



## Torque Transfer Standards Dm-TN



Transfer standards for comparison measurements of torque standard machines and for use as reference standards for the calibration of torque testing machines

- Nominal capacity from 1 N·m to 20,000 N·m
- Accuracy class 0.2 up to VN (better than 0.05)
- Simple Adaptation via solid shaft
- Design according to DIN 51309

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## Technical Description

During the manufacture of these transducers, particularly high standards of quality are being adhered to. All tests and methods of compensation are aimed at achieving the highest possible repeatability stability of the measuring signal. The transducers will be delivered with cable connection of 5 m and the end of it can be configured as the customers require. The torque transfer standards will be delivered in a rugged aluminium case.

## Options

- Bending moment instrumentation**  
 To check the axial torque introduction  $M_z$ , it is possible to implement two moment measuring circuits. In addition to  $M_z$ , the horizontal bending moments  $M_x$  and  $M_y$  are measured and lead out as separate channels.
- Measuring of temperature**  
 If a temperature measuring is desired, a PT100 sensor can be integrated.
- Cable connection**  
 The connection at the transducer may a fixed or a plug-in connection.



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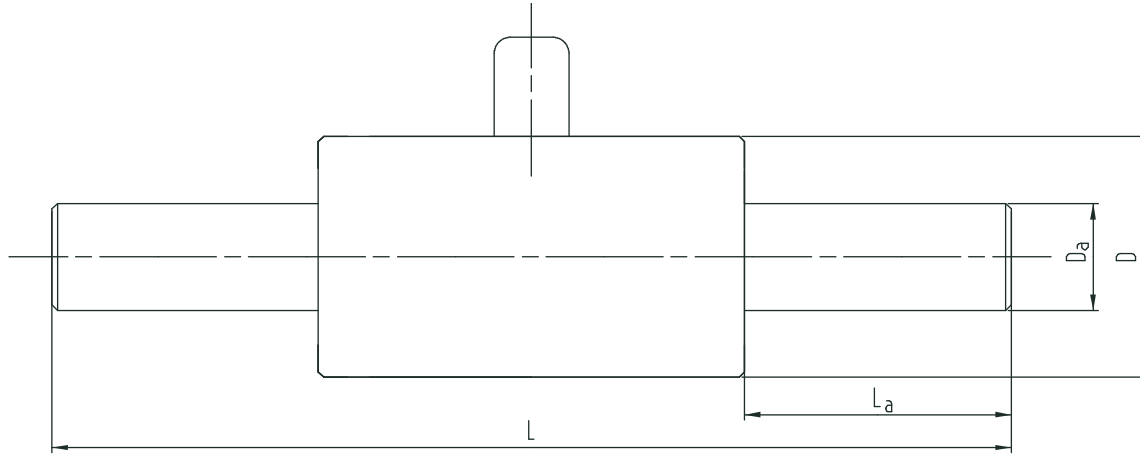
## Technical Data (relative to actual value)

In the range 20 % - 100 % $M_{nom}$ (class 0,2) 40 % - 100 % $M_{nom}$ (classes 0,1; 0,05; VN)			GTM Type VN	Class 0,05	Class 0,1	Class 0,2
Relative variance (repeatability)	b	± %	0.010	0.050	0.10	0.20
Relative variance (reproducibility)	b'	± %	0.005	0.025	0.05	0.10
Relative zero deviation	$f_0$	± %	0.006	0.0125	0.025	0.050
Relative hysteresis	h	± %	0.063		0.125	0.250
Relative interpolation error	$f_q$ or $f_a$	± %	0.025		0.05	0.10
Temperature coefficient on zero	$TK_0$	± %/K	0.0008		0.001	0.002
Temperature coefficient on span	$TK_c$	± %/K	0.001			0.002
Relative creep error 1 - 15 min	$f_{cr}$	± %	0.004	0.008	0.01	0.02
Reference temperature	$t_{ref}$	° C	21			
Nominal temperature range	$B_{t,nom}$	° C	10 - 30			

Definitions acc. DIN 51309

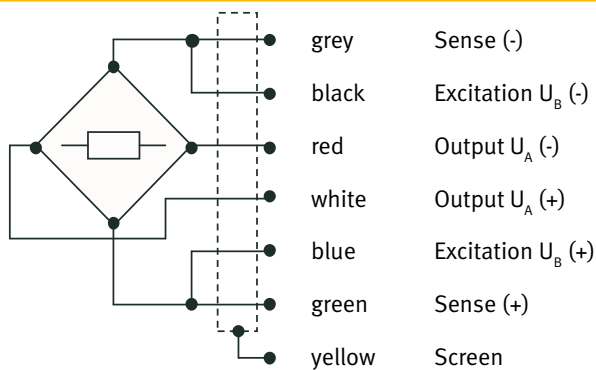
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## Dimensions



Nominal torque	Shaft diameter	Shaft length	Overall diameter	Overall length	Weight
	D <sub>a</sub>	L <sub>a</sub>	D	L	
N·m	mm	mm	mm	mm	ca. kg
1; 2; 5; 10	15 <sub>h7</sub>	45	52	155	0.3
20; 50	20 <sub>h7</sub>	46	46	140	0.4
100; 200	30 <sub>h7</sub>	63	64	182	1.2
500; 1,000	50 <sub>h7</sub>	85	110	244	4.6
2,000; 5,000	70 <sub>h7</sub>	115	180	346	15.8
10,000	110 <sub>h7</sub>	120	260	358	38.6

## Electrical Connection



Connection at transducer  
(0.75 m, 6-wire, screened, ø 5 mm)

Specifications subject to change without notice  
all details describe our products in general form  
they are not to be understood as expressed warranty  
and do not constitute any liability whatsoever



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