Release Notes
FlexPendant SDK
5.15.01

Revision: -
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Overview

Description
This document provides information about the new features, problems corrected, and installation of FlexPendant SDK.

Product Overview
FlexPendant SDK can be used to develop customized operator screens for the FlexPendant.
No license is required to develop applications using FlexPendant SDK.
The option “FlexPendant Interface” is required on the IRC5 controller to execute FlexPendant applications.

FlexPendant SDK is included in the RobotStudio installer, which can be downloaded for free, from the RobotStudio web site:
http://www.abb.com/roboticssoftware

To get started, or to learn more, visit our Developer Center:
http://developercenter.robotstudio.com

Here you will also find the User Forum, where developers discuss software problems and solutions online:
http://forums.robotstudio.com
1 Release Information

1.1 General

**Release Name**

The release name is FlexPendant SDK 5.15.01 and the build number is 5.15.1089.

**Release Date**

The release date is April 12\textsuperscript{th}, 2013.

1.2 Contents

**.NET Assemblies**

- ABB.Robotics.dll
- ABB.Robotics.Controllers.dll
- ABB.Robotics.DataBinding.dll
- ABB.Robotics.GTPU.dll
- ABB.Robotics.GTPU.Windows.Forms.dll
- ABB.Robotics.Taf.Base.dll
- ABB.Robotics.Tps.Resources.dll
- ABB.Robotics.Tps.SDK.Base.dll
- ABB.Robotics.Tps.Taf.dll
- ABB.Robotics.Tps.Windows.Forms.dll

**Documentation**

- Application Manual – FlexPendant SDK (Html Help and PDF).
- Style Guide – FlexPendant SDK (Html Help).

After installation the documentation can be launched from the Windows Start Menu Programs\ABB Industrial IT\Robotics IT\Robot Studio 5.15\SDK.

The manuals and additional samples are also available at [http://developercenter.robotstudio.com](http://developercenter.robotstudio.com).

**Tools**


**Visual Studio Project Templates**

- ABB Application – template for a basic FlexPendant application.
2 Information to all users of FlexPendant SDK

2.1 Limited Support
The software platform in the ABB FlexPendant device is based on Windows CE 6 and .NET Compact Framework 3.5.

Compact Framework was supported by Visual Studio 2008, but unfortunately Microsoft made the decision not to support it in later versions of Visual Studio.

Because of this ABB has had to adapt and will offer FlexPendant SDK under Limited Support only, from the next major release onwards.

2.2 Switch to ScreenMaker
ABB recommends all FlexPendant SDK users to switch to using ScreenMaker instead.

ScreenMaker is a tool in RobotStudio for designing FlexPendant screens. It lets you use a visual designer to bind screen control properties and events to RAPID variables and I/Os in the IRC5 controller. The program logic is implemented in RAPID code.

If you for some reason cannot or do not want to port your existing FlexPendant SDK applications to ScreenMaker, you can continue using FlexPendant SDK under Limited Support as long as you have VisualStudio 2008 Professional.
3 What’s New in 5.15.01?

Overview

There are no new features in this release. A list of corrected problems can be found in chapter 5.
4 What’s New in 5.15?

Overview

This section contains information about new features in this release.

4.1 FlexPendant on Developer Center


To help you get started you will also find complete walk-through projects for download. New content will continuously be published on the Developer Center.

4.1.1 I/O signal DataBinding walk-through

A Visual Studio project and instructions that walks you through the steps necessary to display I/O signals in a list view.

4.1.2 RAPID variable DataBinding walk-through

A Visual Studio project and instructions that walks you through the steps necessary to display RAPID variables in a list view.
5 Problems Corrected

Overview
This section describes the problems corrected in FlexPendant SDK.

5.1 Corrected problems since FlexPendant SDK 5.15.00.01

<table>
<thead>
<tr>
<th>ID</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDD1365</td>
<td>RS 5.15 RC2 - ScreenMaker Pbl with colors</td>
</tr>
<tr>
<td>PDD1339</td>
<td>Radiobutton doesn't change the fore color when inactive/active</td>
</tr>
<tr>
<td>PDD1420</td>
<td>Bargraph - Shows unwanted values for Min and Max property</td>
</tr>
<tr>
<td></td>
<td>RadioButton, TextBox and TpsLabel now changes color when disabled</td>
</tr>
<tr>
<td></td>
<td>The controls RadioButton, TextBox and TpsLabel now visually indicates if they are enabled or disabled, by changing for color.</td>
</tr>
</tbody>
</table>

5.2 Corrected problems since FlexPendant SDK 5.15.00

No corrected problems

5.3 Corrected problems since FlexPendant SDK 5.14.03

<table>
<thead>
<tr>
<th>ID</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ListView Zoomable property doesn't work</td>
</tr>
<tr>
<td></td>
<td>Small TpsLabel was not truncated correct</td>
</tr>
<tr>
<td></td>
<td>TpsLabel don't hide tooltip when label is hidden</td>
</tr>
<tr>
<td></td>
<td>Graph control does not generate correct design code</td>
</tr>
<tr>
<td></td>
<td>TpsLabel does not hide tooltip when label is hidden</td>
</tr>
<tr>
<td>DSE8329</td>
<td>Not possible to set the BorderStyle property NumPad on from the designer</td>
</tr>
<tr>
<td></td>
<td>Not possible to set the BorderStyle property on Tps-controls from the designer</td>
</tr>
<tr>
<td>DSE8330</td>
<td>Not possible to set NumPad.Target from the designer</td>
</tr>
<tr>
<td>DSE8371</td>
<td>Not possible to set CompactAlphaPad.Target from the designer</td>
</tr>
<tr>
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<td>Plot data property in graph control is ignored</td>
</tr>
<tr>
<td>DSE8372</td>
<td>Text in Numeric Up/Down cannot be vertically aligned</td>
</tr>
<tr>
<td></td>
<td>PlotData properties in Graph Control ignored</td>
</tr>
<tr>
<td>DSE8719</td>
<td>NumEditor control needs property to hide/show the decimal point</td>
</tr>
<tr>
<td>DSE10615</td>
<td>Inconsistent fore color on CheckBox, Led, Switch, RadioButton and Button</td>
</tr>
<tr>
<td></td>
<td>NumericUpDown counter does not update fore color</td>
</tr>
<tr>
<td></td>
<td>NumericUpDown appearance wrong in designer and Virtual FlexPendant.</td>
</tr>
</tbody>
</table>
Wrong disabled color on CheckBox, Led, Switch and Button
6 Known Limitations

Overview

This section describes known limitations in FlexPendant SDK.

Value of RAPID data exceeding 1024 bytes cannot be retrieved

It is not possible to retrieve a value of a RAPID data exceeding 1024 bytes.

An instance of a large RECORD may exceed this limitation, as well as an array of large records.

Exception thrown:

ABB.Robotics.GeneralException

“SYS_CTRL_E_BUFFER_OVERFLOW: The amount of data is too large to fulfill the request”

Avoid:

ArrayData[i] as it retrieves the entire value of the RAPID array from the controller.

Use:

RapidData.ReadItem(i) as it retrieves the value item by item from the controller.

Workaround:

Make your data smaller in size, for example by using two smaller records with less elements in each, instead of one large record with lots of elements.

Visual Studio 2008 cannot attach to VirtualFlexPendant.exe 5.15

VirtualFlexPendant.exe distributed with RobotStudio 5.15 and later is built with .NET 4.0. VisualStudio 2008 is not able attach and debug a .NET 4.0 application.

Hence it is not possible to use RobotStudio and the Virtual FlexPendant to debug a FlexPendant SDK application from Visual Studio 2008.

Workaround #1: Visual Studio 2010 or Visual Studio 2012 can be used for attaching and debugging VirtualFlexPendant.exe. You can open a code file from your Visual Studio 2008 project, from Visual Studio 2010 and set breakpoints. The debugger will hit the breakpoints and you can execute step vice etc.

Workaround #2: Do not uninstall RobotStudio 5.14.03 when installing RobotStudio 5.15. Visual Studio 2008 can attach to and debug the VirtualFlexPendant.exe 5.14.03.


Error when opening the designer for the first time in a VB project

When creating a FPSDK project for VB using an empty form (the default) as the startup view, an error message may be displayed in the designer the first time the
viewer is opened. The problem does not occur when the startup type is Form, or in C#.
Work around: Close and re-open the designer.

---

Memory leak in ImageList.Dispose

Due to a Microsoft bug the ImageList.Dispose method does not work, causing a memory leak. Microsoft’s advice is to set the ImageList to null instead of calling Dispose. This way the memory will correctly be reclaimed by the garbage collector.

avoid:
imageList.Dispose();

use:
imageList = null;

---

RapidData.IsLocal returns true for shared data

In FlexPendant SDK the property IsLocal on the class RapidData, returns true for shared data, even though such data is visible from all modules.

The declarations of default zonedata and speeddata has been moved from module BASE.SYS in each task, and are now installed as shared data.

If an application used to create a RapidData object representing for example "v1000", the IsLocal property returned false in RobotWare 5.12, but will return true in RobotWare 5.13."
7 Installation Information

Overview
You need administrator permissions on the computer that you are using.

Microsoft Visual Studio 2008 Professional development environment is required to develop FlexPendant SDK applications.
Visual Studio project templates and control templates, will be installed and made available to Visual Studio, by the FlexPendant SDK installation.

Note! It is required that Visual Studio is installed before FlexPendant SDK. If not, the templates will not to be installed.

To install FlexPendant SDK click RobotStudio on the RobotWare & RobotStudio DVD. If you select the default installation option Complete, FlexPendant SDK will be installed. If you want to install only FlexPendant SDK and not RobotStudio select the installation option Custom.

FlexPendant SDK 5.xx will be installed side by side with any previous major version of FlexPendant SDK 5.xx, while minor versions within a release will update to the latest one.

The default installation path is C:\Program Files\ABB Industrial IT\Robotics IT\SDK\FlexPendant SDK 5.15.

7.1 Software requirements

PC Software requirements

Operating Systems
Microsoft Windows XP SP3 – 32bit edition
Microsoft Windows 7 – 32bit edition
Microsoft Windows 7 – 64bit edition
Microsoft Windows 8 – 64bit edition

RobotStudio
RobotStudio 5.15 is needed for building a test system and for debugging and testing in the virtual environment.
IRC5 Software requirements

- RobotWare option "FlexPendant Interface" for communication with IRC5 controller.
- RobotWare version 5.15.

*It is recommended that FlexPendant SDK 5.15 applications should be used with RobotWare 5.15.*

Supported development environment

Microsoft Visual Studio 2008 Professional is required to develop applications for the FlexPendant.

Note! FlexPendant SDK is developed and tested for the English version of Visual Studio.

Note! Microsoft Visual Studio 2010, or 2012 does not support Compact Framework application development, and as a consequence thereof, does not support FlexPendant application development.

7.2 Hardware requirements

FlexPendant

The following FlexPendant device versions are supported:

- SxTPU-2 (*executes with* .NET CF 2.0 and WinCE 5.0)
- SxTPU-3 (*executes with* .NET CF 3.5 and WinCE6.0)

7.3 Compatibility

The APIs in the FlexPendant SDK 5.15.xx are backwards compatible with the APIs in FlexPendant SDK 5.14. There are no breaking changes.

FlexPendant SDK compatibility between RobotWare releases cannot be absolutely guaranteed. The goal is to be 100% compatible and the development team tries hard to achieve this. Due to necessary upgrades in the Microsoft platforms or new demands breaking changes sometimes cannot be avoided.

*Note! Compatibility between a specific version of FlexPendant SDK and earlier versions of RobotWare can only be guaranteed within the same major release. (FP SDK 5.14.01 will be compatible with RW 5.14.02 etc.).*
8 Technical Support

For technical support please turn to your local ABB office.

http://www.abb.com/contacts

For help, advice and the latest updates visit the User Forum.

http://forums.robotstudio.com