

Model 2000 Series Radio Telemetry System

非接觸式動態扭力無線量測系統



● Automobile ● Helicopter ● Windmill ● Crane ● Steel Manufacturing



接觸式扭力量測系統非常適用於具高轉速、強烈震動的轉軸，且相當適合於惡劣環境下的量測，如環境充滿粉塵、潮濕、高溫、油漬、微酸性冷卻物質等等。這套系統克服了傳統的扭力量測系統所作不到的量測。

這套非接觸式扭力量測系統靈敏度極高，附屬動態訊號輸出可設定主動態訊號輸出量測範圍的 1%。因此，輸出解析度可為主輸出量測範圍的 0.0025%。附屬動態訊號輸出的過載承受比例為 500:1。它非常適合應用於量測嚙合齒輪的扭力以及極小的扭轉振動量測。量測頻寬最高可支援到 6.8k Hz。



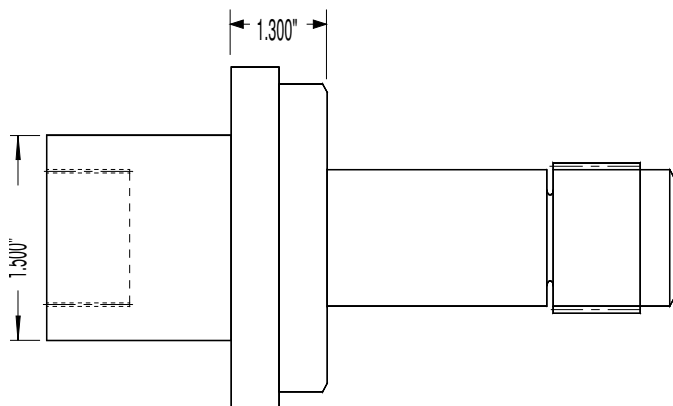
它 RF 的傳輸機制，免除了傳統滑環的設計，讓系統更耐久且更穩定，電池供電或感應式供電可直接提供電力給感測器及發射器，並透過感應線圈及天線傳送訊號。這項技術允許即時在運作中的轉軸也能不受任何干擾下穩定地傳送訊號，且不受外界雜訊的干擾。

產品特色

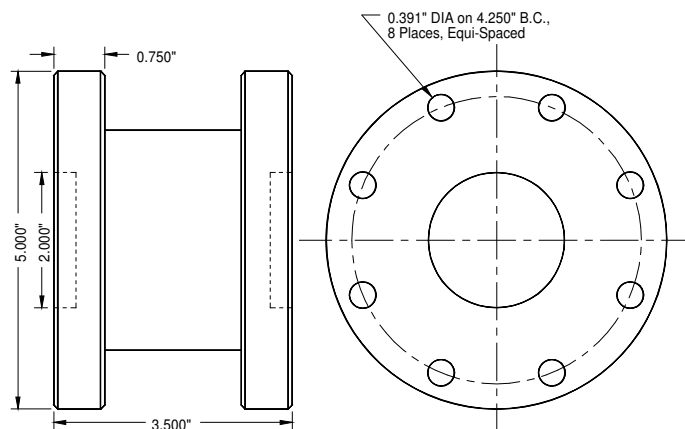
- ✦ 不需軸承裝置。
- ✦ 動態訊號輸出，Primary 輸出可低至 1%，相當適合量測嚙合齒輪的扭力。
- ✦ 不需潤滑就能量測高達 30,000 rpm 的轉速。
- ✦ 有專為轉盤、法蘭(Flange)、及轉軸設計的感測器。原廠也提供客製化服務，服合您待測物的需求。
- ✦ 替您免除掉軸承對心不準的問題。
- ✦ 不會有噪音上的問題。
- ✦ 動態訊號通道有支援 on-board sensor 的 5-pole 低頻濾波器，接收器內則又提供 8-pole 的濾波器。

Mechanical Interface

MODEL 2140S: Shaft Coupled



MODEL 2140F: Flange Coupled



Dimensions shown are for 1K and 2K LB-FT 2140F Models.

- Remote Plus and Minus Shunt Calibration activated by push-buttons on Receiver.
- Sensors' electronics, gages and wiring are all embedded; sealed and protected by stainless steel covers.
- Analog outputs supplied; wide band and filtered.
- Most any Torque capacity available.

Specifications

SYSTEM

Bandwidth;Full Range Output: DC to 1100 Hz
 Bandwidth;Dynamic Output: 5Hz to 6.8KHz
 Integral Non-Linearity 0.1% F.S.
 Repeatability $\pm 0.05\%$
 Maximum Error $<0.25\%$ Full Scale

RECEIVER: Model 2025i

Power 120 Volts AC
 and 12 Volts DC
 Output 0 to ± 2 Volts
 (0 to ± 5 Volts Available)
 Display 3 1/2 Digit Backlit LCD
 Output Ripple < 2 mV (Filtered)
 < 12 mV (Wide band)
 Size 8.0"L x 5.0"W x 3.48"H

TORQUE SENSOR: All 2140 Series

Standard Ranges (LB-FT) 1K, 2K, 5K, 10K
 15K, 20K, 25K, 30K
 Maximum RPM up to 30,000
 Signal Coupling RF Telemetry
 Power Coupling 500 KHz Induction Power
 (through stationary loop antenna)
 Usable Temp Range -40 to 250°F
 Compensated Region 50 to 250°F
 Higher Ranges Available
 Temp effect on zero $\pm .01\%$ per °C
 Temp effect on span $\pm .01\%$ per °C
 Dynamic Channel Range ... Specified at time of order.

INDUCTION POWER SUPPLY: Model 2030i

Power supplied by 2025i
 Output 500kHz Induction Power
 Size 6.29"L x 2.95"W x 2.25"

Custom Requirements? ATi will customize a system to meet your special needs.