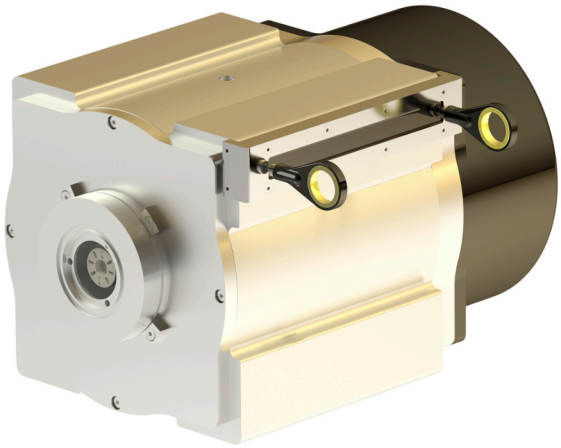
SUPREME SENSORING

Cable-type displacement converter Model SWL

Document no.:
SWL 11063 HE
12.03.2024



- **Very robust construction for mechanical engineering and industrial plant application**
- **For converting linear displacements of up to 60 m into a rotary movement**
- **For mounting onto an absolute or incremental encoder**
- **Easy to install and to use**
- **Protection grade IP 65 with exception of cable entry slot**

KEY INFORMATION OVERVIEW

DESIGN & FUNCTION

The linear movement of a flexible steel cable with a length of up to 60 metres 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. Due to the moving of the cable entry the cable is wound up on the drum precisely and reproducibly wrap for wrap in the helical groove of the drum.

A brush strip at the guide slot at the cable entry protects the converter from the entry of coarse-grained contamination. It is recommended to prevent the ingress of water and dust by a suitable construction.

FEATURES AND INTERFACES OF ENCODERS

The cable converter is supplied with or without encoder. Generally encoder and converter are supplied as one unit. Upon request both items are also available as separate units.

Suitable for mounting on the SWL 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 designs 58 are used. Encoders with other mounting flanges can be mounted on request.

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TECHNICAL DATA

MECHANICAL DATA

Measuring ranges	50 and 60 m
Drum circumference	491.5 mm nom.
Permissible cable speed	max. 2.0 m/s (at 20 °C temperature)
Permissible cable acceleration	max. 4.0 m/s^2 (at 20 °C temperature)
Force required to draw out the cable (start / end)	15 N max. / 30 N max.
Cable material	stainless steel 1.4401, highly flexible steel wires
Cable diameter	1.35 mm (0.8 mm optional)
Life span of cable and spring drive	≥ 10^6 cable strokes
Housing material	anodized aluminium
Spring housing	aluminium, varnished
Working and storage temperature range	-20 °C to +70 °C (-30 °C optional)
Protection grades	housing IP65 cable entry IP54
Mass	15 kg (50 m) 18 kg (60 m)

ORDER CODE FORMAT

SWL	50 -	01	STANDARD VERSION

SWL	Cable-type displacement converter SWL		
50	Measuring range	50 60	50 metres 60 metres
01	Version *	01	Basic version for flange model 58 (other versions on request)

ACCESSORIES

CABLE

Cable extention (X = extension in metres, e.g. 2.5 for two and a half metres)
SWF-V-X-01 . . . . . refer to SWF11027

ADAPTER

ADAKITxx . . . . . Adapter kit for encoder flange designs xx = 50, 65, 66, 90 and 105

For use under aggressive ambiant conditions, e.g. in maritime climate, the convertes can be supplied with a protective anodised hard coating (during fabrication in the factory).

DOCUMENTATION

DOCUMENTATION

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

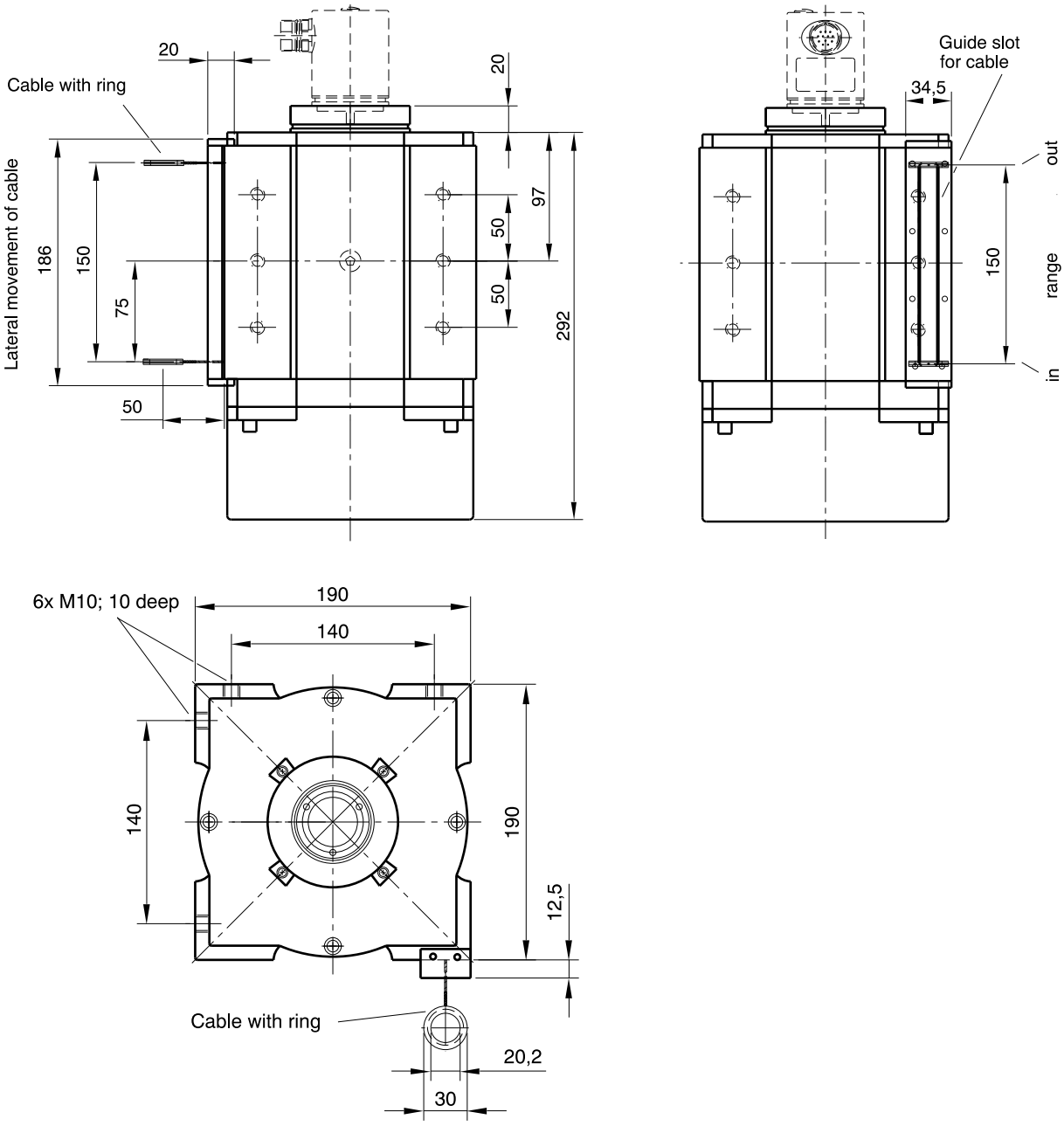
Data sheet	SWL11063
CE Declaration of Conformity	ZE12467
UKCA Declaration of Conformity	ZE16569
Reach compliant	QS15286
RoHS compliant	QS13284

* 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 SWL50-01 (MEASURING RANGE 50 METRES)

Dimensions in mm



MOUNTING POSITION

The threaded holes (6 x M10) at two faces permit to adjust the position of the cable exit to suit the requirements.

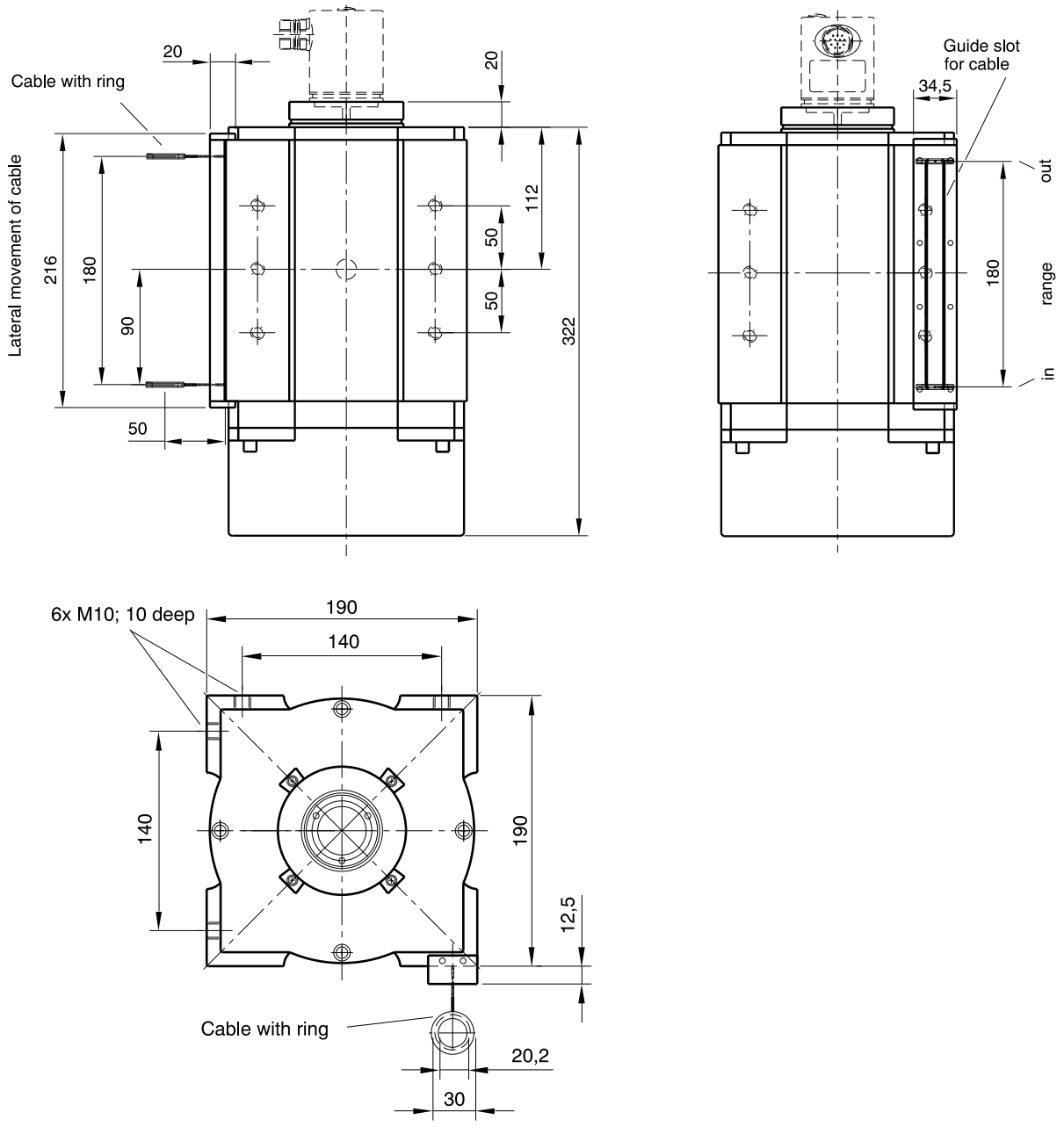
NOTE

The cable exit should be downwards. The cable must be extracted rectilinearly with reference to the housing (no lateral deflection admitted).

INSTALLATION DRAWINGS

MODEL SWL60-01 (MEASURING RANGE 60 METRES)

Dimensions in mm



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The threaded holes (6 x M10) at two faces permit to adjust the position of the cable exit to suit the requirements.

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