

Spatial Planning, Routing and Collision Checks in 3D

E³.3DRoutingBridge

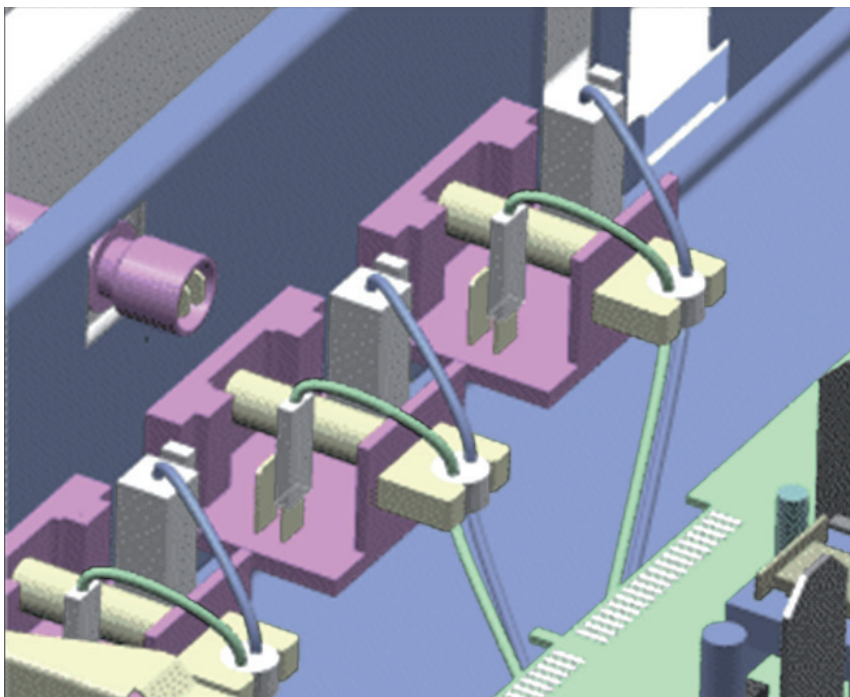
D A T A S H E E T

Introduction

E³.cable is the object-oriented schematic system for cabling devices and vehicles. Functional modules can be connected using single wires, shielded or twisted cables or cable bundles.

This ability to display different views of cable connections or connectors on any sheet enables E³.cable to create assembly drawings or signal tables in addition to block diagrams. A modification carried out anywhere in the schematic system is automatically updated online in all other views of the object.

In collaboration with the 3D mechanical system the physical connectivity of the digital prototype is checked.



Placing and routing electrical components in the 3D mechanical

Bidirectional E³.3DRoutingBridge

For routing cable harnesses the generated and proofed devices and connection data are transferred to the 3D Design Harness System (MCAD) along with all relevant properties such as cross-section, color, material, stripping, rest length, article number and so on.

There the individual devices are placed at the predefined positions and the routing pathway for the cable set defined. Also electronic elements, like circuit boards for example, can be installed in the model.

Afterwards, the cable sets are integrated in the 3D model. Now the mounting slots and fastening materials are placed.

The analysis of the virtual prototype determines whether valid bending radii are maintained or whether collisions between the 3D elements and the cable harness exist. The length of the cables and conductors is now known as well.

These values determined by the 3D Harness System are transferred to E³.cable via the E³.3DRoutingBridge as necessary.

Supported Systems

The following 3D Harness Design Systems are supported:

- CATIA V5
- Solid Works
- ProEngineer
- Autodesk Inventor
- Siemens NX
- SolidEdge
- NX I-deas

For additional information, please contact your local sales representative. Additional integrations are available on request.

Additional E³.series Modules

E³.view

E³.view is the free-of-charge viewer for all E³.series projects (.e3s) and special viewer files (.e3v). It can be used by anyone within a company or passed on to suppliers and customers.

E³.schematic

E³.schematic – the E³.series base module. Easy to use and operate. Complete functionality for the electrical design, inline terminals and connection plan.

E³.fluid

E³.fluid – the integrated design system for hydraulics, pneumatics, cooling and lubrication. Special functionality supports the development of fluidics also in connection with electrical design.

E³.cable

E³.cable offers enhanced functionality for designing cables and cable harnesses. Different views of the design enable specific documents to be created for production, start up and service.

E³.panel

E³.panel – the module for panel layout and wiring. Optionally design the panel in 2D or 3D, place all devices and automatically wire connection pathways as specified.

E³.formboard

E³.formboard – the module used to create 1:1 nailboard drawings for manufacturing cable harnesses. Quickly and easily place views, define the cable harness structure as well as specify the mounting and cable protection.