

TORQUE TRANSDUCER

Measures over the rated temperature range

HBM (Germany) provides the T12HP digital torque transducer for dynamic measurements in test stands. The optionally CANopen-compatible transducer features unparalleled temperature stability and accuracy over the entire measurement range.



The T12HP torque transducer has an in-built CAN interface, which can be used both for transmitting measured values and for module parameterization (Photo: HBM)

The digital torque transducer supports dynamic measurements in the test stand and provides unprecedented precision, particularly in terms of temperature stability. Temperature influences have virtually no impact on the measurement result, due to a TC_0 value (temperature behavior) of 0,005 % per 10 K. In addition, the resulting Flexrange function of the company provided by the product allows users to take a closer look at any partial range of the nominal (rated) measurement range of +10 °C to +70 °C.

Due to the Flexrange function, users can run more detailed analyses in any partial range from the full measurement range—as if looking through a magnifying glass. Unlike other technologies used in the market (“Dual Range”), different measurement tasks can be performed using a single characteristic curve. Switching to a second measurement range is a thing of the past. Moreover, test bench setup times are reduced, and besides, utilization as well as the number of tests can be increased.

The CAN interface ensures the integration of the torque transducer with different test stand concepts. It supports different bit rates up to 1 Mbit/s. The CAN network is connected via device plug 4 or device plug 5. A maximum of 32 CAN nodes can be

connected in one bus segment (in accordance with the CANopen specification). The CAN network requires a 120-Ω termination resistor in the first and last bus nodes. The CAN interface complies with CiA 303-1 version 1.3. With the T12HP Assistant and CAN parameterization tool the product can be configured. The measurement flange is installed directly in the drivetrain and is, therefore, maintenance free. The transducer is available with different nominal (rated) torques, ranging from 100 Nm to 10 kNm. The product is the successor of the T12 model that was introduced eleven years ago and takes over its role as HBM's flagship product range of torque sensors.

[CW](#)