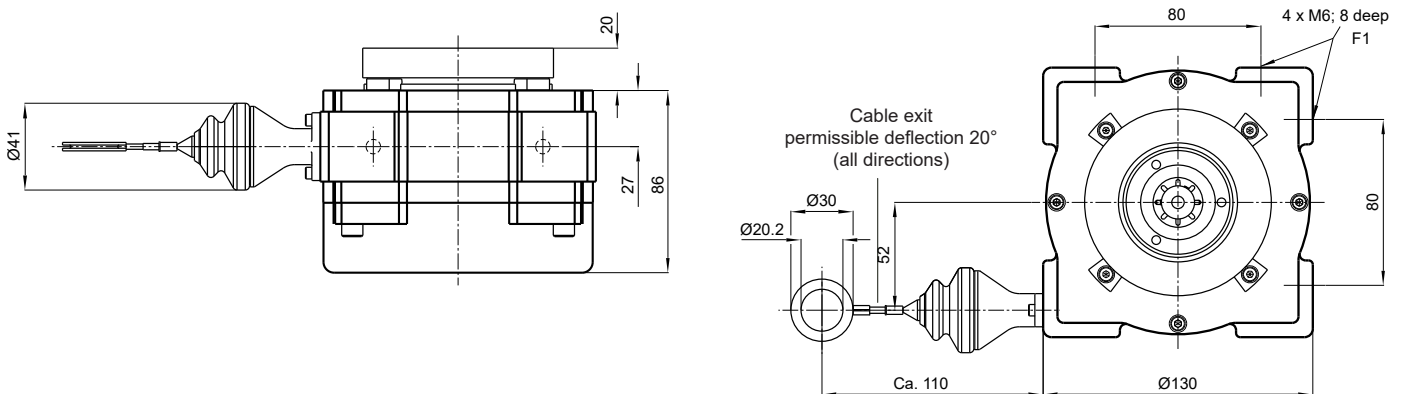
Dimensions in mm



* SWM 1 m and 2 m: 58 mm, SWM 3 m: 69 mm

MODEL SWM5B-01 (MEASURING RANGE 5 M)

Dimensions in mm



MOUNTING POSITION

The threaded holes (F1) at two faces permit to adjust the position of the cable exit to suit the requirements on site.

The cable exit should be downwards or sideways. The cable must be extracted with max. 20° deflection with reference to the housing.