

# HIGH FREQUENCY NARROW BANDWIDTH INVAR SCREW

RoHS COMPLIANT

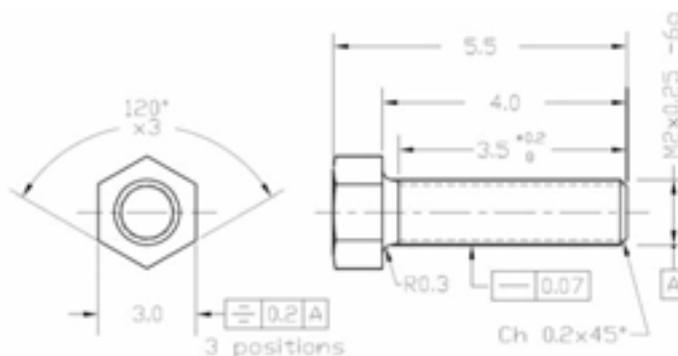
## Description

High precision  
High resolution tuning  
Very low coefficient of thermal expansion  
Available with Gold plating  
Available with locking nut or “self locking system”  
Adjustments in applications from Ka, KU, Q band and beyond  
**High Reliability** versions are available on special order  
**Custom design upon request**  
**ROHS compliant**



## Applications

Comb-line and inter-digital filters  
Coaxial structures  
Waveguide circuitry  
Space applications



## I. Invar (alloy 36) Tuning elements

The performance of a microwave filter over temperature is becoming more and more important, especially for narrow bandwidth high frequency filters.

Invar alloy offers very good Coefficient of Thermal Expansion (CTE) and can achieve the desired temperature characteristics.

This alloy can become difficult to machine especially with fine pitch threads. With more than 40 years experience, Temex Ceramics offers a complete range of standard products and is particularly able to work on specific request for custom designs with its prototyping dedicated team and R&D equipment.

**EXELIA TEMEX** has designed several types of invar screws in order to answer to specific request from customers. These screws are now “space” qualified as flight model for KA and Ku band filters. In some cases, the fine pitch resolution has halved the technician tuning time.

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## I.1 Invar 36 tuning screws

Invar tuning elements consist of an Invar screw and its brass nut. Screw can be gold plated. We can offer different size, style and types of head (hex, slotted, pan). The array below is an example of Invar tuning elements already designed and qualified for space applications.

### Models and dimensions in mm

metric screws			
Φ diameter	thread	length	tolerances
M1,5	0,25	up to 5mm	6G
M2	0,25	up to 9 mm	6G
M2	0,4	up to 9mm	6G
M2,5	0,25	up to 11mm	6G
M2,3	0,25	up to 11mm	6H
M2,5	0,45	up to 11mm	6H
M3,5	0,35	up to 12mm	6H

Custom dimensions are available upon request

UNS Screws		
thread	length	tolerances
3/32-80	up to 11mm	2A
.120-80	up to 11mm	2A
5/32-80	up to 15mm	2A

## II. Packaging

Parts are delivered in bulk.