

## Assistance system for screw foundations and helical piles

### Eigenschaften

- **Robust torque sensor** with wireless Bluetooth data transmission
- **Easy-to-use app for Android & iOS** – available as a free download
- **NEW: Depth measurement add-on** – direct measurement of installation depth
- **Live display** of torque, speed and depth as a visual assistance system
- **Automatic documentation** of all process-relevant data as PDF and log file



### Application

- Monitoring of screw foundation / helical pile installation
- Seamless documentation of the installation process
- Reliable proof of acceptance by clients, site managers, and inspectors

### Discription

Precise sensor technology, intuitive live display, and automated documentation ensure that your pile installation process is transparent, safe, and verifiably accurate. The coreSPC sensor system is immediately ready for use with its intuitive app for iOS and Android. Live feedback on torque, rotational speed, and depth provides greater safety and control during installation. The app automatically generates reports for entire installation projects or individual piles. The sensor is compatible with various drives and ground screw systems. The entire system is Made in Germany, and fast recalibration or the provision of a replacement device is possible at any time. The sensor is suitable for use with the following machines:

- Hand-guided electric installation machines
- Hydraulic excavator attachments
- Self-propelled hydraulic installation rigs



Figure 1: coreSPC 25 mounted on an excavator attachment (left) and a self-propelled hydraulic installation rig (right).

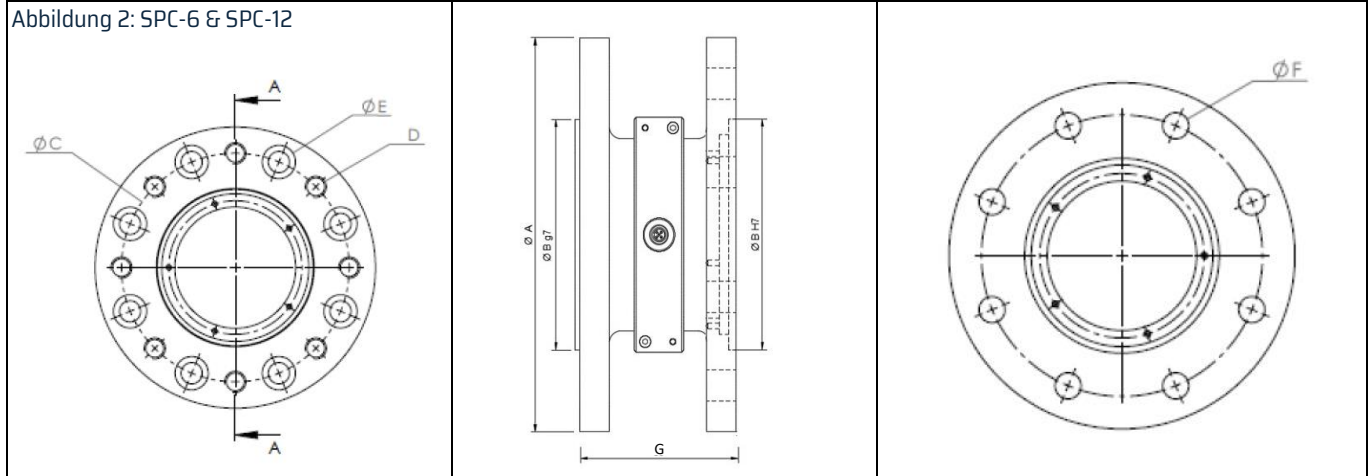
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Technical Specifications

Torque measurement flange SPC

Variant	SPC-6	SPC-6S	SPC-12	SPC-25	SPC-40
Max. calibration torque (Nm)/(lb-f/ft)	6,000	6,000	12,000/ 8,850	25,000/ 18,440	40,000/ 29,500
A (mm)/ (in)	188	-	230/ 9.0	230/ 9.0	256/ 10.1
B (mm)/ (in)	110/ 4.33	-	140/ 5.51	140/ 5.51	140/ 5.51
C (mm)/ (in)	155.5/ 6.1	-	196/ 7.72	194.7/ 7.64	219/ 8.62
Number of mounting holes	8	-	8	12	12
D (mm)/ (in)	M14	-	M16	Ø 17/ 0.67	Ø 22/ 0.86
E (mm) (Mounting hole)	22	-	26	-	-
F (mm)/ (in) (Through hole)	14.2	-	16.2	Ø 17/ 0.67	Ø 22/ 0.86
G (mm)/ (in)	80/ 3.15	-	80/ 3.15	95/ 3.74	100/ 3.94
Weight (kg)/ (lbs)	5.6/ 12.35	7.2/ 15.9	8.1/ 17.86	10.2/ 22.49	12.5/ 27.56
Permissible static overload	140 %	125 %	140 %	140 %	140 %
Permissible bending moment (Nm)/ (lb-f/ft)	600/ 440	600/ 440	1,200/ 880	2,500/ 1,840	4,000/ 2,950
Max. bending moment (Nm)/ (lb-f/ft)	7,500/ 5,500	7,500/ 5,500	16,800/ 12,390	35,000/ 25,800	56,000/ 41,300
Screw strength class	12.9	-	12.9	12.9	12.9
Tightening torque for screws (Nm)	220	-	320	340	680

Abbildung 2: SPC-6 & SPC-12



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Figure 3: SPC-25 & SPC-40

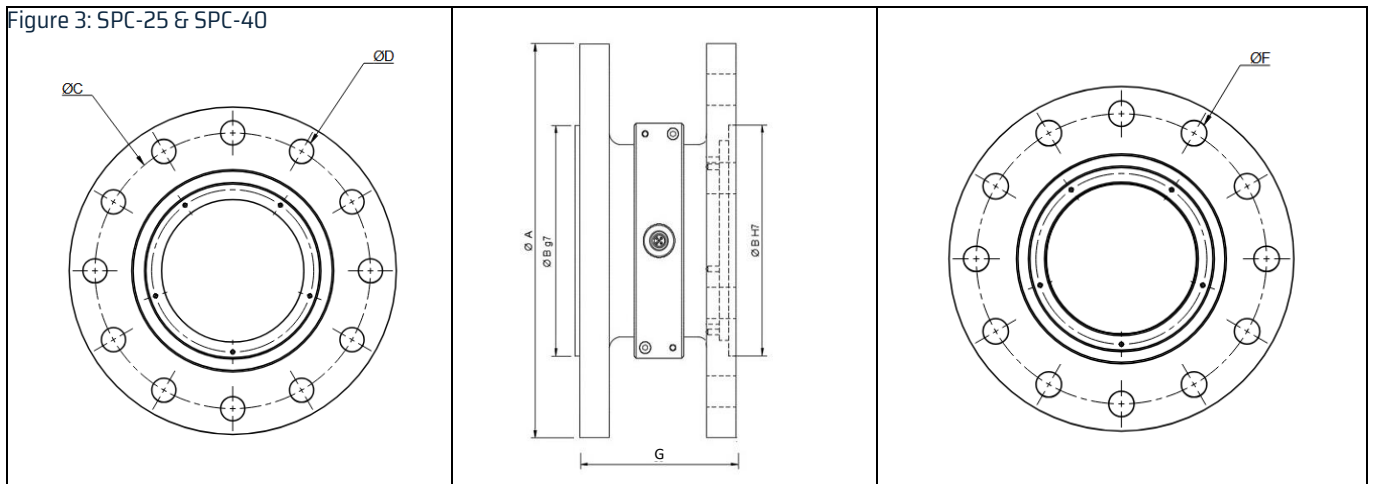
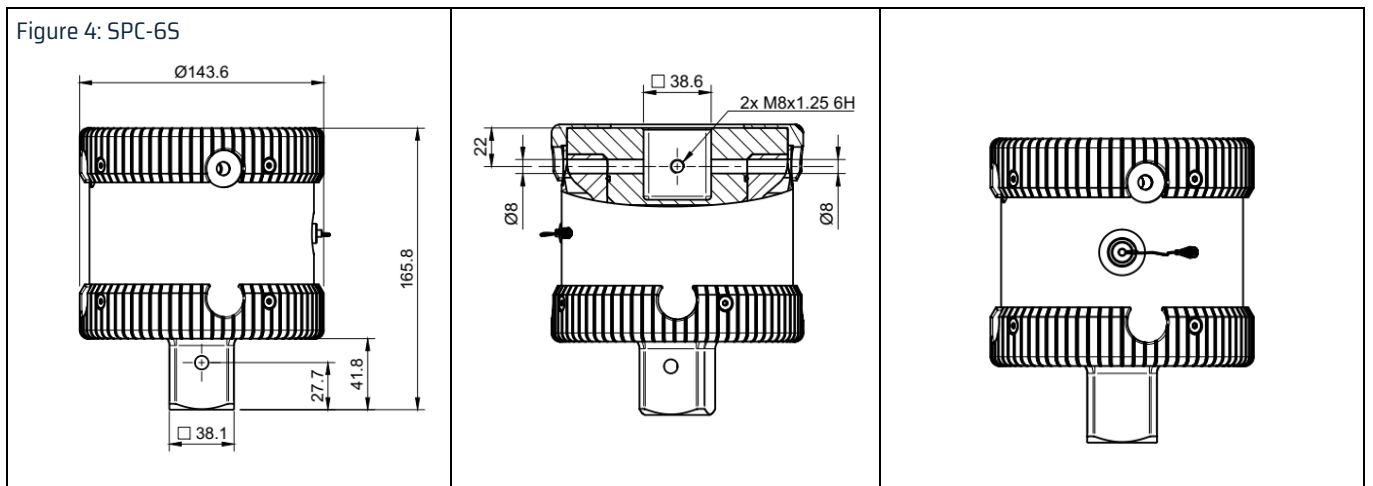


Figure 4: SPC-65



Integrated sensor telemetry

Technical specifications		
Sampling rate	10	SPS
Torque measurement error (Non-linearity deviation at reference temperature)	< ± 1	%
RPM sensor measurement range	0...80	rpm
RPM sensor accuracy	< ± 0,5	%
Data transmission frequency band	2.45	GHz
Bluetooth Version	Bluetooth Low Energy 4.2	
Range (max.)	20	m
Energy storage (Li-Ion rechargeable battery)	5200 (SPC-6S: 2000)	mAh
Operating time (per battery charge at 20°C)	>250 (SPC-6S: > 125)	hours
Standby-time (typ.)	>1	year
Reference temperature range	+20 / 68	°C / °F
Storage temperature range	-20...+60 / -4...140	°C / °F
Operating temperature range	-10...+40 / 14...104	°C / °F
Nominal temperature range	-10...+40 / 14...104	°C / °F
Battery charging temperature range	0...+45 / 32...113	°C / °F
ESD	4	kV
Protection class	According to IP67	

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### coreSPC App for iOS und Android devices

The app for live display and documentation of sensor data is available for free in the [App Store](#) and [Play Store](#), and is compatible with smartphones and tablets running iOS 13 or later and Android 13 or later.

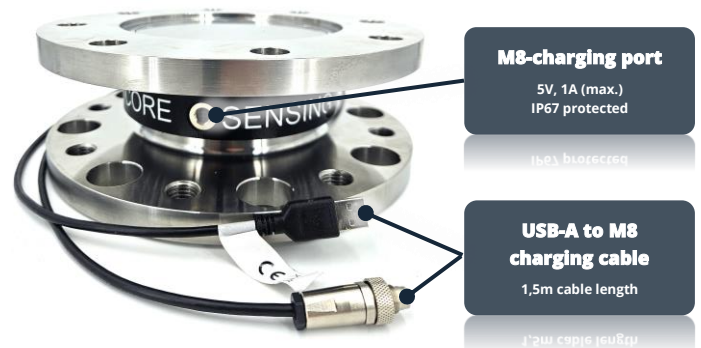


Figure 5: Live- View of app coreSPC.



### Battery operation and charging options

The integrated battery, offering over 250 hours of runtime, is charged using the included power supply and a 1.5 m USB-A to M8 cable. The IP-67 charging port, located centrally on the flange, remains easily accessible even when installed. Charging is also possible via a mobile power bank with USB-A output. Maximum charging time is 10 hours (from 5% to 100%), with the current charge level displayed in the app.



### Scope of delivery coreSPC

Included in the scope of delivery

- Selected torque sensor
- Charging cable USB-A to M8, 1,5 m length
- Robust transport case
- Documents (factory calibration certificate, quick guide with link to operation manual and app)

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Depth Sensor Upgrade

By integrating a laser distance meter into the coreSPC system, installation depth can be measured directly alongside torque and rotational speed. The sensor is battery-powered and transmits data via Bluetooth to a smartphone or tablet. Torque values are automatically assigned to the current depth for seamless documentation.



Figure 6: Optical Depth Sensor

Technical Specifications		
Sampling rate	0,25	SPS
Accuracy	5 / 0.2	mm / in
Measurement range	0...10 / 0...32.8	m / ft
Laser class	2	
Laser type	635 nm, <1 mW	
Protection class	IP65	
Range Bluetooth (max.)	10 / 32.8	m / ft
Operating time (2 x AAA)	>12	hours
Dimensions	125 x 53,5 x 25,5 / 4.9 x 2.1 x 1.0	mm / in
Operating temperature	-10...50 / 14...122	°C / °F
Storage temperature range	-25...+70 / -13...158	°C / °F

Scope of delivery Depth Sensor

Included in the scope of delivery

- Leica DISTO™ X1
- Touch, 2 x AAA- batteries, calibration certificate, quick guide, warranty card, safety instructions
- Mounting bracket for sensor with universal interface

Revisionshistorie	Veröffentlichung
coreSPC-6S Extension and Depth Measurement	2026/03/17
Initial Creation of the coreSPC data sheet	2025/08/29

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