Product Specification

Magnetic Field Transducer – EQ 2430

EQ 2430 is a single axis, high accuracy, high linearity, high stability magnetic field to analog voltage transducer. It is well suited for on-line magnetic field measurement in large turbogenerators, hydrogenerators and electrical motors, and provides effective diagnostic of generator magnetic fields as well as detection of shorted pole coils.

Description

The single-axis, high accuracy, high linearity, high stability magnetic field to analog voltage transducer is particularly appropriate for mapping the magnetic field in the range to 2 Tesla. The magnetic field sensor’s head contains a high quality Hall element. The very thin sensor’s head design allows mounting in the air gap of generators and electrical motors.

A novel sensor chip in the probe entirely eliminates influences from DC magnetic field components other than the one measured (Y-axis), so that even for strong non-uniform fields no planar Hall effect leads to errors in the output voltage. The transducer consists of a sensor’s head with integral flexible cable of 10 meters connected to a conditioning unit.

- Single axis measurement
- Excellent accuracy
- Up to +/- 2 Tesla linear, max +/- 3 Tesla
- Easy to install on stator wall without removing the rotor poles
- Temperature compensated
- EMC tested to IEC and ENV norms
- Immune to deposits and vibrations
- Small size and flat design for electrical machines air gap installation

Physical Dimensions

Mounting instructions

The magnetic Field Sensor mounting plate shall be glue by means of Loctite 330 glue on stator teeth. Gluing surface preparation please refer to instruction manual.
Technical Information - Magnetic Field Transducer - EQ 2430

Electrical:

- Output signal for channel Y
- Linear magnetic field range
- Output voltage at full-scale (VB)
- Sensitivity to magnetic field
- Tolerances of sensitivity (B = 1 T d.c.)
- Non Linearity of output (B <= ±1 T)
- Non Linearity of output (B <= ±2 T)
- Long term instability
- Temp. coefficient of sensitivity (T= 23 ±10°C)
- Offset at B = 0T
- Temp. coefficient of offset
- Output noise and ripple (peak) 0.01-100Hz
- Output resistance
- Max. frequency response of the magnetic field

Environmental:

- Temperature
  - Probe and cable: +5 °C to +90 °C (operating)
  - Electronics: +5 °C to +45 °C (operating)
- Electromagnetic RF conducted disturbances
  - IEC 801-6
- Draft
  - ENV 50141
- Radiated electromagnetic field
  - ENV 50140
- Pulse modulated electromagnetic field
  - ENV 50140
- Electrical fast transient burst
  - IEC 1000-4-4, EN 61000-4-4
- Surge
  - EC 1000-4-5

Mechanical:

- Coordinates: X Y Z
- Field sensitive volume (FSV)
- Angular accuracy of the axes
- Probe only outside dimensions
- Dim. of sensor mounting plate
- Probe-to-Electronics cable
- Conditioning electronics
- Aluminum case dim.
- Mounting plate dim.
- Output Connector CoS
- Power Supply Connector CoP

Power:

- Voltage: 12V, -12V nominal, ±10%
- Current consumption: ca. 50mA
- Recommended accessories:
  - Power supply
  - Zero Gauss chamber
- Recommended accessories:
  - S12-5 (±12 V) 110/220 V
  - ZG 12

Subject to changes in specifications and accessories without prior notice.

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