



Microcom Design, Inc.

Shaft Encoder Model 1 Shaft Angle Encoder P/N: 1970399



Overview

The function of the SE 1 is to provide a measurement of the rotation of the input shaft. It is designed to be used with SDI-12 equipped data systems. The sensing system is a combination of absolute value single rotation and rotation increment magnetic sensing. The SE 1 is designed to have significantly improved features over existing shaft encoders, most of which use designs that are decades old. New technology has permitted greater simplicity and precision.

Features

A) Extremely Low Input Torque

0.02 oz/inches (0.00014 N-M) starting torque. There are no gears or significant inertia in the input shaft. USGS data shows 0.23 oz/inches generated by a 1.5 inch diameter float displaces 0.001 feet of water.

B) Low Power Consumption

14 μ A quiescent and 20mA for 0.1 second while taking a measurement, measured at the SDI-12 connector. A reading every 5 minutes averages to 15 μ A. An internal low temperature capable battery is included.

C) Robust Mechanical Design

The entire functioning module is independent of the surrounding enclosure. All mechanical alignment is integral with the shaft module. The enclosure provides float wheel support and physical protection. The module may be placed in a wide variety of enclosures that are fitted to the application.

D) Options

The shaft may be fitted with: metric 375 mm, English 1 foot, or custom float and pulley arrangements.

E) Setup and Read Out

Simple setup and data acquisition using any SDI-12 master. Offset and slope are software adjustable so that various shaft inputs can be measured.

Specifications

Accuracy: +/- 1/4 degree, +/- 1/2 degree worst case over temperature, 0.0014 feet and 0.5 mm worst case accuracy with the 1 foot and 375 mm float wheels respectively.

Resolution: 0.1 degree

Starting Torque: 0.02 oz/in (does not include any float wheel imbalance)

Internal Battery Life: 50,000 hours – no power from SDI-12, taking 1 measurement every 5 minutes

Temperature Range: -40 to 60 C

Connectors: MS3102E-14S-2P (4 pin male)

Microcom Design, Inc.
10948 Beaver Dam Road
Hunt Valley, MD, USA 21030
Tel: (410) 771-1070
Fax: (410) 771-0018
E-mail: sales@microcomdesign.com

Microcom Canada
Omnimatrix
3465 Ashby
St. Laurent, QC H4R 2K3
Tel: (703) 533-7291
E-mail: roger@omnimatrix.com

Microcom Brazil
Simtech Representacoes LTDA
Rua do Mercado 17/14 andar Centro
Rio de Janeiro, Brazil CEP 20010-120
Tel: 21-2532-2801
Fax: 21-2240-1242
E-mail: MicrocomIntl@simtech.com.br