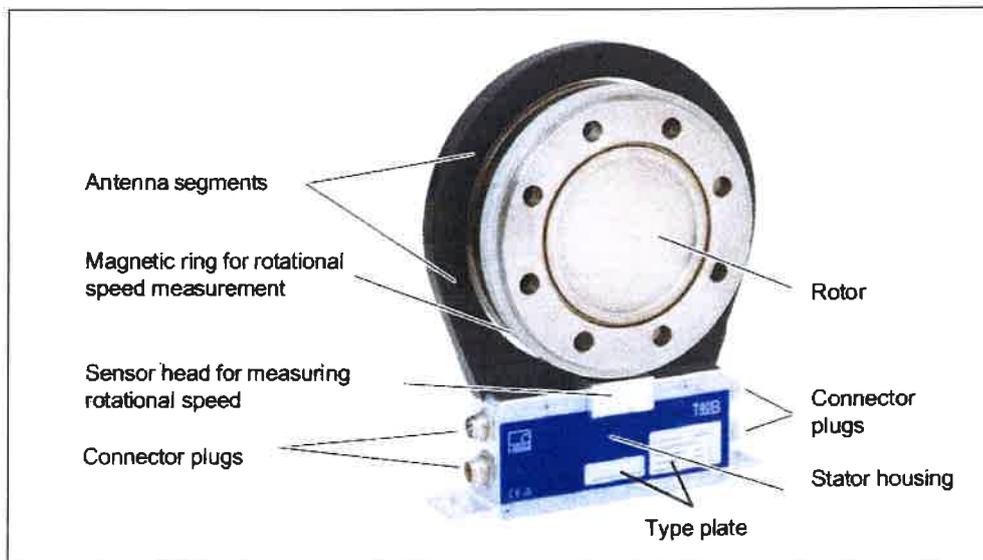


# 제품 사양서

1. 제품 품명: Torque sensor, T40B/1kNm
2. 제품 구성 품번: K-T40B-001R-MF-S-M-DU2-1-U
3. 수량: 1EA
4. 토크 센서 기본 사양:
  - A. 본 토크센서는 Flange 타입 토크 센서로 Rotor, Stator, Antenna 로 구성됨.
  - B. 토크와 스피드 시그널의 동시 측정이 가능 함.
  - C. Accuracy class: 0.05
  - D. 토크 용량: 1kNm
  - E. 토크 출력: 60kHz±30kHz and ±10V
  - F. RPM 출력: 1024 pulse per revolution, 20,000RPM
5. 토크센서 구조



6. 토크센서 상세 사양:

- A. Non-linearity including hysteresis:  
(Related to the nominal torque)
  - Between 0% and 20%:  $<\pm 0.01\%$
  - Between >20% and 60%:  $<\pm 0.02\%$
  - Between >60% and 100%:  $<\pm 0.03\%$
  
- B. Relative standard deviation of the repeatability:  $<\pm 0.03\%$   
(per DIN1319, related to the variation of the output signal)
  
- C. Temperature effect per 10K in the nominal temperature range:
  - i. On the output signal, related to the actual value of the signal span  
Frequency output:  $\pm 0.05\%$
  - ii. On the zero signal, related to the nominal sensitivity  
Frequency output:  $\pm 0.05\%$
  
- D. Energy supply:
  - i. Nominal supply voltage (separated extra-low DC voltage): 18 to 30V
  - ii. Current consumption in measuring mode:  $<1\text{A}$
  - iii. Current consumption in startup mode:  $<4\text{A}(\text{typ.2}) 50\mu\text{s}$
  - iv. Nominal power consumption:  $<10\text{W}$
  - v. Maximum cable length: 50m
  
- E. Rotational speed measuring system
  - i. Measuring system: Magnetic, via AMR sensor (Anisotropic Resistive effect) and magnetized plastic ring with embedded steel ring
  - ii. Output signal: 5V symmetrical (RS-422);  
2 square wave signals approx.  $90^\circ$  phase shifted
  - iii. Pulses per revolution: 1024
  
- F. Degree of protection per EN60529: IP54
  
- G. Reference temperature:
  - i. Reference temperature:  $23^\circ\text{C}$

- ii. Nominal temperature range: +10 to + 70°C
- iii. Operating temperature range: -20 to +85°C
- iv. Storage temperature range: -40 to +85°C

H. Load limits:

- i. Limit torque, related to nominal torque: 200% (with static loading)
- ii. Breaking torque, related to nominal torque: >400% (with static loading)
- iii. Longitudinal limit force: 19kN (Static and dynamic)
- iv. Lateral limit force: 5kN
- v. Limit bending moment: 220Nm
- vi. Oscillation width per DIN50100 (peak-to-peak): 2000Nm  
(The nominal torque must not be exceed.)