# WindO/I-NV3



### Welcome to WindO/I-NV3!

Thank you for purchasing the "WindO/I-NV3".

WindO/I-NV3 is drawing software for SmartAXIS Touch. It can be used for setting various screens, operations, and creating ladder programs. When setting up the SmartAXIS Touch screens and operations, first create a project and set up the devices and environment. Next, place the target parts such as switches and indicators on the screen, and create the screens and ladder programs for the operation. By downloading the created project and screens to SmartAXIS Touch, you can build the desired operation display environment.

Highlights of WindO/I-NV3 are as follows.

### Easy-to-use workspace

The project's structure is clear at a first glance. Switching to editing could be done in a one-click manner. The WindO/I-NV3 provides you with an efficient working environment and a high degree of freedom for creating screens.

#### Managing text data collectively with the text manager function

You can collectively manage the text used in the switch and lamp names and the alarm function. Text settings (font, text, text color, size, etc.) can be exported to a CSV format file, and by importing the file after editing with general-purpose software such as Excel. This management functionality helps the user to achieve efficient editing of the project.

#### Easy setup of parts' trigger conditions

The trigger conditions of switches and lamps, bit/word write, and goto screen commands can be set easily in the properties of each part. The status (OFF – ON - OFF) of the lamp can be set with ease as well.

#### Reuse of data

Screen data and scripts from different projects can be reused, making effective use of software assets. Image data in BMP, DXF, WMF and ICO file formats are also reusable.

# Tag Editor's Cross Reference function provides ease of access to the used device

The Tag Editor, which is the same GUI as WindO/I-NV4 and WindLDR, can be shared and used, making it easy to check the device addresses used in the project and replace the device addresses.

# **Creating ladder program**

WindLDR can be started from WindO/I-NV3 to create ladder programs and set various settings for control functions.

# Notes - WindO/I-NV3

There are the following notes for using WindO/I-NV3. Thank you for your understanding.

### **Supported series**

WindO/I-NV3 supports the Smart AXIS Touch series.

#### **Text and Fonts**

- I) For character input such as a "Registration Text" or a "Message Display", which has character restrictions, a carriage return is equivalent to two characters.
- 2) The font, line, and resized image of the bitmap displayed on WindO/I-NV3 may appear differently on the Touch. So please check the appearance of the Touch.
- 3) If the DPI setting in Windows is greater than 100%, the dialog box may not be displayed properly. To display dialog properly, please set DPI setting to 100%.

#### **Edit**

- I) WindO/I-NV3 does not have a limitation for the number of editing windows which can be opened at the same time. The limitation depends on the RAM of the PC. If the editing window cannot be opened, then the warning message is displayed
- 2) When the open/close project is repeated, the message regarding insufficient memory is sometimes opened. If it is the case, please exit WindO/I-NV3, then re-launch to solve the problem. The memory shortage may occur depending on the environment of the PC such as the number of running application software at the time of the control.
- 3) Launching 2 different WindO/I-NV3 and editing the screen is possible, however, we do not guarantee the operations like importing and copying-and-pasting of data between the WindO/I-NV3.
- 4) If you want to input languages like Chinese or Korean on English OS, then please check the input procedure and notes on the manual and help.
- 5) There are the following notes when you use NV Metafile.
  - Assume the NV Metafile consists of an outline in which the line width is bigger than 2 dots and is used for the image of a Button, Pilot Lamp, Multi-State Lamp, or Picture Display. If the image is switched between ON/OFF images and one of the image sizes is bigger than the other, then the outline of the image does not disappear. This also happens, when setting the background to the original state. Please set the outline width to 1 for the countermeasure.
  - When the Paint object is used in the NV Metafile, the image is sometimes changed after resizing the Picture or part object in which the NV Meta file is used.
- 6) WindO/I-NV3 may not be launched by double-clicking the project file. If it is the case, launch WindO/I-NV3 and then open the project file from "Open" in Application Menu.
- 7) In Data Log Setting, a selected device address may be deleted if more than one channel is selected. In this case, configure the device address for each channel.
- 8) In Tag Editor, the maximum device address of LKR and LK is 1023(default value). If the address range is expanded, the expanded device address is not displayed in the Tag Editor.

9) The script data may be deleted when the Host I/F driver is changed if the script has errors. To avoid the deletion of the script, please remove the error from the script first. Then, change the Host I/F driver.

#### Communication

- I) In the debug function, if you monitor the values of the host device that only writes without reading while updating them on the PLC, they may not be updated on the screen monitor. Use Custom Monitor or Batch Monitor if you want to monitor the device.
- 2) Do not send more than one command at the same time if Ethernet is selected as User Communication Interface.
- 3) The following points should be taken into consideration when "Automatically obtain the IP address" is selected.
  - It may take some time to obtain the IP address, and a communication error may occur. If a communication error occurs, then please download the project again.
  - Whenever downloading the project data, the Touch obtains an IP address. Therefore an IP address may change.
  - While using the Monitor function, download the project after stopping the Monitor function.

#### **Touch Panel**

When more than one spot is pressed at the same time, due to the detection characteristics of an analog-type touch panel, the center part of a pressed spot is registered and the operator interface assumes that only one spot is pressed. Thus, please avoid pressing multiple spots of the touch panel at the same time.

- I) If Comparison Actions are used in High-Speed Counter Operation, comparison cycles should be more than 10 msec. for each group to avoid excessive load. (e.g.: When using pulse input as 10KHz, set the Next Preset Value Number to more than 100.)
- 2) Turning M8016 (Calendar Data Write Flag) ON after setting a value to D8018 (Day of Week) that is not 0 to 6, M8013 (Calendar/Clock Data Write/Adjust Error Flag) does not turn ON and a correct day of the week is set based on the data of Year, Month and Day.

### <Application Software>

### **Bugs Fixed**

The following problems have been fixed:

- Appearance of ladder program may be changed when you open a project that has a vertical line or timer instruction next to right power rail. Also, after that, when you convert, the ladder program may be broken.
- In the simulation of OFFSET function in Script, the following phenomenon occurs.
  - The OFFSET function does not work properly when combined with an if statement or while statement.
  - If you use the OFFSET function as the first argument to MEMCPY function, it copies in reverse order.
- ▶ The BITS2BITS, WORD2BITS, and BITS2WORD functions in Script have following problems.
  - When you use the OFFSET function as the first argument, the mnemonic is invalid.
  - If you use the OFFSET function as the second argument, a syntax error occurs during error checking.
  - Even if a third argument is specified, error check does not result in a syntax error.
- ▶ For the copy-paste of rung, broken rung may be pasted if you change number of columns in between each operation.
- On the ladder editor, the height of the following instructions may be excessively large.
  - NSET
  - UMACRO
  - WKTBL
  - XYFS

## <Application Software>

## **Bugs Fixed**

The following problems have been fixed:

## [Control Function]

▶ When you convert a ladder program that NSET instruction is connected with continuation line, the ladder program may be broken.

## <Application Software>

## **Bugs Fixed**

The following problems have been fixed:

[Control Function]

▶ In Simulation, if data type of S1 of CVDT instruction is Long, setting negative value to S1 does not update value of D1.

## <Application Software>

The following functions have been introduced.

- Multiple scripts can be exported and imported at once on "Script Manager" dialog box.
- WindLDR now can export main program and subroutines from "Export" on Application menu.
- ▶ Improved the performance of opening project after uploading a ladder program that meets certain conditions.

# <Application Software>

## **Bugs Fixed**

The following problems have been fixed:

- ▶ If the decimal point symbol of Windows OS is "," (comma), the graph display in the PID monitor dialog may be incorrect.
- WindLDR may not start normally.

## <Application Software>

## **Bugs Fixed**

The following problems have been fixed:

### [Control Function]

If the decimal point symbol in the Windows OS is "," (comma), opening a project file that uses a decimal point in instruction will cause the decimal point to be changed to "." (period) and the user program conversion will be failed.

### <Runtime System Software>

### **Bugs Fixed**

The following problems have been fixed:

[Control Function]

If a script is executed by an interrupt program during script execution, a user program execution error occurs.

## <Application Software>

The following functions have been introduced.

[HMI Function]

- ▶ The problem, which Tag Editor does not run properly by system locale setting, is improved. [Control Function]
- ▶ The problem, which WindLDR does not run properly by system locale setting, is improved.

### **Bugs Fixed**

The following problems have been fixed:

[Control Function]

When you open Custom Monitor dialog and close it immediately, WindLDR might crash.

## <Application Software>

The following functions have been introduced.

### [Control Function]

- ▶ The followings are improved.
  - Improved device address replacement time.
  - Improved launch time.
  - Improved the sensitivity of keyboard input on coil selection dialog.

# **Bugs Fixed**

The following problems have been fixed:

[Control Function]

▶ The unnecessary continuation line may be displayed on ladder program.

### <Runtime System Software>

### **Bugs Fixed**

The following problems have been fixed:

#### [HMI Function]

- ▶ The following problems may occur, if the Chart Type is set to "Horizontal Peak" or "Vertical Peak" in Bar Chart and the width or height of the parts is set to 17 or below.
  - The FT1A Touch resets.
  - The project cannot be downloaded to the FT1A Touch.

### <Application Software>

### **Bugs Fixed**

The following problems have been fixed:

- ▶ When "Fix No. of Columns" is enabled in Ladder Preferences in WindLDR Options, the following button or menu are disabled and functions cannot be used.
  - "Insert a Column"/"Append a Column"/"Delete a Column" under "Insert"/"Append"/"Delete" on "Home" on ribbon menu
  - "Insert" "Column"/"Append" "Column"/"Delete" "Column" on context menu on ladder editor
- ▶ When an item is selected on Cross Reference window, the Cross Reference may be changed for another device address.

### <Application Software>

The following functions have been introduced.

#### [HMI Function]

▶ "Auto Backlight OFF" is enabled as default on Project dialog.

### **Bugs Fixed**

The following problems have been fixed:

#### [Control Function]

When Trigger Type is "While ON" or "While OFF", the following characters are included in tag name of Trigger Condition on parts, and the project is opened or saved, WindO/I-NV3 might crash.

Characters such as "七(0x835b)" that the character code of the last byte of a double-byte character is "0x5b".

#### Examples:

ゼ, 一, Ъ, Ⅷ, 閏, 骸, 擬, 啓, 梗, 纂, 充, 深, 措, 端, 甜, 納, 票, 房, 夕, 麓, 兌, 喙, 媼, 彈, 拏, 杣, 歇

### <Application Software>

### **Bugs Fixed**

The following problems have been fixed:

- ▶ The instruction dialog cannot be opened when dragging and dropping on the ladder editor during monitor, simulation, or online edit mode.
- If you press enter when the drop-down list displayed, the dialog is closed, rather than closing the drop down.
- When tag names or comments are deleted in the tag editor, the tag name may be set to the device address.
- ▶ The cursor position on the ladder editor will change when the monitor, simulation, or online edit mode has been executed.
- In the "Fix No. of Columns" of WindLDR Options, When the number of columns is changed from variable to fixing or from fixing to variable, the instruction inserted in the subroutine or User-defined Macro is displayed overlapping with other instructions.

## <Application Software>

The following functions have been introduced.

- ▶ The following performance improvements are introduced.
  - When converting a user program, memory usage is improved to be lower.
  - When saving a project file, the project file size is improved to be smaller.

### <Runtime System Software>

### **Bugs Fixed**

The following problems have been fixed:

[Control Function]

▶ The direction flag (M8037) for the 2-phase high-speed counter does not work.

### <Application Software>

The following functions have been introduced.

[HMI Function]

▶ The shortcut function created in the Windows OS start menu during WindO/I-NV3 installation has been moved to the WindO/I-NV3 help menu.

### **Bugs Fixed**

The following problems have been fixed:

- Error check for character string operations functions does not work on SCRIPT instruction of FT1A series.
- ▶ When prohibited characters (\ / : \* ? " < > |) are used in script name on Script Editor dialog, error message is not displayed.
- ▶ When Enter key is pressed while cursor is displayed on "Comment" text box of instruction dialog, the instruction dialog is closed.

### <Runtime System Software>

The following functions have been introduced.

### [HMI Function]

- ▶ The LCD's loads of monochrome models are reduced.
- ▶ Enable to adjust contrast of monochrome models fine.

### **Bugs Fixed**

The following problems have been fixed:

#### [HMI Function]

- Downloading project of USB Autorun Function will be failed under the following conditions.
  - The size of pictures' data is more than 2.8MB.
  - The file name of ZNV file which is used for downloading project contains more than 9 alphanumeric characters.

### <Application Software>

### **Bugs Fixed**

The following problems have been fixed:

### [Control Function]

When "Disable IME when entering tag names/device addresses" checkbox on "WindLDR Option" dialog box is ON, Japanese or Chinese characters cannot be inputted on "Script Editor".

# <Application Software>

The following functions have been introduced.

- Script analysis processing time is improved.
- ▶ Project file saving time is improved.
- ▶ The displayed time on tag editor when [show] combo box is changed is improved.

## <Application Software>

### **Bugs Fixed**

The following problems have been fixed:

[Control Function]

▶ When [Enable ladder program monitoring on FT1A] on Function Area Settings dialog is checked and a ladder program with more than 5 lines per circuit in subroutine is created with FT1A model, failure of ladder program conversion is not displayed.

# <Application Software>

## **Bugs Fixed**

The following problems have been fixed:

## [Control Function]

▶ The used column on tag editor between downloaded user program to FT1A (FBD) and uploaded user program may no match.

## <Application Software>

## **Bugs Fixed**

The following problems have been fixed:

## [Control Function]

▶ When the each cursor of Main program and Subroutine is placed on different Rung and device address or constant is changed without opening instruction dialog in Subroutine, Changes are not applied even after converting the user program.

## <Application Software>

## **Bugs Fixed**

The following problems have been fixed:

## [Control Function]

When device address or constant is changed without opening instruction dialog in Subroutine, Changes are not applied even after converting the program.

# <Runtime System Software>

## **Bugs Fixed**

The following problems have been fixed:

## [HMI Function]

Maintenance port does not work when Modbus RTU Slave and O/I Link Slave are used as communication driver at the same time.

## <Application Software>

### **Bugs Fixed**

The following problems have been fixed:

- When the script contains temporary devices and it is executed in Simulation mode, an error occurs.
- ▶ When you monitor I (Input) or Q (Output) in Batch Monitor and you check Comment, device addresses are not correctly listed.
- ▶ When you save and open a project, comments allocated to data register bits are cleared.

### <Runtime System Software>

### **Bugs Fixed**

The following problems have been fixed:

[Control Function]

> XYFS instruction does not work with more than 24 coordinates.

### <Application Software>

### **Bugs Fixed**

The following problems have been fixed:

[HMI Function]

▶ In "Command Settings" dialog box for user communication setting, an error message is displayed even though value of "Transmission Wait" setting is less than value of "Period" setting for "Fixed Period".

### [Control Function]

▶ PID instruction dialog is not closed by clicking OK button.

# <Application Software>

## **Bugs Fixed**

The following problems have been fixed:

## [Control Function]

▶ When tag name, tag comment or rung comment is used on control function, download dialog is not opened.

## <Runtime System Software>

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

- ▶ MICRO/I might not be able to communicate with USB barcode reader even if it is connected with the MICRO/I.
- ▶ If Keyence KV (Ethernet) is selected as Communication Driver, and MICRO/I write value to the following devices, wrong value is written to the PLC.
  - Timer (Current Value)
  - Timer (Preset Value)
  - Counter (Current Value)
  - Counter (Preset Value)

### <Application Software>

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

- ▶ 2 byte character can be set as a password on "Security" dialog box without an error message. Therefore, when the password is required, the password cannot be unlocked because the text box for password does not allow you to input 2 byte character.
- ▶ If you operate on the "Screen Diagram" when the "View" tab is displayed, WindO/I-NV3 may crash.

### [Control Function]

▶ The disable/enable rung may be not operated.

# <Application Software>

# **Bugs Fixed**

The following problems have been fixed:

[Control Function]

▶ PID monitor dialog cannot be opened.

### <Runtime System Software>

### **Bugs Fixed**

The following problems have been fixed:

#### [HMI Function]

▶ When inserting and pulling the HID class USB device with the USB interface (USB 2) repeatedly, the communication to the device may be failure.

### <Application Software>

The following functions have been introduced.

### [Control Function]

- ▶ A function to select multiple FBs with "Ctrl" key + mouse-click is supported in FBD.
- A function to automatically scroll the screen when mouse is left clicked and dragged to the outside of the screen is supported in FBD.

### **Bugs Fixed**

The following problems have been fixed:

#### [HMI Function]

- When the focus is moved to radio buttons on the dialog box, the selected setting may be changed.
- In Line Chart, the ticks are not shown as the selected color on Y axis and they are always black.

#### [Control Function]

WindLDR may be hanged up when the script editor is scrolled.

# <Runtime System Software>

# **Bugs Fixed**

The following problems have been fixed:

[Control Function]

▶ Built-in analog output does not function when any type of cartridge is used simultaneously.

### <Runtime System Software>

The following functions have been introduced.

#### [Control Function]

▶ The bumpless control of PID instruction is improved.

### <Application Software>

The following functions have been introduced.

### [HMI Function]

► Checking for updates function of Automation Organizer has supported Microsoft .NET Framework 4. Install of Microsoft .NET Framework 2.0 to 3.5 is not needed by this support.

#### [Control Function]

▶ Checking for updates function of Automation Organizer has supported Microsoft .NET Framework 4. Install of Microsoft .NET Framework 2.0 to 3.5 is not needed by this support.

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

When creating a new project, if "No External Devices" is selected as "Communication Driver", and then "Host" is selected as "Target" in "Device Address Settings" dialog box which is opened from "Project Settings" dialog box, WindO/I-NV3 crashes.

- ▶ The tag names which are registered cannot be configured in New Custom Monitor.
- ▶ Even if the help file for special data register and special internal relay is opened in WindO/I-NV3 control function, FT1A Pro/Lite help file is opened instead of FT1A Touch help file.
- ▶ The unnecessary menu is displayed in control function of WindO/I-NV3.
- When device settings of PID instruction are changed on Property Sheet, instruction parameters are changed to the default values.

### <Application Software>

The following functions have been introduced.

#### [Control Function]

Digital I/O cartridge is supported.

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

- ▶ There is a wrong description in the explanation for STRCUT on Script Editor dialog.
- When there are errors in scripts, displayed line numbers on Script Compilation Output of Script Editor dialog may be incorrect.
- In Script, when more than two "return" statements exist, the second or later "return" statements don't work.
- In Script, when "if" statement exists in "default" of "switch" statement, the script does not work properly.

- ▶ There is a wrong description in the explanation for STRCUT on Script Editor dialog.
- When there are errors in scripts, displayed line numbers on Script Compilation Output of Script Editor dialog may be incorrect.
- In Script, when more than two "return" statements exist, the second or later "return" statements don't work.
- When hexadecimal constants are used for "case" and the error check is executed, errors are displayed on Script Compilation Output of Script Editor dialog.

### <Runtime System Software>

The following functions have been introduced.

#### [HMI Function]

- Added an option to hide the "TP / CP" message displayed on the LCD when timer or counter preset value (TP or CP) is changed.
- ▶ "Horizontal (Flip)" of "Installation direction" is supported.
- ▶ Function to change the IP address, subnet mask, and default gateway with HMI special data registers is supported.
- ▶ Allen-Bradley Logix DF1 (Full Duplex) driver is supported.
- ▶ IDEC MicroSmart (FC6A) driver is supported.

#### [Control Function]

- ▶ The option to keep the current value of high speed counter at the time of power OFF is supported.
- Ladder program size of the control function is extended.

## <Application Software>

The following functions have been introduced.

#### [HMI Function]

New features or improvements are added from the Runtime System Software upgrade.

#### [Control Function]

- ▶ The option to keep the current value of high speed counter at the time of power OFF is supported.
- Ladder program size of the control function is extended.
- ▶ The program size is displayed on the status bar.

#### **Bugs Fixed**

The following problems have been fixed:

- WindO/I-NV3 may not exit.
- When the find function is executed again without moving the cursor in main program after find function was finished, the find function may be not ended.
- When the ladder program contains continuation lines, this project file may not be opened depending on the ladder cursor position saved in the project.
- Depending on the order of inserting FBs on FBD editor, the execution order of those FBs may be changed.
- When a project containing scripts having errors and the control function is opened, an error

message may be displayed.

# <Application Software>

The following functions have been introduced.

[HMI Function]

Simulation is supported.

# **Bugs Fixed**

The following problems have been fixed:

[Control Function]

▶ When timer FB (TIMU / TIMD / TIMOU / TIMOD / TIMCU / SPULS / DTIM / RPULS) is programmed and the control function is started running, those timer FBs may not function.

### <Application Software>

The following functions have been introduced.

#### [HMI Function]

Windows 10 is supported.

#### [Control Function]

- Windows 10 is supported.
- Operability of "Script Editor" is improved.

### **Bugs Fixed**

The following problems have been fixed:

#### [HMI Function]

- ▶ When "Change Device Settings" is executed and "Coordinates" value is not a product of 20, device addresses cannot be imported.
- ▶ Importing and exporting device addresses by "Change Device Settings" are not supported in some settings.
- ▶ When MITSUBISHI is selected as the Host I/F driver, the following problems occur:
  - Host I/F Driver shown in Target Info is incorrect.
  - The project cannot be opened after the upload.
- ▶ Uploading the project from FT1A Touch via USB port may fail when USB flash drive is inserted on the FT1A Touch.

- ▶ Temporary folders created by WindO/I-NV3 for editing projects are not deleted automatically.
- ▶ The node "Cartridges" is displayed on Project Window even if the selected PLC does not support it.
- When you import rung comment, the imported comment that has the separating character cannot be imported.
- When program is converted, all scripts are not checked, and even if there are errors, no error message is displayed on Info window.

### <Application Software>

The following functions have been introduced.

#### [HMI Function]

▶ The response for operations when "Home" tab is opened is improved.

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

- Created books cannot be deleted in "Picture Manager".
- The details for the selected model are incorrect on "Change O/I Type" dialog.
- When the zoom magnification for the screen is changed, the gridlines may not be displayed properly.
- Even when "Log function" is disabled, the settings on "Options" tab may be enabled in "Data Log Settings" dialog.

- ▶ PV/SP/Alarm value is not displayed as celsius or fahrenheit value.
- When Delay setting is changed on Timer instruction (TML/TIM/TMH/TMS/TMLO/TIMO/TMHO/TMSO) dialog box or Data Type setting is changed on Counter instruction (CDP/CUD/CDPD/CNTD/CUDD) dialog box, error check does not work properly.
- ▶ S1 (Control register) of PID instruction requires 40 data registers. However, the valid device range is checked according to the device of Output manipulated variable instead of S1 in PIDA dialog.

### <Runtime System Software>

#### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

When you write a value to a host device using SET function in Script, writing the value to the host device might fail.

#### [Control Function]

- Float data minus zero is treated as denormal numbers.
- ▶ When ADD(F) or POW(F) instruction is executed and an overflow or an underflow occurs, M8003 (Carry/Borrow) does not turn on.
- Even if you specify "Run" for "Run/stop selection at memory backup error", the control function of FT1A Touch may not start running after a memory backup error occurs.

### <Application Software>

The following functions have been introduced.

#### [HMI Function]

Exporting library screens is supported.

#### [Control Function]

▶ The performance of updating cross reference information is improved.

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

- In English version, when tag name which contains lower case is set in [Message Display] or [Bar Chart], lower case characters are changed to upper case.
- ▶ When multiple channels are selected in [Data Log Settings] and settings are entered in all chennels at once, some settings disappear.
- When 256 Color Bitmap or NMF file is set in [Picture Manager], the size of picture becomes
- ▶ The bottom part of the images is cut off on [Screen List] window.
- ▶ The overlaying screens are not displayed when the screen is imported.
- ▶ The file name of recipe data is not changed from default one in external memory.
- An invalid value can be set in third argument in MEMCPY and MEMCMP in [Script Manager].
- ▶ A value which is out of range can be set in [Script Manager].

- ▶ The current value of bit device may not be displayed on Custom Monitor dialog box.
- ▶ When the user program contains SUM instruction and the user program is uploaded, S2 of SUM instruction becomes 0 or blank.
- When C (Counter Contact) or T (Timer Contact) is configured on CC, TC, HTOB, BTOH, DTCB or DTDV instruction dialog box and the dialog box is closed with OK button, an error message may be displayed.
- ▶ When you search an instruction containing a specified device address on Find Instruction dialog box, WindLDR might crash.
- ▶ The status of the check box to specify which item to print on Print Settings dialog box may not be initialized correctly when the dialog box is opened.
- ▶ XYFS instruction dialog box cannot be opened on PC which .NET Framework 4.6.1 or later version is installed.
- ▶ When PID instruction is inserted, correct default values of process high alarm and process low alarm are not configured.

# <Application Software>

# **Bugs Fixed**

The following problems have been fixed:

[Control Function]

Program name, rung number, and line number are not displayed in conversion error messages for instructions.

### <Runtime System Software>

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

- When SIEMENS S7-1200(Ethernet) driver is selected, incorrect value may be written to external device address if value is written in more than one external device addresses at the same time.
- When SIEMENS S7-1200(Ethernet) driver is selected, value may be written to incorrect external device address if the value is written in more than one external device addresses at the same time by using script function. This happens if the external device addresses are not sequential number.

#### <Application Software>

The following functions have been introduced.

[Control Function]

▶ Tag name can be used on Script Editor.

### **Bugs Fixed**

The following problems have been fixed:

[HMI Function]

When trigger condition is set in a part objet, device cannot be imported using [Change Device Settings].

- If configured constant value is out-of-range on instruction dialog box, invalid error message is displayed.
- Invalid device address may be able to input on Property Sheet Window.

### <Runtime System Software>

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

▶ If the FT1A Touch communicates with an external device by using RS485 2-wire cable, it may not be able to receive data from the external device.

## <Application Software>

The following functions have been introduced.

Windows 8.1 is supported.

### **Bugs Fixed**

The following problems have been fixed:

#### [HMI Function]

Paste for Tag Name/Comment may not work on Tag Editor.

- ▶ Device address for the input connector shown on Property Sheet may not be removed if the corresponding FB is connected through Plug & Socket and it is removed.
- Paste for Tag Name/Comment may not work on Tag Editor.
- Description for Reminder on Script Editor dialog box is not correct.
- Display of comments may be duplicated on ladder editor.
- Confirmation message for saving project file is not displayed when script for control function is updated on Script Editor dialog box and project is downloaded.

### <Application Software>

The following functions have been introduced.

#### [HMI Function]

- In Modbus RTU Master, Modbus RTU Slave, and Modbus ASCII Master driver, the default settings in [Interface Settings] are changed.
- ▶ Cut, Copy, and Paste functions between Tag Editor and Microsoft Excel are supported.

#### [Control Function]

- When Start/Stop button on Ribbon menu is clicked, confirmation message is displayed.
- Lut, Copy, and Paste functions between Tag Editor and Microsoft Excel are supported.
- Undo and Redo functions are supported in FBD.

#### **Bugs Fixed**

The following problems have been fixed:

#### [HMI Function]

- Pictures may not be imported when screen is imported.
- When 2 byte character is used in a script, WindO/I-NV3 may crash when Script Editor is closed.
- When multiple tag names or comments including blank cells are pasted on Tag Editor, those blank cells are removed.

- If FB is pasted and the device address of pasted FB is out-of-range, wire connection information of the FB becomes invalid.
- If a wire is divided on FBD editor, display of socket may be duplicated.
- ▶ When Data Settings dialog box of FB is opened after connected wire is divided on FBD editor, invalid device address is displayed on the dialog box.
- If invalid wiring is tried on FBD editor, display of function block diagram on FBD editor and actual connections between FBs may not be conformed.
- Lut, Copy and Paste functions in context menu on FBD editor may be disabled.
- When a wire is selected on FBD editor, it can be deleted by pressing Ctrl+X.
- ▶ When a wire is selected and the paste is executed on FBD editor, WindLDR crashes.
- ▶ When a project file containing bookmarks between No.10 and 255 is opened, project file may not be opened properly.
- When multiple tag names or comments including blank cells are pasted on Tag Editor, those blank cells are removed.
- ▶ The behavior of AND or OR circuit in ladder program simulation may not be conformed with the behavior of actual FT1A series PLC.
- ▶ When the ladder program is converted, the ladder program size is not checked properly.

- ▶ When a value is changed on PID monitor table on PID Monitor dialog box, the changed value may not be written to PLC.
- ▶ When S3 for PID instruction is incremented on ladder editor, device range is unchecked.

## <Application Software>

### **Bugs Fixed**

The following problems have been fixed:

- If a project file is opened and saved by Save As function, all control function data may be lost and not saved in the project.
- ▶ If a project file is opened and saved by Save function, unnecessary file may be created in the folder where the opened project file exists.
- ▶ When Download dialog is opened, conversion error message for FBD program may not be displayed.

### <Runtime System Software>

The following functions have been introduced.

#### [HMI Function]

Lower case characters are supported when "Device" is selected as Receive data in User Communication Function. This is applicable if "ASCII(HEX) to Binary" is selected as "Conversion Type" in "Data Settings".

#### [Control Function]

- ▶ Alarm function of PID instruction is improved.
- As analog outputs while Touch is stopped, "Value just before the Touch is powered off" or "Minimum value of analog output" is able to be selected.

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

- ▶ If MEMCPY function is used in script function and host device is selected as destination device, scan speed becomes slower. This only happens if "Always Enabled" or "While satisfying the condition" is selected as "Trigger Type".
- In Data Log function and Operation Log function, "Monitor % space Used in Data Storage Area" is not initialized even if log data is cleared.
- In User Communication function, big letter of alpha character is received as small letters. This may happens when USB barcode reader is connected.
- When the network settings are obtained by a DHCP server, FT1A Touch cannot communicate with hosts located beyond the default gateway.
- ▶ When DHCP is available, ethernet communication is not available.
- When a project file (ZNV format) made in WindO/I-NV3 Ver. 5.16 or earlier (non-transistor output type-compliant WindO/I-NV3) is downloaded to the FT1A Touch (transistor output type).

- Value less than minimum value of process variable is not able to be set as AT bias in PID instruction.
- ▶ When "Analog Input" is specified for process variable and the input of PID instruction is off, process variable (S1+0) does not work directly with actual analog input.
- When "Analog Output" is specified for output manipulated variable and the input of PID instruction is off, output manipulated variable (S1+1) does not work directly with actual analog output.
- Analog output after Touch is powered on is not controlled.

#### <Application Software>

The following functions have been introduced.

#### [HMI Function]

▶ Change the default Communication Driver to [No External Devices] on [Select Communication Driver] dialog.

### [Control Function]

- When you search instructions or strings in Ladder, once the search reaches the end of the program, the search continues from the top of the program until the original cursor position.
- ▶ Alarm settings (alarms 3 to 6) are added to PID instruction.
- ▶ Alarm settings (alarms 3 to 6) are supported in PID Monitor.
- ▶ The range of AT bias on PID instruction dialog box is changed.
- New range for AT bias is supported in PID Monitor.

### **Bugs Fixed**

The following problems have been fixed:

#### [HMI Function]

- Some device types are not displayed on Tag Editor.
- ▶ If there are any characters except alphanumeric in a script, "Find" function might be failed in script editor.
- After changing the property of more than one part object which has Windows font setting at a time, the screen which contains those part objects might not be able to be opened.

- ▶ When the data type of CVXTY instruction is Integer (I), the data type of S2 is handled as Integer (I) in simulation mode.
- ▶ If the data type for BTOA or ATOB instruction is Double (D) and constant is assigned to S2, the value of S2 is not restored after the program is uploaded.
- Specific tag name may not be recognized on Property Sheet of FBD.
- ▶ Constant can be assigned to address on Property Sheet for AI and MSG FBs.
- When in monitor or simulation mode, if Monitor Notation is Hexadecimal, the value of AI FB is not displayed properly on FBD editor.
- ▶ When you divide wire between FBs and change the Block number of one of the FBs, the connection may be changed incorrectly.
- When project file is saved after [Divide the selected wire] function is used on FBD editor, project file may be corrupted.
- ▶ When the wire between Timer/Counter FB and another FB is divided and they are copied and pasted, WindLDR is crashed.
- When the wire between Comparison FB and AI FB is divided and the program is converted, the error check for the data type of CMP FB is not executed.
- ▶ If PID instruction dialog box is opened from PID Monitor dialog box, unnecessary string is displayed.
- When you change the target PID instruction on PID Monitor dialog box, the range of set point can be entered on the dialog box is not updated properly according to the selected

PID instruction.

- ▶ Toolbox, Property Sheet, Tag Editor, Cross Reference, Project Window and Info Window may not be displayed.
- ▶ When project is saved as any name, ladder/FBD program may not be saved.
- ▶ The name of subroutine may not be displayed properly.
- Error check for output manipulated variable limit is not executed correctly on PID instruction dialog box.
- ▶ After WindO/I-NV3 is launched, when project file is opened quickly or project file is opened by double-click, analog output settings and analog cartridge settings of the project file are not loaded.
- When user program containing PID instruction is uploaded, Set Point, AT Bias, Integral Time, Derivative Time and Output Manipulated Variable may not be restored correctly.

# <Application Software>

# **Bugs Fixed**

The following problems have been fixed:

[Control Function]

▶ Undo and Redo functions are disabled on FBD editor because those functions may not work properly on FBD editor so FBD program may incorrectly be modified.

# <Runtime System Software>

# **Bugs Fixed**

The following problems have been fixed:

▶ FT1A Touch may reset while operating. This is applicable to FT1A-C14KA, FT1A-C14SA, FT1A-M14KA, FT1A-M14SA.

### <Runtime System Software>

The following functions have been introduced.

- Touch with transistor output terminals (FT1A-\*14KA-\* and FT1A-\*14SA-\*) is added in Touch series.
- ▶ Remote I/O Master is supported.
- ▶ Supports 32-bit data types (BIN 32+, BIN 32+/-, BCD8, or float 32) in Data log function.
- ▶ In USB Autorun Function, add an option not to clear keep devices(LK/LKR/Keep control devices) in downloading project file function.

#### **Bugs Fixed**

The following problems have been fixed:

- ▶ The popup screens may not be opened and closed if "Use Reference Device" is enabled.
- ▶ If "Display error message" in "Project Settings" is disabled and PLC is not connected to MICRO/I, the system screens are closed.
- In User Communication Function, FT1A Touch resets when the received data are stored into more than 150 words of devices.

#### <Application Software>

The following functions have been introduced.

#### [HMI Function]

- ▶ Data logs support 32-bit data (BIN 32+, BIN 32+/-, BCD-8, or float 32).
- ► Touch with transistor output terminals (FT1A-\*14KA-\* and FT1A-\*14SA-\*) is added in Touch series.

#### [Control Function]

- ▶ Remote I/O Master is supported.
- Signal Type setting is added to analog input settings.
- Analog output settings are added.
- Analog cartridge settings are added.
- ▶ PID instruction is supported.
- ▶ PID Monitor function is supported.
- When Find String dialog box is opened, device address at ladder cursor is set as default target string.
- ▶ When Find Instruction dialog box is opened, instruction at ladder cursor is set as default target instruction.

### **Bugs Fixed**

#### The following problems have been fixed:

#### [HMI Function]

- ▶ When a project is opened form Recent Projects, WindO/I-NV3 freezes.
- ▶ If the station number of host devices in script is 10 or grater than 10, the station number is changed to different value after uploading the project.

- ▶ Configure buttons of Special Inputs settings in Function Area Settings dialog box for FT1A series are not enabled/disabled properly.
- ▶ When you enable "Move Comment" option and replace devices, comments may be deleted.
- ▶ When you convert the program, all tabs for subroutines may be closed.
- ▶ Constants used in instructions on ladder editor may not be incremented/decremented.
- ▶ When all part of an instruction is selected on ladder editor, device addresses may not be incremented/decremented.
- ▶ When some instructions are selected on ladder editor, device addresses may not be incremented/decremented.
- When ladder program is printed, characters in rung comments may be printed unclearly.
- Pasting ladder program might take time.
- ▶ When you enable ladder program monitoring on LCD, subroutine IDs used are not consecutive numbers staring with 0, and the program is converted, WindLDR crashes.
- ▶ When programming mode is FBD, menus for unsupported functions are displayed in Application menu > Listing.
- ▶ Help button on context menu for instructions is not displayed.
- When the PLC type is Touch, the error description corresponding to the user program execution error code is not displayed properly on Error Status dialog box.
- ▶ When data type is "Float (F)" and the floating point value which contains more than or equal to 4 digit integral part is described in Script Editor dialog box, the floating point value is handled as 0.

### <Runtime System Software>

### **Bugs Fixed**

The following problems have been fixed:

▶ The control function of FT1A Touch does not start running at power up when memory backup error occurs.

#### <Application Software>

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

- ▶ If OpenNet,MicroSmart,SmartAXIS Pro/Lite(RS232C/485) or OpenNet,MicroSmart,SmartAXISPro/Lite(Ethernet) is selected as communication driver, more than one [from Lower word] are displayed in [Storage Method of 32-bit Numerical Data] on [System] tab on [Project Settings] dialog.
- ▶ A round bracket cannot be set in [Condition] on [Trigger Condition] tab.
- ▶ When you change Device Type on Tag Editor, Tag Editor might crash.

- When you monitor PLC and open Batch Monitor dialog box, if you disconnect and connect cable, some part of values on Batch Monitor dialog box are not displayed correctly.
- Program name, rung number, and line number are not displayed in conversion error messages for instructions.
- ▶ When you un-dock Tag Editor window from WindLDR main window or change Device Type on Tag Editor, WindLDR might crash.

### <Runtime System Software>

The following functions have been introduced.

- Improve the time delay of cyclic functions in HMI function. (This improvement is applicable to the following functions.)
  - LSD6/8/9/10/11/12 and LSM48/49
  - Timer
  - Fixed period setting in Trigger Condition

### **Bugs Fixed**

The following problems have been fixed:

- ▶ FT1A Touch may obtain inputs status as OFF regardless of actual input status after it is powered up.
- If upper/lower limit of data register is configured as source device of BMOV instruction, a user program execution error occurs.
- Analog Input Out of Range Status (D8077) does not work correctly.

#### <Host I/F Driver>

Additional supported Drivers:

- Mitsubishi MELSEC-Q/QnA(Ethernet)
- Mitsubishi MELSEC-FX3U(Ethernet)
- Mitsubishi MELSEC-FX(LINK)
- Omron SYSMAC CS1/CJ Ethernet
- SIEMENS S7-1200(Ethernet)
- Keyence KV(Ethernet)
- YASKAWA ELECTRIC CORPORATION MP2000(Ethernet)
- Koyo DirectLogic-DL205/405
- Koyo DirectLogic(Ethernet)
- YOKOGAWA FA-M3(Ethernet)
- ▶ FUJI MICREX-SX(Ethernet)
- ▶ Hitachi Industrial Equipment Systems EH(Ethernet)

#### <Application Software>

The following functions have been introduced.

[Control Function]

The following functions are added in FBD editor.

- Print settings are added. Footer can be specified.
- When a terminal FB device, such as Input or Output, is entered on the Property Sheet but the corresponding FB does not exist on the editor, that FB is automatically inserted to the editor.
- ▶ Simulation can be executed even if FBD program has errors. Only valid FBs are simulated.
- While WindLDR is in monitor/simulation mode, you can change terminal FB status with Enter key.
- Connecting and dividing of wire between FBs is supported.

### **Bugs Fixed**

The following problems have been fixed:

### [HMI Function]

▶ An NG error can appear if MEMCPY and MEMCMP were used in a script.

- Incremental paste for bit device may not be executed correctly.
- Start address of mnemonics is not printed correctly.
- Menu commands on Customize tab of WindLDR Options dialog box are not displayed.

### <Runtime System Software>

The following functions have been introduced.

- ▶ If brightness setting is 0 to 2, you may not distinguish the displayed image. To avoid this problem, the brightness setting will be changed to 3 automatically if system mode is displayed.
- ▶ Support "OpenNet, MicroSmart, SmartAXIS Pro/Lite(RS232C/485)" driver.
- Support "OpenNet, MicroSmart, SmartAXIS Pro/Lite(Ethernet)" driver.
- ▶ Change the driver name from "MODBUS RTU" to "Modbus RTU Master". Change the driver name from "MODBUS ASCII" to "Modbus ASCII Master".

### **Bugs Fixed**

The following problems have been fixed:

- ▶ If "Superimpose" is enabled in popup screen, black color of drawing or parts on the popup screen is transparent.
- If "Update the display by ENT button" is enabled and "Display Digits" is more than 48 digits, "Processing Error" is displayed when "ENT" key is pressed in keypad.
- If user communication setting is corresponded to the following conditions, received data may not be saved to the device.
  - There are more than on receive commands which contain the same start delimiter and end delimiter, and the commands also contain "Device", "Registering Constant(Character), or "Registering Constant(Hexadecimal)".
  - When MICRO/I receives the data, the above commands are active.
- If Windows font is set in Message Display and scroll function is enabled, the message can not be displayed properly.

#### <Application Software>

The following functions have been introduced.

Support Windows 8.

#### [Control Function]

- Online helps (German/Chinese) for FT1A FBD programming are added.
- In Script editor, devices that have a space between symbol character and address number, such as [D 0100], can be accepted.
- Programming method can be changed between Ladder and FBD on the status bar.
- ▶ Tooltip on the ribbon menu is revised.

The following functions are added in FBD editor.

Texts can be described on the FBD editor.

- Existing wire can be re-wired to another FB connector.
- Multiple FBs can be arranged.

# **Bugs Fixed**

The following problems have been fixed:

## [HMI Function]

▶ Picture drawing objects and the part objects that image is picture cannot be placed on the library screen.

# <Application Software>

# **Bugs Fixed**

The following problems have been fixed:

▶ WindO/I-NV3 Ver.5.10 to Ver.5.12 can not upload the projects saved with Ver.5.00 to 5.04.

# <Runtime System Software>

# **Bugs Fixed**

The following problems have been fixed:

▶ If "Modbus RTU Slave" is selected as Communication Driver, Control Devices can not be selected in HMI functions.

### <Runtime System Software>

The following functions have been introduced.

Support Modbus RTU Slave Communication.

#### **Bugs Fixed**

The following problems have been fixed:

- ▶ If PC and FT1A Touch are connected by USB cable and then PC is restarted, it can not communicate with FT1A Touch.
- ▶ For YEAR instruction and YEAR FB, even if yearly or monthly setting is enabled, a date for the ON setting may not exist depending on the year and the month. In this case, the output should turn on at 0:00 on the first day of the following month, but it does not turn on when the pulse output is enabled.
- ▶ For XYFS instruction, when integer (I) is selected as data type and a negative number is set for the Y coordinate, CVXTY and CVYTX instructions for the XYFS instruction cannot convert the value assigned by device S2 correctly.

## <Application Software>

The following functions have been introduced.

▶ Simulation mode for the control function (Ladder/FBD) is supported.

#### **Bugs Fixed**

- If exporting a library screen, WindO/I-NV3 crashes. ("Export" button was masked.)
- ▶ If "Download Project" or "Upload Project" is selected in the Key command on the Multi Command, it does not work properly on FT1A Touch.
- ▶ If "Upload Project" is selected in the Key command on the Multi Button and Multi command, the root fodder of USB Flash Drive cannot be configured on the Destination.

### <Runtime System Software>

The following functions have been introduced.

- Function block diagram(FBD) is supported.
- Script(SCRPT instruction/FB) is supported.
- A maximum of 10 YEAR or WEEK instructions can be used in a user program.
- Not only FT1A is started running, the High speed counter preset value is updated when the gate input is turned on.

#### **Bugs Fixed**

The following problems have been fixed:

▶ If the last segment in IP address of target device is 224 or above, FT1A Touch can not access the target device.

## <Application Software>

The following functions have been introduced.

Function block diagram(FBD) is supported.

#### **Bugs Fixed**

- ▶ Application parameters of the control function are not saved and restored.
- ▶ If "Address with Relative Value" is selected as "Replace Type" and "All" is not selected as "Search Range", the Replace can not be performed.
- When User Communication is selected on Protocol  $1 \sim 3$  on the Project Settings dialog box, the Port No. of MICRO/I and Target can not be same.
- ▶ The latest program of the control function might not be downloaded to Touch.

# <Runtime System Software>

# **Bugs Fixed**

The following problems have been fixed:

▶ YEAR instruction does not function.

### <Runtime System Software>

The following functions have been introduced.

- ▶ The number of HG Keep Relays and HG Keep Registers that are transferred to flash memory using LSM10 have been expanded from 1024 each to the number set with the data storage area.
- ▶ Support "Use function6 instead of function16" function as optional setting if "Modbus/TCP Client" is selected as Host I/F Driver.

## **Bugs Fixed**

The following problems have been fixed:

- ▶ If the LSM10 function is used with monochrome models, the contrast value is not saved.
- If text on a lamp is located outside of the screen, the lamp does no update properly.
- When a LCAL instruction is used in a subroutine, the instruction connected to the LCAL is not executed.

### <Application Software>

#### **Bugs Fixed**

- Specific tag name may be judged to be an error in the trigger conditions of the part objects and Script Editor.
- ▶ When you use Script Editor to edit scripts, the program may crash.
- Screen image may not be printed correctly.
- In preview or printing, units set to Numerical Input and Numerical Display may be displayed extending from part objects.
- ▶ When specifying the bit of a word device with Batch Monitor, the 16th bit is not displayed.
- ▶ Enable "Copy Data Log Data" for Data Log Function, and then specify Device for the end number of the Target Data. When you download this project, MICRO/I displays "Device range error".
- An error message might be displayed when a saved project is opened and control function is modified.
- When you edit control function, a comment may be displayed for the constant value of
- ▶ When the number of lines of a circuit exceeds 4 in the control function, error message may not be displayed.

#### <Application Software>

### **Bugs Fixed**

- ▶ When you monitor ladder program in FT1A Touch using WindLDR, internal relay or shift register contacts may not be monitored correctly.
- ▶ When you modify the ladder program in WindLDR and download the project to FT1A Touch, the latest ladder program may not be downloaded to FT1A Touch.
- ▶ When PLC type is FT1A Touch, the Replace dialog box does not function properly in WindLDR.
- ▶ Some dialog boxes of WindLDR are not fully shown when the display DPI of Windows is made bigger.
- Unallocated tags assigned to instructions are cleared when you assign tag names to those unallocated tags.
- ▶ When subroutines are programmed, the ladder program may not be displayed properly on the LCD of FT1A Pro/Touch.

## <Application Software>

The following functions have been introduced.

Added the function to display the error message on the screen when the script error occurred. You can setup it on the System tab in the Project Settings dialog box.

# **Bugs Fixed**

- ▶ Some terms on WindO/I-NV3 English edition are different from the Users manual's.
- In the Screen Properties dialog box of Popup Screen, on the Options tab, the state of the Title Bar check box is always changed to OFF when the dialog box is reopened.

# <Runtime System Software>

The following functions have been introduced.

▶ The Smart AXIS Touch is now supported.

# <Application Software>

The following functions have been introduced.

▶ Add functions and settings with supporting the runtime system software for Smart AXIS Touch.