General Specifications

NT751FJ
Logic Designer

STARDOM™
FCN
FCJ

GS 34P02Q75-01E

■ GENERAL

Logic Designer is software for developing control applications for FCN autonomous controllers. (FCN is an acronym of field control node) Noteworthy features of Logic Designer include the following:

● **International Standard Engineering Environment**
• Compliant with IEC 61131-3 programming languages, allowing for vendor- and model-independent engineering.
• Five programming languages can be used selectively according to the purposes of use and applications, from sequence control to analog control.

● **Efficient Engineering**
• Control logic can be encapsulated into software parts to structure a control application hierarchically, which enables increase in engineering efficiency, software reusability, and system quality.
• Using a network template, which is reusable and customizable loop, in configuring typical control loops enables further increase in engineering efficiency and system quality.
• Application Portfolios packed with Yokogawa's application expertise, enable easy implementation of advanced functions, including control-loop instrument blocks and communication with non-Yokogawa PLCs.

● **Powerful Debugging Functions**
• Variables of a control application running on an FCN can be viewed and changed on the Logic Designer.
• With the software wiring functions, wireless debugging is possible on an FCN. These functions allow for the virtual wiring of loop-back interconnections or first-order lag interconnections, enabling users to perform debugging in an environment even closer to a real process.
• The FCN/FCJ simulator can be used to run control applications on a PC. With this feature, they can be debugged without the need for any FCN target machine.

● **Online Download Function**
• Supports the Online Download Function with which a control application can be downloaded even while the system is in operation. With this function, a control application can be modified while control functions are in progress.
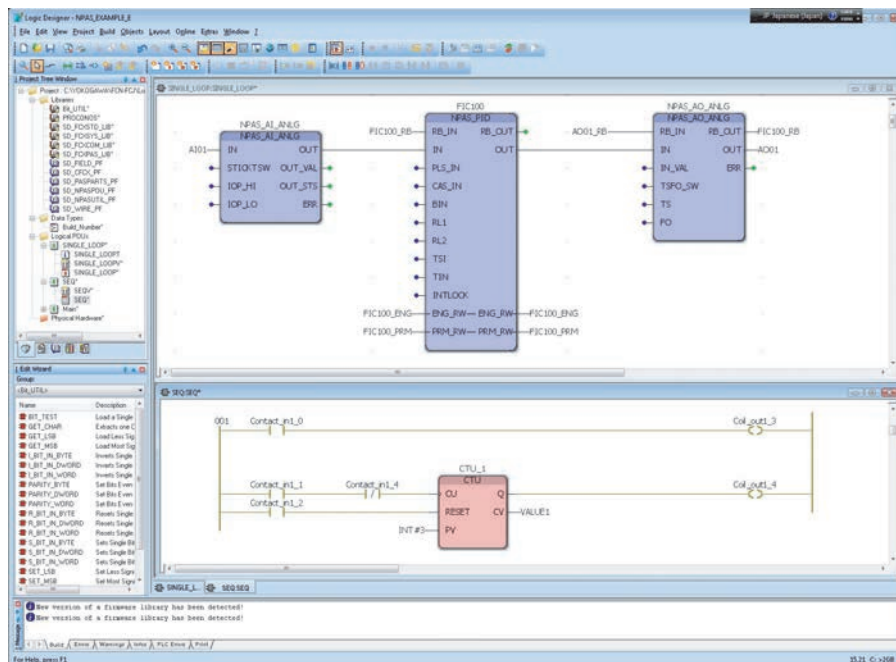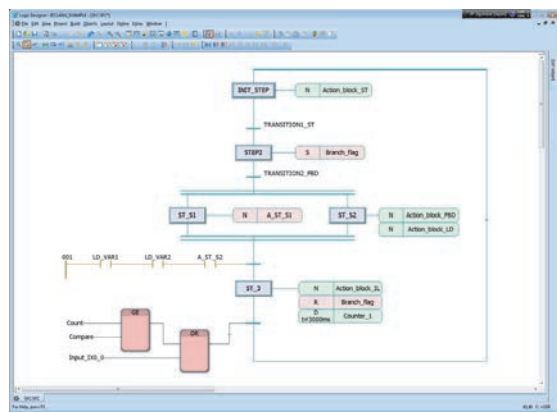

Figure Logic Designer

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■ FUNCTION SPECIFICATIONS
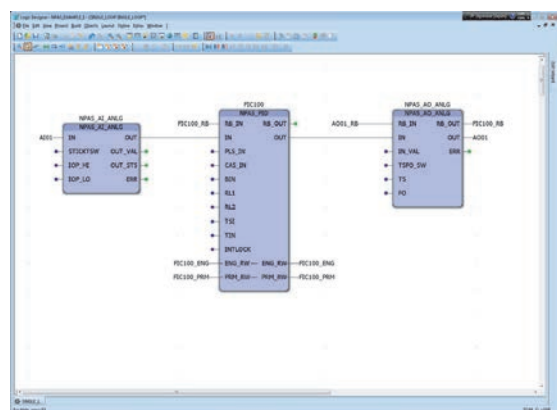
● Programming Languages

Five programming languages are supported:

 • Sequential Function Chart (SFC)
 • Function Block Diagram (FBD)
 • Instruction List (IL)
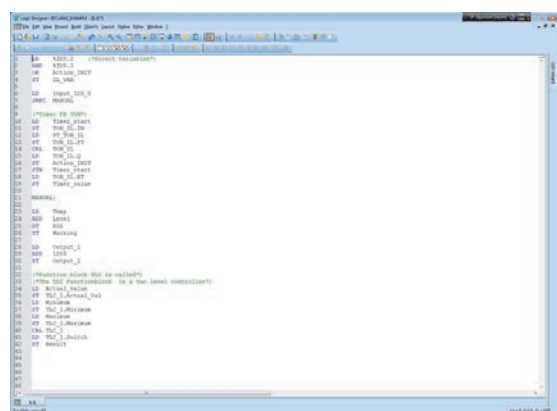 • Structured Text (ST)
 • Ladder Diagram (LD)
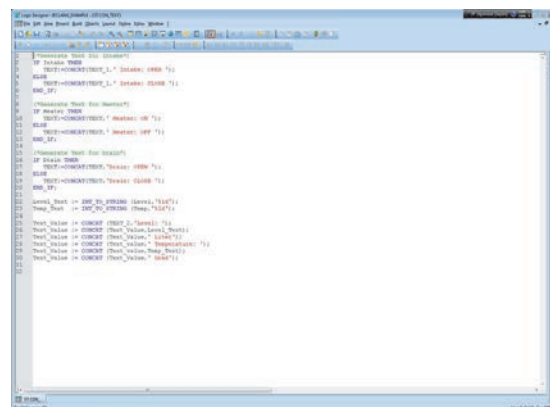

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SFC (Sequential Function Chart)

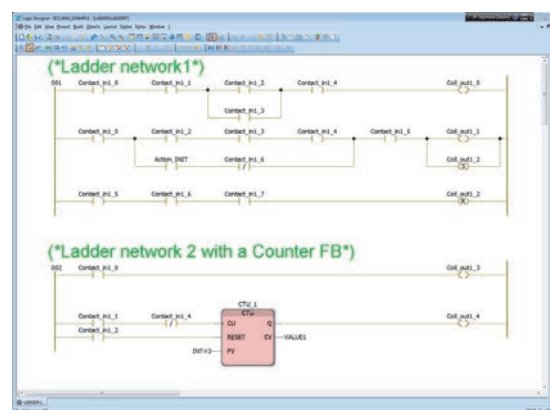F03E.ai

FBD (Function Block Diagram)

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IL(Instruction List)

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ST (Structured Text)

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LD (Ladder Diagram)

● Editors

Using Logic Designer enables intuitive engineering.

Drag-and-Drop
An FU/FB (function/function block) can be dragged in Project Tree or Edit Wizard and dropped in the work area.

Automatic Complement
When entered, a variable name or an FU/FB name is automatically complemented and proposed.

Automatic Rearrangement
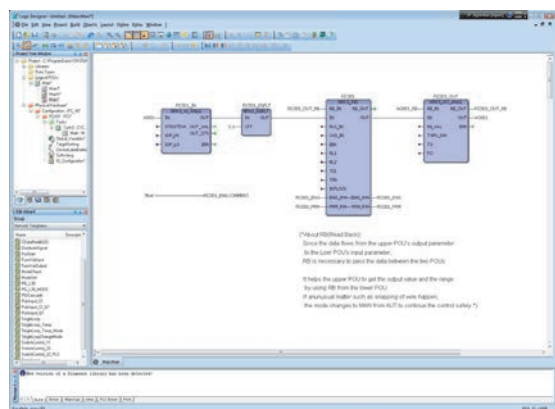When an FU/FB is added, surrounding FUs/FBs are automatically rearranged.

Automatic Connection Mode
When the mouse pointer approaches terminals of FU/FB, it is automatically in the connection mode.

Network Templates

Network template allows a group of POUs with connecting lines, called Network, to be inserted into a worksheet as they are. Unlike the ordinary copy functions, variables, instance names and comments of network templates are replaced as the specified names when they are inserted.

As network template samples, frequency used control functions, such as the cascade control, are available at yokogawa website.

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● **Compilers**

Compilation of a program is distress free. When a compiler has found an error, the point of the error can be displayed at ease.

● **Program Downloading**

A program can be download with simple operation.

With the Online Download Function, control applications can be modified or corrected while control actions are in progress.

Table Modifiability when Online Downloading Is Performed

Type of Modification	Y/N
Addition, deletion and modification of comments	Y
Addition, deletion and modification of libraries	Y
Addition, deletion and modification of data types	Y
Addition, deletion and modification of variables	Y
Addition, deletion and modification of logical POUs	Y
Addition, deletion and modification of POUinstances	Y
Addition, deletion and modification of programcodes	Y
Addition and deletion of configurations	Y
Addition and deletion of resources	Y
Addition, deletion and modification of globalvariables	Y
Addition, deletion and modification of device labelvariables	Y
Modification of PLC types	N
Modification of processor types	N
Addition, deletion and modification of tasks	N
Change of priority	N
Change of watchdog time	N

● **Debugging**

Powerful debugging functions are provided.

Online layout and online value display

By connecting the PC to an FCN, the user can view the state of a control application on the editor. The user can also view and modify the values of variables defined in the control application by the editor.

Software Wiring

Even when no I/O modules are installed in an FCN, the inputs and outputs of virtual I/O modules can be wired to each other in a software image to debug program actions.

FCN/FCJ Simulator

Control applications can be run on a PC, rather than on an FCN. With the PC alone, the user can create and debug control applications (see GS 34P02Q77-01E, "FCN/FCJ Simulator," for more information.).

Breakpoint setting

The user can set breakpoints at desired points in a program code, then the program will stop running at each breakpoint thus set. The program can be run step by step after a stop at a breakpoint.

Logic Analyzer

The user can save the records of the values of variables at a specified time interval and displays the recorded values graphically, allowing for effective analysis of program actions.

● **Libraries and Templates**

Developed control logic can be saved as a library or template for trouble-free reuse. Password protection can be applied as necessary.

● **Page Layout**

When printing a project created using Logic Designer, the page layout can be customized.

■ **IT SECURITY SUPPORT**

Logic Designer supports IT security compliant with other Yokogawa system products security policy.

Note: The IT Security is not available either for Domain Management or for Combination Management in CENTUM VP.

■ SYSTEM REQUIREMENTS

Computer model: PC/AT-compatible computer
CPU: 1 GHz or higher 64 bit (x64)
RAM: 2 GB or more
Hard disk drive: 32 GB or more free space is required.
Display: 1024 x 768 or more, True Color
DVD-ROM drive: A DVD-ROM drive that can run under the operating systems used is required for installation. (DVD-ROM combo drive recommended)
Ethernet port: A 1000BASE-T, 100BASE-TX, 10BASE-T, or 10BASE-5 Ethernet port that is supported by the operating systems used is required.
OS :
  Windows 10 Enterprise 2019 LTSC (64-bit)
  Windows 10 IoT Enterprise 2019 LTSC (64-bit)
  Windows 10 Enterprise 2016 LTSB (64-bit)
  Windows 10 IoT Enterprise 2016 LTSB (64-bit)
  Windows 10 Pro 20H2 or later (64-bit)
    Note: Some functions of the STARDOM software may possibly be restricted when Windows Update is applied to Windows 10 Pro.
    Refer to the following Yokogawa Web site (registration is required) for the support status of STARDOM software for Windows 10 Pro.
    "System Requirements" Page in "YOKOGAWA Partner Portal STRADOM" site
    https://partner.yokogawa.com/global/member/rtu/os/index.htm
    Note: IT security function cannot be used in Windows 10 (IoT) Enterprise 2019 LTSC and Windows 10 Pro.

■ STYLES OF SOFTWARE SUPPLY

● Software Medium

Programs and help for Logic Designer are supplied on a DVD-ROM (Model NT203AJ).

● Logic Designer License

The Logic Designer License comes with an order ID sheet with the order ID number and password. Access the specified Web site of Yokogawa and enter the order ID number and password shown. Then, the key-code for Logic Designer will be issued. This key-code is used when installing the Logic Designer to a PC.

■ MODELS AND SUFFIX CODES

● Software Medium

			Description
Model	NT203AJ		FCN/FCJ software media
Suffix Codes	-P		Programs (including electronic documents)
	C		DVD-ROM
	1		Always 1
		1	Always 1
		E	English version

● Logic Designer License

			Description
Model	NT751FJ		StandardLogic Designer License
Suffix Codes	-L		License
	W		Issued at Web
	1		Always 1
		1	Always 1
		A	Standard

■ ORDERING INFORMATION

Specify the model and suffix codes.

■ TRADEMARK ACKNOWLEDGMENTS

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