

ROTATING TORQUE TRANSDUCER



In-line measurement on screwdrivers · 5, 10 and 25 N·m



- CONTACT TRANSMISSION
- HEXAGONAL COUPLING
- QUICK ACTION CHUCK



NOMINAL TORQUE (FS)

Nominal torque (N·m)	Code	Rated output	Process coupling
5	MUTOR5N	1 mV/V	Tool holder with quick coupling, 1/4" hexagon
10	MUTOR10N	2 mV/V	Tool holder with quick coupling, 1/4" hexagon
25	MUTOR25N	2 mV/V	Tool holder with quick coupling, 1/4" hexagon

In-line measurement of the torque delivered by a screwdriver during tightening, and calibration of electric and pneumatic screwdrivers. The transducer is fitted between the chuck of the screwdriver and the bit: the male hexagon goes into the chuck, the bit into the female hexagon.



TECHNICAL DATA

PRECISION

Linearity and hysteresis	$\leq \pm 0.20 \%$
Temperature effect on zero (1 °C)	$\leq \pm 0.02 \%$
Temperature effect on sensitivity (1 °C)	$\leq \pm 0.02 \%$
Rated output 5 N·m	1 mV/V
Rated output 10 and 25 N·m	2 mV/V
Sensitivity tolerance	$\leq \pm 0.2 \%$
Zero balance	$\leq \pm 0.5 \%$
Reference temperature	+23 °C
Working temperature range	-10...+70 °C
Storage temperature range	-20...+80 °C

MECHANICAL PROPERTIES

Sensor material	Stainless steel
Case material	Aluminium
Process coupling	Tool holder, quick coupling, 1/4" hexagon
Protection class	IP40 · EN 60529
Nominal speed	4 000 rpm

MECHANICAL LIMITS

Service torque	100 %FS	Torque that may be applied continuously without leaving the specification.
Max. permissible torque	150 %FS	Torque that may be applied without permanent change of the characteristics.
Breaking torque	> 300 %FS	Torque at which mechanical failure of the shaft may occur.
Highly dynamic torque	70 %FS	Amplitude permitted for alternating load over the service life.
Nominal speed	4 000 rpm	Highest permitted speed of rotation.

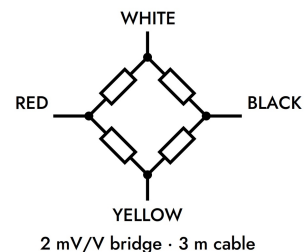
ELECTRICAL PROPERTIES

Nominal power supply	1...15 V
Max. power supply	18 V
Input resistance	430 $\Omega \pm 20$
Output resistance	350 $\Omega \pm 5$
Insulation resistance	> 2 G Ω

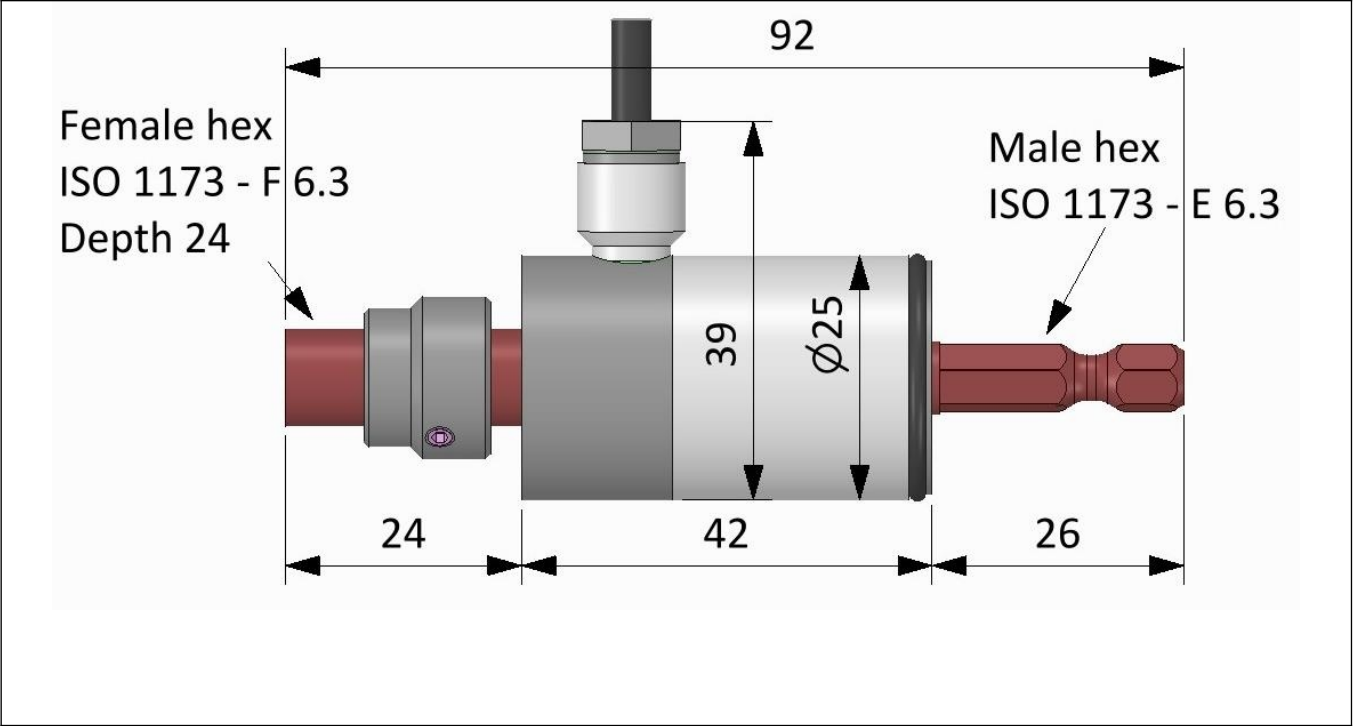
ELECTRICAL CONNECTION

Conductor	Signal	Colour
1	+ EXCITATION	RED
2	- EXCITATION	BLACK
3	+ OUTPUT	WHITE
4	- OUTPUT	YELLOW
	Shield, connected to the body	
	Shielded PVC cable 105 °C, Ø 5.2 mm, 4 × 0.35 mm ² , 3 m	

WIRING



DIMENSIONS (mm)



READ FROM THE DRAWING (mm)

Dimension	Value (mm)	Note
Total length	92	Over both couplings
Body diameter	Ø 25	Cylindrical housing
Body length	42	Between the two couplings
Female coupling	24	Hexagon socket ISO 1173 form F 6.3, depth 24 mm
Male coupling	26	Hexagon shank ISO 1173 form E 6.3
Height over cable gland	39	From the shaft axis to the top of the gland

All dimensions read from the drawing above; the manufacturer’s data sheet gives them only in that drawing, not as a table.



COMPLIANCE AND CERTIFICATION

Protection rating	IP40 according to EN 60529
Compliance	CE, RoHS, REACH
Applied standards	EN 61326-1 (2013) · EN 61010-1 (2013)
Directives and regulations	2014/30/EU · 2014/35/EU · 2011/65/EU (RoHS II) · 2015/863 (RoHS III) · 2012/19/EU (WEEE) · 1907/2006 (REACH)
Quality system	Certified according to EN ISO 9001
Declaration of conformity	Issued by the manufacturer on 01/04/2019 under the product designation "TOR", covering all options listed in the sales catalogue
On request	Calibration report, clockwise and anticlockwise
On request	ACCREDIA calibration certificate (ISO/IEC 17025), clockwise and anticlockwise

OPTIONS AND ACCESSORIES

Item	Availability	Data
Calibration report	On request	Clockwise and anticlockwise
ACCREDIA calibration certificate	On request	ISO/IEC 17025, clockwise and anticlockwise
Mechanical accessories	—	The manufacturer's data sheet lists none. The transducer is fitted between the screwdriver and the bit; both couplings are part of the transducer
Encoder, square coupling	—	Not available for this model. Both are options of the RT2 (MDAA) and the RT8 (MDAB)

Application: in-line measurement on a screwdriver. Illustration taken from the manufacturer's data sheet.

