

Torque measurement units

Rotating and static sensors



Your distributor

MADE IN GERMANY



Premium Power Tools



HS-Technik GmbH
High - System - Technik

TTR- and TTS-series

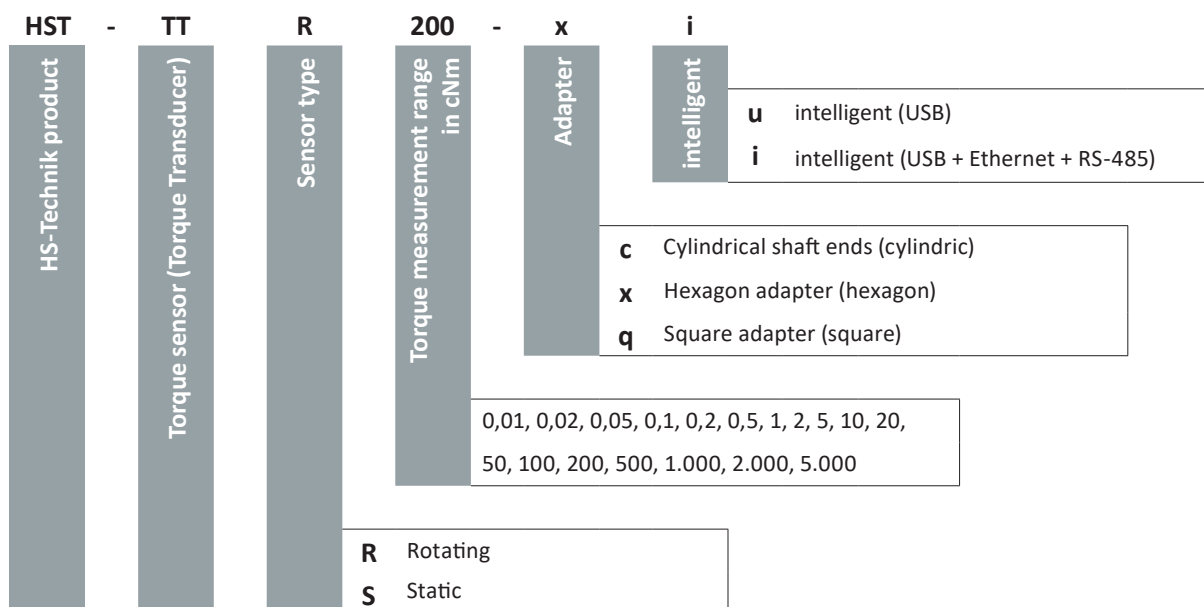
Intelligent torque sensors

- Strain gauge based, high precision torque measurement device
- All rotating sensors with high-resolution angle encoders
- Compact design
- USB interface
- Ethernet interface*
- RS-485 interface*
- Torque limits monitoring
- Mechanical overload protection (sensors up to 200 cNm)
- No external measurement device required
- Optional PLC interface
- Power supply via USB interface
- Measurement, visualization and evaluation software HST-Torq-Analyzer for tablet PC, laptop, netbook android mobile phone and PC
 - Recording of torque / angle of rotation and torque / time curves or display of the speed across time measurement with up to 2,000 samples per second
 - 2 threshold value monitoring windows with internal and external trigger possibility



* For i-models

Sensor nomenclature



TTR-series

Rotating torque sensors

- Precision torque sensors with very high measuring resolution
- Non-contact energy and signal transmission
- High resolution rotary angle sensor
- Temperature conditions 0° C to 40° C (32° F to 114° F)
- Rotation of angle resolution 0.1°
- Rotation of angle accuracy 0.5°
- Max. rpm 5,000

Order no.	Rotating torque sensor, Tool adapter	Interface	Accuracy	Angle resolution	Max. rpm	Temperature	Dimensions (L × W × H)
HST-TTR50-xu*	0.5 Nm, 1/4" hex	USB	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	99.5 × 20 × 51 mm
HST-TTR100-xu*	1.0 Nm, 1/4" hex	USB	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	99.5 × 20 × 51 mm
HST-TTR200-xu*	2.0 Nm, 1/4" hex	USB	+/- 0.1 % F.S.	0.1°	5,000	0°C - 40°C	99.5 × 20 × 51 mm
HST-TTR500-xu*	5.0 Nm, 1/4" hex	USB	+/- 0.1 % F.S.	0.1°	5,000	0°C - 40°C	103 × 20 × 51 mm
HST-TTR1000-xu*	10 Nm, 1/4" hex	USB	+/- 0.1 % F.S.	0.1°	5,000	0°C - 40°C	103 × 20 × 51 mm
HST-TTR2000-xu*	20 Nm, 1/4" hex	USB	+/- 0.1 % F.S.	0.1°	5,000	0°C - 40°C	103 × 20 × 51 mm

* also available in variant -xi

Order no.	Rotating torque sensor, Tool adapter	Interface	Accuracy	Angle resolution	Max. rpm	Temperature	Dimensions (L × W × H)
HST-TTR2000-qu*	20 Nm, 1/4" square	USB	+/- 0.1 % F.S.	0.1°	5,000	0°C - 40°C	103 × 20 × 51 mm
HST-TTR5000-qu*	50 Nm, 3/8" square	USB	+/- 0.1 % F.S.	0.1°	5,000	0°C - 40°C	95 × 20 × 51 mm

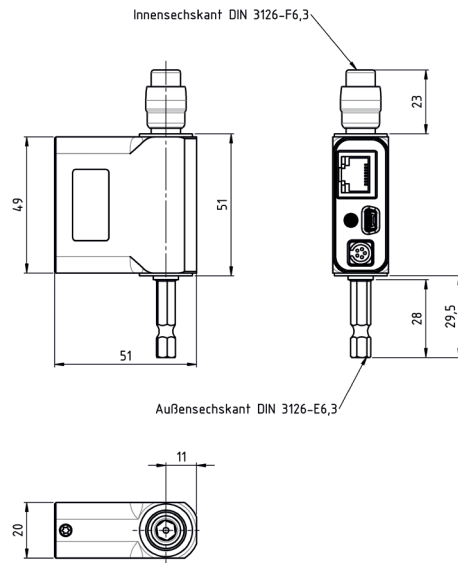
* also available in variant -qi

Order no.	Rotating torque sensor, Tool adapter	Interface	Accuracy	Angle resolution	Max. rpm	Temperature	Dimensions (L × W × H)
HST-TTR10000-qj	100 Nm, 1/2" square	USB	+/- 0.1 % F.S.	0.1°	5,000	0°C - 40°C	128 × 50 × 74 mm
HST-TTR20000-qj	200 Nm, 1/2" square	USB	+/- 0.1 % F.S.	0.1°	5,000	0°C - 40°C	128 × 50 × 74 mm
HST-TTR50000-qj	500 Nm, 3/4" square	USB	+/- 0.1 % F.S.	0.1°	5,000	0°C - 40°C	128 × 50 × 74 mm
HST-TTR100000-qj	1,000 Nm, 1" square	USB	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	152 × 56 × 82 mm

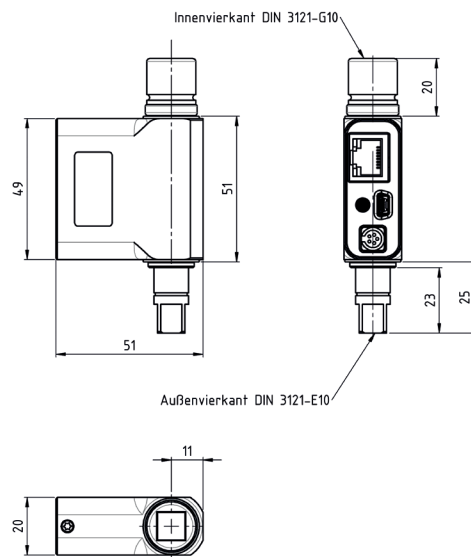
TTR-series

Technical Data

HST-TTRxxxx-**xi**



HST-TTRxxxx-**qi**



eTTR-series

Precision torque sensors with robust screw plug for USB

- Precision torque sensors based on strain gauge technology
- Non-contact energy and signal transmission
- Optional high resolution rotary angle encoder
- Compact design
- USB interface with robust screw plug
- Torque limits monitoring
- Max. rpm 8,000



USB-eTTR

Order no.	Rotating torque sensor, Tool adapter	Interface	Accuracy	Angle resolution	Max. rpm	Temperature	Dimensions (L x W x H)
HST-eTTR200-xt	2.0 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	-	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR200-xu	2.0 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR200-xf*	2.0 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR500-xt	5.0 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	-	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR500-xu	5.0 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR500-xf*	5.0 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR1000-xt	10 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	-	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR1000-xu	10 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR1000-xf*	10 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR2000-xt	20 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	-	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR2000-xu	20 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR2000-xf*	20 Nm, 1/4" hex	USB (secured)	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	75 x 36 x 64 mm
HST-eTTR5000-qt	50 Nm, 3/8" square	USB (secured)	+/- 0.2 % F.S.	-	5,000	0°C - 40°C	60 x 36 x 64 mm
HST-eTTR5000-qu	50 Nm, 3/8" square	USB (secured)	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	60 x 36 x 64 mm
HST-eTTR5000-qf	50 Nm, 3/8" square	USB (secured)	+/- 0.2 % F.S.	0.1°	5,000	0°C - 40°C	60 x 36 x 64 mm

* Sensors with mounting flange on both sides



TTS-series

Static torque sensors

- Precision torque sensors with very high measuring resolution
- Torque limits monitoring
- Mechanical overload protection (sensors up to 2 Nm)
- Temperature conditions 0°C to 40°C (32°F to 114°F)
- Rotation of angle resolution 0.1°
- Rotation of angle accuracy 0.5°



Order no.	Static torque sensor, Tool adapter	Interface	Accuracy	Temperature	Dimensions (L × W × H)
HST-TTS50-xu*	0.5 Nm, 1/4" hex	USB	+/- 0.2 % F.S.	0°C - 40°C	50 × 46 × 91.35 mm
HST-TTS100-xu*	1.0 Nm, 1/4" hex	USB	+/- 0.2 % F.S.	0°C - 40°C	50 × 46 × 91.35 mm
HST-TTS200-xu*	2.0 Nm, 1/4" hex	USB	+/- 0.1 % F.S.	0°C - 40°C	50 × 46 × 91.35 mm
HST-TTS500-xu*	5.0 Nm, 1/4" hex	USB	+/- 0.1 % F.S.	0°C - 40°C	50 × 46 × 91.35 mm
HST-TTS1000-xu*	10 Nm, 1/4" hex	USB	+/- 0.1 % F.S.	0°C - 40°C	50 × 46 × 91.35 mm
HST-TTS2000-xu*	20 Nm, 1/4" hex	USB	+/- 0.1 % F.S.	0°C - 40°C	50 × 46 × 91.35 mm

* also available in variant -xi

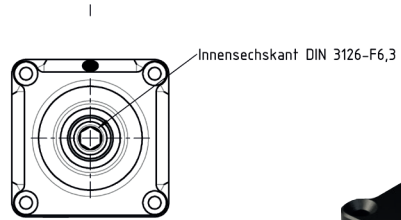
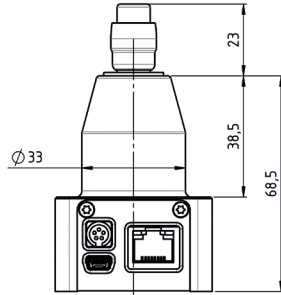
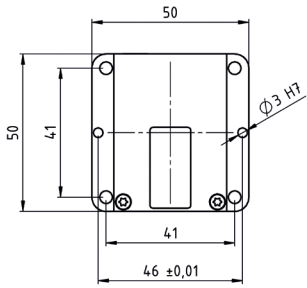
Order no.	Static torque sensor, Tool adapter	Interface	Accuracy	Temperature	Dimensions (L × W × H)
HST-TTS5000-qu*	50 Nm, 3/8" square	USB	+/- 0.1 % F.S.	0°C - 40°C	50 × 46 × 89.5 mm
HST-TTRS10000-qu*	100 Nm, 1/2" square	USB	+/- 0.1 % F.S.	0°C - 40°C	92 × 92 × 121 mm

* also available in variant -qi

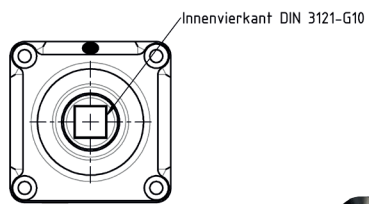
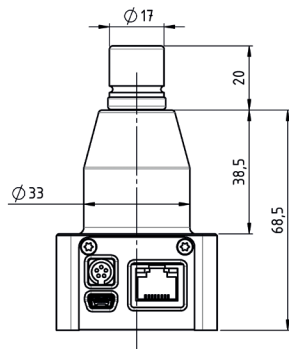
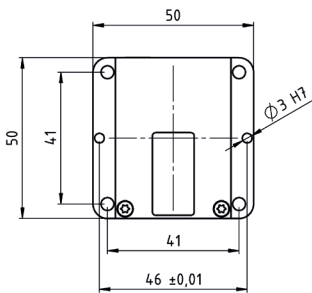
TTS-series

Technical Data

HST-TTSxxxx-**xi**



HST-TTSxxxx-**qi**



eTTS-series

Static torque sensors

- Precision torque sensors based on strain gauge technology
- Compact design
- USB interface
- Torque limits monitoring
- Driver 3/8" internal and external square



Order no.	Static torque sensor, Tool adapter	Interface	Accuracy	Temperature	Dimensions (L x W x H)
HST-eTTS500-qu	5.0 Nm, 3/8" square	USB	+/- 0.2 % F.S.	0°C - 40°C	60 x 24 x 70.5 mm
HST-eTTS1000-qu	10 Nm, 3/8" square	USB	+/- 0.2 % F.S.	0°C - 40°C	60 x 24 x 70.5 mm
HST-eTTS2000-qu	20 Nm, 3/8" square	USB	+/- 0.2 % F.S.	0°C - 40°C	60 x 24 x 70.5 mm
HST-eTTS5000-qu	50 Nm, 3/8" square	USB	+/- 0.2 % F.S.	0°C - 40°C	60 x 24 x 70.5 mm

Optional accessories

HST-eTTS plate sensor locking square 3/8"

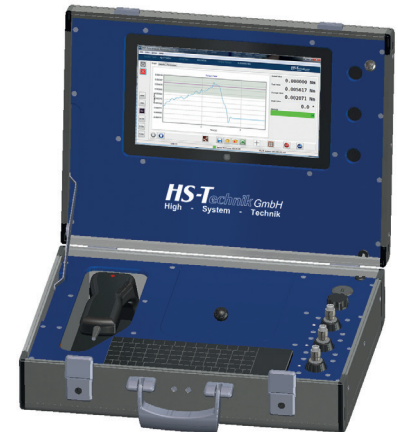


Mobile test system HST-PK-SET

Mobile measurement case for torque measurement sensor

- **Mobile measurement case, prepared for integrating 1-3 intelligent sensors from the HST-TTS series**
- **Tablet PC
Microsoft Surface Pro 3**
(depending on availability)
- **Measurement, display and evaluation software
HST torque analyzer
V3 advanced**
- **Wireless keyboard with touch pad (removable)**
- **Wireless mouse**
- **Table power supply unit**
- **Storage compartment for small parts, power supply unit and cables**
- **Cable, USB-HUB**
- **USB port for optional connection of an additional sensor or memory stick**
- **USB selection switch**
- **Barcode reader Datalogic TD1100 (or equivalent)**
- **OpenOffice pre-installed**
- **Database for saving tools for standard tests**
- **Cm/Cmk evaluation**

Delivery without torque measurement units



Extended scope of delivery:

- 3 x sensor mounting sets
- 2 x cover plates for sensor notch

Order no.	Weight	Dimensions (L x W x H)
HST-PK-SET	approx. 8.0 kg	460 x 320 x 120 mm

HST-TT-CASE

This convenient and practical suitcase is special made for our measuring instruments. It offers a high security and a very good shock resistance also for your accessory items.

Furthermore you do not need any other case, because it offers you a lot of free space for your writing pad and pen or even for your tablet.

Intelligent donut force sensors

Donut force sensor based on strain gage technology, USB, Ethernet and ng-Link

Order no.	Measurement range	Accuracy	Temperature	Dimensions (L × W × H)
HST-FST1000-di	1 kN	+/- 2 %	0°C - 40°C	Ø 38 × 10 mm
HST-FST2000-di	2 kN	+/- 2 %	0°C - 40°C	Ø 38 × 10 mm
HST-FST5000-di	5 kN	+/- 2 %	0°C - 40°C	Ø 38 × 10 mm
HST-FST10000-di	10 kN	+/- 2 %	0°C - 40°C	Ø 38 × 10 mm
HST-FST20000-di	20 kN	+/- 2 %	0°C - 40°C	Ø 49 × 16 mm
HST-FST50000-di	50 kN	+/- 2 %	0°C - 40°C	Ø 49 × 16 mm
HST-FST100000-di	100 kN	+/- 2 %	0°C - 40°C	Ø 78 × 25 mm
HST-FST200000-di	200 kN	+/- 2 %	0°C - 40°C	Ø 78 × 25 mm

Accessories

Order no.	Description
HST-TORQ-ANALYZER	Measurement software for tablet and PC
HST-TORQ-ANALYZER-BA	Measurement software for tablet and PC basic version
HST-TTx	Interface extension
HST-TT-90002	Cable USB-A / USB-Mini-B 1.8 m
HST-TT-90006	Cable USB-A / USB-Mini-B 5.0 m
HST-eTT90002	HST-eTTR to USB-A 1.8 m
HST-ng-Link-Int	ng-Link Sensor-Interface
HST-ng-link	Cable ng-link 1.8 meter
HST-eTTS-Plate	Sensor retainer for HST-eTTS sensors, 3/8" square
E6,3-C10-10-H	Joint simulator 10Nm, hard, 3/8" to 1/4"
E6,3-C10-10-M	Joint simulator 10Nm, medium, 3/8" to 1/4"
E6,3-C10-10-W	Joint simulator 10Nm, soft, 3/8" to 1/4"
A10-C10-20-H	Joint simulator 10Nm, hard, 3/8" to 3/8"
A10-C10-20-M	Joint simulator 10Nm, medium, 3/8" to 3/8"
A10-C10-20-W	Joint simulator 10Nm, soft, 3/8" to 3/8"
A10-C10-50-H	Joint simulator 50Nm, hard, 3/8" to 3/8"
A10-C10-50-H	Joint simulator 50Nm, medium, 3/8" to 3/8"
A10-C10-50-H	Joint simulator 50Nm, soft, 3/8" to 3/8"
A12-C12-100-H	Joint simulator 100Nm, hard, 1/2" to 1/2"
A12-C12-100-M	Joint simulator 100Nm, medium, 1/2" to 1/2"
A12-C12-100-W	Joint simulator 100Nm, soft, 1/2" to 1/2"

Accessories - Software HST-TORQ-ANALYZER

Version comparison

Functions	HST-TORQ-ANALYZER-BA Basic-Version	HST-TORQ-ANALYZER PRO-Version
Graphical process illustration of :		
- Torque over time	✓	✓
- Torque over angle	✓	✓
- Force over time	✓	✓
- Force over travel	✓	✓
Automatic sensor identification at connecting	✓	✓
Curve illustration with up to 2,000 samples per second	✓	✓
Supports different physical units	✓	✓
2 limit value monitoring windows with internal or external trigger option	✓	✓
Adjustable lowpass filter (10 Hz up to 500 Hz)	✓	✓
Filter for eliminating of current hum, with chooseable frequenz (50/60 Hz)	✓	✓
Compare with a reference graphic	✓	✓
Excel-export of the graphic	✓	✓
Listing of measurement results with direct transfer to Excel, with statistic evaluation (c_{mk} -calculation)	✓	✓
Supported operating systems: Windows 7, Windows 8, Windows 10	✓	✓
Direct connectivity of the sensors via USB or ethernet	✓	✓
Grafical process illustration of:		
- Speed over time		✓
- Speed over angle		✓
- Power over time		✓
- Power over angle		✓
- Force over travel		✓
Cursor function with display of single values		✓
Second free configurable measurement display window		✓
Barcode reader support for recurring measurements		✓
Screw joint analysis to set the final torque		✓



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