

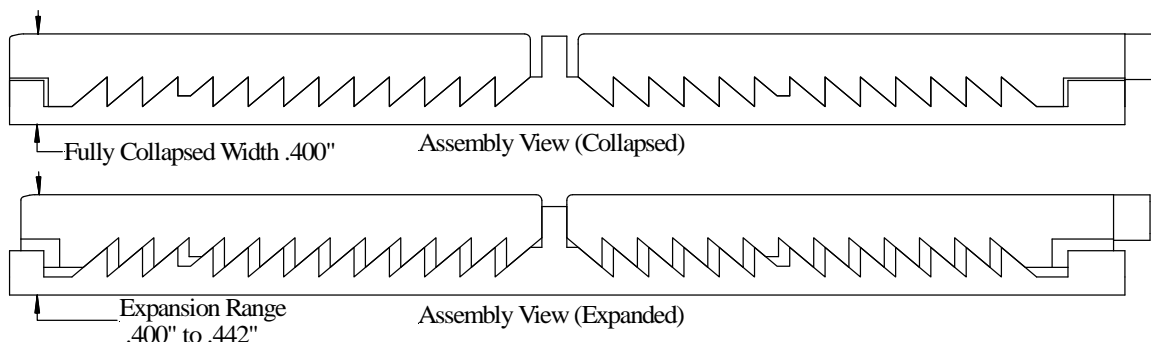
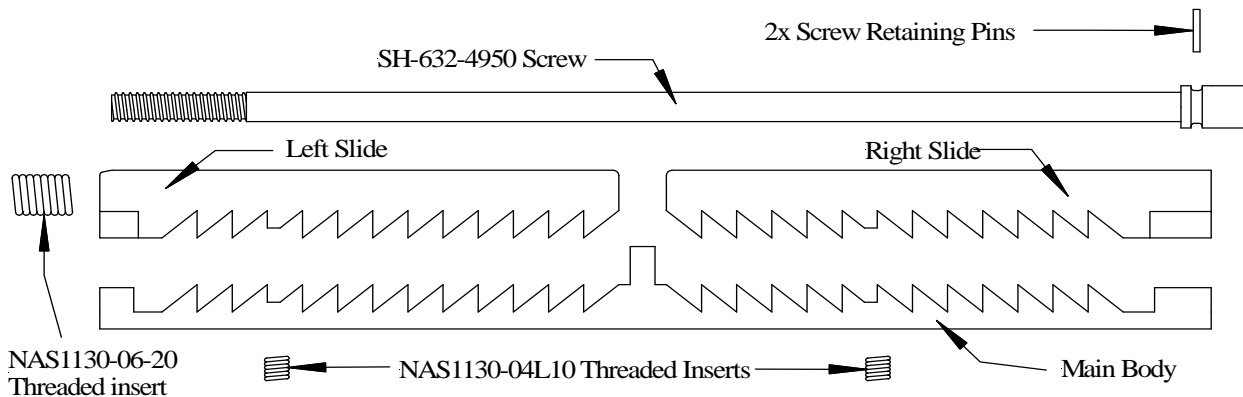
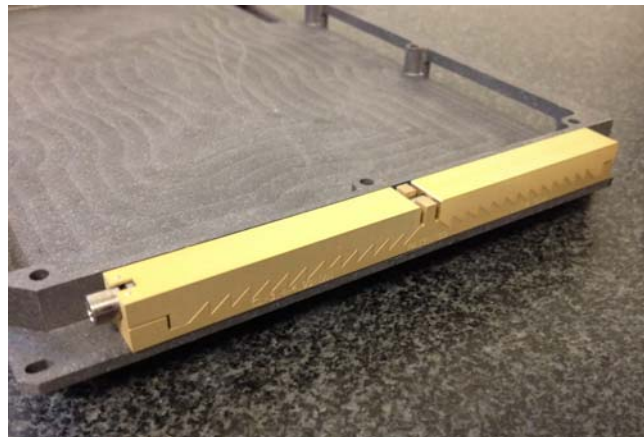
Coollok® Electronic Card Retainers Series 3.X Retainer for High Heat Flux Electronic Modules

Model Number: CL3.4-4.9-FI-HE-IA

Coollok is an advanced electronic module retainer designed to provide superior thermal conductance between the high performance electronic module and the cold-plate heat exchanger. Target applications include use in avionics and space based electronic enclosures. This “drop-in” new design offers dramatically improved thermal transport performance for reduced chip junction operational temperature as compared to other retainers available in the market today.

UNIQUE FEATURES

- Direct Replacement for Existing Wedge and Cam Style Retainers
- High Thermal Performance (nominal)
 - Conductance- (up to 3.0 W/°C-inch)*
 - Resistance- (as low as 0.334 °C-inch/W)*
- Uniform Clamping Pressure Distribution
- High Clamping Loads
- Fully Captivated
- Easy Insertion/Removal
- Lightweight
- Custom Configurations Available



Specialty Retainers

* Values can be higher or lower in thermal performance depending on many factors. Performance factors and variables include, surface finish, module card dimensional tolerances, coldwall precision, and thermal testing technique. Results shown were achieved with proprietary gold iridite coating and utilizing a thermal interface material between the retainer and the module for improved surface contact and thermal transport. (A thermally conductive interface material between the retainer and module is recommended.) Please contact Material Innovations Inc in the letterhead for more information

Hardware:
Std. Screw

P/N SH-632-4950

6-32 Socket Head Cap

Screw 9/64" hex (Std).

PH17-4 Series Stainless Steel

(Note that other options are available)

Retaining pins

P/N P1-031-187

.031" dia x .187"

18-8 Stainless Steel

Threaded inserts

NAS1130-04L10

4-40 internal thread

SS

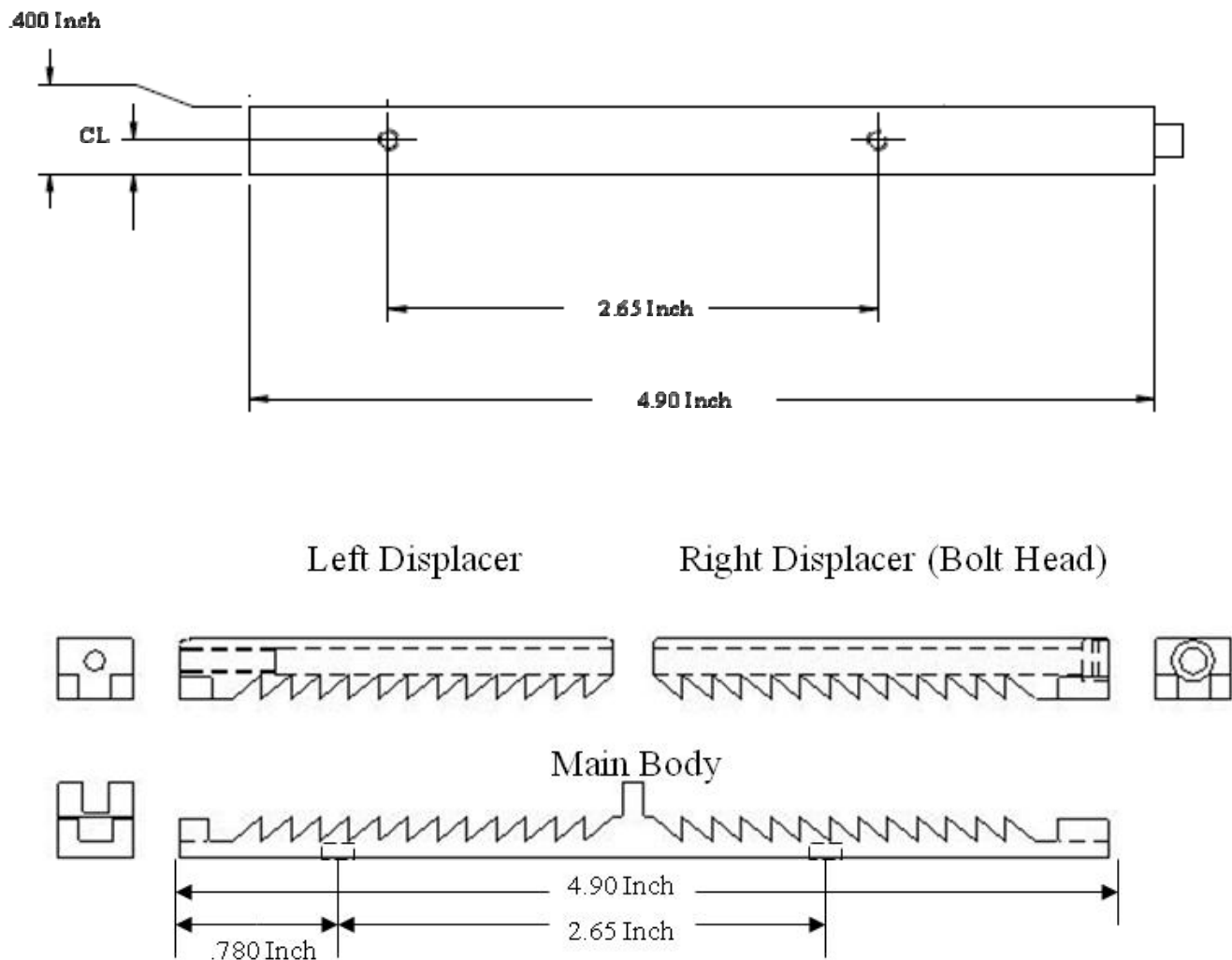


Figure 1: Primary Dimensions of Model CL3.4-4.9-FI-HE-IA (above two images)

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Specialty Retainers

Part Number Code Description:

CL3.4-4.9-130.643-FI-HE-IA

Model # / Series

CL-Standard Coollok configuration
Series 3.X (the X designates the retainer height in hundred thousandths of an inch
Other models/series to be added as developed

Effective Length of Retainer (L)

in inches (not including screw head)

Interface configuration

130.643 (std)-not required for ordering

Finish options

FI (std)- Proprietary finish based on Iridite/Alodine per MIL-DTL-5541, Class 3 Type 2 with enhanced mechanical and thermal performance (gold color)
FP- PVD coating (Zirconium/Nitride hybrid)
GL- Gold Flash Plating

Mounting Hole Thread Type

IA (std)- NAS1130-04L10 locking threaded insert (Tangless-Red Coating)
IAN - NAS1130-04L10 threaded insert (Tangless-No Coating)
T- Tapped hole 4-40 thread (std)

Screw head configuration

HE - (standard 9/64" Insert) Hex head English units
HS - (option for 1/8" Insert) Hex head English units
HM- (3 mm) Hex head Metric units
HT-Torque Head (in development)

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