



# DTR - DIGITAL TORQUE INDICATOR

## FEATURES

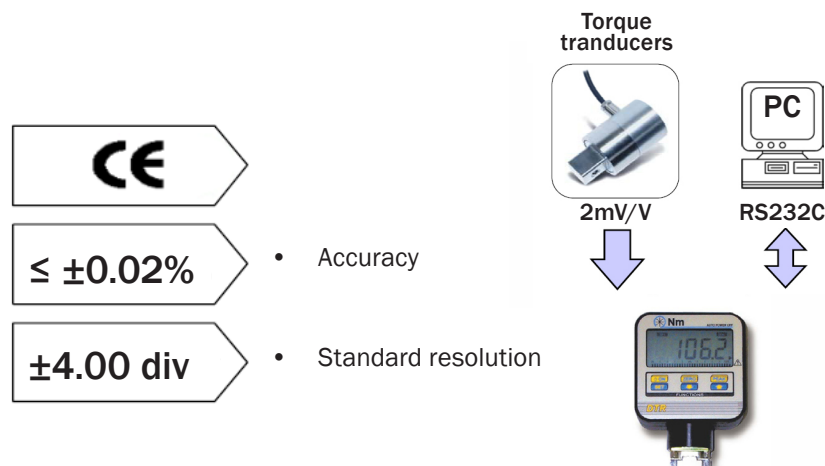
- Year autonomy without recharging.
- Digital filter.
- Peak function
  - positive (torque in clockwise direction)
  - negative (torque in anticlockwise direction)
- Rs232c output (on request).
- Digital calibration for both positive and negative field, to remove differences between readings for dynamometers in tension and in compression loads.

DTR is a microprocessor based digital indicator, totally autonomous and with input for strain gauge based torque transducers. A  $\pm 0.02\%$  accuracy makes it possible to be used in quality systems as first or second line sample, periodically calibrated by a SIT center.

Measuring system consists of a particularly long-term stable analogue section, of a carrier frequency amplifier which minimises thermal drifts and of a 16 bits A/D converter which ensures 65.000 internal divisions. In order to increase the level of integration among components, a combined (traditional and SMT) technology has been used, that makes the indicator more resistant against vibrations and mechanical stresses, granting the highest reliability of the electrical circuit.

This indicator has internal batteries with 1 year autonomy, also guaranteed by the AUTO POWER OFF function, which activates if no changes in measurements are detected in the previous 30 minutes. The indicator is provided with a programming menu which permits to choose resolution and digital filter, according to measurements to be performed.

The display also shows an analogue indication bar for pressure, that is still on, even in programming menu.



## STANDARD INDICATIONS

DISPLAY NM	RESOLUTION NM	
0.5 Nm	0,5000	0,001
2.5 Nm	2,500	0,001
5 Nm	5,000	0,002
10 Nm	10,00	0,01
25 Nm	25,00	0,01
50 Nm	50,00	0,02
100 Nm	100,0	0,1
160 Nm	160,0	0,1
250 Nm	250,0	0,1
500 Nm	500,0	0,2
1000 Nm	1000	1
2000 Nm	2000	1

## SPECIFICATIONS

Accuracy class:	$\leq \pm 0.020 \%$
Linearity error:	$\leq \pm 0.015 \%$
Input signal:	2 mv/v
Connectable load cells:	1 pcs (350 or 700 $\omega$ , 4wires)
Bridge excitation voltage:	5vac $\pm 3\%$
Carrier frequency:	10hz
Standard resolution:	(2mv/v) $\pm 4.000$ Div
Internal resolution:	65.000 Div.
Readings per sec.:	(0 Filter) 200 (5ms)
Reference temperature:	23°C
Working temperature range:	0 / +50°C
Storage temperature range:	-10 / +60°C
Temperature effect:	(10°C):
A) on zero:	$\leq \pm 0.015\%$
B) on full scale:	$\leq \pm 0.005\%$
Display custom:	lcd (h=16mm)
Programmable full scale:	max. $\pm 99\,995$ Div. (Res. 5 Div)
Programmable decimal point:	yes
Programmable units of measurement:	nm
Prog. Measurement resolution:	1, 2, 5, 10
Programmable digital filter:	0 ÷ 99
Zero function:	50%
Peak function:	min / max
Auto power off function:	1 ÷ 30 minutes
Power supply:	battery / batteries
Autonomy (without recharging):	1 year
Alkaline batteries	4 x 1,5 v size aa
Protection class	(en 60529) ip40
Metal case	aluminium
Dimensions (hxlxw)	140 x 80 x 48 mm
Weight	0.5kg
Options:	
Input signal	1mv/v or 3mv/v.
Serial output	RS232C