

UTF-500Nm

FLANGE TYPE TORQUE METER



1000Nm will be available soon

With unique technology, misalignment of zero point during high speed rotation can be resolved!
High torsional stiffness and stable measurement will be realized.

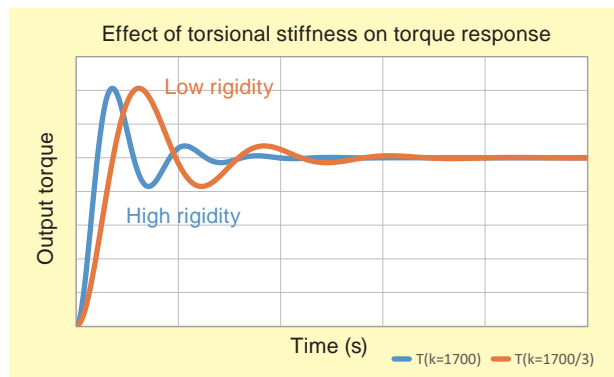
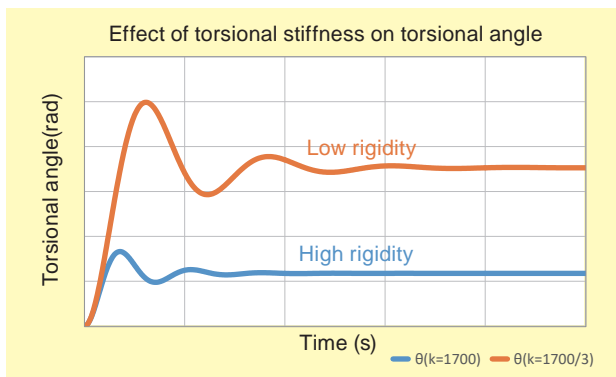
High-frequency torque fluctuation can be measured accurately!
Durability & noise resistance dramatically improved!
A flange type torque meter achieving high torsional stiffness & high safe overload

- 500% of safe overload
- High torsional stiffness(1700kNm/rad)
- High accuracy 0.03%FS
- High rotation speed of 25000 rpm
- Dynamic balance grade G2.5
- Supports usage at mist environment such as turbine oil etc.
- Analog bandwidth 3kHz with sampling rate at 20kHz
- Standard installation of RPM pulse output (90 to 1080 pulse/rotation, can be changed by setting)
- Regarding torque output, $\pm 10V$ analog output, frequency output, RS-485 output are equipped as standard

IP65 **RHS2**

High torsional stiffness(1700kNm/rad)

By observing 2 different fluctuations, torsional angle is inversely proportional to torsional rigidity.
High rigidity allows small hunting in torque, thus able to measure torque accurately.



Due to high torsional stiffness, torque changes are measured with high responsiveness & accuracy.

500% of safe overload

Lower the risk of malfunction due to unstable torque changes at startup, braking and unexpected large torque.

Bearingless

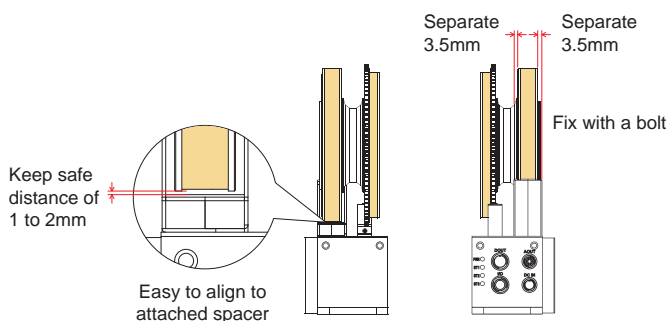
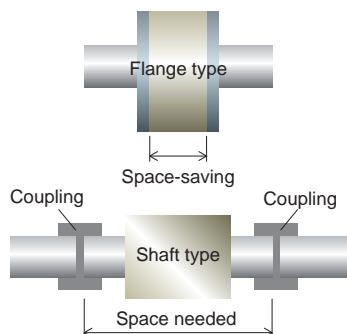
Perfect for durability test as no parts will be effected by rotation and worn out.

Space-saving

Easier connection and horizontal installation due to its short axis.

Easy installation

Helps to save installation time.



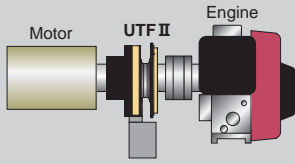
High accuracy & stability

Able to return to zero point & remain stable. (Same as UTM series)
Even small torqu variations can be detected with high accuracy.

Variable low pass filter

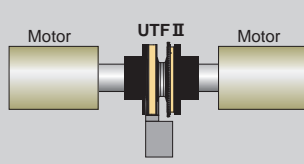
Filter constant suitable for each application can be selected.

Evaluation test of engine



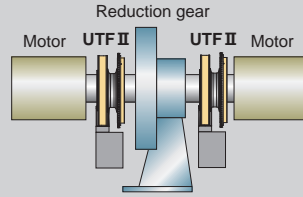
Cranking torque and friction torque measurement

Performance test of motor



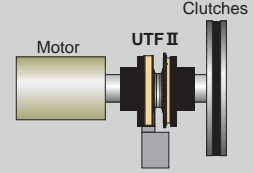
Cogging torque and torque ripple measurement

Efficiency measurement of reduction gear



Transmission torque fluctuation, transmission efficiency & friction torque measurement

Functional test of clutches and dampers



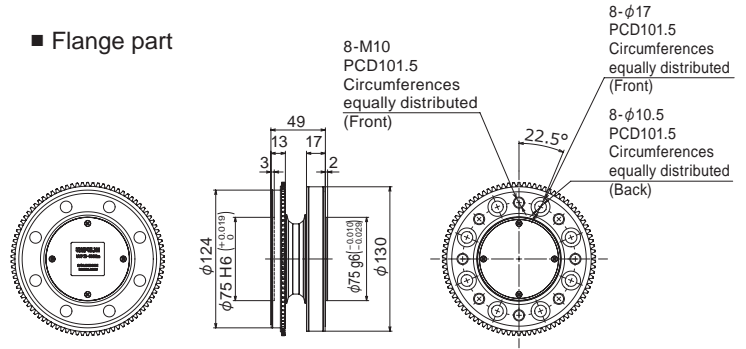
Starting torque, dynamic friction torque measurement

Specifications

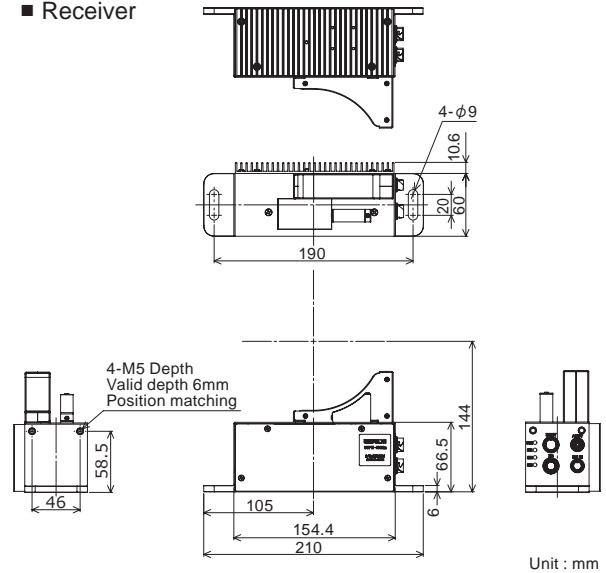
Flange part	Receiver		Strain gauge type	
	Measurement range		500Nm	
	Safe overload		500%FS(2500Nm)	
	Cut-off frequency		3kHz (Sampling rate of 20kHz)	
	Digital low pass filter		1Hz ~1kHz(Changes by setting), PASS 3kHz	
	Non-linearity		0.03%FS or less	
	Hysteresis		0.03%FS or less	
	Repeatability		0.03%FS or less	
	Compensated temperature range		-10 to +50℃	
	Temperature effect on zero		0.01%FS/℃ or below	
	Temperature effect on span		0.01%FS/℃ or below	
	Max. rotation speed		25000rpm	
	Torsional spring constant		1700kNm/rad	
	Maximum torsional angle		2.93×10^{-4} rad (0.017°)	
	Inertia moment		5.0×10^{-3} kgm ²	
	Gear for detecting rpm		90 cogs/round	
	Dimensions		φ138×51(D)mm	
	Weight		Approx. 2.3kg	
Receiver	Analog output	CH1	±10V torque output (Load resistance must be more than 5kΩ)	
		CH2	±10V rotation output (Load resistance must be more than 5kΩ)	
	Frequency output		torque output 60kHz±30kHz	
	Pulse output	Detection method	Magnetic detection	
		Signal specification	90°phase differences AB phases pulses, Z phase pulse (RS-422A standard driver)	
		Number of pulses	90 to 1080 pulses/rotation (AB phases) (Changes by setting) 1 pulse/rotation (Z phase)	
	Digital I/O	Number of I/O	(3) INPUT for changing setting, (1) OUTPUT for error	
		Input type	Volt-free contact, open collector or TTL level	
		Output type	Open collector DC30V 50mA	
	Interface		RS-485(115.2kbps)	
	Compensated temperature range		-10 to +50℃	
	Power supply voltage, Power consumption		DC24V ±15%, 17W typ.	
	Dimensions		210(W)×66.5(H)×60(D)mm (Projections excluded)	
	Weight		Approx. 1.1kg	
Attachment	Power supply cable 5m	1	I/O cable 5m	1
	Analog output cable 5m	1	Position confirmation attachment	2
	Digital output cable 5m	1	Operation manual	1
Accessories	CATF2-PWR-5M	Power supply cable for UTF II 5m		
	CATF2-OUT-5M	Analog output cable for UTF II 5m		
	CATF2-COM-5M	Digital output cable for UTF II 5m		
	CATF2-I/O-5M	I/O cable for UTF II 5m		
	CATF2-SET-5M	Cable sets (power, analog output, digital output, I/O)		

External dimension

■ Flange part



■ Receiver



Unit : mm