

# 223 Torque Limiting Card-Lok

## CATALOG NUMBER

**HA223-4.80ETM2.5**



The Series 223 Card-Lok is ideal for field level maintenance, because it does not require any specialized tools or technical knowledge for proper installation. With an integrated (patented) torqueing mechanism, to install the Series 223, the operator simply turns the hex wrench until they hear/feel a minimum of three clicks indicating that the optimum clamping and thermal transfer performance has been reached. Accordingly, the Series 223 Card Lok minimizes the potential for insufficient board retention from under torqueing, or for damage to board and cold wall from over torqueing.

⚠ WARNING: This product can expose you to chemicals including Chromium (hexavalent compounds), which is known to the State of California to cause cancer and reproductive health issue. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## CERTIFICATIONS



## FEATURES

Screw actuated

5 segment, non-shafted design

Profile 5.72 mm (0.225") x 6.86 mm (0.270")

Length 97 mm (3.80") to 325 mm (12.80"), 12.7 mm (0.5") increments

Clamp force, thermal transfer, life cycle and environmental (MIL 810) test results available

Weight 1.12 g/cm (0.100 oz/")

Flexible mounting options

Available with gold chem film, clear chem film, black anodized, hard black anodized, or electroless nickel plating

Each unit tested at factory prior to shipment to ensure performance; customer provided with a certificate of conformance

Min expansion 8.26 mm (0.325")

For cold wall applications

Average clamp force (4.80", black anodized) = 263 lbs

Torque limiting; ideal for 2nd level maintenance

## PRODUCT ATTRIBUTES

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Product Type: PCB Retainer

Material: Aluminum

Type: Non-shafted

Thermal Performance: Better

Profile: 5.72 x 6.86 mm

Clamp Force: 91 – 136kgf

Gap Width: PCB + (7.0 - 7.9 mm)

Design Feature: Torque Limiting

## ADDITIONAL PRODUCT DETAILS

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From time to time, nVent may modify its product specifications to be in conformity with applicable industry, military or other relevant standards. Unless otherwise mutually agreed in writing, cancelled or superseded military specifications may be certified to the latest or superseding specifications. Products manufactured in conformity with such specifications will be deemed fully compliant whether or not you have been notified of such modifications, even if different from the original specification or those referenced by the customer.

## WARNING

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nVent products shall be installed and used only as indicated in nVent's product instruction sheets and training materials. Instruction sheets are available at [www.nvent.com](http://www.nvent.com) and from your nVent customer service representative. Improper installation, misuse, misapplication or other failure to completely follow nVent's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death and/or void your warranty.

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