

3.1 Rotary Torque/Angle Sensors ng-TTR-i

- High precision torque sensors based on strain gauges
- Brushless energy and signal transmission
- High resolution incremental encoder
- Ultra compact size
- USB Interface
- Ethernet Interface
- *ng-Link* Interface
- Torque window control with LED
- Optional mechanical overload protection clutch MOPC (sensors up to 200 cNm range)
- Standard USB and Ethernet connectors
- Maintenance free



Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00036-01	ng-TTR01-ci	+/- 1	intelligent	✓	3 mm Shaft
01-01-00004-01	ng-TTR02-ci	+/- 2	intelligent	✓	3 mm Shaft
01-01-00005-01	ng-TTR05-ci	+/- 5	intelligent	✓	3 mm Shaft



Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00006-01	ng-TTR10-ci	+/- 10	intelligent	✓	5 mm Shaft
01-01-00003-01	ng-TTR20-ci	+/- 20	intelligent	✓	5 mm Shaft



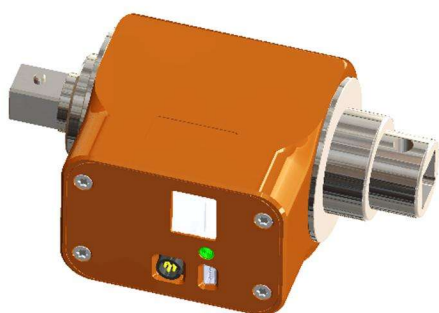
Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00037-01	ng-TTR50-ci	+/- 50	intelligent	-	8 mm Shaft
01-01-00577-01	ng-TTR50-ci	+/- 50	intelligent	✓	8 mm Shaft
01-01-00038-01	ng-TTR100-ci	+/- 100	intelligent	-	8 mm Shaft
01-01-00578-01	ng-TTR100-ci	+/- 100	intelligent	✓	8 mm Shaft
01-01-00039-02	ng-TTR200-ci	+/- 200	intelligent	-	8 mm Shaft
01-01-00579-01	ng-TTR200-ci	+/- 200	intelligent	✓	8 mm Shaft
01-01-00040-01	ng-TTR500-ci	+/- 500	intelligent	-	8 mm Shaft
01-01-00041-01	ng-TTR1000-ci	+/- 1000	intelligent	-	8 mm Shaft
01-01-00140-02	ng-TTR2000-ci	+/- 2000	intelligent	-	12 mm Shaft



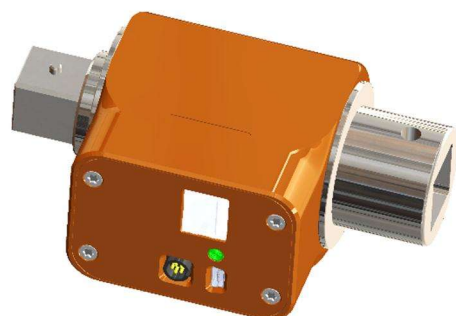
Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00007-01	ng-TTR50-xi	+/- 50	intelligent	✓	1/4" Hexagon
01-01-00008-01	ng-TTR100-xi	+/- 100	intelligent	✓	1/4" Hexagon
01-01-00009-01	ng-TTR200-xi	+/- 200	intelligent	✓	1/4" Hexagon
01-01-00010-01	ng-TTR500-xi	+/- 500	intelligent	-	1/4" Hexagon
01-01-00011-01	ng-TTR1000-xi	+/- 1000	Intelligent	-	1/4" Hexagon
01-01-00074-02	ng-TTR2000-xi	+/- 2000	Intelligent	-	1/4" Hexagon



Article Number	Type	Torque Range Nm	Interface	MOPC	Drive
01-01-00407-01	ng-TTR500-qi	+/- 5	Intelligent	-	1/4" Square
01-01-00249-01	ng-TTR2000-qi	+/- 20	Intelligent	-	1/4" Square
01-01-00073-01	ng-TTR5000-qi	+/- 50	Intelligent	-	3/8" Square



Article Number	Type	Torque Range Nm	Interface	MOPC	Drive
01-01-00189-02	ng-TTR20000-qi	+/- 200	Intelligent	-	1/2" Square
01-01-00151-02	ng-TTR50000-qi	+/- 500	Intelligent	-	3/4" Square



Article Number	Type	Torque Range Nm	Interface	MOPC	Drive
01-01-00200-01	ng-TTR100000-qi	+/- 1000	Intelligent	-	1" Square

3.2 Rotary Torque/Angle Sensors ng-TTR-u

- High precision torque sensors based on strain gauges
- Brushless energy and signal transmission
- High resolution incremental encoder
- Ultra compact size
- USB Interface
- Torque window control with LED
- Optional mechanical overload protection clutch MOPC (sensors up to 200 cNm range)
- Standard USB connector
- Maintenance free



Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00088-01	ng-TTR01-cu	+/- 1	USB	✓	3 mm Shaft
01-01-00089-01	ng-TTR02-cu	+/- 2	USB	✓	3 mm Shaft
01-01-00090-01	ng-TTR05-cu	+/- 5	USB	✓	3 mm Shaft



Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00091-01	ng-TTR10-cu	+/- 10	USB	✓	5 mm Shaft
01-01-00092-01	ng-TTR20-cu	+/- 20	USB	✓	5 mm Shaft



Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00580-01	ng-TTR50-cu	+/- 50	USB	-	8 mm Shaft
01-01-00093-01	ng-TTR50-cu	+/- 50	USB	✓	8 mm Shaft
01-01-00581-01	ng-TTR100-cu	+/- 100	USB	-	8 mm Shaft
01-01-00094-01	ng-TTR100-cu	+/- 100	USB	✓	8 mm Shaft
01-01-00582-01	ng-TTR200-cu	+/- 200	USB	-	8 mm Shaft
01-01-00095-01	ng-TTR200-cu	+/- 200	USB	✓	8 mm Shaft
01-01-00096-01	ng-TTR500-cu	+/- 500	USB	-	8 mm Shaft
01-01-00097-01	ng-TTR1000-cu	+/- 1000	USB	-	8 mm Shaft
01-01-00142-02	ng-TTR2000-cu	+/- 2000	USB	-	12 mm Shaft

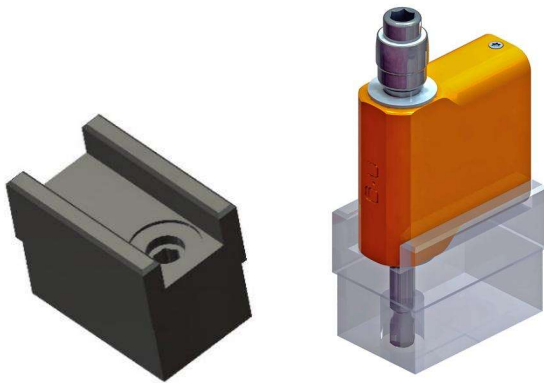


Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00098-01	ng-TTR50-xu	+/- 50	USB	✓	1/4" Hexagon
01-01-00099-01	ng-TTR100-xu	+/- 100	USB	✓	1/4" Hexagon
01-01-00100-01	ng-TTR200-xu	+/- 200	USB	✓	1/4" Hexagon
01-01-00101-01	ng-TTR500-xu	+/- 500	USB	-	1/4" Hexagon
01-01-00102-01	ng-TTR1000-xu	+/- 1000	USB	-	1/4" Hexagon
01-01-00103-02	ng-TTR2000-xu	+/- 2000	USB	-	1/4" Hexagon



Article Number	Type	Torque Range Nm	Interface	MOPC	Drive
01-01-00408-01	ng-TTR500-qu	+/- 5	USB	-	1/4" Square
01-01-00191-01	ng-TTR2000-qu	+/- 20	USB	-	1/4" Square
01-01-00104-01	ng-TTR5000-qu	+/- 50	USB	-	3/8" Square

Accessories



Sensor Shaft Detent ng-TTR 1/4" Hexagon

Article Number	01-92-00016-01
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Mounting bracket for the sensor type series ng-TTR01-ci to ng-TTR5000-qi



Article Number	Type
01-01-00163-01	Diameter 19 mm
01-01-00226-01	Diameter 20 mm



Sensor Shaft Detent 3/8" Square

Article Number	01-92-00037-01
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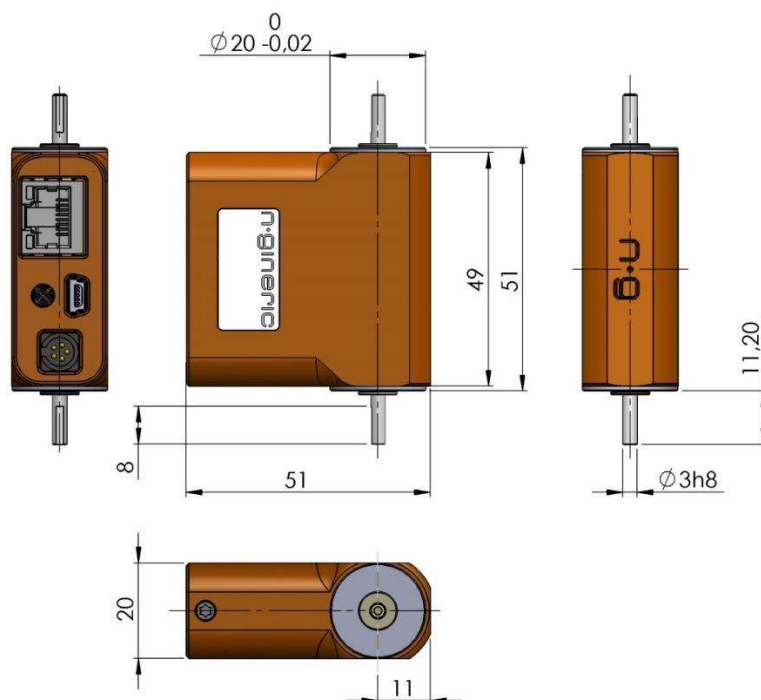
Sensor Shaft Detent 1/2" Square

Article Number	01-92-00036-01
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Torque Range	Torque Measurement Accuracy related to full scale value
+/- 1 cNm	1.0
+/- 2 cNm	0.5
+/- 5 cNm	0.2
+/- 10 cNm	0.2
+/- 20 cNm	0.2
+/- 50 cNm	0.2
+/- 1 Nm	0.2
+/- 2 Nm	0.1
+/- 5 Nm	0.1
+/- 10 Nm	0.1
+/- 20 Nm	0.1
+/- 50 Nm	0.1
+/- 100 Nm	0.1
+/- 200 Nm	0.1
+/- 500 Nm	0.1
+/- 1000 Nm	0.2

- Encoder Resolution: 0.1 Degrees
- Encoder Accuracy: 0.5 Degrees
- Max. Speed: 5,000 RPM
- Operating Temperature: 0 °C to +40 °C (+32 °F to 104 °F)

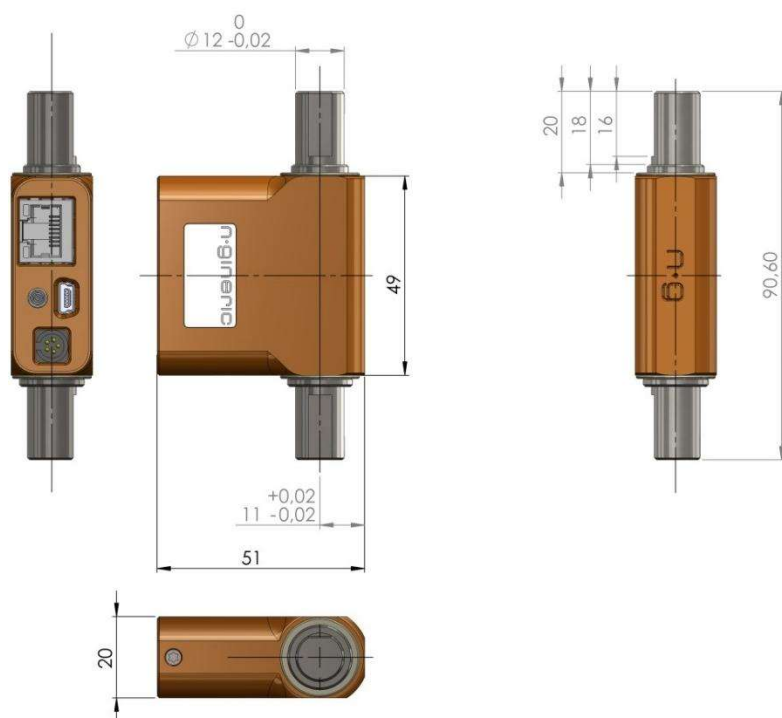
Dimensions and Weighth:



ng-TTR01-ci
ng-TTR02-ci
ng-TTR05-ci

ng-TTR01-cu
ng-TTR02-cu
ng-TTR05-cu

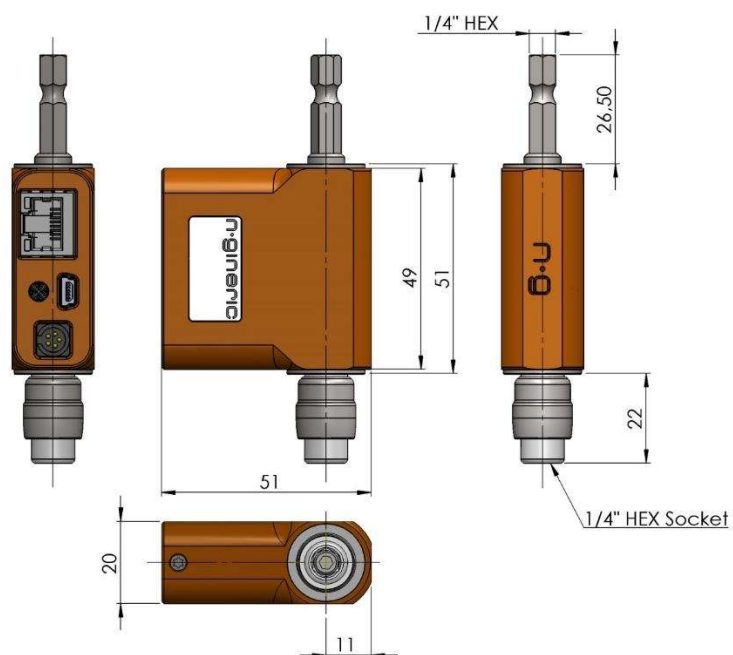
Weighth: 0,11 kg



ng-TTR2000-ci

ng-TTR2000-cu

Weight: 0,15 kg



ng-TTR50-xi

ng-TTR100-xi

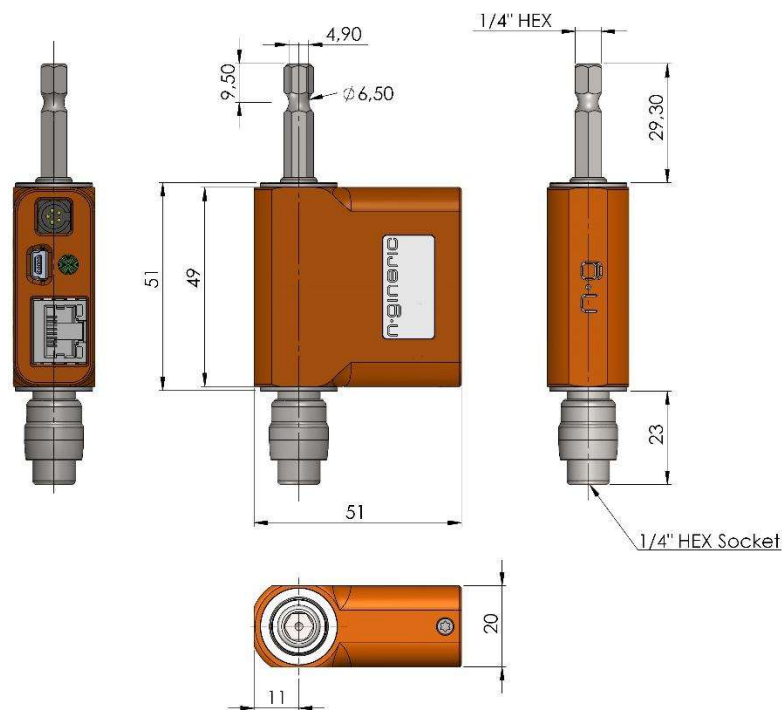
ng-TTR200-xi

ng-TTR50-xu

ng-TTR100-xu

ng-TTR200-xu

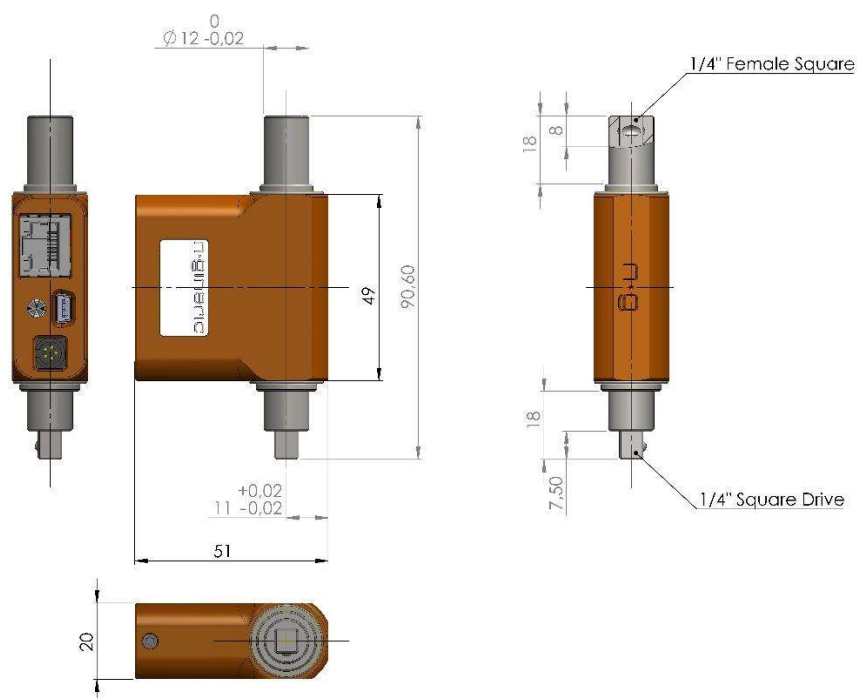
Weight: 0,12 kg



ng-TTR500-xi
ng-TTR1000-xi
ng-TTR2000-xi

ng-TTR500-xu
ng-TTR1000-xu
ng-TTR2000-xu

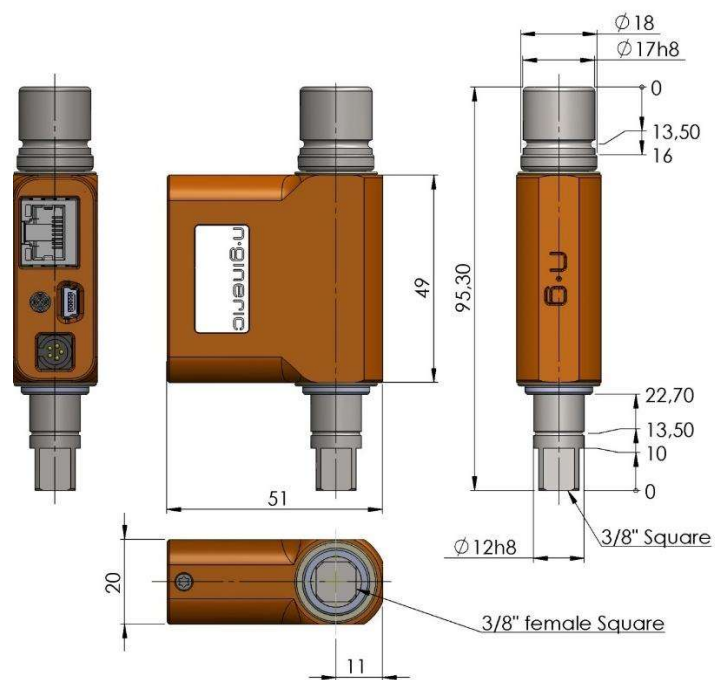
Weight: 0,13 kg



ng-TTR500-qi
ng-TTR2000-qi

ng-TTR500-qu
ng-TTR2000-qu

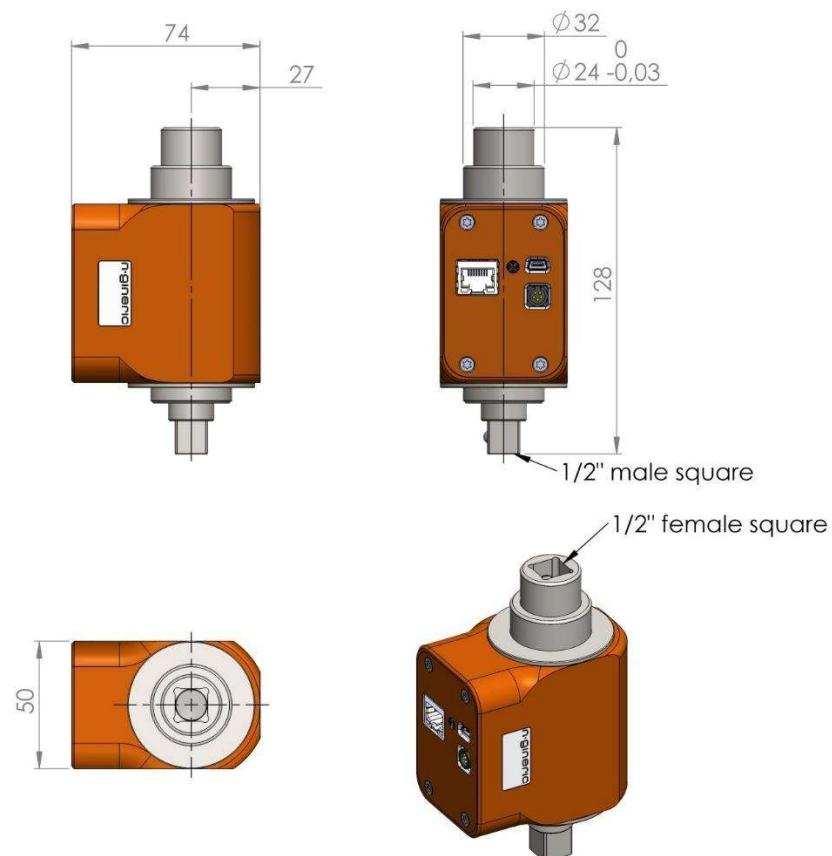
Weight: 0,15 kg



ng-TTR5000-qj

ng-TTR5000-qu

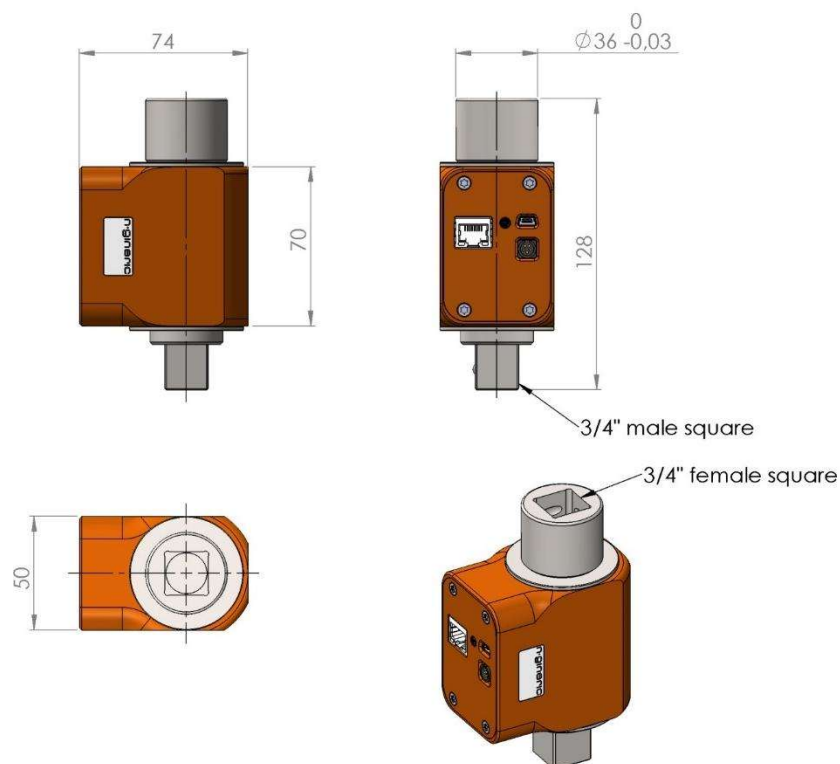
Weight: 0,16 kg



ng-TTR10000-qj

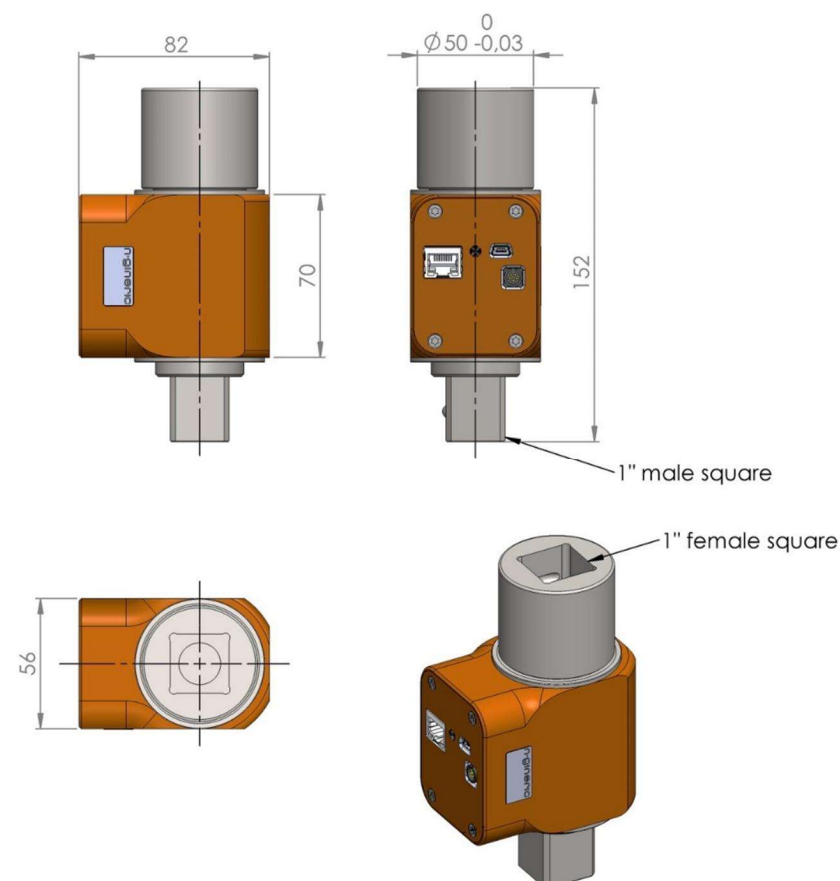
ng-TTR20000-qj

Weight: 1,06 kg



ng-TTR500000-qi

Weight: 1,06 kg



ng-TTR1000000-qi

Weight: 1,71 kg

Optimized for the measurement of pulse tools

- ### Torque Sensor Type Nomenclature:

ng- vTTR-□ □-□□ □

- i = intelligent
- q = square drive
- Torque Range in cNm
- R = Rotatory
- TT = Torque Transducer
- v = high velocity
- ng = n-gineric Product



Article Number	Type	Torque Range Nm	Interface	MOPC	Drive
01-01-00330-01	ng-vTTR8000-qj	+/- 80	intelligent	-	½" Square
01-01-00329-01	ng-vTTR10000-qj	+/- 100	intelligent	-	½" Square
01-01-00488-01	ng-vTTR12000-qj	+/- 120	intelligent	-	½" Square
01-01-00335-01	ng-vTTR16000-qj	+/- 160	intelligent	-	½" Square

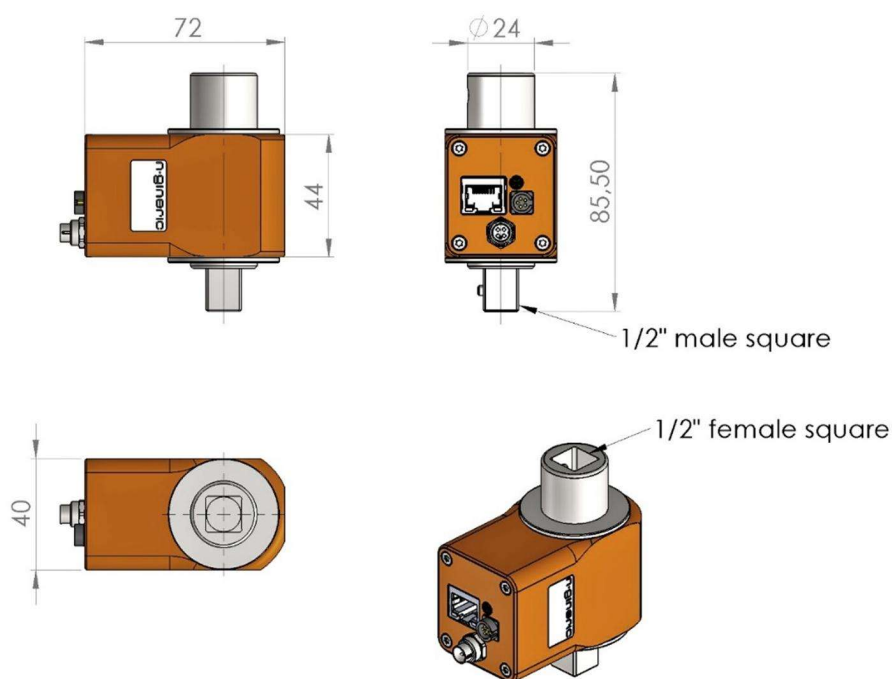
Cable ng-eTTR / USB-A 1.8 m

Article Number	01-90-00008-01
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Torque Range	Torque Measurement Accuracy related to full scale value
+/- 80 Nm	0.1
+/- 100 Nm	0.1
+/-120 Nm	0.1
+/- 160 Nm	0.1

- Encoder Resolution: 0.1 Degrees
- Encoder Accuracy: 0.5 Degrees
- Max. Speed: 10.000 RPM
- Operating Temperature: 0 °C to +40 °C (+32 °F to 104 °F)

Dimensions and Weighth:



ng-vTTR8000-qi
ng-vTTR10000-qi
ng-vTTR12000-qi
ng-vTTR16000-qi

Weight: 0,36 kg

3.4 Rotary Torque/Angle Sensors ng-eTTR

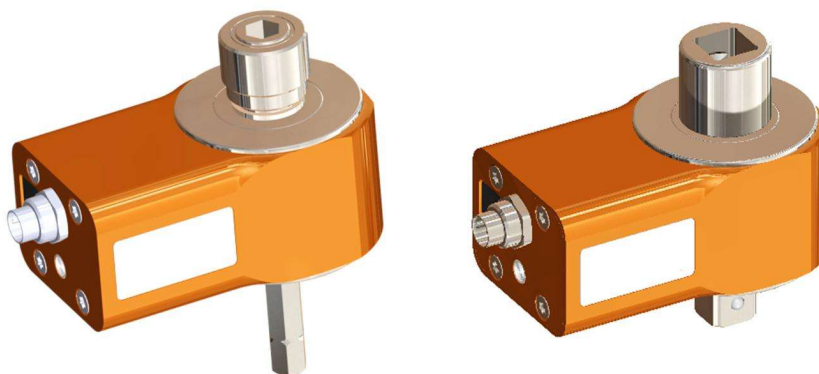
Torque sensors with robust design for the production floor

- High precision torque sensors based on strain gauges
- Brushless energy and signal transmission
- Optional high resolution incremental encoder
- Compact size
- USB Interface
- Optional *ng-Link* Interface
- Torque window control with LED
- Robust threaded connector for USB
- Maintenance free
- Optional mounting flanges

Torque Sensor Type Nomenclature:

ng- eTTR-□ □-□□ □

- └ f = intelligent (USB + Encoder + *ng-Link* + mounting flanges)
- └ r = intelligent (USB + Encoder + *ng-Link*)
- └ u = intelligent (USB + Encoder)
- └ t = torque (USB)
- └ x = hexagon drive
- └ q = square drive
- └ Torque Range in cNm
- └ R = Rotary
- └ TT = Torque Transducer
- └ e = economy
- └ ng = n-gineric Product



Article Number	Type	Torque Range Nm	USB	Encoder	ng-Link	Drive
01-01-00197-01	ng-eTTR200-xt	+/- 2	✓	-	-	1/4" Hexagon
01-01-00202-01	ng-eTTR200-xu	+/- 2	✓	✓	-	1/4" Hexagon
01-01-00206-01	ng-eTTR200-xr	+/- 2	✓	✓	✓	1/4" Hexagon
01-01-00196-01	ng-eTTR500-xt	+/- 5	✓	-	-	1/4" Hexagon
01-01-00203-01	ng-eTTR500-xu	+/- 5	✓	✓	-	1/4" Hexagon
01-01-00207-01	ng-eTTR500-xr	+/- 5	✓	✓	✓	1/4" Hexagon
01-01-00195-01	ng-eTTR1000-xt	+/- 10	✓	-	-	1/4" Hexagon
01-01-00204-01	ng-eTTR1000-xu	+/- 10	✓	✓	-	1/4" Hexagon
01-01-00208-01	ng-eTTR1000-xr	+/- 10	✓	✓	✓	1/4" Hexagon
01-01-00201-02	ng-eTTR2000-xt	+/- 20	✓	-	-	1/4" Hexagon
01-01-00205-02	ng-eTTR2000-xu	+/- 20	✓	✓	-	1/4" Hexagon
01-01-00209-02	ng-eTTR2000-xr	+/- 20	✓	✓	✓	1/4" Hexagon
01-01-00288-01	ng-eTTR5000-qt	+/- 50	✓	-	-	3/8" Square
01-01-00159-01	ng-eTTR5000-qu	+/- 50	✓	✓	-	3/8" Square
01-01-00323-01	ng-eTTR5000-qr	+/- 50	✓	✓	✓	3/8" Square

With double-sided mounting flanges



Article Number	Type	Torque Range Nm	USB	Encoder	ng-Link	Drive
01-01-00211-01	ng-eTTR200-xf	+/- 2	✓	✓	✓	1/4" Hexagon
01-01-00212-01	ng-eTTR500-xf	+/- 5	✓	✓	✓	1/4" Hexagon
01-01-00213-01	ng-eTTR1000-xf	+/- 10	✓	✓	✓	1/4" Hexagon
01-01-00214-02	ng-eTTR2000-xf	+/- 20	✓	✓	✓	1/4" Hexagon
01-01-00322-01	ng-eTTR5000-qf	+/- 50	✓	✓	✓	3/8" Square

With double-sided mounting flanges and shortened hexagon

Article Number	Type	Torque Range Nm	USB	Encoder	ng-Link	Drive
01-01-00653-01	ng-eTTR200-xfs	+/- 2	✓	✓	✓	1/4" Hexagon
01-01-00576-01	ng-eTTR500-xfs	+/- 5	✓	✓	✓	1/4" Hexagon
01-01-00575-01	ng-eTTR1000-xfs	+/- 10	✓	✓	✓	1/4" Hexagon
01-01-00615-01	ng-eTTR2000-xfs	+/- 20	✓	✓	✓	1/4" Hexagon

Accessories

Cable ng-eTTR / USB-A 1.8 m

Article Number	01-90-00008-01
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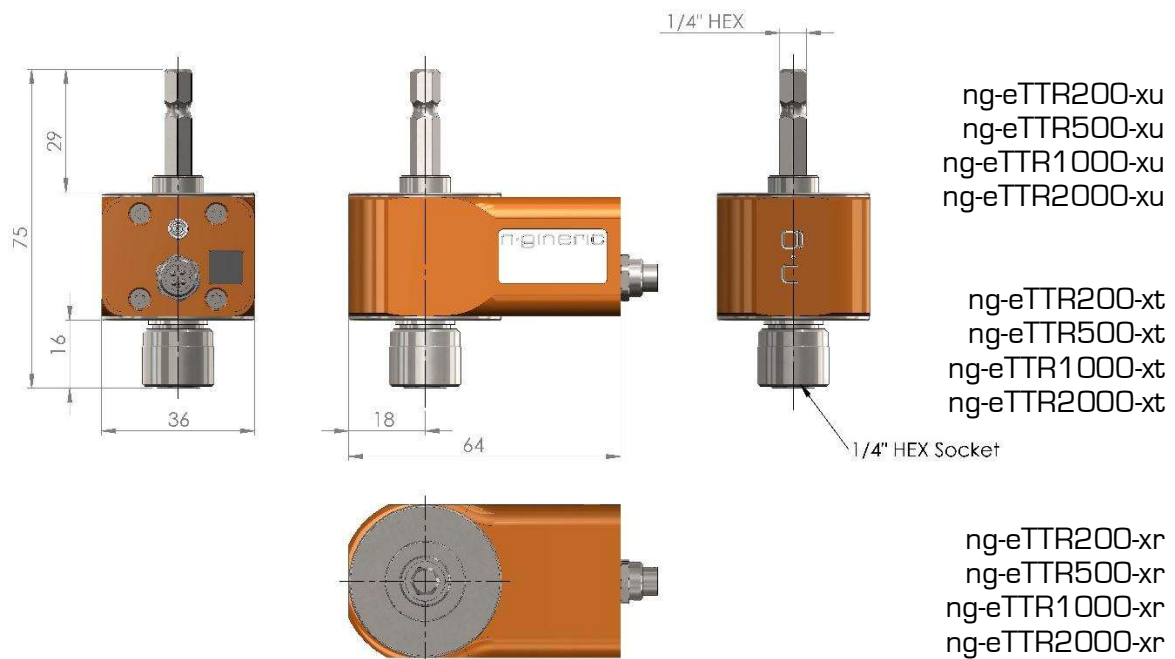
Sensor lock ng-eTTR hexagon 6.35

Article Number	01-92-00116-01
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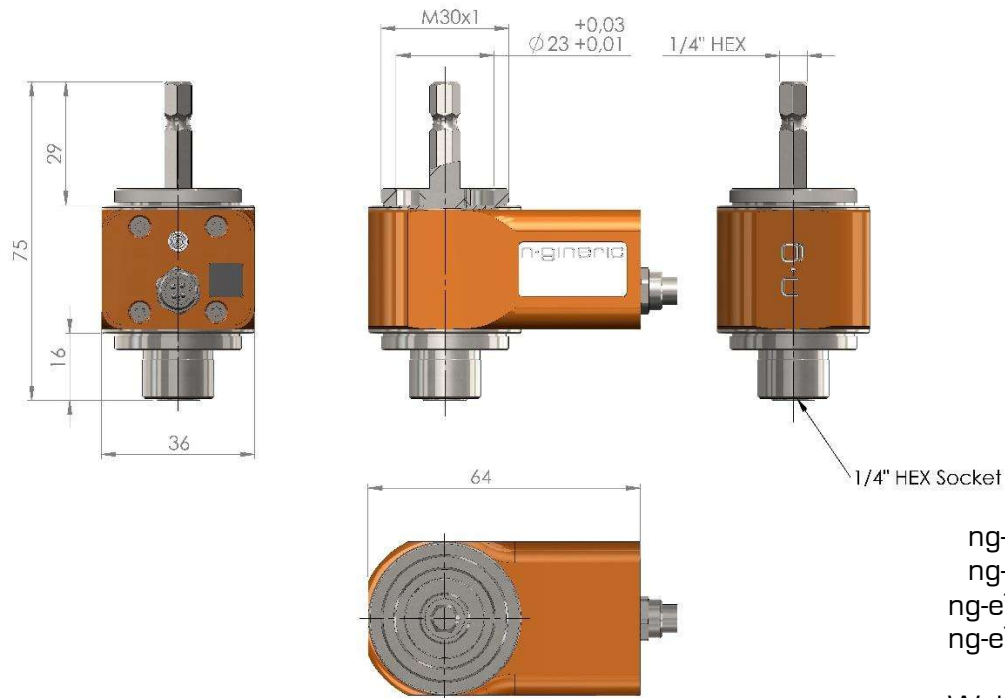
Torque Range	Torque Measurement Accuracy related to full scale value
+/- 2 Nm	0.2
+/- 5 Nm	0.2
+/- 10 Nm	0.2
+/- 20 Nm	0.2
+/- 50 Nm	0.2

- Encoder Resolution: 0.1 Degrees
- Encoder Accuracy: 0.5 Degrees
- Max. Speed: 8.000 RPM
- Operating Temperature: 0 °C to +40 °C (+32 °F to 104 °F)

Dimensions and Weighth:

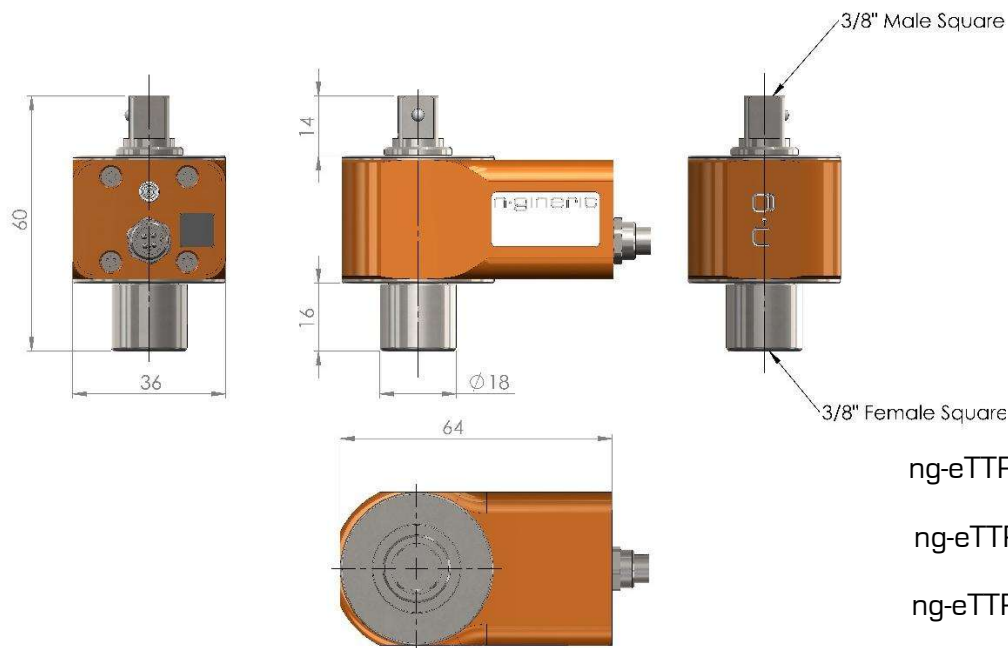


Weight: 0,19 kg



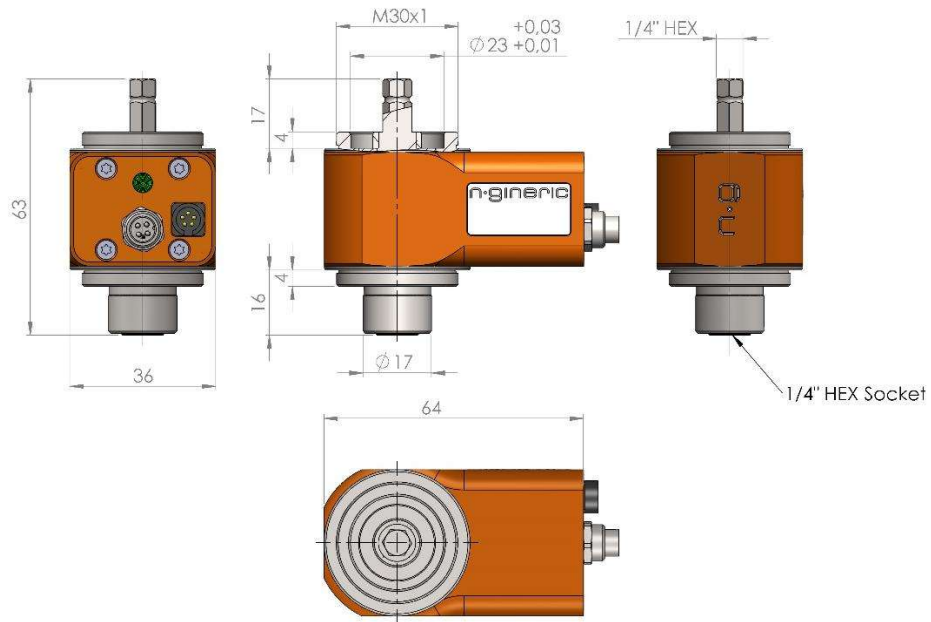
ng-eTTR200-xf
ng-eTTR500-xf
ng-eTTR1000-xf
ng-eTTR2000-xf

Weight: 0,19 kg



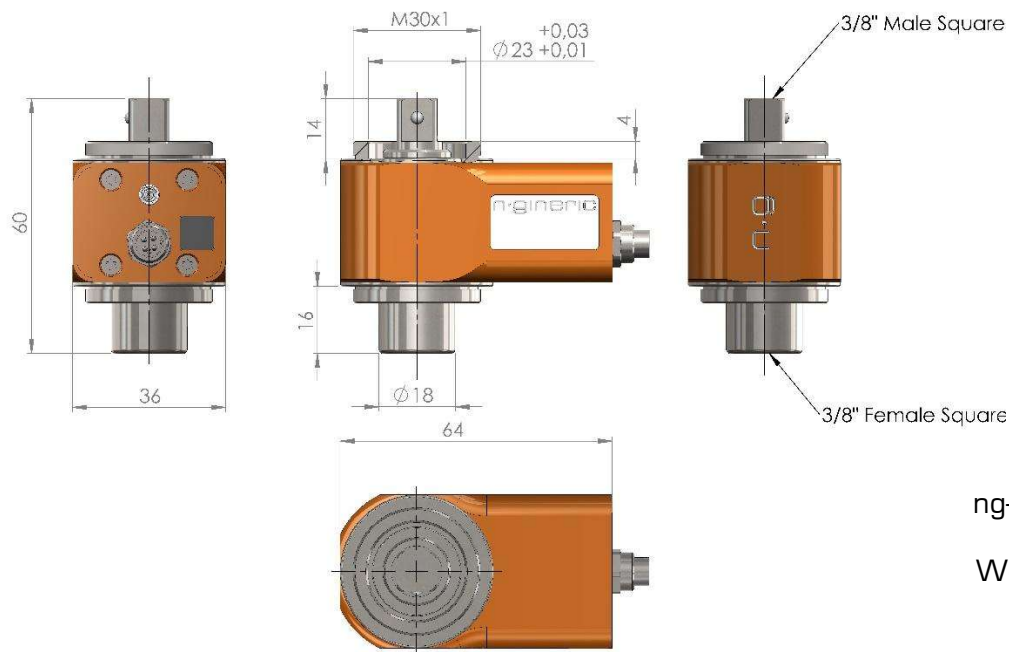
ng-eTTR5000-qu
ng-eTTR5000-qt
ng-eTTR5000-qr

Weight: 0,19 kg



ng-eTTR200-xf
 ng-eTTR500-xf
 ng-eTTR1000-xf
 ng-eTTR2000-xf

Weight: 0,21 kg



ng-eTTR5000-qf

Weight: 0,21 kg

3.5 Rotary Torque/Angle Sensors ng-TTR-a

- High precision torque sensors based on strain gauges
- Brushless energy and signal transmission
- High resolution incremental encoder (2 channel TTL level signals)
- Ultra compact size
- Optional mechanical overload protection clutch MOPC (sensors up to 200 cNm range)
- Calibration data stored in sensor memory
- Analog torque output signal options:
 - 0 to 5 V, zero point at 2.5 V
 - 0 to 10 V, zero point at 5 V
- Power supply 12 V DC +/- 5 %, 150 mA
- USB Interface
- Maintenance free



Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00048-01	ng-TTR01-ca	+/- 1	analog + USB	✓	3 mm Shaft
01-01-00049-01	ng-TTR02-ca	+/- 2	analog + USB	✓	3 mm Shaft
01-01-00050-01	ng-TTR05-ca	+/- 5	analog + USB	✓	3 mm Shaft



Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00051-01	ng-TTR10-ca	+/- 10	analog + USB	✓	5 mm Shaft
01-01-00052-01	ng-TTR20-ca	+/- 20	analog + USB	✓	5 mm Shaft



Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00583-01	ng-TTR50-ca	+/- 50	analog + USB	-	8 mm Shaft
01-01-00053-01	ng-TTR50-ca	+/- 50	analog + USB	✓	8 mm Shaft
01-01-00584-01	ng-TTR100-ca	+/- 100	analog + USB	-	8 mm Shaft
01-01-00054-01	ng-TTR100-ca	+/- 100	analog + USB	✓	8 mm Shaft
01-01-00585-01	ng-TTR200-ca	+/- 200	analog + USB	-	8 mm Shaft
01-01-00055-01	ng-TTR200-ca	+/- 200	analog + USB	✓	8 mm Shaft
01-01-00056-01	ng-TTR500-ca	+/- 500	analog + USB	-	8 mm Shaft
01-01-00057-01	ng-TTR1000-ca	+/- 1000	analog + USB	-	8 mm Shaft
01-01-00141-02	ng-TTR2000-ca	+/- 2000	analog + USB	-	12 mm Shaft

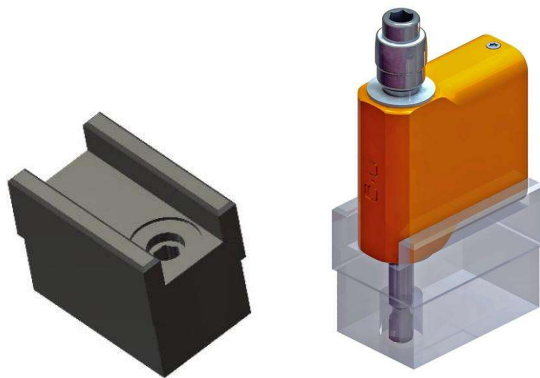


Article Number	Type	Torque Range cNm	Interface	MOPC	Drive
01-01-00058-01	ng-TTR50-xa	+/- 50	analog + USB	-	1/4" Hexagon
01-01-00059-01	ng-TTR100-xa	+/- 100	analog + USB	-	1/4" Hexagon
01-01-00060-01	ng-TTR200-xa	+/- 200	analog + USB	-	1/4" Hexagon
01-01-00061-01	ng-TTR500-xa	+/- 500	analog + USB	-	1/4" Hexagon
01-01-00024-01	ng-TTR1000-xa	+/- 1000	analog + USB	-	1/4" Hexagon
01-01-00078-02	ng-TTR2000-xa	+/- 2000	analog + USB	-	1/4" Hexagon



Article Number	Type	Torque Range Nm	Interface	MOPC	Drive
01-01-00077-01	ng-TTR5000-qa	+/- 50	analog + USB	-	3/8" Square

Accessories



Sensor Shaft Detent ng-TTR ¼" Hexagon

Article Number	01-92-00016-01
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Mounting bracket for the sensor type series ng-TTR01-ci to ng-TTR5000-qi



Article Number	Type
01-01-00163-01	Diameter 19 mm
01-01-00226-01	Diameter 20 mm



Sensor Shaft Detent ⅜" Square

Article Number	01-92-00037-01
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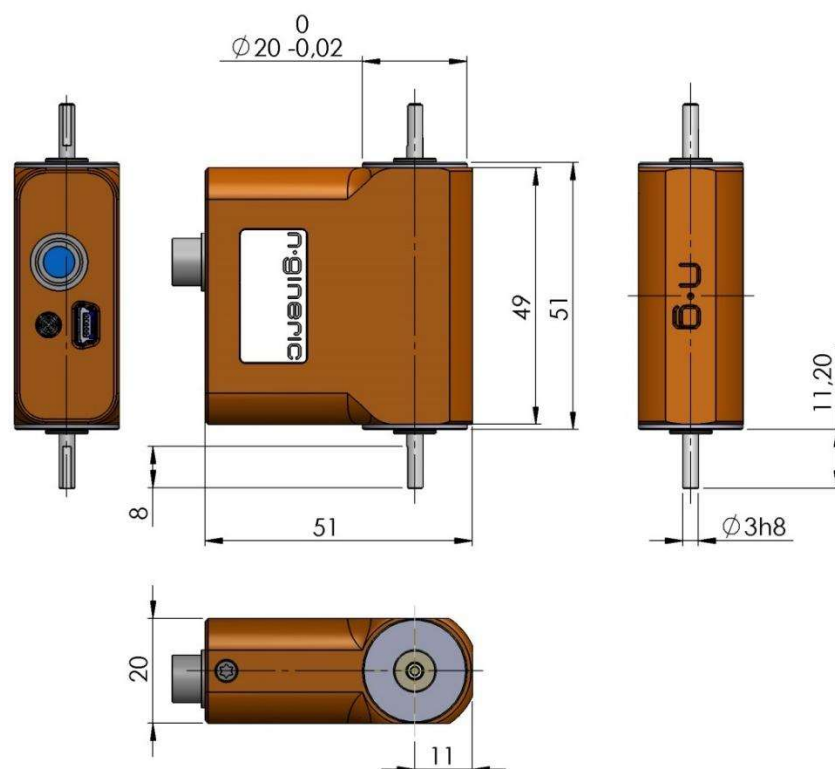
Sensor Shaft Detent ½" Square

Article Number	01-92-00036-01
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Torque Range	Torque Measurement Accuracy related to full scale value
+/- 1 cNm	1.0
+/- 2 cNm	0.5
+/- 5 cNm	0.2
+/- 10 cNm	0.2
+/- 20 cNm	0.2
+/- 50 cNm	0.2
+/- 1 Nm	0.2
+/- 2 Nm	0.1
+/- 5 Nm	0.1
+/- 10 Nm	0.1
+/- 20 Nm	0.1
+/- 50 Nm	0.1

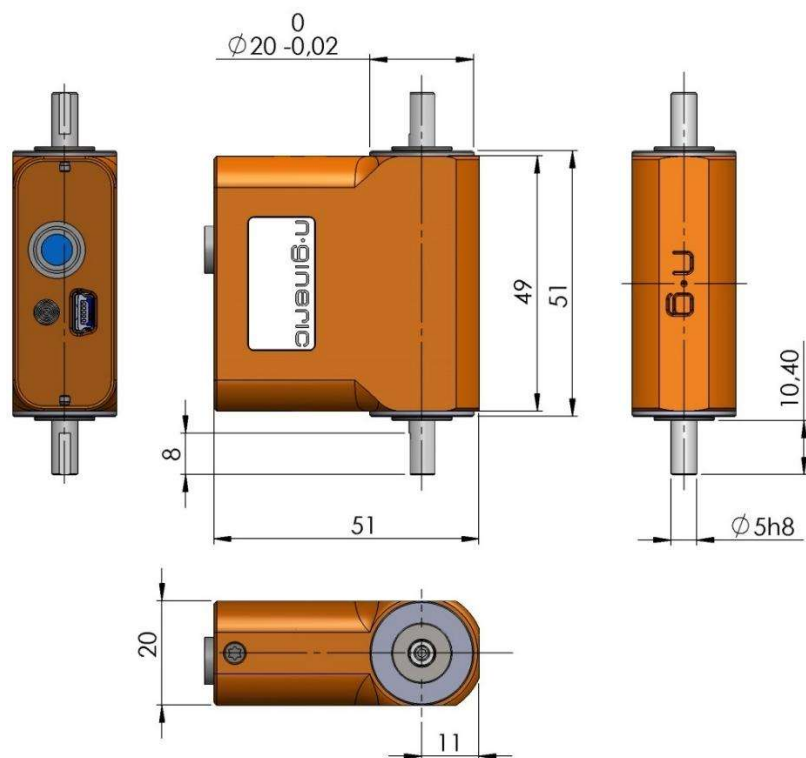
- Encoder Resolution: 0.1 Degrees
- Encoder Accuracy: 0.5 Degrees
- Max. Speed: 5.000 RPM
- Operating Temperature: 0 °C to +40 °C (+32 °F to 104 °F)

Dimensions and Weighth:



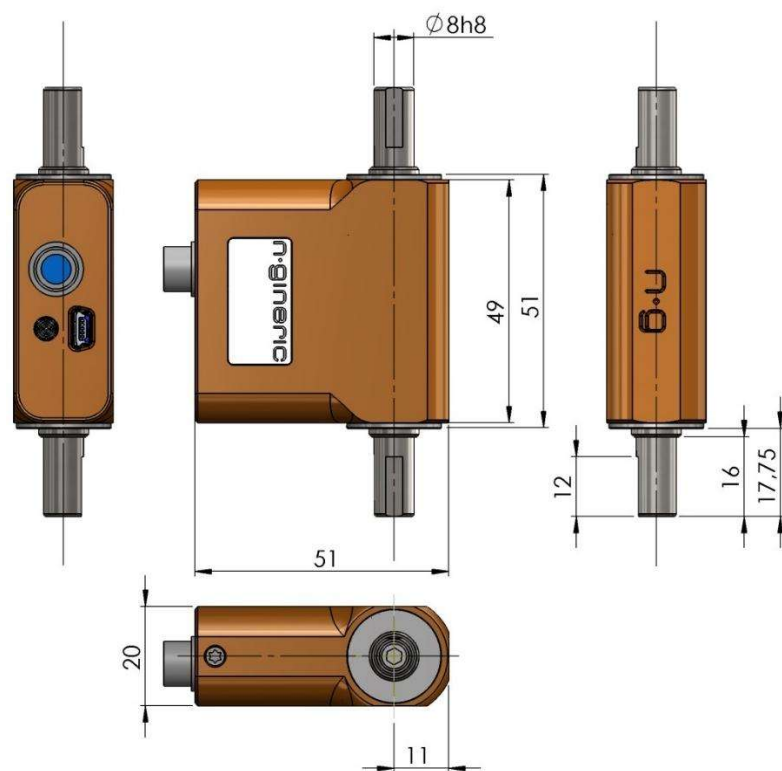
ng-TTR01-ca
ng-TTR02-ca
ng-TTR05-ca

Weight: 0,11 kg



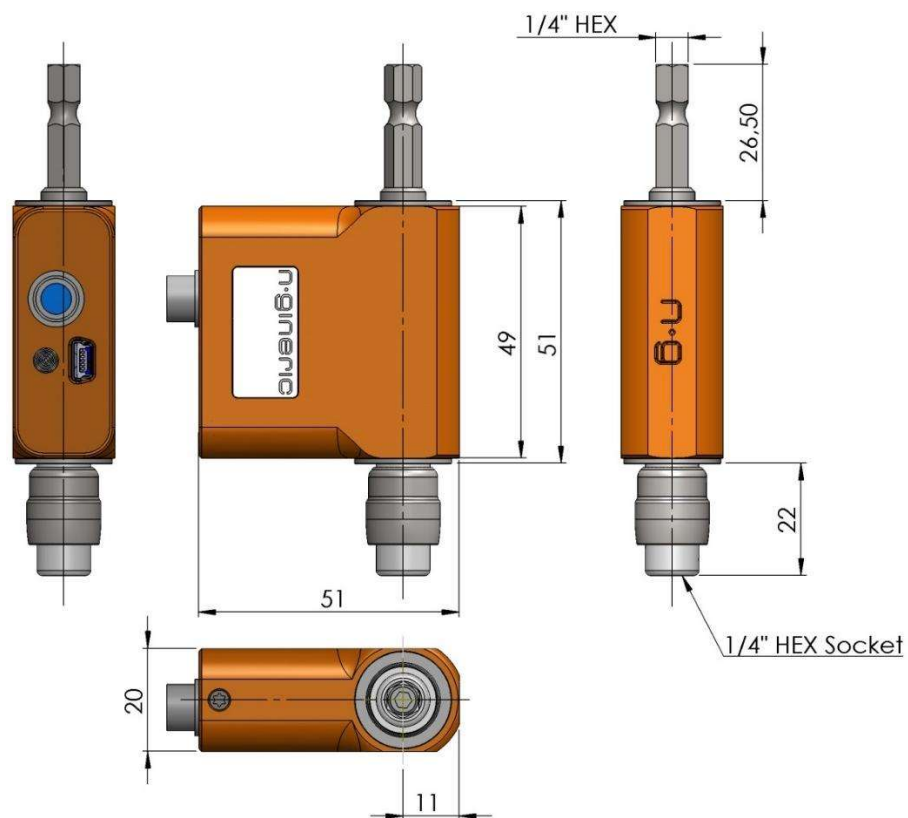
ng-TTR10-ca
ng-TTR20-ca

Weight: 0,11 kg



ng-TTR50-ca
ng-TTR100-ca
ng-TTR200-ca
ng-TTR500-ca
ng-TTR1000-ca

Weight: 0,12 kg



ng-TTR50-xa
ng-TTR100-xa
ng-TTR200-xa

Weight: 0,12 kg