

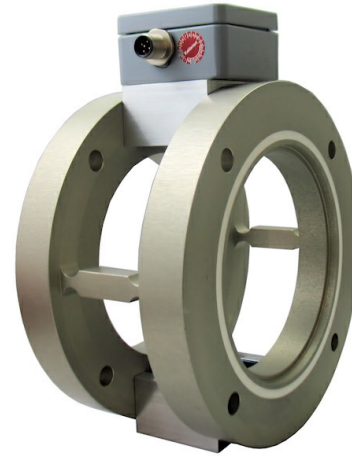
TSCF TORQUE TRANSDUCER (U.S. & METRIC)

SPECIFICATIONS

ACCURACY – (MAX ERROR)					
Accuracy class	0.1%				
Relative linearity error	0.1 %FS				
Relative zero signal hysteresis	0.1 %FS				
Temperature effect on zero signal	0.01 %FS/K				
Temperature effect on characteristic value	0.01 %RD/K				
Relative creep	0.05 %FS				
TEMPERATURE					
Rated temperature range	°F	14 to 158			
	°C	-10 to 70			
Operating temperature range	°F	14 to 185			
	°C	-10 to 85			
Storage temperature range	°F	14 to 185			
	°C	-10 to 85			
Environmental protection	IP65				
ELECTRICAL					
Input resistance	700 Ohm				
Tolerance input resistance	10 Ohm				
Output resistance	700 Ohm				
Tolerance output resistance	10 Ohm				
Insulation resistance	5 GOhm				
Rated range of excitation voltage	2.5 - 5 VDC				
Operating range of excitation voltage	1 - 10 VDC				
Zero signal	0.05 mV/V				
Rated output	1 mV/V				
MECHANICAL					
Type	Bending spring				
Rated torque	lbf-in	88.5	177	442.5	885
	Nm	10	20	50	100
Bending moment limit	lbf-in	1770.1			
	Nm	200			
Maximum operating torque	150 %FS				
Breaking torque	400 %FS				
Rated torsion angle	0.7 °/FS				
Axial force limit	lbf	112			
	N	500			
Lateral force limit	lbf	112			
	N	500			
Torque introduction	Bolt circle				
Material	Aluminum alloy				

MODEL							
TSCF-10		TSCF-20		TSCF-50		TSCF-100	
CAPACITY							
U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)
88.5	10	177	20	442.5	50	885	100

STANDARD CONFIGURATION



MODEL TSCF-10 (Shown)

The TSCF is used in test benches for measuring the reaction torque (Wired and non-rotating).

The torque transducer consists of two flanges, which are connected with each other via 4 measuring spokes. The two flanges have the same bolt circle of 5.8 in (149 mm). The pilots are designed as an external and internal collar with \varnothing 4.5 in (\varnothing 114.3 mm).

Due to the large diameter of the torque sensor TSCF and the arrangement of the measuring spokes in the axial direction, this torque sensor can also absorb bending moments up to 1770 lbf-in (200 Nm), which are caused by the dead weight of the drive motor.

The connection is made via a terminal box with M12 connectors.

Optionally, an integral measuring amplifier can be provided instead of the terminal box so that the sensor has a voltage output of +/-10V.

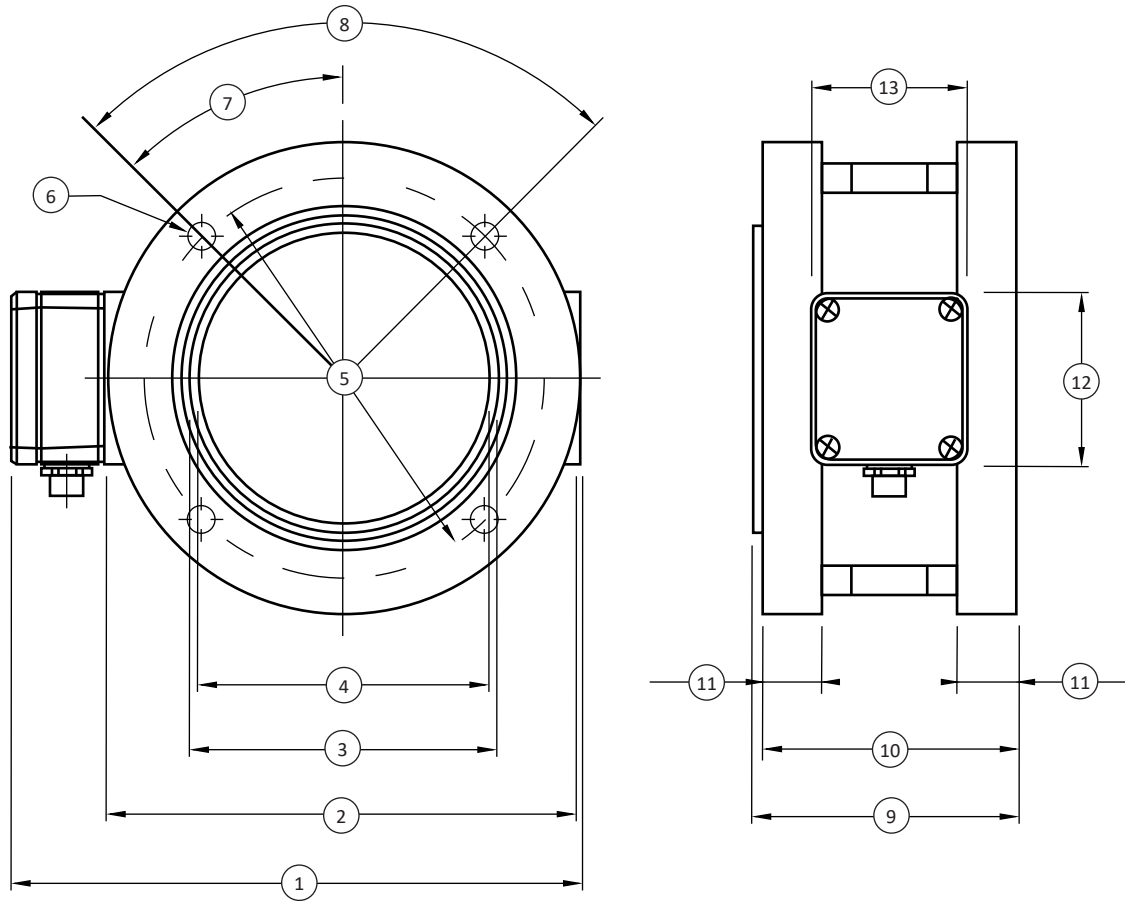
WIRING DIAGRAM

Pin	Description	Color	Symbol
Pin 1	Positive bridge supply	Brown	+Us
Pin 2	Negative bridge supply	White	-Us
Pin 3	Positive bridge output	Blue	+Ud
Pin 4	Negative bridge output	Black	-Ud

TSCF TORQUE TRANSDUCER (U.S. & METRIC)

SIDE VIEW

TOP VIEW



DIMENSIONS

SEE DRAWING	MODEL	
	TSCF-10, TSCF-20, TSCF-50, TSCF-100	
	CAPACITY	
	U.S. (lbf-in)	Metric (Nm)
	88.5, 177, 442.5, 885	10, 20, 50, 100
	in	mm
(1)	8.3	212
(2)	∅ 6.9	∅ 175
(3)	∅ 4.5	∅ 114.3
(4)	∅ 4.3	∅ 108
(5)	∅ 5.9	∅ 149
(6)	4x ∅ 0.4	4x ∅ 10
(7)		45°
(8)		4x 90°
(9)	3.9	98
(10)	3.7	95
(11)	0.9	22
(12)	2.5	64
(13)	2.3	58

U.S. dimensions and capacities are provided for conversion only. Standard product will be sold in Nm and Metric dimensions. U.S. capacities available upon special request and at an additional cost.