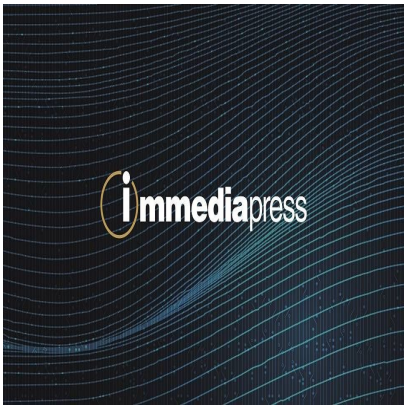


MDT Introduces TMR3111D High-Performance TMR Magnetic Rotary Encoder IC

Descrizione

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â?? Compact Magnetic Encoder IC Supports Both On-Axis and Off-Axis Position Sensing for Humanoid Robots, Quadruped Robots, Servo Motor Systems, and Precision Motion Control

ZHANGJIAGANG, China, July 1, 2026 /PRNewswire/ â?? MultiDimension Technology Co., Ltd. (MDT), a leading supplier of magnetic sensors and a pioneer in Tunneling Magnetoresistance (TMR) technology, today introduced the TMR3111D high-performance TMR magnetic rotary encoder IC for high-speed, high-precision rotary position sensing in robotics, servo drives, and industrial motion control. MDT will showcase the new encoder, together with its latest TMR and AMR magnetic sensor portfolio, at Electronica Shanghai 2026.

The TMR3111D combines MDTâ??s high-sensitivity TMR sensing technology with advanced digital signal processing to deliver high-speed, high-precision contactless rotary position sensing in an ultra-compact package. Supporting both on-axis and off-axis magnetic configurations, the encoder provides designers with greater mechanical flexibility while maintaining excellent angular accuracy, repeatability, and long-term reliability.

Compared with conventional Hall-effect encoder solutions, MDTâ??s TMR technology delivers higher magnetic sensitivity, improved signal-to-noise ratio, and greater tolerance to magnetic and mechanical variations, enabling more stable and accurate position sensing in demanding motion control applications. These advantages simplify system integration while enhancing the performance and reliability of next-generation motion control systems.

Supporting SPI, ABZ, PWM, and UVW output interfaces, the TMR3111D satisfies the requirements of both absolute and incremental encoder systems. Integrated automatic gain compensation and nonlinear calibration compensate for installation-induced magnetic errors, improving production consistency while simplifying assembly. With rotational speeds up to 40,000 rpm, the encoder is ideal for high-dynamic servo systems, robotic actuators, and other demanding motion control applications.

The TMR3111D is ideal for joint position sensing in humanoid robots and quadruped robots, as well as servo motor systems, collaborative robots, industrial robotic joints, precision motion control systems, and other applications requiring compact, high-speed, high-accuracy rotary position feedback.

Key Features

About MDTMultiDimension Technology was founded in 2010 in Zhangjiagang, Jiangsu Province, China, with branch offices in Shenzhen, Chengdu, and Ningbo in China, Singapore, Tokyo, Japan, and San Jose, Calif., USA. MDT has developed a unique intellectual property portfolio, and its self-owned state-of-the-art TMR manufacturing facilities that can support volume production of high-performance, low-cost TMR magnetic sensors to satisfy the most demanding application needs. Led by its core management team of elite experts and veterans in magnetic sensor technology and engineering services, MDT is committed to creating added value for its customers and ensuring their success. For more information about MDT please visit http://www.multidimensiontech.com.

Media ContactsMDT sales department, sales@dowayusa.com, sales@dowaytech.comTel: +1-650-275-2318 (US), +86-189-3612-1156 (China)

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