


Features:

- VMS Compatible with M119A2 aTALIN
- 32-CPT Forward and Reverse
- Low Power Operation
- High Mechanical Operating Speed
- Integral Shaft Coupling
- Light Weight
- High Reliability
- High Speed Output
- Qualified for Tactical Environments
- Built-In Test

Heritage:

- Vehicle Motion Sensor (VMS-3) for the M119A2
- VMS-2 Korea Chun-ma (Pegasus) and US SLAMRAAM
- VMS-1 US M109 Paladin Howitzer

Description:

The VMS-3 (Vehicle Motion Sensor) Encoder is a modification of BEI's standard military incremental encoder models. The encoder is designed to operate completely enclosed within the axle of the M119A2, 105mm towed Howitzer gun. The VMS provides the aTALIN (Artillery Tactical Advanced Land Inertial Navigator) system with fine position sensed data over a digital differential input/output line using TIA/EIA-422 line drivers and receivers. Feasible modifications for other military programs include mechanical interface, I/O format, parts screening levels, specific environmental qualifications and higher resolution up to 64 CPT.

Approved for general release

Vehicle Motion Sensor (VMSIII)

ENCODER DATA SHEET

Summary of Specifications:

Mechanical:

Dimensions	See Outline
Base Material	Stainless Steel
Weight	5.5 lb max.
Torque	2.0 oz-in max.

Electrical:

Input Power	2.5 Watts Max.
Input Voltage	28 VDC. Nom.
Input/Output	Digital Differential
Line Drivers/Receivers	TIA/EIA-422

Performance:

Reliability with INU	10,000 Hrs
Operation	Forward and Reverse
Parts	Extended Temp. Military
Speed Operating	1,400 RPM

Environment:

Temperature	
Operating	-46 to 71 deg. C
Nonoperating	-51 to 71 deg. C
Vibration	
Random	7.7 GRMS
Shock	3000 Live Fire Events
Lightning	Near Strike (Cloud to Ground)
Immersion	1.5 meters for 30 minutes

Desigh Performance:

Altitude	
Operational	15,000 ft
Non-operational	40,000 ft
Humidity, Rain, Dust, Salt Fog, Sand, Water Wash-Down, etc.	

Qualification Test Results on File:

- Functional
- Thermal Cycles
- Over/Under Voltage Test



Notes:

1. Specifications are program specific. Consult factory for potential modifications.
2. Additional environmental tests to be conducted by the customer at the next higher level assembly.

Specifications Subject to Change Without Notice