

Data Sheet: TRX.601.R5

WWW.

# TRX

Torque  
STATIC torque transducer

Linearità - Isteresi  
 $\leq \pm 0.03\%$   
Linearity - Hysteresis

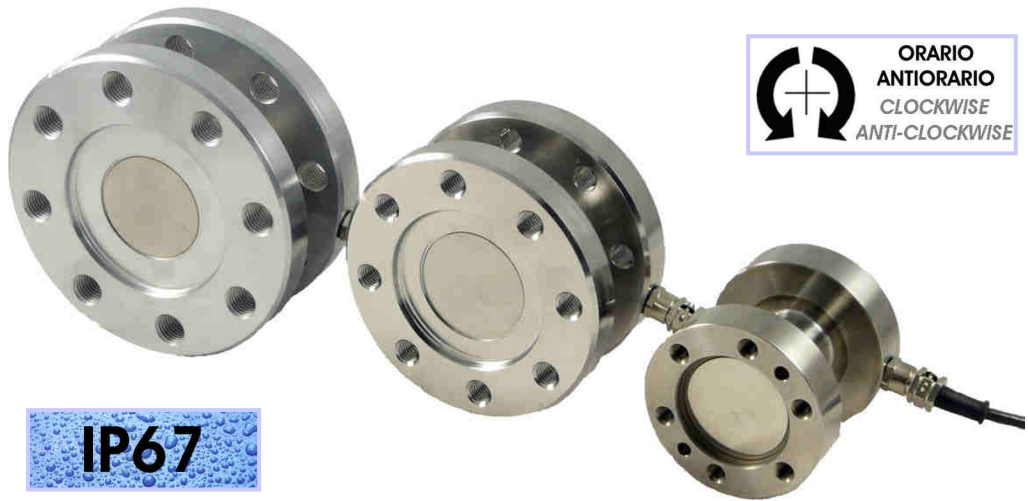
Download on [www.aep.it](http://www.aep.it)  


SOLLECITAZIONI DINAMICHE  
  
DYNAMIC STRESSES

 Interamente saldata  
al LASER  
Completely LASER  
welded

**IP67**

 ORARIO  
ANTIORARIO  
CLOCKWISE  
ANTI-CLOCKWISE



**ACCREDIA**  
L'ENTE ITALIANO DI ACCREDITAMENTO  
LAT N° 093  
**Calibration Centre**  
The products are NOT  
covered by accreditation

Certificato di Taratura ACCREDIA  
**A RICHIESTA**  
ACCREDIA Calibration Certificate  
**ON REQUEST**

**Alta Affidabilità**  
High Reliability

 Stabilità a  
lungo termine  
Long term  
high stability

*TRX series torque meter has been designed to perform torque measurements both in clockwise and anticlockwise direction with a high precision.*

*Main fields of application vary from the industrial one on test benches and materials test machines to the most strictly metrological sectors such as first line samples for test and calibration laboratories, research bodies etc. ..*

*Used also as transfer samples for evaluating the uncertainty of direct weights test benches or for comparison among the different reference National Institutes.*

*Manufactured in two main accuracy classes **0.05** or **0.1** according to **EURAMET cg-14** norm with a yearly drift lower than 0.003%*

*Measurement stability is ensured even in wet and hard environments thanks to a high protection grade realized though LASER welding which guarantee the tightness.*

*The monolithic body, entirely made in stainless steel, guarantees a high resistance to dynamic stress which can occur in both measurement directions.*

*Torque meter is manufactured in 3 specific structures in order to cover a very wide range up to **5000 N • m**.*

## Technical Data



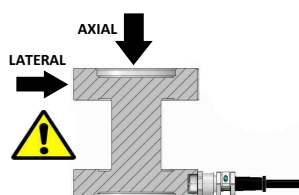
Classe di precisione: <b>EURAMET cg-14</b>	Accuracy class: <b>EURAMET cg-14</b>	<b>0.05</b>		<b>0.1</b>
<b>.COPPIA NOMINALE STATICA</b>	<b>STATIC NOMINAL TORQUE</b>	50 – 100 N·m 200 – 500 N·m 1 - 2 - 3 - 5 kN·m		
<b>ERRORI RELATIVI (al valore letto)</b> a) ripetibilità 0°-120°-240° (b) b) interpolazione (fa) c) isteresi (h) d) zero (fo)	<b>RELATIVE ERROR (at reading)</b> a) repeatability 0°-120°-240° (b) b) interpolation (fa) c) hysteresis (h) d) zero (fo)	≤ ±0.050% <sup>(1)</sup> ≤ ±0.025% <sup>(1)</sup> ≤ ±0.063% <sup>(1)</sup> ≤ ±0.012% F.S.	≤ ±0.100% <sup>(1)</sup> ≤ ±0.050% <sup>(1)</sup> ≤ ±0.125% <sup>(1)</sup> ≤ ±0.025% F.S.	
<b>LINEARITA' ISTERESI</b>	<b>LINEARITY HYSTERESIS</b>	≤ ±0.03% F.S. ≤ ±0.03% F.S.		
<b>EFFETTO DELLA TEMPERATURA (10°C)</b> a) sullo zero b) sulla sensibilità	<b>TEMPERATURE EFFECT (10°C)</b> a) on zero b) on sensitivity	≤ ±0.020% F.S. ≤ ±0.010% F.S.		
<b>SENSIBILITA' NOMINALE TOLLERANZA DI CALIBRAZIONE</b>	<b>NOMINAL SENSITIVITY SENSIVITY TOLERANCE</b>	<b>1 mV/V</b> ≤ ±0.1% F.S.		
<b>RESISTENZA DI INGRESSO</b> <b>RESISTENZA DI USCITA</b> <b>RESISTENZA DI ISOLAMENTO</b> <b>BILANCIAMENTO DI ZERO</b> <b>ALIMENTAZIONE DI RIFERIMENTO</b> <b>ALIMENTAZIONE NOMINALE</b> <b>ALIMENTAZIONE MAX.</b>	<b>INPUT RESISTANCE</b> <b>OUTPUT RESISTANCE</b> <b>INSULATION RESISTANCE</b> <b>ZERO BALANCE</b> <b>RECOMMENDED SUPPLY VOLTAGE</b> <b>NOMINAL SUPPLY VOLTAGE RANGE</b> <b>MAXIMUM SUPPLY VOLTAGE</b>	700±2Ω 705±2Ω > 5 GΩ ≤ ±0.5 % F.S. 10 V 1-15 V 18 V		
<b>VALORI MECCANICI LIMITE:</b> a) carico di servizio b) carico limite c) carico di rottura d) massimo carico trasversale e) carico dinamico limite	<b>MECHANICAL LIMIT VALUES :</b> a) service load b) max permissible load c) breaking load d) max transverse load e) max permissible dynamic load	120% F.S. 150% F.S. >300% F.S. 50% F.S. 75% F.S.		
<b>TEMPERATURA DI RIFERIMENTO</b> <b>CAMPO NOMINALE DI TEMPERATURA</b> <b>TEMPERATURA DI ESERCIZIO</b> <b>TEMPERATURA DI STOCCAGGIO</b>	<b>REFERENCE TEMPERATURE</b> <b>TEMPERATURE NOMINAL RANGE</b> <b>SERVICE TEMPERATURE RANGE</b> <b>STORAGE TEMPERATURE RANGE</b>	+23°C 0/+60 °C -10/+70 °C -20/+80 °C		
<b>CLASSE DI PROTEZIONE (EN 60529)</b> <b>MATERIALE DINAMOMETRO</b> <b>LUNGHEZZA CAVO</b>	<b>PROTECTION CLASS (EN 60529)</b> <b>EXECUTION MATERIAL</b> <b>CABLE LENGTH</b>	IP67 / Stainless Steel 5m		
<b>COPPIA NOMINALE</b>	<b>NOMINAL TORQUE</b>	50 N·m 100 N·m	from 200 N·m to 2 kN·m	3 kN·m 5 kN·m
<b>PESO</b> <b>VITI DI FISSAGGIO:</b> a) diametro b) classe di resistenza c) coppia di serraggio	<b>WEIGHT</b> <b>FIXING SCREWS</b> a) diameter b) resistance class c) tightening torque	~ 1.5 kg M8 12.9 40 N·m	~ 3 kg M12 12.9 140 N·m	~ 4.5 kg M16 12.9 368 N·m

<sup>(1)</sup> Percentual errors referred to reading, min. 1/10 of the nominal load.

<b>COPPIA NOMINALE</b>	<b>NOMINAL TORQUE</b>	<b>50 N·m</b>	<b>100 N·m</b>	<b>200 N·m</b>	<b>500 N·m</b>	<b>1 kN·m</b>	<b>2 kN·m</b>	<b>3 kN·m</b>	<b>5 kN·m</b>
Carico assiale limite	Max axial permissible load	19 kN	19 kN	31 kN	56 kN	83 kN	124 kN	124 kN	124 kN
Carico laterale limite	Max lateral permissible load	1.8 kN	1.8 kN	4 kN	8 kN	15 kN	20 kN	20 kN	20 kN

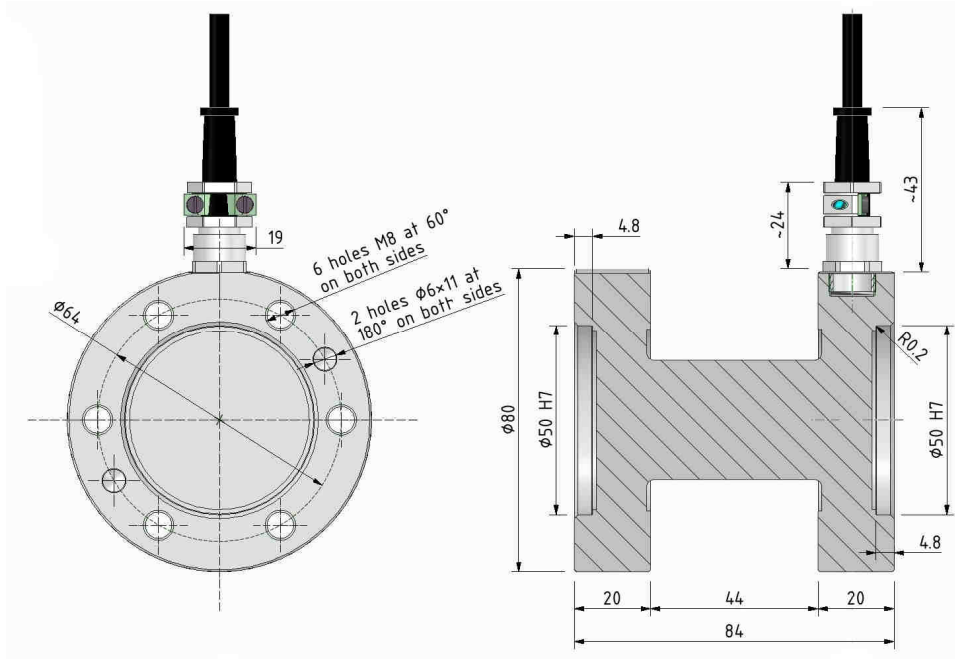
Per una corretta misura dovrebbero essere assenti sia le forze assiali, trasversali che il momento flettente. In loro presenza, non dovranno superare i valori indicati, da ridursi in presenza contemporanea di più sollecitazioni.

For correct measurement both axial and transverse forces and bending moment should be absent. In case of presence, they must not be greater than values indicated above, to be reduced in simultaneous presence of more solicitations.

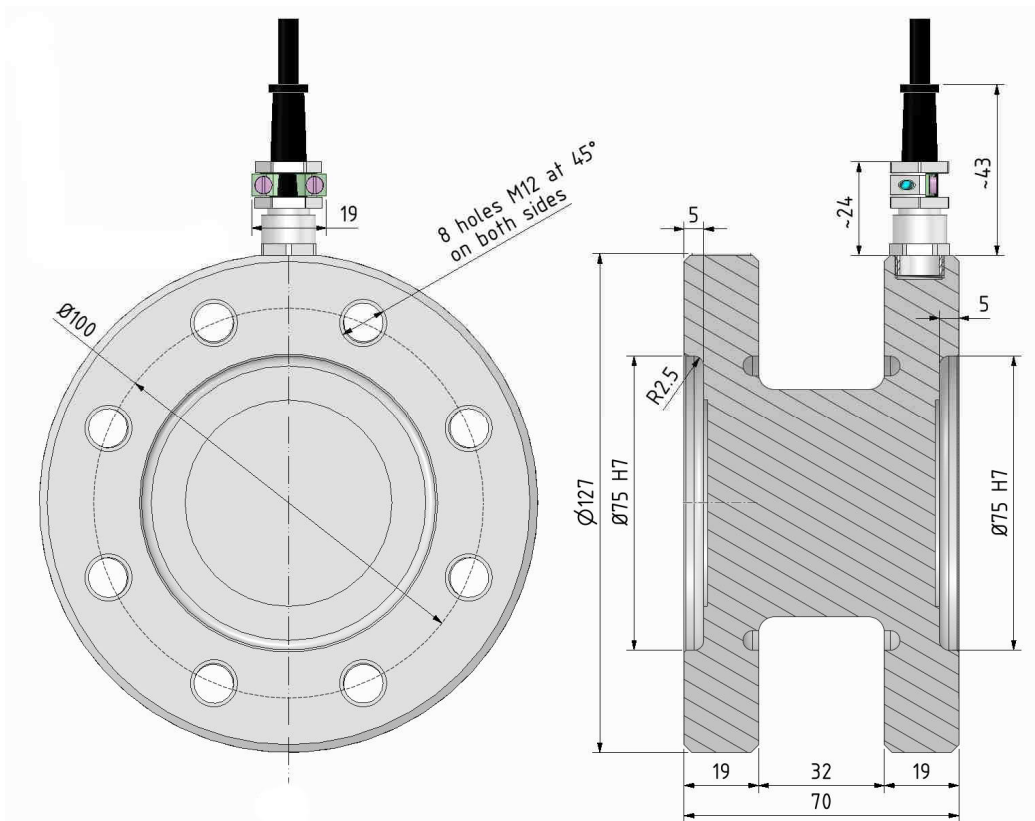


# Dimensions

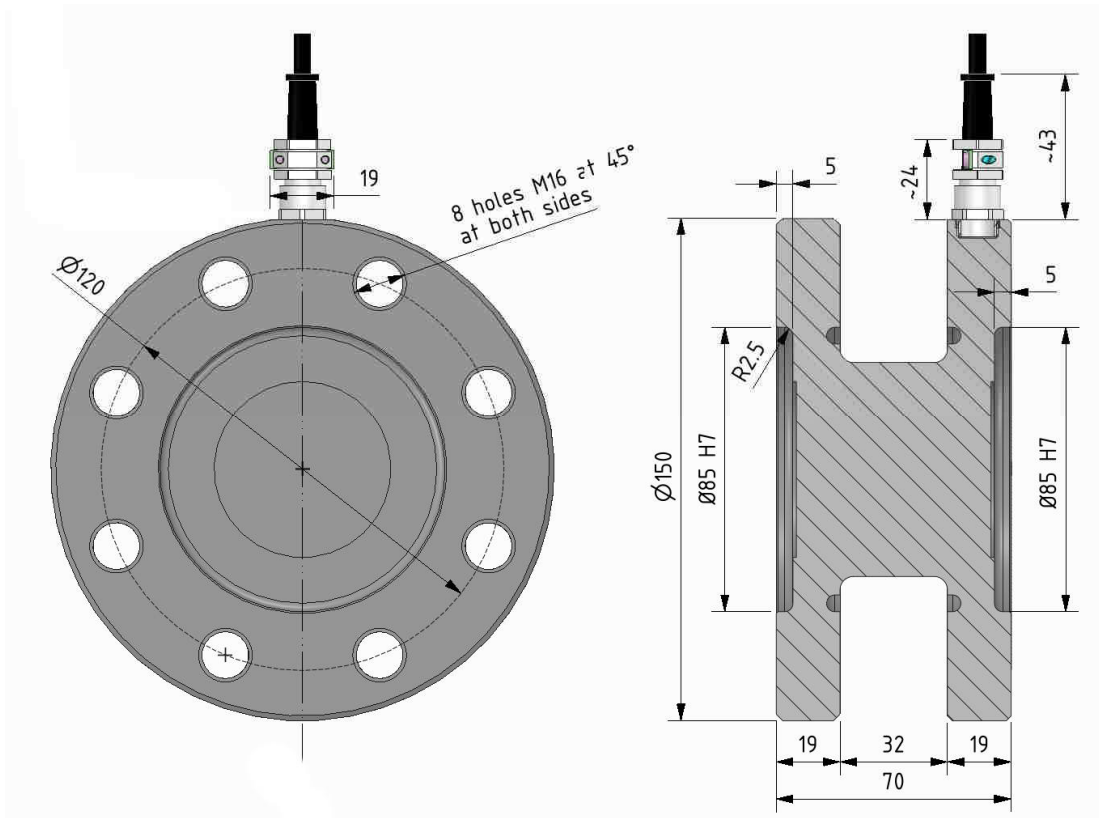
[mm]



CODE (Class 0,05)	CODE (Class 0,1)	TORQUE
MTRX50NM005	MTRX50NM01	50 N·m
MTRX100NM005	MTRX100NM01	100 N·m



CODE (Class 0,05)	CODE (Class 0,1)	TORQUE
MTRX200NM005	MTRX200NM01	200 N·m
MTRX500NM005	MTRX500NM01	500 N·m
MTRX1KNM005	MTRX1KNM01	1 kN·m
MTRX2KNM005	MTRX2KNM01	2 kN·m



CODE (Class 0,05)	CODE (Class 0,1)	TORQUE
<sup>(*)</sup> MTRX3KNM005	<sup>(*)</sup> MTRX3KNM01	3 kN·m
<sup>(*)</sup> MTRX5KNM005	<sup>(*)</sup> MTRX5KNM01	5 kN·m

ACCREDIA certification can NOT be performed by LAT n° 93 Laboratory, on request it can be ordered to other Accredited Laboratories.

## .....Electrical Connections

PVC 80°C shielded cable, Ø 5.2mm with 6 tinned Ø 0.25mm<sup>2</sup> conductors.

TRANSDUCERS	OUTPUT	CABLE	CAVO	MIL7M (optional)
	EXCITATION+	Red	-	C
	SENSE+	Orange	-	F
	OUTPUT+	White	-	A
	EXCITATION -	Black	-	B
	SENSE-	Blue	-	G
	OUTPUT-	Yellow	-	D
	-----	Shield*	-	E

\* Collegato al corpo del torsionmetro. / Connected to the body of the torque transducer.