

Cable Converter with integrated rotary encoder Model series SWD

Dokumenten Nr.: SWD 12563 HE

Datum: 14.07.2015



- **Compact and robust design for mechanical engineering especially for building machinery**
- **For converting linear displacement up to 2 meter**
- **Working temperature range: - 40 °C to + 85 °C**
- **Protection grade: IP 65 with mating connector (on the housing)**
- **Comparably easy mounting**

Functional description

The linear movement of a flexible steel cable (PTFE coated) is converted into a rotary movement using a measuring drum. The rotary angle of the drum is detected by an integrated rotary encoder. There is no need to mount the rotary encoder separately to the cable converter.

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 measuring cable is wound up reproducible wrap for wrap.

The electronic interfaces are analog ((0) 4 to 20 mA, 0 to 10VDC and ± 10 VDC), Incremental, SS/ and CANopen.

Each the top, bottom and side wall of the cable transducer are equipped with the two mounting holes (M6 \times 8). The side wall with the cable outlet does not have mounting holes. The required screws to mount the cable transducer are part of the delivery.

Electronic Interfaces

- **Analogue**
- **SS/ (Synchronous Serial Interface)**
- **CANopen**

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Technical Data

Technical Data

- Measuring range: 2 Meter
- Integrated measuring system: Analogue: 0 (4) to 20 mA, 0 to 10 VDC and ± 10 VDC
(see data sheet TRX 11820)
SSI (Synchronous Serial Interface) (see data sheet TRX 11820)
CANopen (see data sheet TRX 11820)
- Zero point: At 20 mm (adjustable)
- Cable speed (V_{max}): 1 m/sec (at 20 °C)
- Cable acceleration (a_{max}): 4 m/s² (at 20 °C)
- Force required to draw out the cable (start/end): 1.5 N / 2.5 N
- Cable material: Stainless steel 1.4401, PTFE coated
- Cable diameter: \varnothing 0.61 mm
- Measuring drum diameter: \varnothing 47.15 \pm 0.05 mm
- Measuring drum circumference: 150 mm
- Life expectancy: ca. 1 \times 10⁶ cable strokes
- Shock resistance: 50 m/s²
- Linearity: $\leq \pm 0.15$ %
- Temperature drift: $\leq \pm 0.25$ % over the whole temperature range
- Housing material: Aluminum AlMgSi1 (optional stainless steel)
- Working and storage temperature: - 40 °C to + 85 °C
- Protection grade: IP 65 with mounted plug (except wire inlet)
- Weight: ca. 0.6 kg

Model overview

Modell	Output	Data sheet / hand book of interfaces		
SWDA	Analogue A = 0 to 20 mA B = 4 to 20 mA C = 0 to 10 VDC D = \pm 10 VDC	TRX11820 Model: TRA	The measuring range of 2 meter is converted using a 12 Bit D/A converter	
SWDE	SSI (Synchronous SerialInterface)	TRX11820 Model: TRE SSI10630 (System description)	Steps / mm 27.3	Pulses / resolution of Encoder 4096
SWDN	CANopen	TRX11820 Model: TRN TXN11551 (Handbook)	10 20 27.3	1500 3000 4096

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Order number

Order number SWD with integrated rotary encoder TRA (Analogue output)

SWDA	2	-	A	S	B	01
Electrical and / or mechanical variants*						
01 Standard						
Output signal:						
A 0 to 20 mA						
B 4 to 20 mA						
C 0 to 10 VDC						
D ± 10 VDC						
Cable length in metre (specify only with cable connection)						
Electrical connection:						
K Cable connection						
S Connector M12x1						
Housing material:						
A Aluminium						
S Stainless steel						
Stroke in meters:						
1.2 0 - 1.2 m						
2 0 - 2 m						
Design form:						
SWDA Analogue-Output						

Standard: SWDA 2-A S B01

Order number SWD with integrated rotary encoder TBE (SSI-Interface)

SWDE	2	-	A	27.3	S	E	01
Electrical and / or mechanical variants*							
01 Standard:							
Output signal:							
E SSI-Interface							
Cable length in metre (specify only with cable connection)							
Electrical connection:							
K Cable connection							
S Connector M12x1							
Resolution:							
27.3 Steps / mm							
Housing material:							
A Aluminium							
S Stainless steel							
Stroke in meters:							
1.2 0 - 1.2 m							
2 0 - 2 m							
Design form:							
SWDE SSI-Output							

Standard: SWDE 2-A 27.3 S E01

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

Cable Converter with integrated rotary encoder

Model series SWD

Order number

Order number SWD with integrated rotary encoder TRN (CANopen-Interface)

SWDN	2	-	A	20	C2	S		N	01
									Electrical and / or mechanical variants*
									01 Standard:
									Output signal:
									N CANopen-Interface
									Cable length in metre (specify only with cable connection)
									Electrical connection:
									K Cable connection
									S Connector M12x1
									Profil
									C2 CANopen CiA DS 406, Rev. 3.0
									Resolution:
									10 Steps / mm
									20 Steps / mm
									27.3 Steps / mm
									Housing material:
									A Aluminium
									S Stainless steel
									Stroke in meters:
									1.2 0 - 1.2 m
									2 0 - 2 m
									Design form:
									SWDN CANopen-Interface

Standard: SWDN 2-A 20 C2 S N01

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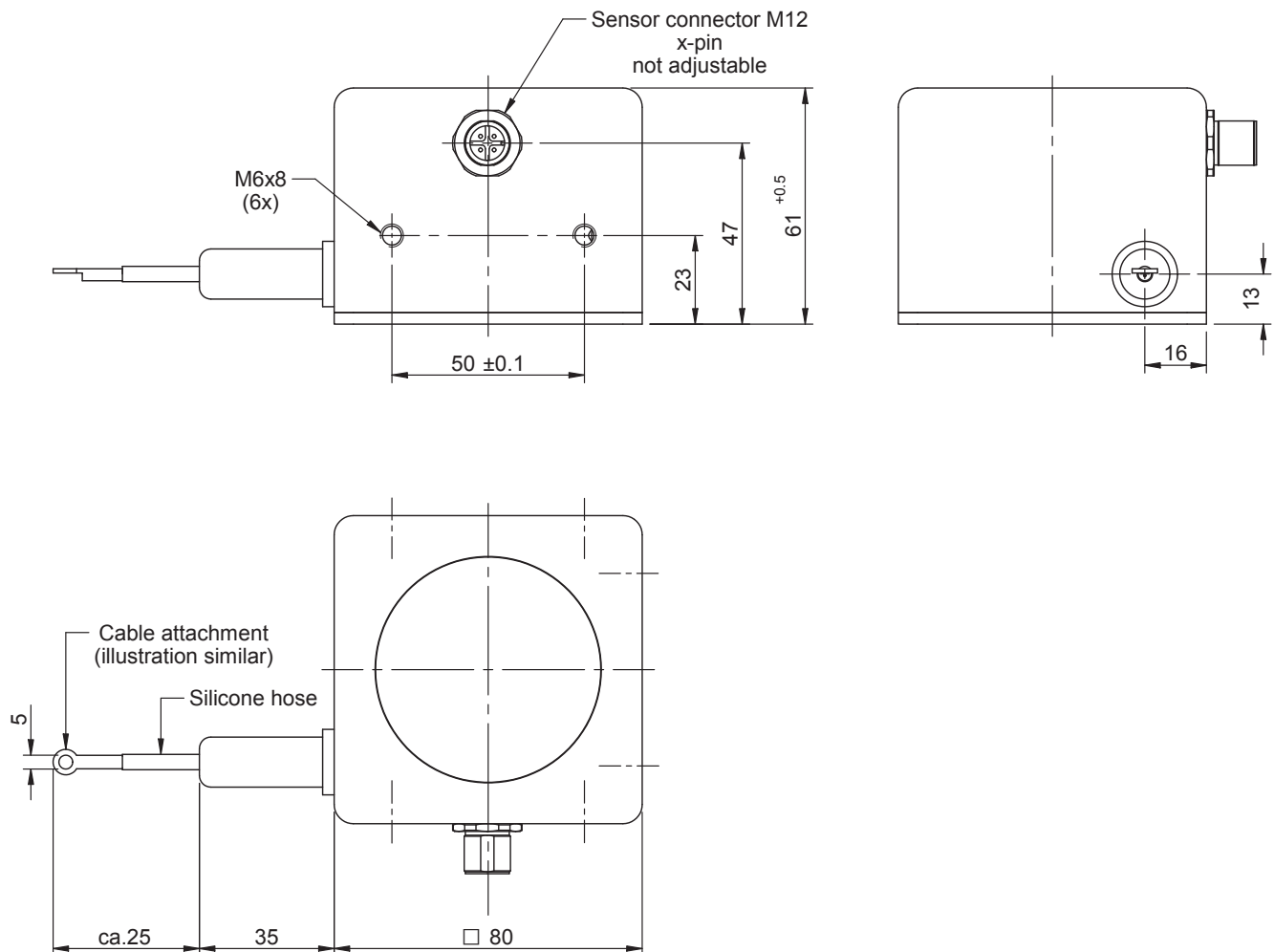
Cable Converter with integrated rotary encoder

Model series SWD

Dimensions in mm

SWD with a linear displacement up to 1.2 m

Dimensions in mm



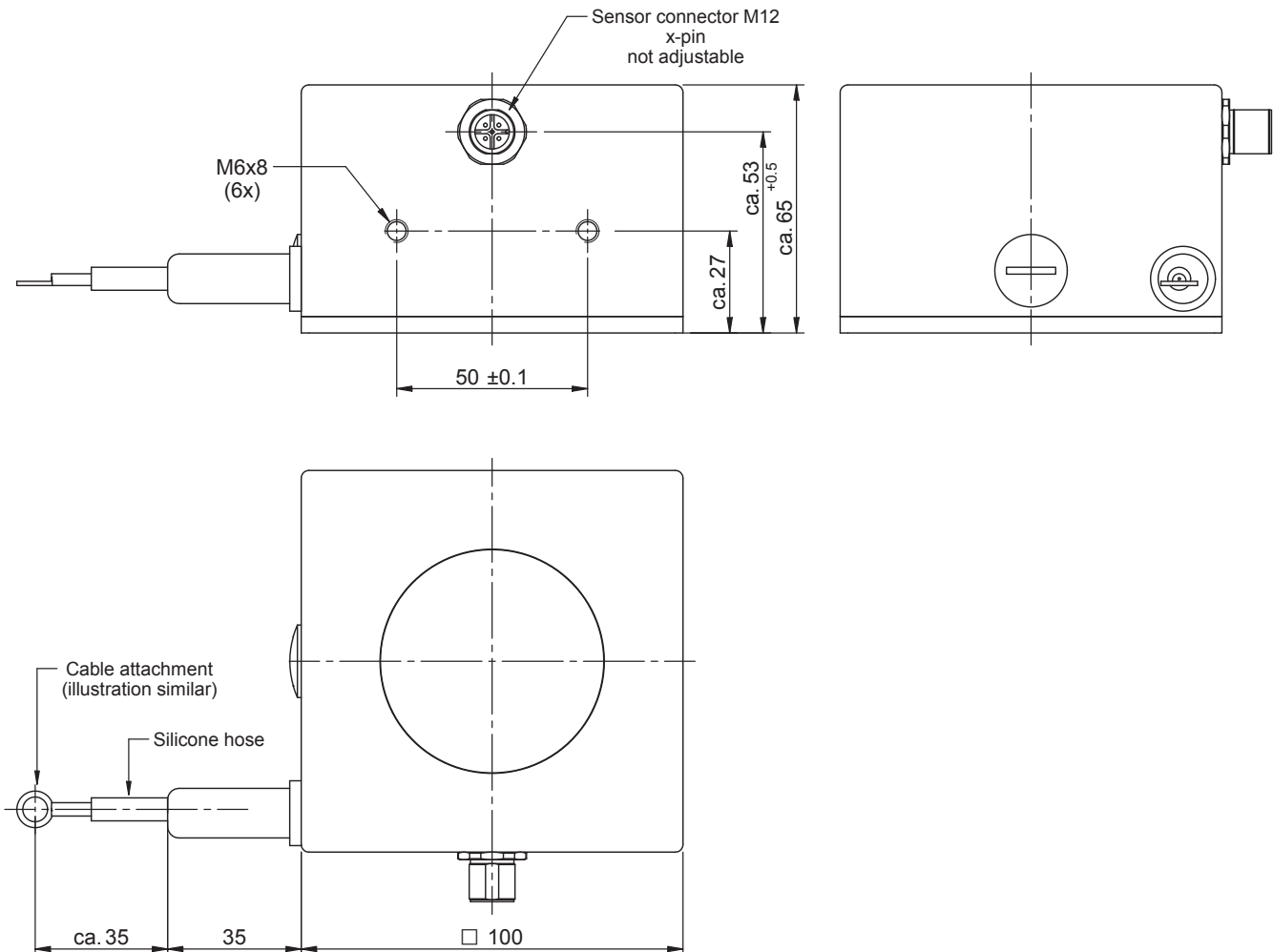
Cable Converter with integrated rotary encoder

Model series SWD

Dimensions in mm

SWD with a linear displacement up to 0 ... 2 m

Dimensions in mm



Form of delivery

Cable Converter and mounting material:

- ☐ 2 x M6 x 12 cap screws, DIN 912, A2
- ☐ 2 x M6 washer, DIN 125, 6.4 mm, V2A

The following accessories need to be ordered separately:

- ☐ Mating connector (according to interface, see data sheet TRX 11820 and TBX 11294 (TBI))