

התעשייה האווירית לישראל בע"מ
חטיבת מערכות טילים וחלל, מפעל תממ

Tamam Magnetometer P/N 2425-XXXX – Main Specification

Scope

The magnetometer is a unit used in LEO satellites to provide coarse azimuth direction, by data processing of the three measured orthogonal components of the earth magnetic field.

Main Features

The product is a self-contained unit with integrated electronics and reduced volume, mass and power consumption.

The unit operates according to the flux-gate principle and includes a Built-In-Test function which allows fast verification of the serviceability condition.

The models P/N 2425-XXXX contain the following sub-assemblies:

- A sensor unit which consists of coils wound on high permeability ferromagnetic cores.
- An electronic unit, which consists of an oscillator that excites the sensors and three control-capture-loops that process the sensor signals and provide three output analog signals.
- The functional module is mounted in an aluminum case.

התעשייה האווירית לישראל בע"מ
חטיבת מערכות טילים וחלל, מפעל תממ

Specifications:

Parameter	Unit	Specification
Dynamic range	Gauss	± 0.6
Axis misalignment	°	± 0.2
Noise in bandwidth 0 to 20 Hz	mGauss	0.1 (rms)
Output at zero field	mGauss	<2.5
Scale factor, nominal	V/Gauss	8.3-10
Scale factor stability over temperature range	%	<2 (3σ)
Linearity, of full scale	%	< 0.05
Bandwidth (-3 dB)	Hz	<100
BITE imposed field (optional)	mGauss	50
Input voltage	V	± 15
Weight	gr	180 (P/N 2425-0011: 250)
Outline dimensions	mm	90x53x27 (P/N 2425-0011: 120x68x28)
Maximum power consumption	W	<0.5
Temperature range	°C	-30 to 65 (P/N 2425-0011: -40 to 65)
Sine vibration	g	As agreed for the application
Random vibration	grms	As agreed for the application
Mechanical shock	g	As agreed for the application
EMC	per condition	As agreed for the application

Note: other types with the leading above parameters may be required by the satellite manufacturer.