

V-Link[®]
G-Link[®]
SG-Link[®]
SG-Link[®] OEM



High G Option

Overview

The standard MicroStrain V-Link[®], G-Link[®], SG-Link[®], and SG-Link[®] OEM wireless nodes will operate normally up to a maximum acceleration limit of 550 g. In some applications, such as spinning shafts, the 550 g limit can easily be exceeded, potentially causing damage to the nodes. In these cases, the nodes should be purchased with a High G Option that increases the maximum acceleration limit to 2500 g for the V-Link[®], SG-Link[®], and SG-Link[®] OEM, and 1000 g for the G-Link[®].

Details

The High G Option comprises 3 modifications to the node:

- **Potting**
 - For V-Link[®], G-Link[®] and SG-Link[®], the circuit boards are disassembled and coated with a special epoxy. For SG-Link[®] OEM, the circuit board is inserted into a mold and the epoxy is formed as a surrounding square shell. In both cases, the epoxy provides outstanding thermal shock, impact and vibration resistance.
- **Crystals**
 - The V-Link[®], G-Link[®], SG-Link[®] and SG-Link[®] OEM all have standard radio and microprocessor crystals made onto their circuit boards. These radio and microprocessor crystals are replaced with higher shock rated crystals.
- **Antenna**
 - On the V-Link[®], the external right-angle antenna and its mount are removed and replaced with a 1.15 inch whip (wire lead) antenna which remains inside the enclosure.
 - On the G-Link[®] and SG-Link[®], the external right-angle antenna and its mount are removed and replaced with a small 'fractal' (chip type) antenna which is mounted inside the enclosure on the circuit board assembly.
 - The SG-Link[®] OEM comes standard with a 'fractal' (chip type) antenna mounted on its circuit board and no replacement is required.

Testing and Definitions

The High G Option has been tested using MIL-STD-810F Method 513.5 Procedure II. The standard can be found at: <http://www.dtc.army.mil/pdf/810.pdf>

The procedure defines acceleration as follows: As addressed in this method, acceleration is a load factor (inertia load, "g" load) applied slowly enough and held steady for a period of time long enough such that the materiel has sufficient time to fully distribute the resulting internal loads, and such that dynamic (resonant) response of the materiel is not excited.

The procedure goes on to define "acceleration versus shock" as follows: Acceleration loads are expressed in terms of load factors which, although dimensionless, are usually labeled as "g" loads. Shock environments (methods 516.5 and 517) are also expressed in "g" terms. This sometimes leads to the mistaken assumption that acceleration requirements can be satisfied by shock tests or vice versa. Shock is a rapid motion that excites dynamic (resonant) response of the materiel but with very little overall deflection (stress). Shock test criteria and test methods cannot be substituted for acceleration criteria and test methods or vice versa.

Part Number

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| 6302-3000 | HIGH-G-OPTION | HIGH-G-OPTION, modify wireless nodes to operate in excess of 550 g. Install high g crystals, pot entire assembly and install internal antenna. |
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