MICRONOR

automation components

FOR IMMEDIATE RELEASE

MRI-COMPATIBLE ABSOLUTE ROTARY ENCODER WITH 13-BIT RESOLUTION

Newbury Park, California, August 20, 2013

Micronor introduces the world's first commercially available, MRI-compatible fiber optic absolute rotary encoder system. The all-optical, non-metallic MR338 passive sensor provides precision absolute angular measurement from 0° to 360° with 13-bit (8192 count) resolution and 12-bit multi-turn tracking. A duplex multimode fiber optic link connects the passive MR338 Sensor to the active MR330 Controller Module installed outside the MRI area. This absolute encoder system is designed for use in functional-MRI research, MRI training phantoms, EMC test facilities and other challenging electromagnetic environments where EMF and RF transparency is required.

The Micronor MR330 series absolute encoder system uses a novel optical technique. The controller transmits a burst of light to the code disk in the sensor which accurately modulates the spectral components of the light based on angular position. The position information is imprinted in the optical spectrum of the light and guided back to the controller for a precise position readout. The sensor requires no electrical power and houses no electronic components whatsoever. The innovative technique was recently awarded US patent 8,461,514.

Model MR330-1 SSI Controller's powerful embedded processor and firmware offers performance plus extended set of built-in functions and interfaces not available with resolvers or conventional electronics-based encoders. Built-in interfaces include SSI, USB, RS485, RS232, Modbus RTU, programmable digital set points and analog outputs (4-20mA and ±10V). The DIN-rail mount module operates from 24 VDC and supports encoder links extending up to 2500 meters.

The MR338 MRI Absolute Position Sensor complements Micronor's MR328 MRI Incremental Rotary Encoder introduced three years ago. Users can now select the encoder type that best matches the feedback needs of their application. The MR338 13-bit absolute encoder is ideal for MRI applications requiring precision monitoring of absolute angular position. The MR328 incremental encoder provides 360ppr resolution and A/B quadrature (pulse) outputs which are suited for monitoring speed and relative position tracking. Linear encoders are in development.

About Micronor

Since 1968, Micronor has been a leading global supplier of automation and motion control products for industrial applications as well as military, aerospace, medical and other harsh/hazardous environments. Products include fiber optic sensors, encoders, resolvers, rotary limit switches, cam timers, motorized potentiometers, pulse generators, handheld teach pendants and custom engineered feedback and control units. Micronor maintains regional sales, service, engineering and manufacturing facilities in both the USA and Switzerland.

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SHORT VERSION (100 Words) FOR PRODUCT FEATURES

MR338 is the world's first commercially-available, MRI-compatible fiber optic absolute rotary encoder. The all-optical, non-metallic passive sensor provides precision absolute angular measurement from 0° to 360° with 13-bit (8192-count) resolution plus 12-bit (4096-count) multi-turn tracking . The encoder is designed for use in functional-MRI research, MRI teach phantoms, EMC test and other challenging electromagnetic environments where EMF and RF transparency is required. A duplex multimode fiber optic link (up to 2500m) connects the MR338 Sensor to an MR330 Controller installed outside the MRI area. The Controller features multiple built-in interfaces including SSI, USB, RS485, RS232, Modbus RTU, digital and analog.

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