



Application note 105: direct-drive azimuth positioner

This note describes the custom design provided by Allied Motion to position a platform with high resolution and accuracy in a scanner application.

Allied Motion was invited by the customer to participate in the design and manufacture of an “azimuth” rotating platform with the following desired characteristics and features:

- accurate and rapid positioning with a repeatability of not less than one microradian over a wide temperature range,
- a high-speed wireless datapath from the base to the rotating platform,
- a wireless electrical power transfer of at least 10 watts from the base to the rotating platform.

Solutions provided by COPI/EMOTEQ were a Megaflux high torque motor to provide smooth actuation in conjunction with a high resolution sine/cosine encoder, yielding in excess of 36 million measuring points per revolution.

The datapath was supplied by a custom fiberoptic slipring as an integral part of the system. The platform power supply requirement was satisfied by a rotating transformer arrangement.

For information and assistance, please contact:

COPI (800) 340 0404 technical assistance,
sales@opticalencoder.com
EMOTEQ (800) 221 7572 technical assistance,
sales@emoteq.com

