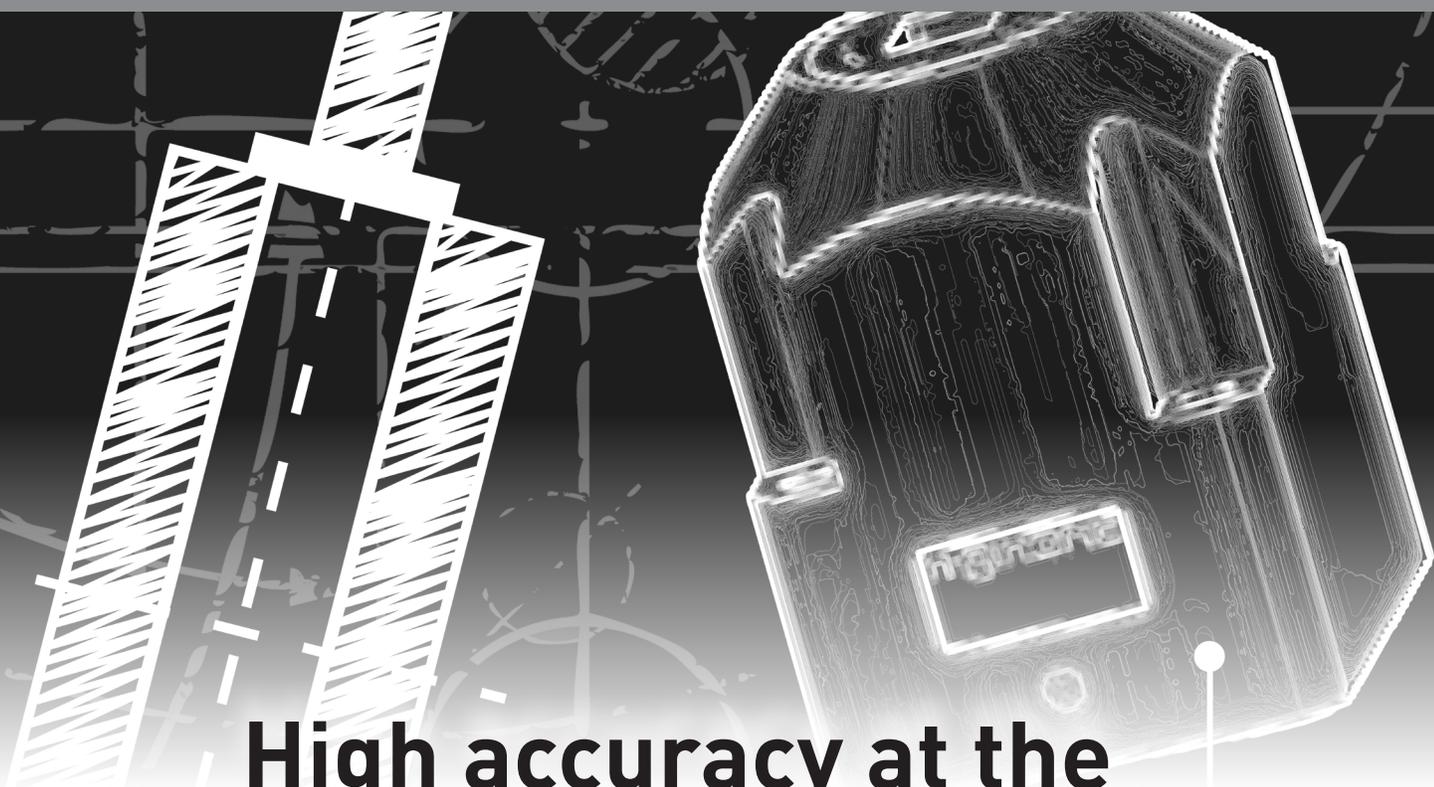


n·gineric

Panasonic



# High accuracy at the smallest torque levels



Exclusively distributed by Panasonic Assembly Tools

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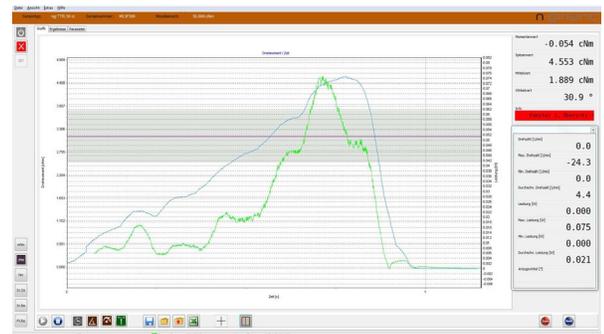
### Product Details

n-gineric Eco MicroDrivers deliver precise torque measurement in a handheld screwdriver. Built-in intelligence and digital interfaces allow easy plug and play connection to a PC to directly observe and document the joint signature.



### Key Features

- Eco
  - 2% of the F.S.R.
  - Compact footprint
- Measurement ranges from 10 cNm – 10 Nm
- Strain gauge based rotary torque sensor at the bit chuck
- Adaptive screw tightening strategies
- 24 bit resolution of the torque measurement
- Brushless DC motor



torque/angle joint signature analysis

ECO MICRODRIVERS				
Model Number	Torque Range	Interface	Drive Type	RPM
ng-eTDH100-xu	10 - 100 cNm	USB	¼" Hex Drive	100 - 1300
ng-eTDH100-xi	10 - 100 cNm	Intelligent	¼" Hex Drive	100 - 1300
ng-eTDH200-xu	20 - 200 cNm	USB	¼" Hex Drive	100 - 800
ng-eTDH200-xi	20 - 200 cNm	Intelligent	¼" Hex Drive	100 - 800
ng-eTDH400-xu	40 - 400 cNm	USB	¼" Hex Drive	100 - 800
ng-eTDH400-xi	40 - 400 cNm	Intelligent	¼" Hex Drive	100 - 800
ng-eTDH500-xu	0.5 - 5Nm	USB	¼" Hex Drive	100 - 600
ng-eTDH500-xi	0.5 - 5Nm	Intelligent	¼" Hex Drive	100 - 600
ng-eTDH1000-xu	1 - 10 Nm	USB	¼" Hex Drive	100 - 600
ng-eTDH1000-xi	1 - 10 Nm	Intelligent	¼" Hex Drive	100 - 600

Included Parts	Description	Part Number
ng-TD-PS-36-600	Power Supply Unit	01-91-00004-01
ng-TD-Cable 3m	Driver Cable 3 meters	01-90-00014-01
ng-TD-Cable 2m (Intelligent version only)	Driver Cable 3 meters	01-90-00011-01
USB Cable	Cable USB-A /USB Mini 1.8m	01-90-00002-01
ng-TDC (Intelligent version only)	Torque Driver Controller Interface	01-01-00220-01



Optional linear arm and accessories

**Product Details**

n-gineric Ultra compact MicroDrivers deliver precise torque measurement in a handheld screwdriver. Built-in intelligence and digital interfaces allow easy plug and play connection to a PC to directly observe and document the joint signature.

**Key Features**

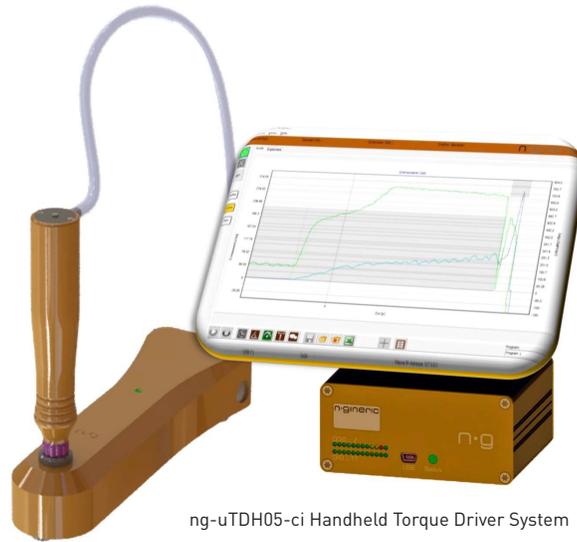
- Ultra compact
  - 1% of the F.S.R.
  - Ultra Compact footprint
- Measurement ranges from 1 cNm – 10 Nm
- Strain gauge rotary torque sensor at the bit chuck
- Adaptive screw tightening strategies
- 24 bit resolution of the torque measurement
- Brushless DC motor

ULTRA COMPACT HALFMOON DRIVE				
Model Number	Torque Range	Interface	Drive Type	RPM
ng-TDH10-hu	1 - 10 cNm	USB	4mm Halfmoon	100 - 1000
ng-TDH10-hi	1 - 10 cNm	Intelligent	4mm Halfmoon	100 - 1000
ng-TDH20-hu	2 - 20 cNm	USB	4mm Halfmoon	100 - 1000
ng-TDH20-hi	2 - 20 cNm	Intelligent	4mm Halfmoon	100 - 1000
ng-TDH50-hu	5 - 50 cNm	USB	4mm Halfmoon	100 - 1300
ng-TDH50-hi	5 - 50 cNm	Intelligent	4mm Halfmoon	100 - 1300
ng-TDH100-hu	10 - 100 cNm	USB	4mm Halfmoon	100 - 1300
ng-TDH100-hi	10 - 100 cNm	Intelligent	4mm Halfmoon	100 - 1300

ULTRA COMPACT 1/4" HEX DRIVE				
Model Number	Torque Range	Interface	Drive Type	RPM
ng-TDH200-xu	20 - 200 cNm	USB	¼" Hex Drive	100 - 800
ng-TDH200-xi	20 - 200 cNm	Intelligent	¼" Hex Drive	100 - 800
ng-TDH400-xu	40 - 400 cNm	USB	¼" Hex Drive	100 - 800
ng-TDH400-xi	40 - 400 cNm	Intelligent	¼" Hex Drive	100 - 800
ng-TDH500-xu	0.5 - 5 Nm	USB	¼" Hex Drive	100 - 600
ng-TDH500-xi	0.5 - 5 Nm	Intelligent	¼" Hex Drive	100 - 600
ng-TDH600-xu	0.6 - 6 Nm	USB	¼" Hex Drive	50 - 500
ng-TDH600-xi	0.6 - 6 Nm	Intelligent	¼" Hex Drive	50 - 500
ng-TDH1000-xu	1 - 10 Nm	USB	¼" Hex Drive	50 - 400
ng-TDH1000-xi	1 - 10 Nm	Intelligent	¼" Hex Drive	50 - 400

ULTRA COMPACT LOW SPEED				
Model Number	Torque Range	Interface	Drive Type	RPM
ng-TDHQ10-hu	1 - 10 cNm	USB	4mm Halfmoon	5 - 300
ng-TDHQ10-hi	1 - 10 cNm	Intelligent	4mm Halfmoon	5 - 300
ng-TDHQ20-hu	2 - 20 cNm	USB	4mm Halfmoon	5 - 300
ng-TDHQ20-hi	2 - 20 cNm	Intelligent	4mm Halfmoon	5 - 300
ng-TDHQ50-hu	5 - 50 cNm	USB	4mm Halfmoon	5 - 300
ng-TDHQ50-hi	5 - 50 cNm	Intelligent	4mm Halfmoon	5 - 300
ng-TDHQ100-hu	10 - 100 cNm	USB	4mm Halfmoon	5 - 300
ng-TDHQ100-hi	10 - 100 cNm	Intelligent	4mm Halfmoon	5 - 300
ng-TDHQ200-xu	20 - 200 cNm	USB	¼" Hex drive	5 - 300
ng-TDHQ200-xi	20 - 200 cNm	Intelligent	¼" Hex Drive	5 - 300
ng-TDHQ400-xu	40 - 400 cNm	USB	¼" Hex Drive	5 - 300
ng-TDHQ400-xi	40 - 400 cNm	Intelligent	¼" Hex Drive	5 - 300
ng-TDHQ500-xu	0.5 - 5 Nm	USB	¼" Hex Drive	5 - 300
ng-TDHQ500-xi	0.5 - 5 Nm	Intelligent	¼" Hex Drive	5 - 300

Included Parts	Description	Part Number
ng-TD-PS-24-80 (10 and 50 cNm only)	Power Supply	01-91-00006-01
ng-TD-PS-36-600 (50-10Nm)	Power Supply	01-91-00004-01
ng-TD-Cable 3m	Driver Cable 3 meters	01-90-00014-01
ng-TD-Cable 2m (Intelligent only)	Driver Cable 2 meters	01-90-00011-01
USB Cable	Cable USB-A /USB Mini 1.8m	01-90-00002-01
ng-TDC (Intelligent only)	Torque Driver Controller Interface	01-01-00220-01



ng-uTDH05-ci Handheld Torque Driver System

**Product Details**

n-gineric Ultra low torque MicroDrivers deliver precise torque measurement in a handheld screwdriver in the lowest torque. Designed for precision torque management for the worlds finest watch makers and alike. Built-in intelligence and digital interfaces allow easy plug and play connection to a PC to directly observe and document the joint signature.

**Key Features**

- Ultra Low Torque
  - 3% of the F.S.R.
  - Compact footprint
- Measurement ranges from 5 mNm – 50 mNm
- Static Strain gauge torque sensor
- Adaptive screw tightening strategies
- Vacuum suction through the handpiece
- Brushless DC motor with planetary gearbox

ULTRA LOW TORQUE				
Model Number	Torque Range	Interface	Drive Type	RPM
ng-uTDH05-cu	5 to 50 mNm	USB	1.5 mm Cylindric	100 - 1000
ng-uTDH05-ci	5 to 50 mNm	Intelligent	1.5 mm Cylindric	100 - 1000

Included Parts	Description	Part Number
ng-uTDH05-ci Controller	Controller	01-01-00595-01
ng-TD-PS-15/80	Power Supply Unit	01-91-00007-01
ng-TD- Cable 3 m (Intelligent only)	Driver Cable 3 meters	01-90-00014-01
Cable USB-A/USB-Mini-B 1.8 m	Driver Cable 2 meters	01-90-00011-01
ng-TD- Cable 2 m	USB - Cable	01-90-00002-01
ng-TDC (Intelligent only)	Torque Driver Controller Interface	01-01-00220-01



**Product Details**

n-gineric Stationary MicroDrivers deliver precise torque measurement in a stationary screwdriver. Built-in intelligence and digital interfaces allow easy plug and play connection to a PC to directly observe and document the joint signature.

**Key Features**

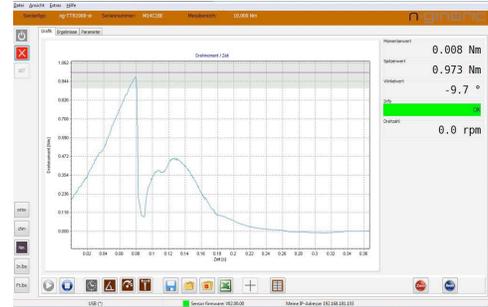
- Stationary
  - 1% of the F.S.R.
    - Compact footprint
    - Fixture based mounting
- Measurement ranges from 1 cNm – 10 Nm
- Strain gauge rotary torque sensor at the bit chuck
- Adaptive screw tightening strategies
- 24 bit resolution of the torque measurement
- Brushless DC motor

ULTRA COMPACT STATIONARY HALFMOON				
Model Number	Torque Range	Interface	Drive Type	RPM
ng-TDS10-hu	1 - 10 cNm	USB	4mm Halfmoon	100 - 1000
ng-TDS10-hi	1 - 10 cNm	Intelligent	4mm Halfmoon	100 - 1000
ng-TDS20-hu	2 - 20 cNm	USB	4mm Halfmoon	100 - 1000
ng-TDS20-hi	2 - 20 cNm	Intelligent	4mm Halfmoon	100 - 1000
ng-TDS50-hu	5 - 50 cNm	USB	4mm Halfmoon	100 - 1300
ng-TDS50-hi	5 - 50 cNm	Intelligent	4mm Halfmoon	100 - 1300
ng-TDS100-hu	10 - 100 cNm	USB	4mm Halfmoon	100 - 1300
ng-TDS100-hi	10 - 100 cNm	Intelligent	4mm Halfmoon	100 - 1300

ULTRA COMPACT STATIONARY HEX DRIVE				
Model Number	Torque Range	Interface	Drive Type	RPM
ng-TDS200-xu	20 - 200 cNm	USB	¼" Hex Drive	100 - 800
ng-TDS200-xi	20 - 200 cNm	Intelligent	¼" Hex Drive	100 - 800
ng-TDS400-xu	40 - 400 cNm	USB	¼" Hex Drive	100 - 800
ng-TDS400-xi	40 - 400 cNm	Intelligent	¼" Hex Drive	100 - 800
ng-TDS500-xu	0.5 - 5 Nm	USB	¼" Hex Drive	100 - 600
ng-TDS500-xi	0.5 - 5 Nm	Intelligent	¼" Hex Drive	100 - 600
ng-TDS600-xi	0.6 - 6 Nm	Intelligent	¼" Hex Drive	50 - 500
ng-TDS1000-xi	1 - 10 Nm	Intelligent	¼" Hex Drive	50 - 400

ULTRA COMPACT STATIONARY LOW SPEED				
Model Number	Torque Range	Interface	Drive Type	RPM
ng-TDSQ10-hu	1 - 10 cNm	USB	4mm Halfmoon	5 - 300
ng-TDSQ10-hi	1 - 10 cNm	Intelligent	4mm Halfmoon	5 - 300
ng-TDSQ20-hu	2 - 20 cNm	USB	4mm Halfmoon	5 - 300
ng-TDSQ20-hi	2 - 20 cNm	Intelligent	4mm Halfmoon	5 - 300
ng-TDSQ50-hu	5 - 50 cNm	USB	4mm Halfmoon	5 - 300
ng-TDSQ50-hi	5 - 50 cNm	Intelligent	4mm Halfmoon	5 - 300
ng-TDSQ100-hu	10 - 100 cNm	USB	4mm Halfmoon	5 - 300
ng-TDSQ100-hi	10 - 100 cNm	Intelligent	4mm Halfmoon	5 - 300
ng-TDSQ200-xu	20 - 200 cNm	USB	¼" Hex Drive	5 - 300
ng-TDSQ200-xi	20 - 200 cNm	Intelligent	¼" Hex Drive	5 - 300
ng-TDSQ400-xu	40 - 400 cNm	USB	¼" Hex Drive	5 - 300
ng-TDSQ400-xi	40 - 400 cNm	Intelligent	¼" Hex Drive	5 - 300
ng-TDSQ500-xu	0.5 - 5 Nm	USB	¼" Hex Drive	5 - 300
ng-TDSQ500-xi	0.5 - 5 Nm	Intelligent	¼" Hex Drive	5 - 300

Included Parts	Description	Part Number
ng-TD-PS-24-80 (10 - 20 cNm only)	Power Supply	01-91-00006-01
ng-TD-PS-36-600 (50 cNm - 10 Nm)	Power Supply	01-91-00004-01
ng-TD-Cable 3m	Driver Cable 3 Meters	01-90-00014-01
ng-TD-Cable 2m (Intelligent only)	Driver Cable 2 Meters	01-90-00011-01
USB Cable	Cable USB-A /USB Mini 1.8m	01-90-00002-01
ng-TDC (Intelligent only)	Torque Driver Controller Interface	01-01-00220-01



n-quirer TT V3 Software

### Product Details

n-gineric intelligent rotary transducers measure accurate torque, speed, and angle. Mount directly to continuous drive tools during assembly for validation and audits. Perform joint analysis based on graph data plotting. No additional proprietary hardware needed.

Internal parameter memory makes this plug and play rotary transducer unique to the industry that only requires a Windows PC.

### Key Features

- Intelligent
  - Ultra compact
  - ng-Link, standard USB and Ethernet connection
- Verifies torque range from 1 cNm – 1000 Nm
- High resolution incremental encoder
- Highly portable rotating angle transducer offers quality audit tools for redundancy or final torque
- Graph data plotting and overlay for robust joint signature analysis
- High-precision measurement by 24 bit resolution of the torque measurement

### Rotary or Stationary mounting fixtures

- ng-TTR01-ci to ng-TTR5000-qi
  - Fixed mount accessory

Model Number	Diameter
01-01-00163-01	19mm
01-01-00226-01	20mm



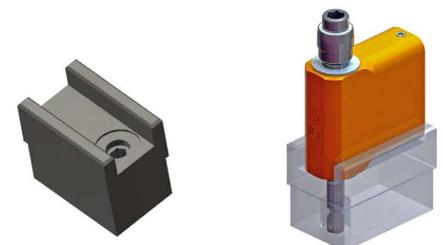
- Rotary or Stationary Shaft Detent
  - Fixed mount accessory. Insert the square drive into the square cutout
  - Swap a rotary on the fly for ease and portability

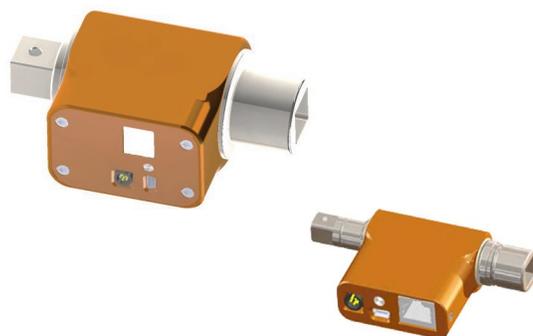
Model Number	Shaft Detent
01-92-00037-01	3/8" Square Drive
01-92-00036-01	1/2" Square Drive



- Rotary Shaft Detent Fixture 1/4 Hex
  - Fixed mount accessory. Insert the hex drive into the Hex cutout
  - Swap a rotary on the fly for ease and portability

Model Number	Rotary Series
01-92-00016-01	ng-TTR
01-92-00116-01	ng-eTTR





INTELLIGENT ROTARY TRANSDUCERS				
Model Number	Torque Range	Interface	Drive Type	Overload protection
ng-TTR01-ci	+/- 1 cNm	Intelligent	3mm Shaft	•
ng-TTR02-ci	+/- 2 cNm	Intelligent	3mm Shaft	•
ng-TTR05-ci	+/- 5 cNm	Intelligent	3mm Shaft	•
ng-TTR10-ci	+/- 10 cNm	Intelligent	5mm Shaft	•
ng-TTR20-ci	+/- 20 cNm	Intelligent	5mm Shaft	•
ng-TTR50-ci	+/- 50 cNm	Intelligent	8mm Shaft	•
ng-TTR50-ci	+/- 50 cNm	Intelligent	8mm Shaft	
ng-TTR100-ci	+/- 100 cNm	Intelligent	8mm Shaft	•
ng-TTR100-ci	+/- 100 cNm	Intelligent	8mm Shaft	
ng-TTR200-ci	+/- 200 cNm	Intelligent	8mm Shaft	•
ng-TTR200-ci	+/- 200 cNm	Intelligent	8mm Shaft	
ng-TTR500-ci	+/- 5 Nm	Intelligent	8mm Shaft	
ng-TTR1000-ci	+/- 10 Nm	Intelligent	8mm Shaft	
ng-TTR2000-ci	+/- 20 Nm	Intelligent	12mm Shaft	
ng-TTR50-xi	+/- 50 cNm	Intelligent	¼" Hex Drive	•
ng-TTR100-xi	+/- 100 cNm	Intelligent	¼" Hex Drive	•
ng-TTR200-xi	+/- 200 cNm	Intelligent	¼" Hex Drive	•
ng-TTR500-xi	+/- 5 Nm	Intelligent	¼" Hex Drive	
ng-TTR1000-xi	+/- 10 Nm	Intelligent	¼" Hex Drive	
ng-TTR2000-xi	+/- 20 Nm	Intelligent	¼" Hex Drive	
ng-TTR500-qi	+/- 5 Nm	Intelligent	¼" Square Drive	
ng-TTR2000-qi	+/- 20 Nm	Intelligent	¼" Square Drive	
ng-TTR5000-qi	+/- 50 Nm	Intelligent	⅜" Square Drive	
ng-TTR10000-qi	+/- 100 Nm	Intelligent	½" Square Drive	
ng-TTR20000-qi	+/- 200 Nm	Intelligent	½" Square Drive	
ng-TTR50000-qi	+/- 500 Nm	Intelligent	¾" Square Drive	
ng-TTR100000-qi	+/- 1000 Nm	Intelligent	1" Square Drive	

\* 10 cNm = 0.1 Nm / 100 cNm = 1 Nm / 1000 cNm = 10 Nm

## Product Details

n-gineric USB rotary transducers measure accurate torque, speed, and angle. Mount directly to continuous drive tools during assembly for validation and audits. Perform joint analysis based on graph data plotting. No additional proprietary hardware needed.

Internal parameter memory makes this plug and play rotary transducer unique to the industry that only requires a Windows PC.



## Key Features

- USB
  - Ultra compact
  - Standard USB connection
- Verifies torque range from 1 cNm – 50 Nm
- High resolution incremental encoder
- Highly portable rotating angle transducer offers quality audit tools for redundancy or final torque
- Graph data plotting and overlay for robust joint signature analysis
- High-precision measurement by 24 bit resolution of the torque measurement

USB ROTARY TRANSDUCERS				
Model Number	Torque Range	Interface	Drive Type	Overload protection
ng-TTR01-cu	+/- 1 cNm	USB	3mm Shaft	•
ng-TTR02-cu	+/- 2 cNm	USB	3mm Shaft	•
ng-TTR05-cu	+/- 5 cNm	USB	3mm Shaft	•
ng-TTR10-cu	+/- 10 cNm	USB	5mm Shaft	•
ng-TTR20-cu	+/- 20 cNm	USB	5mm Shaft	•
ng-TTR50-cu	+/- 50 cNm	USB	8mm Shaft	•
ng-TTR50-cu	+/- 50 cNm	USB	8mm Shaft	
ng-TTR100-cu	+/- 100 cNm	USB	8mm Shaft	•
ng-TTR100-cu	+/- 100 cNm	USB	8mm Shaft	
ng-TTR200-cu	+/- 200 cNm	USB	8mm Shaft	•
ng-TTR200-cu	+/- 200 cNm	USB	8mm Shaft	
ng-TTR500-cu	+/- 5 Nm	USB	8mm Shaft	
ng-TTR1000-cu	+/- 10 Nm	USB	8mm Shaft	
ng-TTR2000-cu	+/- 20 Nm	USB	12mm Shaft	
ng-TTR50-xu	+/- 50 cNm	USB	1/4" Hex Drive	•
ng-TTR100-xu	+/- 100 cNm	USB	1/4" Hex Drive	•
ng-TTR200-xu	+/- 200 cNm	USB	1/4" Hex Drive	•
ng-TTR500-xu	+/- 5 Nm	USB	1/4" Hex Drive	
ng-TTR1000-xu	+/- 10 Nm	USB	1/4" Hex Drive	
ng-TTR2000-xu	+/- 20 Nm	USB	1/4" Hex Drive	
ng-TTR500-qu	+/- 5 Nm	USB	1/4" Square Drive	
ng-TTR2000-qu	+/- 20 Nm	USB	1/4" Square Drive	
ng-TTR5000-qu	+/- 50 Nm	USB	3/8" Square Drive	

## Product Details

n-gineric Eco rotary transducers measure accurate torque, speed, and angle. Mount directly to continuous drive tools during assembly for validation and audits. Perform joint analysis based on graph data plotting.

Internal parameter memory makes this plug and play rotary transducer unique to the industry that only requires a Windows PC.



## Key Features

- Eco
  - Compact size
  - Optional ng-Link and mounting flange
- Threaded USB connector (requires proprietary Cable (01-92-001 16-01))
- Verifies torque range from 2 Nm – 50 Nm
- High resolution incremental encoder
- Highly portable rotating angle transducer offers quality audit tools for redundancy or final torque
- Graph data plotting and overlay for robust joint signature analysis
- High-precision measurement by 24 bit resolution of the torque measurement

ECO ROTARY TRANSDUCERS				
Model Number	Torque Range	Angle Encoder	ng-Link	Drive Type
ng-eTTR200-xt	+/- 2 Nm			1/4" Hex Drive
ng-eTTR200-xu	+/- 2 Nm	•		1/4" Hex Drive
ng-eTTR200-xr	+/- 2 Nm	•	•	1/4" Hex Drive
ng-eTTR500-xt	+/- 5 Nm			1/4" Hex Drive
ng-eTTR500-xu	+/- 5 Nm	•		1/4" Hex Drive
ng-eTTR500-xr	+/- 5 Nm	•	•	1/4" Hex Drive
ng-eTTR1000-xt	+/- 10 Nm			1/4" Hex Drive
ng-eTTR1000-xu	+/- 10 Nm	•		1/4" Hex Drive
ng-eTTR1000-xr	+/- 10 Nm	•	•	1/4" Hex Drive
ng-eTTR2000-xt	+/- 20 Nm			1/4" Hex Drive
ng-eTTR2000-xu	+/- 20 Nm	•		1/4" Hex Drive
ng-eTTR2000-xr	+/- 20 Nm	•	•	1/4" Hex Drive
ng-eTTR5000-qt	+/- 50 Nm			3/8" Square Drive
ng-eTTR5000-qu	+/- 50 Nm	•		3/8" Square Drive
ng-eTTR5000-qr	+/- 50 Nm	•	•	3/8" Square Drive
ng-eTTR200-xf	+/- 2 Nm	•	•	1/4" Hex Drive
ng-eTTR500-xf	+/- 5 Nm	•	•	1/4" Hex Drive
ng-eTTR1000-xf	+/- 10 Nm	•	•	1/4" Hex Drive
ng-eTTR2000-xf	+/- 20 Nm	•	•	1/4" Hex Drive
ng-eTTR5000-qf	+/- 50 Nm	•	•	3/8" Square Drive

### Product Details

n-gineric Analog + Digital rotary transducers measure accurate torque, speed, and angle. Mount directly to continuous drive tools during assembly for validation and audits. Perform joint analysis based on graph data plotting. No additional proprietary hardware needed.

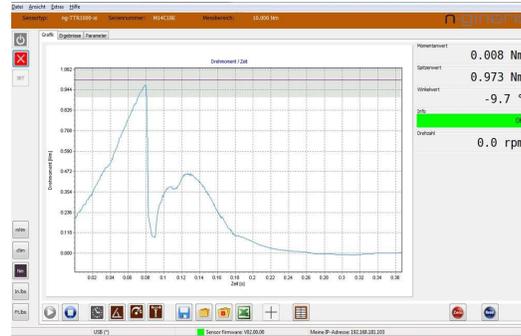
Internal parameter memory makes this plug and play rotary transducer unique to the industry that only requires a Windows PC.

### Key Features

- Analog + Digital
  - Ultra compact
  - Standard USB connector
  - Optional accessory analog sensor cable 1.5m (01-90-00021-01)
- Analog output
- 0 to 5 V, zero point at 2.5 V
- 0 to 10 V, zero point at 5 V
- Verifies torque range from 1 cNm – 50 Nm
- High resolution incremental encoder
- Highly portable rotating angle transducer offers quality audit tools for redundancy or final torque
- Graph data plotting and overlay for robust joint signature analysis



ANALOG + DIGITAL ROTARY TRANSDUCERS				
Model Number	Torque Range	Interface	Drive Type	Overload protection
ng-TTR01-ca	+/- 1 cNm	Analog + USB	3mm Shaft	•
ng-TTR02-ca	+/- 2 cNm	Analog + USB	3mm Shaft	•
ng-TTR05-ca	+/- 5 cNm	Analog + USB	3mm Shaft	•
ng-TTR10-ca	+/- 10 cNm	Analog + USB	5mm Shaft	•
ng-TTR20-ca	+/- 20 cNm	Analog + USB	5mm Shaft	•
ng-TTR50-ca	+/- 50 cNm	Analog + USB	8mm Shaft	•
ng-TTR50-ca	+/- 50 cNm	Analog + USB	8mm Shaft	
ng-TTR100-ca	+/- 100 cNm	Analog + USB	8mm Shaft	•
ng-TTR100-ca	+/- 100 cNm	Analog + USB	8mm Shaft	
ng-TTR200-ca	+/- 200 cNm	Analog + USB	8mm Shaft	•
ng-TTR200-ca	+/- 200 cNm	Analog + USB	8mm Shaft	
ng-TTR500-ca	+/- 5 Nm	Analog + USB	8mm Shaft	
ng-TTR1000-ca	+/- 10 Nm	Analog + USB	8mm Shaft	
ng-TTR2000-ca	+/- 20 Nm	Analog + USB	12mm Shaft	
ng-TTR50-xa	+/- 50 cNm	Analog + USB	¼" Hex Drive	
ng-TTR100-xa	+/- 100 cNm	Analog + USB	¼" Hex Drive	
ng-TTR200-xa	+/- 200 cNm	Analog + USB	¼" Hex Drive	
ng-TTR500-xa	+/- 5 Nm	Analog + USB	¼" Hex Drive	
ng-TTR1000-xa	+/- 10 Nm	Analog + USB	¼" Hex Drive	
ng-TTR2000-xa	+/- 20 Nm	Analog + USB	¼" Hex Drive	
ng-TTR5000-qa	+/- 50 Nm	Analog + USB	¾" Square Drive	



n-quirer TT V3 Software

**Product Details**

n-gineric oil pulse tool rotary transducers measure accurate torque, speed, and angle. Mount directly to continuous drive or oil pulse tools during assembly for validation and audits. Perform joint analysis based on graph data plotting.

Internal parameter memory makes this plug and play rotary transducer unique to the industry that only requires a Windows PC.

**Key Features**

- Intelligent
  - Ultra compact
  - ng-Link, standard USB and Ethernet connection
  - Extended RPM range up to up to 10,000 RPM
  - Requires ng-eTTR/proprietary 1.8m cable (01-90-00008-01)
- Verifies torque range from 80 Nm - 160 Nm
- High resolution incremental encoder
- Highly portable rotating angle transducer offers quality audit tools for redundancy or final torque
- Graph data plotting and overlay for robust joint signature analysis
- High-precision measurement by 24 bit resolution of the torque measurement

OIL PULSE TOOL ROTARY TRANSDUCERS			
Model Number	Torque Range	Interface	Drive Type
ng-vTTR8000-qi	+/- 80 Nm	Intelligent	1/2" Square Drive
ng-vTTR10000-qi	+/- 100 Nm	Intelligent	1/2" Square Drive
ng-vTTR12000-qi	+/- 120 Nm	Intelligent	1/2" Square Drive
ng-vTTR16000-qi	+/- 160 Nm	Intelligent	1/2" Square Drive



Designed for



### Product Details

These n-gineric intelligent stationary transducers were made specifically for Panasonic mechanical pulse tools to ensure fastening accuracy and quality control on your manufacturing lines with our joint simulator kits. Can be used with discontinuous drive tools, direct drive, oil pulse and mechanical pulse tools. Validate and verify accuracy and repeatability of assembly tools. No additional proprietary hardware needed.

Internal parameter memory makes this plug and play stationary transducer unique to the industry that only requires a Windows PC. Software included at no extra expense.

### Key Features

- Intelligent
  - ng-Link, standard USB and Ethernet connection
- Verifies torque range from 2 Nm – 400 Nm
- Strain gauge-based torque measurement with aluminum housing & double ball bearing construction
- High-precision measurement by 24 bit resolution of the torque measurement



TRANSUCERS			
EYFST22NM	+/- 22 Nm	Intelligent	3/8" Square Drive
EYFST120NM	+/- 120 Nm	Intelligent	1/2" Square Drive
EYFST750NM	+/- 750 Nm	Intelligent	3/4" Square Drive

JOINT SIMULATOR KITS				
Model Number	Torque Range	Drive	Bolt Size	Included Parts
EYFJS22NM	3-22 Nm	3/8" Square	M8	Includes 4.5mm, 5mm, 6mm Washers, M8 Spacer and M8 Base, M8x40mm Bolt, M8x30mm Bolt and Grease
EYFJS120NM -2	22-120 Nm	1/2" Square	M12 and M14	Includes 5mm, 5.5mm, 6mm, 9mm Washers, M12 Spacer, M14 Spacer, M12 Base, M14 Base, M12x60mm Bolt, M12x40mm Bolt, M14x50mm and Grease
EYFJS120NM	72-120 Nm	1/2" Square	M14	Includes 9mm Washers, M14 Spacer, M14 Base, M14x50mm Bolts and Grease
EYFJS200NM	70-200 Nm	3/4" Square	M16	Includes 7mm, 7.5mm, 9mm Washers, M16 Spacer, M16 Base, M16x50mm Bolt and Grease
EYFJS400NM	160-400 Nm	3/4" Square	M24	Includes 10mm, 11mm Washers, M24 Spacer, M24 Base, M24x55mm Bolt and Grease

ACCUPULSE 4.0 VALIDATION KIT AND TRANSDUCER				
Model Number	Torque Range	Drive	Bolt Size	Included Parts
EYFJS-MHK	AccuPulse 4.0 Validation Kit	1/2" Square	M8 and M12	Includes EYFJS-MH1 and EYFJS-MH2, EYFST120 NM (Stationary Transducer), USB, USB Cable and Grease
EYFJS-MH1	AccuPulse 4.0 MH1 Validation	1/2" Square	M8	Includes 5mm Washers, M8 Spacer, M8 Base, M8x40mm Bolt and Grease
EYFJS-MH2	AccuPulse 4.0 MH2 Validation	1/2" Square	M12	Includes 6mm Washers, M12 Spacer, M12 Base, M12x50mm Bolt and Grease
EYFJS-NH1	AccuPulse 4.0 NH1 Validation	1/2" Square	M12	Includes 7mm Washers, M12 Spacer, M12 Base, M12x50mm Bolt and Grease



### Product Details

These n-gineric intelligent stationary transducers ensure fastening accuracy and quality control on your manufacturing lines. Can be used with discontinuous drive tools, direct drive, oil pulse and mechanical pulse tools . Validate and verify accuracy and repeatability of assembly tools. No additional proprietary hardware needed.

Internal parameter memory makes this plug and play stationary transducer unique to the industry that only requires a Windows PC.

### Key Features

- Intelligent
  - ng-Link, standard USB and Ethernet connection
- Verifies torque range from 1 cNm – 1000 Nm
- Strain gauge-based torque measurement with aluminum housing & double ball bearing construction
- High-precision measurement by 24 bit resolution of the torque measurement

INTELLIGENT STATIONARY TRANSDUCERS				
Model Number	Torque Range	Interface	Drive Type	Overload protection
ng-TTS01-ci	+/- 1 cNm	Intelligent	3mm Bore	•
ng-TTS02-ci	+/- 2 cNm	Intelligent	3mm Bore	•
ng-TTS05-ci	+/- 5 cNm	Intelligent	3mm Bore	•
ng-TTS10-ci	+/- 10 cNm	Intelligent	3mm Bore	•
ng-TTS20-ci	+/- 20 cNm	Intelligent	3mm Bore	•
ng-TTS50-xi	+/- 50 cNm	Intelligent	¼" Hex Drive	•
ng-TTS100-xi	+/- 100 cNm	Intelligent	¼" Hex Drive	•
ng-TTS200-xi	+/- 200 cNm	Intelligent	¼" Hex Drive	•
ng-TTS500-xi	+/- 5 Nm	Intelligent	¼" Hex Drive	
ng-TTS1000-xi	+/- 10 Nm	Intelligent	¼" Hex Drive	
ng-TTS2000-xi	+/- 20 Nm	Intelligent	¼" Hex Drive	
ng-TTS5000-qi	+/- 50 Nm	Intelligent	⅜" Square Drive	
ng-TTS10000-qi	+/- 100 Nm	Intelligent	½" Square Drive	
ng-TTS12000-qi	+/- 120 Nm	Intelligent	½" Square Drive	
ng-TTS20000-qi	+/- 200 Nm	Intelligent	½" Square Drive	
ng-TTS50000-qi	+/- 500 Nm	Intelligent	¾" Square Drive	
ng-TTS75000-qi	+/- 750 Nm	Intelligent	¾" Square Drive	
ng-TTS100000-qi	+/- 1000 Nm	Intelligent	¾" Square Drive	



**Product Details**

These n-gineric USB stationary transducers ensure fastening accuracy and quality control on your manufacturing lines. Can be used with discontinuous drive tools, direct drive, oil pulse and mechanical pulse tools. Validate and verify accuracy and repeatability of assembly tools. No additional proprietary hardware needed.

Internal parameter memory makes this plug and play stationary transducer unique to the industry that only requires a Windows PC.

**Key Features**

- USB
  - Standard USB connection
- Verifies torque range from 1 cNm – 100 Nm
- Strain gauge-based torque measurement with aluminum housing & double ball bearing construction
- High-precision measurement by 24 bit resolution of the torque measurement

USB STATIONARY TRANSDUCERS				
Model Number	Torque Range	Interface	Drive Type	Overload protection
ng-TTS01-cu	+/- 1 cNm	USB	3mm Bore	•
ng-TTS02-cu	+/- 2 cNm	USB	3mm Bore	•
ng-TTS05-cu	+/- 5 cNm	USB	3mm Bore	•
ng-TTS10-cu	+/- 10 cNm	USB	3mm Bore	•
ng-TTS20-cu	+/- 20 cNm	USB	3mm Bore	•
ng-TTS50-xu	+/- 50 cNm	USB	1/4" Hex Drive	•
ng-TTS100-xu	+/- 100 cNm	USB	1/4" Hex Drive	•
ng-TTS200-xu	+/- 200 cNm	USB	1/4" Hex Drive	•
ng-TTS500-xu	+/- 5 Nm	USB	1/4" Hex Drive	
ng-TTS1000-xu	+/- 10 Nm	USB	1/4" Hex Drive	
ng-TTS2000-xu	+/- 20 Nm	USB	1/4" Hex Drive	
ng-TTS5000-qu	+/- 50 Nm	USB	3/8" Square Drive	
ng-TTS10000-qu	+/- 100 Nm	USB	1/2" Square Drive	



**Product Details**

These n-gineric USB portable stationary transducers ensure fastening accuracy and quality control on your manufacturing lines. Can be used with discontinuous drive tools, direct drive, oil pulse and mechanical pulse tools . Validate and verify accuracy and repeatability of assembly tools. No additional proprietary hardware needed.

Internal parameter memory makes this plug and play stationary transducer unique to the industry that only requires a Windows PC.

**Key Features**

- Eco
  - Compact size
  - Optional ng-Link
  - Standard USB connector
- Verifies torque range from 5 Nm – 50 Nm
- Strain gauge-based torque measurement with aluminum housing & double ball bearing construction
- High-precision measurement by 24 bit resolution of the torque measurement

USB PORTABLE STATIONARY TRANSDUCERS			
Model Number	Torque Range	Interface	Drive Type
ng-eTTS500-qu	+/- 5 Nm	USB	3/8" Square Drive
ng-eTTS1000-qu	+/- 10 Nm	USB	3/8" Square Drive
ng-eTTS2000-qu	+/- 20 Nm	USB	3/8" Square Drive
ng-eTTS5000-qu	+/- 50 Nm	USB	3/8" Square Drive

**Rotary or Stationary Shaft Detent**

- Fix mount accessory. Insert the square drive into the square cutout
- Swap a stationary transducer on the fly for ease and portability

Model Number	Shaft Detent
01-92-00037-01	3/8" Square Drive
01-92-00036-01	1/2" Square Drive





**Product Details**

These n-gineric Analog stationary transducers ensure fastening accuracy and quality control on your manufacturing lines. Can be used with discontinuous drive tools, direct drive, oil pulse and mechanical pulse tools. Validate and verify accuracy and repeatability of assembly tools.

**Key Features**

- Analog
  - Proprietary threaded USB connector
  - Requires analog interface cable (01-90-00021-01)
  - Analog output
    - 0 to 5 V, zero point at 2.5 V
    - 0 to 10 V, zero point at 5 V
- Verifies torque range from 1 cNm – 50 Nm
- External measuring device required

ANALOG STATIONARY TRANSDUCERS				
Model Number	Torque Range	Interface	Drive Type	Overload protection
ng-TTS01-ca	+/- 1 cNm	Analog	3mm Bore	•
ng-TTS02-ca	+/- 2 cNm	Analog	3mm Bore	•
ng-TTS05-ca	+/- 5 cNm	Analog	3mm Bore	•
ng-TTS10-ca	+/- 10 cNm	Analog	3mm Bore	•
ng-TTS20-ca	+/- 20 cNm	Analog	3mm Bore	•
ng-TTS50-xa	+/- 50 cNm	Analog	1/4" Hex Drive	•
ng-TTS100-xa	+/- 100 cNm	Analog	1/4" Hex Drive	•
ng-TTS200-xa	+/- 200 cNm	Analog	1/4" Hex Drive	•
ng-TTS500-xa	+/- 5 Nm	Analog	1/4" Hex Drive	
ng-TTS1000-xa	+/- 10 Nm	Analog	1/4" Hex Drive	
ng-TTS2000-xa	+/- 20 Nm	Analog	1/4" Hex Drive	
ng-TTS5000-qa	+/- 50 Nm	Analog	3/8" Square Drive	



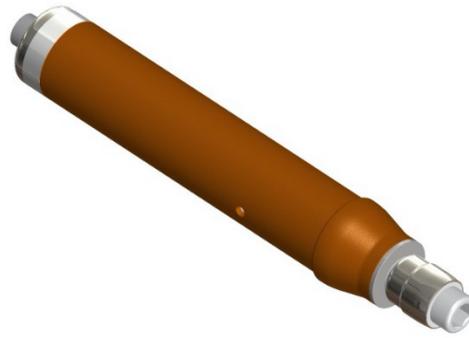
**Product Details**

n-gineric handheld torque sensors deliver precise torque measurement in a handheld screwdriver-type transducer. Built-in intelligence and digital interfaces allow easy connection to a PC to directly observe and document the measurement process.

**Key Features**

- USB version
  - compact
  - standard USB connection
- Intelligent version
  - compact
  - ng-Link, standard USB and Ethernet connection
- Measurement ranges from 1 cNm – 200 cNm
- High precision strain gauge torque sensors
- Measure dynamic force forward and reverse

HANDHELD TORQUE SENSORS				
Model Number	Torque Range	Interface	Drive Type	Overload protection
ng-TTH01-cu	+/- 1 cNm	USB	3mm Bore	•
ng-TTH01-ci	+/- 1 cNm	Intelligent	3mm Bore	•
ng-TTH02-cu	+/- 2 cNm	USB	3mm Bore	•
ng-TTH02-ci	+/- 2 cNm	Intelligent	3mm Bore	•
ng-TTH05-cu	+/- 5 cNm	USB	3mm Bore	•
ng-TTH05-ci	+/- 5 cNm	Intelligent	3mm Bore	•
ng-TTH10-cu	+/- 10 cNm	USB	3mm Bore	•
ng-TTH10-ci	+/- 10 cNm	Intelligent	3mm Bore	•
ng-TTH20-cu	+/- 20 cNm	USB	3mm Bore	•
ng-TTH20-ci	+/- 20 cNm	Intelligent	3mm Bore	•
ng-TTH50-xu	+/- 50 cNm	USB	¼" Hex Drive	•
ng-TTH50-xi	+/- 50 cNm	Intelligent	¼" Hex Drive	•
ng-TTH100-xu	+/- 100 cNm	USB	¼" Hex Drive	•
ng-TTH100-xi	+/- 100 cNm	Intelligent	¼" Hex Drive	•
ng-TTH200-xu	+/- 200 cNm	USB	¼" Hex Drive	•
ng-TTH200-xi	+/- 200 cNm	Intelligent	¼" Hex Drive	•



**Product Details**

n-gineric analog handheld torque sensors deliver precise torque measurement in a handheld screwdriver-type transducer. Built-in intelligence and digital interfaces allow easy connection to a PC to directly observe and document the measurement process.

**Key Features**

- Analog
  - Proprietary threaded USB connector
  - Requires analog interface cable (01-90-00021-01)
  - Analog output
    - 0 to 5 V, zero point at 2.5 V
    - 0 to 10 V, zero point at 5 V
- Verifies torque range from 1 cNm – 200 cNm
- External measuring device required

HANDHELD ANALOG TORQUE SENSORS				
Model Number	Torque Range	Interface	Drive Type	Overload protection
ng-TTH01-ca	+/- 1 cNm	Analog	3mm Bore	•
ng-TTH02-ca	+/- 2 cNm	Analog	3mm Bore	•
ng-TTH05-ca	+/- 5 cNm	Analog	3mm Bore	•
ng-TTH10-ca	+/- 10 cNm	Analog	3mm Bore	•
ng-TTH20-ca	+/- 20 cNm	Analog	3mm Bore	•
ng-TTH50-xa	+/- 50 cNm	Analog	1/4" Hex Drive	•
ng-TTH100-xa	+/- 100 cNm	Analog	1/4" Hex Drive	•
ng-TTH200-xa	+/- 200 cNm	Analog	1/4" Hex Drive	•

Compression Force Sensors



Product Details

n-gineric Intelligent compression force sensors help you improve quality fastening by accurately measuring applied force, clamp Load, displacement and compression. Sensor system software enables recording graph combinations such as torque, force and displacement. A fully integrated digital force measurement system.

Key Features

- Intelligent
  - Compact
  - ng-Link, standard USB and Ethernet connection
  - Optional sensor interface with input for incremental encoder to measure displacement
- Measurement ranges from 100 N to 50 kN
- Sensor interface equipped high precision strain gauge-based button compression sensor
- Force window control

INTELLIGENT BUTTON FORCE LOAD CELLS				
Model Number	Force Range	Interface	Cell Type	Accuracy
ng-FTS100-bi	+/- 100 N	Intelligent	Button Load Cell	0.25%
ng-FTS200-bi	+/- 200 N	Intelligent	Button Load Cell	0.25%
ng-FTS500-bi	+/- 500 N	Intelligent	Button Load Cell	0.25%
ng-FTS1000-bi	+/- 1000 N	Intelligent	Button Load Cell	0.25%
ng-FTS2000-bi	+/- 2 kN	Intelligent	Button Load Cell	0.50%
ng-FTS5000-bi	+/- 5 kN	Intelligent	Button Load Cell	0.50%
ng-FTS10000-bi	+/- 10 kN	Intelligent	Button Load Cell	0.50%
ng-FTS20000-bi	+/- 20 kN	Intelligent	Button Load Cell	0.50%
ng-FTS50000-bi	+/- 50kN	Intelligent	Button Load Cell	0.50%

Compression Force Sensors



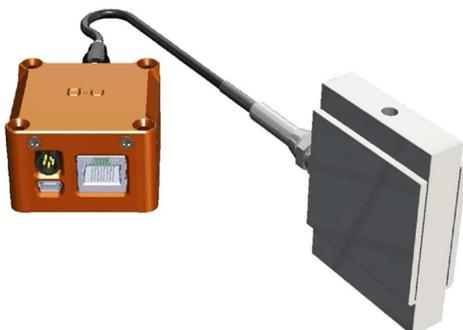
Product Details

n-gineric USB compression force sensors help you improve quality fastening by accurately measuring applied force, clamp Load and compression. Sensor system software enables recording graph combinations such as torque, force and displacement. A fully integrated digital force measurement system.

Key Features

- USB
  - Compact
  - Standard USB connection
- Measurement ranges from 100 N to 20 kN
- Sensor interface equipped high precision strain gauge-based button compression sensor
- Force window control

USB BUTTON FORCE LOAD CELLS				
Model Number	Force Range	Interface	Cell Type	Accuracy
ng-FTS100-bu	+/- 100 N	USB	Button Load Cell	0.25%
ng-FTS200-bu	+/- 200 N	USB	Button Load Cell	0.25%
ng-FTS500-bu	+/- 500 N	USB	Button Load Cell	0.25%
ng-FTS1000-bu	+/- 1000 N	USB	Button Load Cell	0.25%
ng-FTS2000-bu	+/- 2 kN	USB	Button Load Cell	0.50%
ng-FTS5000-bu	+/- 5 kN	USB	Button Load Cell	0.50%
ng-FTS10000-bu	+/- 10 kN	USB	Button Load Cell	0.50%
ng-FTS20000-bu	+/- 20 kN	USB	Button Load Cell	0.50%

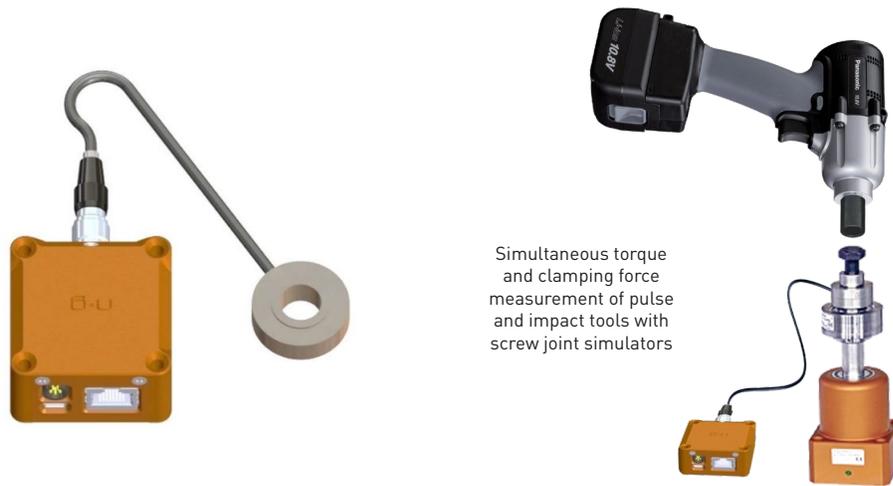


Tension and Compression Force Sensor

ng-FTS-zi

These intelligent tension and compressive force sensors are available in measuring ranges from +/- 10 N to +/- 200 kN.

Compression Force Sensors



Simultaneous torque and clamping force measurement of pulse and impact tools with screw joint simulators

Product Details

n-gineric Intelligent compression force sensors help you improve quality fastening by accurately measuring applied force, clamp Load, displacement and compression. Sensor system software enables recording graph combinations such as torque, force and displacement. A fully integrated digital force measurement system.

Key Features

- Intelligent
  - Compact
  - ng-Link, standard USB and Ethernet connection
  - Optional Sensor interface with input for incremental encoder to measure displacement
- Measurement ranges from 1kN to 200 kN
- Sensor interface equipped high precision strain gauge-based donut shape compression sensor
- Force window control

INTELLIGENT DONUT SHAPE FORCE LOAD CELLS					
Model Number	Force Range	Interface	Cell Type	Inner Diameter	Accuracy
ng-FTS1000-di	+/- 1 kN	Intelligent	Donut Shape Load Cell	7mm	2.00%
ng-FTS2000-di	+/- 2 kN	Intelligent	Donut Shape Load Cell	7mm	2.00%
ng-FTS5000-di	+/- 5 kN	Intelligent	Donut Shape Load Cell	7mm	2.00%
ng-FTS10000-di	+/- 10 kN	Intelligent	Donut Shape Load Cell	7mm	2.00%
ng-FTS20000-di	+/- 20 kN	Intelligent	Donut Shape Load Cell	15mm	2.00%
ng-FTS50000-di	+/- 50 kN	Intelligent	Donut Shape Load Cell	15mm	2.00%
ng-FTS100000-di	+/- 100 kN	Intelligent	Donut Shape Load Cell	28mm	2.00%
ng-FTS200000-di	+/- 200 kN	Intelligent	Donut Shape Load Cell	28mm	2.00%

## Screw Joint Simulators



JOINT SIMULATORS				
Type	Drive	Screw Size	Torque Range	Article Number
ng-SJS Set 3 mm CYL M1	3 mm Cylindric	M1	0.5 – 2.5 cNm	01-92-00019-01
ng-SJS Set 3 mm CYL M1.6	3 mm Cylindric	M1.6	2 - 10 cNm	01-92-00020-01
ng-SJS Set 3 mm CYL M2	3 mm Cylindric	M2	4 - 20 cNm	01-92-00002-01
ng-SJS Set 1/4" HEX M2	1/4" Hex Drive	M2	4 - 20 cNm	01-92-00014-01
ng-SJS Set 1/4" HEX M3	1/4" Hex Drive	M3	16 - 80 cNm	01-92-00001-01
ng-SJS Set 1/4" HEX M4	1/4" Hex Drive	M4	0.4 - 2 Nm	01-92-00003-01
ng-SJS Set 1/4" HEX M5	1/4" Hex Drive	M5	1 - 5 Nm	01-92-00013-01
ng-SJS Set 1/4" HEX M6	1/4" Hex Drive	M6	1.6 - 8 Nm	01-92-00004-01
ng-SJS Set 1/4" HEX M8	1/4" Hex Drive	M8	3 - 15 Nm	01-92-00006-01
ng-SJS Set 3/8" SQR M6	3/8" Square Drive	M6	1.6 - 8 Nm	01-92-00027-01
ng-SJS Set 3/8" SQR M8	3/8" Square Drive	M8	3 - 15 Nm	01-92-00028-01
ng-SJS Set 3/8" SQR M10	3/8" Square Drive	M10	6 - 30 Nm	01-92-00029-01
ng-SJS Set 1/2" SQR M8	1/2" Square Drive	M8	3 - 15 Nm	01-92-00030-01
ng-SJS Set 1/2" SQR M12	1/2" Square Drive	M12	10 - 50 Nm	01-92-00012-01
ng-SJS Set 3/4" SQR M16	3/4" Square Drive	M16	30 - 150 Nm	01-92-00031-01
ng-SJS Set 3/4" SQR M24	3/4" Square Drive	M24	80 - 400 Nm	01-92-00032-01
ng-SJS Set 1" SQR M24	1" Square Drive	M24	80 - 400 Nm	01-92-00033-01
ng-SJSP Set 1/2" SQR M8	1/2" Square Drive	M8	4 - 20 Nm	01-92-00047-01
ng-SJSP Set 1/2" SQR M12	1/2" Square Drive	M12	16 - 80 Nm	01-92-00046-01
ng-SJSP Set 1/2" SQR M14	1/2" Square Drive	M14	30 - 150 Nm	01-92-00049-01
ng-SJSP Set 3/4" SQR M16	3/4" Square Drive	M16	50 - 250 Nm	01-92-00048-01
ng-SJSP Set 1" SQR M24	1" Square Drive	M24	120 - 600 Nm	01-92-00045-01

### Sensor Interface ng-TC-ai

Intelligent sensor interface with analog input for torque and force sensors based on strain gauges

#### Key Features

- USB, Ethernet and ng-Link interface
- Sampling-rate 2 kHz /4 kHz
- Signal-LED
- Aluminium casing
- Operating temperature 0 °C to +40 °C (+32 °F to 104 °F)
- Dimensions 50 x 50 x 30 mm



### Interface Extension ng-eTTx

For all intelligent torque and force sensor with ng-Link interface, to connect to a PLC

#### Key Features

- 8 isolated digital Inputs, NPN or PNP configurable, voltage range 12 – 36 V
- 8 isolated digital Outputs, NPN or PNP configurable, voltage range 12 – 36 V
- Supply voltage 24 V DC 1 A (sensor consumption included)
- Direct signaling of control window status
- Integrated in a SUB-D-25 housing
- Connector compatible to the ng-Link interface
- Cable length 1.8 m or 5.0 m



### Power Supply Units ng-TD-PS

POWER SUPPLY		
Model Number	Description	Article Number
ng-TD-PS-15-80	Power Supply Unit 15 V 80 VA	01-91-00007-01
ng-TD-PS-24-80	Power Supply Unit 24 V 80 VA	01-91-00006-01
ng-TD-PS-36-600	Power Supply Unit 36 V 600 VA	01-91-00004-01



ng-TD-PS-15-80, ng-TD-PS-24-80



ng-TD-PS-36-600

## Torque Driver Controller Interface ng-TDC

The Digital Interface for Torque Driver Spindles ng-TDH-i and ng-TDS-i can manage 32 screw tightening programs which can be addressed directly vial digital I/Os. Additional interfaces provide versatile connectivity to external controls.

Interfaces	Dimensions	Weight
12 photo isolated digital inputs, NPN/PNP configurable, 24 V DC 8 photo isolated digital outputs, NPN/PNP configurable, 24 V DC USB-Interface Ethernet-Interface (10/100 Mbit) RS-232-C CAN (in Preparation) Modbus	105 x 84 x 46 mm	0.3 kg



## Program Selector ngTD-PSW16

The program selector switch ng-TD-PSW16 is suitable for n·gineric screwing systems that are equipped with the screw controller ng-TDC. It allows the external manual selection of the desired tightening program via a rotary switch with 16 positions. It's connected to the digital I/O interface of the ng-TDC.



### Key Features

- Selection of program 1 - 16
- Cable length 1.8 m
- Connector: SUB-D-26-HD

## Carbon Telescopic Arm ng-TA900

The telescopic support arm made of carbon fibers absorbs the reaction torque of the screw drive. It reduces the workload when screwing and at the same time prevents incorrect measurements of the angle of rotation during the screwing process.

It is attached to the workplace using a bracket and thanks to its smooth operation, ensures optimal freedom of movement.

### Key Features

- Extension path: 460 - 950 mm (usable max. 900 mm)
- Maximum torque load: 12 Nm
- Retaining clip



## Linear Arm ng-LA200

Linear Arms provide ergonomic support for the operator by a smooth movement and by the absorption of the reaction torque. They are highly recommended to be used for handheld screw tightening applications. Vertical alignment is mandatory to prevent from cross threading and avoiding the rotation of the screwdriver housing eliminates possible deviations of the angle measurement, as happens if the tool was just held manually.

### The ng-LA200 is prepared for the Micro Sensor Torque Driver Spindles

- ng-TDH50-hi, -hu
- ng-TDH100-hi, -hu
- ng-TDH200-xi, -xu
- ng-TDH400-xi, -xu
- ng-TDH500-xi, -xu
- ng-eTDH100-xi, -xu
- ng-eTDH200-xi, -xu
- ng-eTDH400-xi, -xu
- ng-eTDH500-xi, -xu

### Key Features

- Horizontal reach 200 mm
- Vertical reach 300 mm
- Adjustable spring balancer for tool weight 1 to 2 kg
- Fixture clamp
- Weight: 3.8 Kg



## Linear-Arm with position monitoring ng-LAP400

Device holder with vertical linear guide and two hinge axes

- Horizontal travel 400 mm
- Vertical travel 300 mm

The arms have a solid profile construction with a double ball roller guide mounted behind it, from which we expect a smooth running in the Z direction.

The joint axes are double-supported, and we can set the bearing clearance precisely. With this setup, we expect a massive improvement in positioning repeatability and handling.



## Bit Selector and Tightening Position Controller ng-BPC

The ng-BPC device was designed to control the bit change within the screw tightening sequence as programmed in the n-quirer TD advanced software.

Programmable buttons for assembly feedback. Each bit has position sensors that to recognize bit position and bit characteristics for correct bit detection.



### Foot Switch ng-Tx-FSW

The footswitch ng-Tx-FSW can be used as an external operating element for the n-quirer TT and n-quirer TD application. It is connected to the PC running the software via USB. The following functions are available:

#### n-quirer TT

- External measurement triggering
- Quick graph export into Excel format (for multi-graph collection)

#### n-quirer TD

- Start of the screw tightening process
- Connector: USB-A, cable length 2.5 meters



### Barcode Reader ng-BCR

The barcode reader can be used in conjunction with the n-quirer TT and n-quirer TD software for the following functions:

- Load measurement or sequencer programs
- Identification of tools
- Identification and assignment of workpieces



### Screw Feeders NSR and tips

The feeders are provided with an accessory set that is selected depending on the screw size. It consists of a suitable outlet rail and a cross slide plate and must be ordered as a separate item. From M1 to M4 with a screw length of up to 20 mm.

Vacuum Adapter Assemblies for Micro Sensor Torque Driver Spindles ng-TD are available in different sizes. They are selected according to the driver size, the screw geometry and possible constraints of the workpiece. Vacuum nozzle is not included.



Please visit our website to view the n-gineric full catalog to see all available screw feeders and accessories

### Chuck Adapter Assy HM4--f-HEX6.35-m

Chuck Adapter Assy for screwdriver spindles with half-moon bit holder, for the use of bits with 1/4" hex drivers.



## ng-TTR-Series

Torque Range	Accuracy Class (% of the F.S.R)
+/- 1 cNm	1.00%
+/- 2 cNm	0.50%
+/- 5 cNm	0.20%
+/- 10 cNm	0.20%
+/- 20 cNm	0.20%
+/- 50 cNm	0.20%
+/- 1 Nm	0.20%
+/- 2 Nm	0.10%
+/- 5 Nm	0.10%
+/- 10 Nm	0.10%
+/- 20 Nm	0.10%
+/- 50 Nm	0.10%
+/- 100 Nm	0.10%
+/- 200 Nm	0.10%
+/- 500 Nm	0.10%
+/- 1000 Nm	0.20%

- 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)

## ng-eTTR-Series

Torque Range	Accuracy Class (% of the F.S.R)
+/- 2 Nm	0.20%
+/- 5 Nm	0.20%
+/- 10 Nm	0.20%
+/- 20 Nm	0.20%
+/- 50 Nm	0.20%

- 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)

## Intelligent Force Sensors

Button Shape Load Cells ng-FTS-b	
Measurement Accuracy	0.5% of the F.S.R.
Operating Overload	120% of the F.S.R.
Safe Overload	150% of the F.S.R.
Operating Temperature	0°C to 100°C (+32°F to 212°F)

Donut Shape Load Cells ng-FTS-d	
Measurement Accuracy	3% of the F.S.R.
Operating Overload	120% of the F.S.R.
Safe Overload	150% of the F.S.R.
Operating Temperature	0°C to +80°C (+32°F to 176°F)

## ng-vTTR-Series

Torque Range	Accuracy Class (% of the F.S.R)
+/- 80 Nm	0.1%
+/- 160 Nm	0.1%
+/- 100 Nm	0.1%
+/- 120 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)

## ng-TTS-Series

Torque Range	Accuracy Class (% of the F.S.R)
+/- 1 cNm	1.00%
+/- 2 cNm	0.50%
+/- 5 cNm	0.20%
+/- 10 cNm	0.20%
+/- 20 cNm	0.20%
+/- 50 cNm	0.20%
+/- 1 Nm	0.20%
+/- 2 Nm	0.10%
+/- 5 Nm	0.10%
+/- 10 Nm	0.10%
+/- 20 Nm	0.10%
+/- 50 Nm	0.10%
+/- 100 Nm	0.10%
+/- 200 Nm	0.10%
+/- 500 Nm	0.10%
+/- 1000 Nm	0.20%

- Operating Temperature: 0 °C to +40 °C (+32 °F to 104 °F)

## ng-eTTS-Series

Torque Range	Accuracy Class (% of the F.S.R)
+/- 2 Nm	0.20%
+/- 5 Nm	0.20%
+/- 10 Nm	0.20%
+/- 20 Nm	0.20%
+/- 50 Nm	0.20%

- Operating Temperature: 0 °C to +40 °C (+32 °F to 104 °F)



# n·gineric

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## Panasonic

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