

# Danfoss PLUS+1® GUIDE 7.0 saves time and cost during development

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Danfoss has introduced version 7.0 of PLUS+1® GUIDE, their industry-proven graphical programming environment. Version 7.0 includes new features and options that increase developer productivity and support functional safety standard IEC 61508-3. PLUS+1 GUIDE 7.0 enables customers to bring high-performing machines to market faster; saving time and cost during development and certification efforts.

Danfoss Power Solutions, a segment of the Danfoss Group, is pleased to introduce version 7.0 of PLUS+1® GUIDE, their industry-proven graphical programming environment. With new features and options that increase developer productivity and support functional safety standard IEC 61508-3, version 7.0 of PLUS+1 GUIDE (Graphical User Integrated Development Environment) offers Danfoss Power Solutions customers lower development costs, easier machine certification and accelerated time to market.

New features and options in version 7.0 of PLUS+1 GUIDE include:

- The capability to import and export display screens and rescale screens, which saves customers time and cost during screen development.
- Optional GUIDE-to-Simulink® functionality enabling the export of GUIDE code to Matlab® Simulink S-Function for use in model-based development. The support of Simulink helps customers increase machine quality and shorten test and release cycles.
- An optional quality assurance tool consisting of a GUIDE test tool, comparison of graphical code and version control. The package allows customers to achieve time and cost savings during development and the creation of documentation required for certification.

“Danfoss Power Solutions is focused on helping our customers bring high-performing, intelligent machines to market faster,” said Marco Tacke, Product Marketing Manager of Software Solutions Services at Danfoss Power Solutions. “We enhanced and expanded the features of PLUS+1 GUIDE to increase developer productivity while supporting functional safety standards. We are confident that version 7.0 will help our customers reduce development costs, achieve certification more easily and speed time to market.”

Screen development requires 80 percent less manual work Version 7.0 of GUIDE enables developers to import and export entire screens and screen library subsets in the GUIDE screen editor, allowing much faster

development of screens. Support of the scalable vector graphic (SVG) graphic data format permits automatic rescaling of available screens and easy reuse of available screens and graphics.

Porting screens to different display models, screen resolutions and screen sizes can be performed much faster with PLUS+1 GUIDE 7.0. Content is stretched to fit the screen, and only minimal manual work is required as button positions and layout may vary.

“Developers do not have to start from scratch when developing screens,” Tacke said. “In fact, the ability to reuse available screens and graphics reduces manual work by up to 80 percent. This leads to significant time and cost savings during development, and reduces time to market.”

**GUIDE-to-Simulink a ‘fast and comfortable solution’** The optional GUIDE-to-Simulink feature enables any GUIDE page to be exported with one click to a Simulink S-function for use in model-based development. This capability eliminates the need to rewrite and maintain code while ensuring that code is identical from one tool chain to the other.

“The GUIDE-to-Simulink feature offers a fast and comfortable solution that increases productivity and confidence during development,” Tacke said. “The inclusion and simulation of GUIDE code in model-based development helps customers save time and money while getting optimized machines to market and – again – faster.”

**Quality assurance tool supports certification efforts** The optional quality assurance tool contains the GUIDE test tool, a comparison of graphical code feature and version control tools. Available as one package, these features save time and cost during development and the creation of documentation required for certification.

- The GUIDE test tool allows test cases to be defined by tables, value lists or value ranges. Tests are run in the PC – with no need for controller or display hardware – and can be managed in the GUIDE interface, but also can be run from a command line.
- The comparison of graphical code feature enables differences to be highlighted directly in graphical code for quick and easy identification. This feature is not currently available in the United States.
- Version control tools that support Windows shell extensions – such as SubVersion via TortoiseSVN – also have been integrated into GUIDE. The Windows overlay feature is used to indicate version controlled files.

Seamless integration of version control tools saves time when working with version control systems.

Also available is an optional beta quality assurance tool including debugger and dependency tools. Capable of stepping from one component to the next and displaying data values, the debug tool is a user-friendly feature that saves time during testing and error tracing. The GUIDE dependency view provides a graphical indication of project code that is impacted by code changes, enabling retesting to be limited to affected functions.

PLUS+1® GUIDE 7.0 also includes improvements to the IEC 61131 Structured Text user interface and enhancements to the Service Tool.

Version 7.0 of PLUS+1 GUIDE will be released for Windows 8 in addition to Windows XP and Windows 7. A demo version of GUIDE 7.0 with limited functionality is available at [powersolutions.danfoss.com](http://powersolutions.danfoss.com). Fully functional trial versions are available by contacting a Danfoss representative.

Source: Danfoss Power Solutions