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OPERATING GUIDE

MODEL 3030C1

MINIATURE HIGH TEMPERATURE ACCELEROMETER,

HERMETICALLY SEALED

NOTE:
MODEL 3030C1 IS A MINIATURE HIGH TEMPERATURE CHARGE MODE ACCELEROMETER DESIGNED FOR USE IN ESS THERMAL CHAMBERS.

THIS MANUAL INCLUDES:

1) OPERATING GUIDE, MODEL 3030C1
2) OUTLINE/INSTALLATION DWG, 127-3030C1
3) SPECIFICATION, MODEL 3030C1
4) GENERAL GUIDE TO CHARGE MODE ACCELEROMETER

OPERATING INSTRUCTIONS, MODEL 3030C1
MINIATURE HIGH TEMPERATURE ACCELEROMETER

INTRODUCTION

Model 3030C1 is a rugged miniature accelerometer designed to function in Environmental Stress Screening (ESS) chambers. This charge mode accelerometer can function at up to +500°F under extreme environmental conditions.

Utilizing ultra high temperature piezoceramic crystals, this miniature accelerometer features top mounted 10-32 connector and integral 10-32 mounting stud.

This charge mode accelerometer is designed to work with in-line charge amplifiers such as the Dytran 4705 series. The charge sensitivity of Model 3030C1 is 0.4 pC/g.

DESCRIPTION

Refer to figure 1 below.

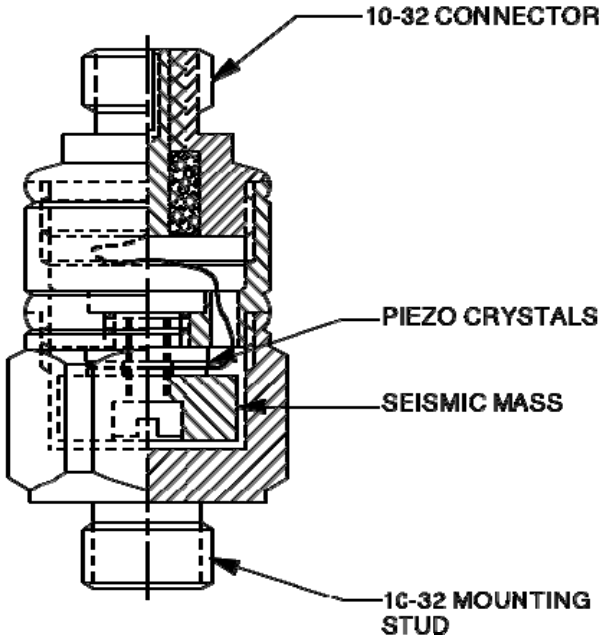

Figure 1 Representative cross section model 3030C1

Model 3030C1 uses the inverted element design principle to minimize the effects of base strain on the output signal. The element is suspended from a center support which provides isolation from strain at the mounting base, which can add spurious signals to the vibration information.

The seismic element type used in this design is laminar compression, the most rugged configuration for accelerometers which will be subjected to very high levels of multi-axis vibration under extremes of temperature.

INSTALLATION

To install Model 3030C1, it is necessary to drill and tap a 10-32 mounting hole at the center of a .350 diameter flat surface. Follow the instructions on the Outline/Installation drawing 127-3031C1 supplied with this manual.

Make sure that the surface is flat to .001 TIR and is free of chips and other debris. Place a small amount of silicone grease on the mating surfaces and torque the instrument into the mounting port with 10 lb.-inches of torque.

The silicone grease will ensure that the mating surfaces give the best high frequency transfer of vibration motion into the accelerometer base.

Connect the 3030C1 to the charge amplifier using low noise high temperature coaxial cable only. Make sure that the cable lock nut is tight.

Before connecting the cable from the accel. to the charge amplifier, short the end of the cable with a metallic object to discharge any static charge buildup which may exist across the crystals and which may damage the static sensitive input stage of the charge amplifier.

MAINTENANCE AND REPAIR

Due to the sealed construction, no maintenance is possible aside from keeping the connector free from contamination. Wipe the end of the connector with alcohol or other solvents (not acetone) and allow to dry.

Should you perceive a problem with the 3030C1, contact the factory for a Returned material Authorization RMA number and for instructions on returning the unit for evaluation.