Release Notes

PC SDK

5.15.01

Revision: -

Contents

Overview

Description

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

Product Overview

PC SDK can be used to develop customized PC applications, for communication with the IRC5 controller.

It can also be used in combination with RobotStudio SDK to develop RobotStudio add-ins that interacts with the IRC5 controller.

PC SDK applications can connect to one or several IRC5 controllers, real as well as virtual.

No license is required to develop applications using PC SDK.

The option "PC Interface" is required to allow PC SDK applications to connect to an IRC5 controller.

For download, updates and information, visit the RobotStudio Community: 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 PC SDK 5.15.01 and the build number is 5.15.1089.

Release Date

The release date is April 12th, 2013.

1.2 Contents

.NET Assemblies

ABB.Robotics.dll

ABB.Robotics.Controllers.dll

Redistributables

ABBControllerAPI.msm

Robot Communication Runtime installer

Documentation

Reference Manual – PC SDK (Html Help). Documentation of class libraries with method signatures in C# and Visual Basic.

Application Manual – PC SDK (Html Help and PDF).

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.

2 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.

3 What's New in 5.15?

Overview

This section contains information about new features in this release.

3.1 Robot Communication on Developer Center

You can now access the PC SDK Application and Reference Manual from http://developercenter.robotstudio.com.

To help you get started you will also find complete walk-through projects for download.

4 Late-breaking information

4.1 Overview

This section contains late-breaking information that will be included in the appropriate documents in the subsequent releases.

Nothing in this release.

5 Problems Corrected

Overview

This section describes the problems solved in PC SDK.

5.1 Solved Product Defect Documents (PDD) since PC SDK 5.15.00.01

No solved PDDs.

5.2 Solved Product Defect Documents (PDD) since PC SDK 5.15.00

No solved PDDs.

6 Known Limitations

Overview

This section describes known limitations in PC SDK.

Maximum number of connected Robot Communication Runtime clients

The following table describes how many client PCs can connect to an IRC5 controller using Robot Communication Runtime over its different network ports.

Network port	Max number of connected clients
LAN	3
SERVICE	1
GTPU	1

Each PC can have several applications running at the same time, all of them sharing the same controller connection.

Example of such applications are, applications built with PC SDK, or RobotStudio.

Maximum number of logged in users

The maximum number of logged in users to the controller is 50.

Maximum number of connected FTP clients

The maximum number of concurrent connected FTP clients is 4.

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.Controllers.ControllerBufferOverflowException

"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.

PC SDK UIInstructionEvent / RAPID UIListView

UIListViewEventArgs.ListItems may return the wrong number of list items if - if you are using characters like double quote (") and brackets ([ ]) in the RAPID array of list item strings, the

Avoid using double quote (") and brackets ([ ]).

FlexPendant may lock up when PC SDK application release and immediately request mastership

In manual mode, when a PC SDK application releases master and immediately requests master again, the FlexPendant is locked up when the user presses the prompt to grant write access to the PC SDK application. In automatic mode there is no problem.

IPC Messaging - PC SDK always sends 444 bytes of data

When sending a message with IpcQueue.Send(), the size of the message sent over the network will be 444 bytes, regardless of the amount of data passed to Send(). Data must therefore be null terminated.

IPC Messaging requires MTA thread

IpcQueue.Send() must be called from an MTA thread. Create a separate sender thread and use the method Thread.SetApartmentState() to set the apartment state to MTA before starting it.

IsLocal on the class RapidData, returns true for shared data

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

To install PC SDK click *RobotStudio* on the RobotWare & RobotStudio DVD.

If you select the default installation option **Complete**, PC SDK will be installed. If you want to install only PC SDK and not RobotStudio select the installation option **Custom**.

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

Microsoft Visual Studio development environment is used to develop PC SDK applications.

Refer to chapter 7.1 for a list of supported versions of Visual Studio.

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

7.1 Hardware and 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 – 64 bit edition

Robot Communication Runtime

Applications based on PC SDK requires Robot Communication Runtime to be installed on the target PC. The Robot Communication Runtime redistributable, can be found under

C:\Program Files\ABB Industrial IT\Robotics IT\SDK\PC SDK\5.15.xx\redistributable\RobotCommunicationRuntime.

Redistributables for earlier versions of PC SDK can be found on
http://developercenter.robotstudio.com

RobotStudio

RobotStudio 5.15 is needed for building virtual controller systems and for debugging and testing in the virtual environment.

Please see http://forums.robotstudio.com for more information.

IRC5 Software requirements

RobotWare option "PC Interface" for communication with IRC5 controller.

Note! PC Interface is required even if the PC SDK application is connected to the controller over the Service Port.

Supported development environments

Microsoft Visual Studio 2008

Express edition or better.

Microsoft Visual Studio 2010

Express edition or better.

Microsoft Visual Studio 2012

Express edition or better.

7.2 Compatibility

The APIs in PC SDK 5.15.xx are backwards compatible with the APIs in PC SDK 5.14.

There are no breaking changes.

PC SDK communicates with the robot controller using the Robot Communication Runtime, which is designed to be backwards compatible with earlier versions of RobotWare.

Note! Functionality introduced in later versions of RobotWare will not be available for a PC SDK application that is connected to a controller with an older version of RobotWare.

For example the Messaging functionality is only supported on RobotWare 5.10 and above. This means that a PC SDK application cannot use the Ipc class when communicating with a controller with RobotWare 5.09.

The code will compile, but an exception will be thrown at runtime. Application developers are responsible for handling this scenario in their applications. Please refer to the PC SDK Reference Documentation for details.

Note! Compatibility between RobotWare minor revisions is guaranteed (PC SDK 5.15.01 will be compatible with PC SDK/RW 5.15.02 etc.).

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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 please visit the User Forum.

http://forums.robotstudio.com