

# PTC Creo® Harness Manufacturing Extension

## Automated Manufacturing Documentation

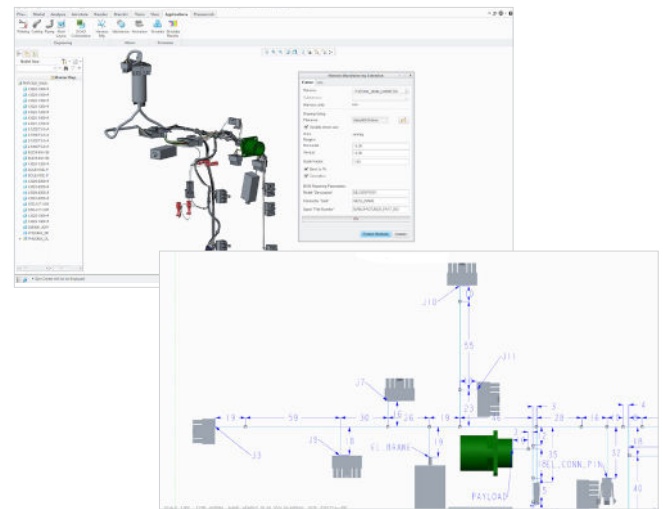
The PTC Creo Harness Manufacturing Extension (HMX) dramatically reduces the time spent generating manufacturing documentation from hours to minutes, accelerating time-to-market.

Many companies utilize electrical analysis tools to optimize the cost and weight of electrical harnesses, forcing the digital prototype to go through multiple iterations. However, the time to optimize a harness is limited due to the lead time required to finalize the harness design, manufacturing documentation, and complete production.

PTC Creo HMX dramatically reduces both the time to generate documentation and the user expertise required to develop standardized manufacturing documentation. At the touch of a button and at any stage of the design process, manufacturing documentation can be created, enabling more time to optimize design and allowing for greater flexibility when working with manufacturing partners.

### Key benefits:

- Easily create manufacturing documentation to a pre-defined standard using an intuitive user interface
- Easily accommodate late design changes with an optimized documentation process
- Standardize documentation of manufacturing deliverables
- Optimize manufacturing costs
  - Evaluate the manufacturing impact on different harness routing concepts
  - Create documentation earlier in the design process to obtain competitive cost estimates from multiple manufacturing shops



PTC Creo HMX streamlines the process of creating manufacturing documentation and accelerates the time to manufacture.

### Capabilities and specifications:

PTC Creo HMX comes in standard and advanced packages, complementing the functionality in the base license of PTC Creo Parametric™. The following table gives a comparison of the features supported by each option.

Features	PTC Creo Parametric	HMX Standard	HMX Advanced
Number of supported electrically active components (connectors, terminals, and splices)	5	20	> 20
Number of supported wires, bundles, cables, and overbraids	20	50	> 50
Supports overbraid			✓
Supports cosmetic features: tapes, tie-wraps, markers, and heat shrink		Supports tapes, tie-wraps, and markers only	✓
In-line components (axial)	splices	✓	✓
Supports sub harnesses			✓
Closed loop topography		✓*	✓
Branch bundle feature		✓*	✓
Automatic bend-to fit feature	✓	✓	✓
Auto-generation and annotation of the 2D representation dimensions	✓	✓	✓
Supports standard drawing sheet sizes: A0 to A4 and F to A	A0/F	✓	✓
User defined drawing templates		✓	✓
Supports variable drawing sheet that expands horizontally to fit the harness drawing			✓
Map user defined parameter for BOM description	✓	✓	✓
Map user defined parameter for spool part number		✓	✓
Map user defined parameter for connector seal			✓
Auto-generation and placement of the bill of materials	✓ Electrically active components	Generates bill of materials with consolidated spool usage	Generates bill of materials with consolidated spool usage, wedges, and cavity seals
Auto-generation and placement of the Wire List table	✓	✓	✓
Auto-generation and placement of the Connector Cavity tables		Contains the following parts: <ul style="list-style-type: none"> <li>• Housing</li> <li>• Terminals</li> <li>• Wires</li> </ul>	Contains the following parts: <ul style="list-style-type: none"> <li>• Housing</li> <li>• Terminals</li> <li>• Seals</li> <li>• Wires</li> <li>• Rear view of the connector</li> </ul>
Auto-pagination of BOM and Wire List tables on standard drawing sheets		✓	✓
Auto placement of 3D assembly view		✓	✓
Auto-generation of component views			✓
Automatic ballooning of items			✓
Export Wire Cutting List in the CSV file format		✓	✓
Export BOM in the CSV file format			✓
DXF format for output			✓
Automatic design-rule checking			✓

\* Supporting only one instance of the feature

**Language support:**

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

**Platform support:**

Please visit the [PTC support page](#) for the most up-to-date platform support and system requirements.

For more information, please visit <http://www.ptc.com/product/creo/> or contact a PTC sales representative.

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J3604-PTC Creo HMX-DS-EN-0514