

Creo® Clearance and Creepage Extension

Automate your clearance and creepage analysis

Electrical product safety is a necessity in today's competitive market. Now that more products have mechatronic elements incorporated into their designs, industries such as Automotive, Aerospace & Defense, Electronics, and High Tech face growing challenges.

The Internet of Things (IoT) enables manufacturers to collect operational product data. This data helps to reveal how the end user operates the product. But adding the electronic sensors required introduces more electricity into a product and increases the risk of electrical failure.

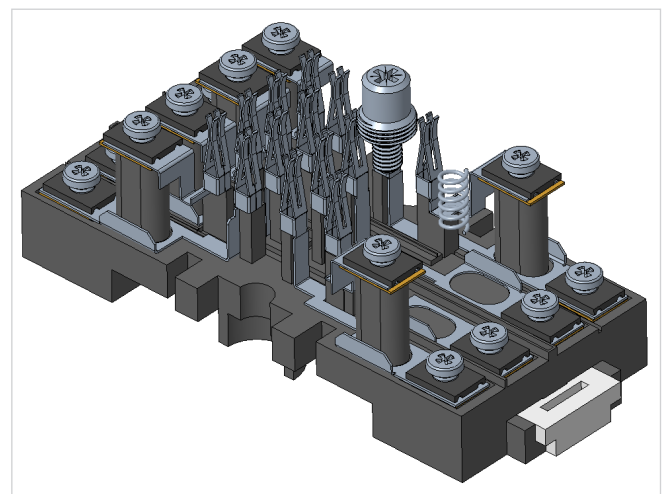
The smallest electromechanical design errors can cause circuit damage, overheating, and even fires or explosions. While companies must get products to market faster and more cost efficiently than ever before, they must also minimize the increasing risks of product failure and injury.

Electromechanical product safety is often plagued by inefficient design processes due to the use of "rule of thumb" design for safe electrical clearance and creepage distances. This often results in products that are over-designed, yielding designs that are too large, too expensive, or simply unable to meet space and performance requirements as the complexity of products increases. In addition, manual calculations are still frequently used to analyze clearance and creepage characteristics. These calculations are not only error-prone, but they become impractical as the number of components increases to over 1,000 or even 10,000 for products such as networking communications equipment.

Thus, many companies rely either on time-consuming and expensive physical prototyping and testing or on less-rigorous analyses, which can result in costly field failures and product recalls.

Today, in order to streamline your design process to get winning products to market faster and ensure product safety, traditional clearance and creepage analysis methods are no longer suitable. The Creo Clearance and Creepage Extension is the only solution that can help improve the speed and accuracy of your analysis.

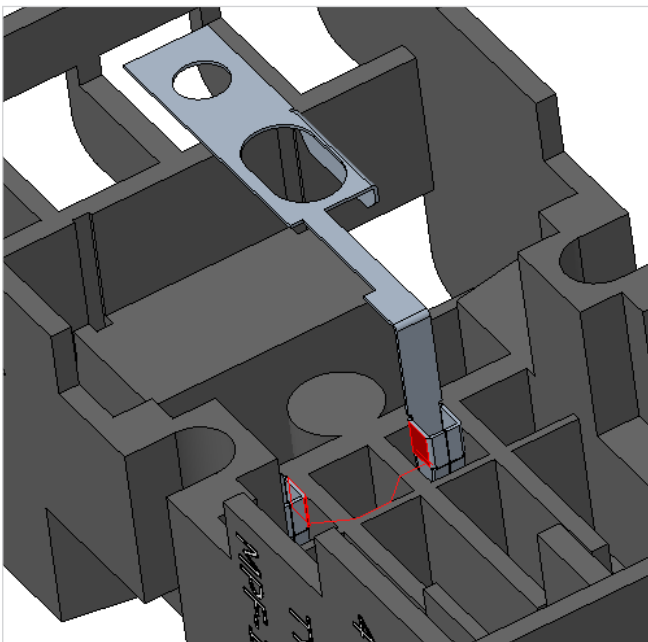
With the Creo Clearance and Creepage Extension, you can ensure product safety and optimize your electromechanical detailed design process.



Creo Clearance and Creepage Extension helps you automate electrical clearance and creepage analyses of 3D designs

Key Benefits

- Automates electrical clearance and creepage analysis directly on the digital model
- Clearly identifies product safety issues
- Improves design quality by helping optimize designs for electrical product safety
- Saves time and reduces prototype costs
- Reduces production rework and scrap

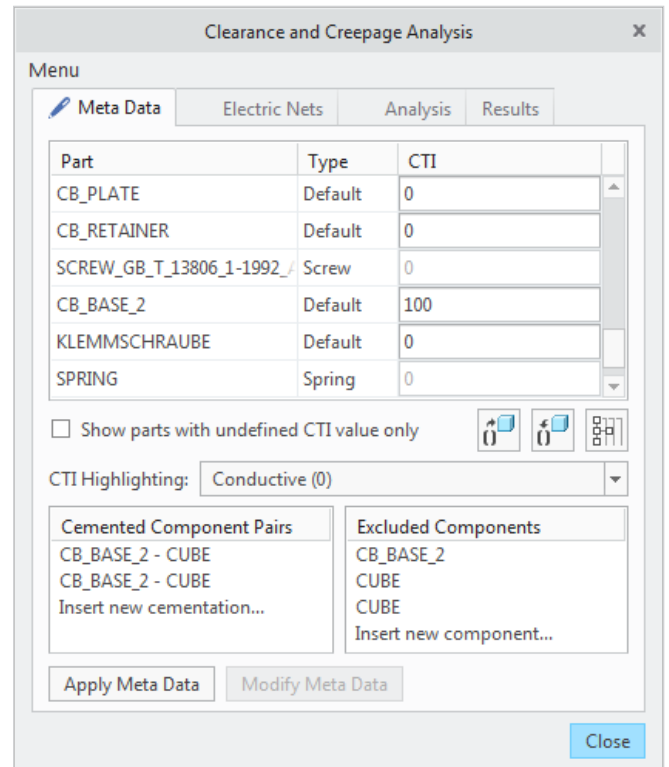


Creo Clearance and Creepage Extension automatically updates the display to only the parts that are involved in the violation

Capabilities and Specifications

Easy-to-use, Automated Clearance and Creepage Analysis

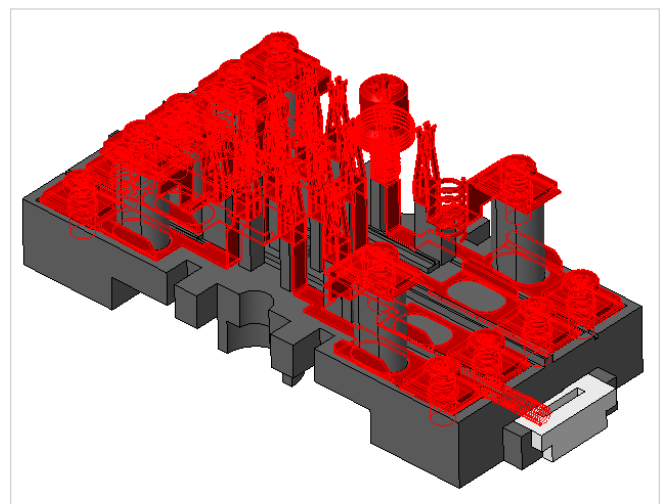
- Provides easy model setup
- Defines the minimum distances required to provide proper insulation
- Verifies that measured distances comply with clearance and creepage files for nets (a group of conductive components and/or quilts), components, and assembly quilts



Creo Clearance and Creepage Extension provides a logical UI for design analysis

Model Setup

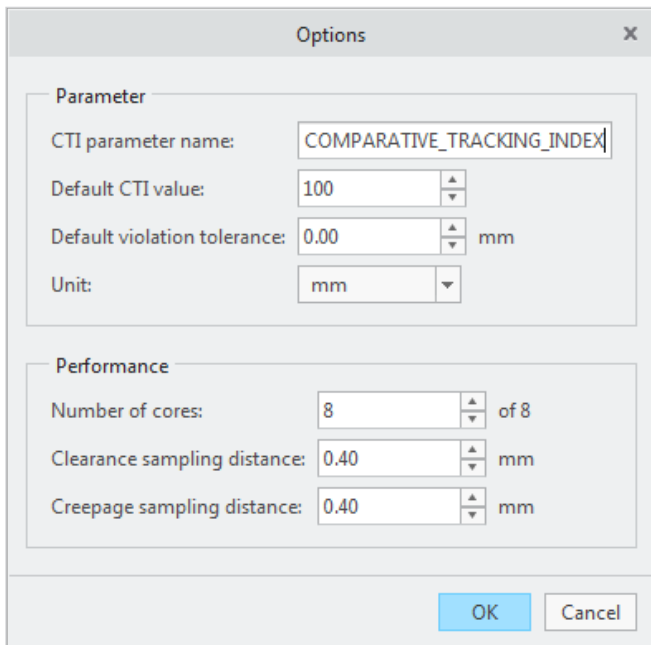
- Quickly define the conductivity of components by adding the Comparative Tracking Index (CTI) parameter to parts
- Validate conductivity of parts by highlighting conductive, isolating and undefined parts



Conductive components highlighted

Flexible Analysis

- Easily investigate violations in the results window; when a violation is selected, the path will be displayed in the graphics window to help the user better understand the failure
- Apply violation tolerance to accurate results
- Cement components to avoid inaccurate paths
- Highlight all or single failure paths
- Quickly determine whether a net has been analyzed, passed, or failed, or whether a failure has been overridden, by viewing the status of all nets listed in the results window
- Save analysis results with the top-level assembly for design reviews
- Control number of processors to use
- Control error tolerance to make analysis performance or accuracy a priority



Flexibility to control analysis performance and accuracy

The Creo Advantage

Creo is a 3D CAD solution that helps you build better products faster by accelerating product innovation, reusing the best of your design and replacing assumptions with facts. Go from the earliest phases of product design to a smart, connected product with Creo. And with augmented reality in each seat of Creo, everyone can easily visualize your designs. In the fast-changing world of the Industrial IoT, no other company can get you to substantial value as quickly and effectively as PTC.

Language Support

English, German, French, Italian, Spanish, Japanese, Chinese (Simplified and Traditional), and Korean.

Platform Support and System Requirements

For more information and system requirements, visit: [PTC Support page](#).

To Learn More

Visit: [PTC.com/cad/creo/simulation-products](https://www.ptc.com/cad/creo/simulation-products).

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