OMRON

Industrial PC Platform

NY-series

NYB/NYP Industrial PC

Software Development Kit Manual

NYB□□
NYP□□

SYSMAC
always in control

W633-E2-05

NOTE

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Introduction

Thank you for using the OMRON Industrial PC Platform Software Development Kit (SDK).
This manual contains information that is necessary to use the Software Development Kit (hereafter also named as SDK). Please read this manual and make sure you understand the functionality and performance of the SDK before attempting to use it.
Keep this manual in a safe place where it will be available for reference during operation.

Intended Audience

This manual is intended for the following personnel, who must also have knowledge of software programming (a software engineer or the equivalent).

- Personnel in charge of introducing Factory Automation systems.
- Personnel in charge of designing Factory Automation systems.
- Personnel in charge of software design for Factory Automation systems.
- Personnel in charge of installing and maintaining and programming Factory Automation systems.
- Personnel in charge of managing Factory Automation systems and facilities.

Applicable Products

This manual covers following Industrial PC Platform products:

Product	Model
Industrial Monitor	NYM
Industrial Box PC	NYB
Industrial Panel PC	NYP
Industrial Box PC with Machine Automation Control Software	• NY512-1500-1XX□13□□X • NY512-1400-1XX□13□□X • NY512-1300-1XX□13□□X
Industrial Panel PC with Machine Automation Control Software	• NY532-1□00-111□13□□0 • NY532-1□00-112□13□□0
Industrial Box PC with Programmable Multi Axis Controller	NY512-A□

Additional Information

Refer to *Related Manuals* on page 14 for product manuals and product details.

Sections in this Manual

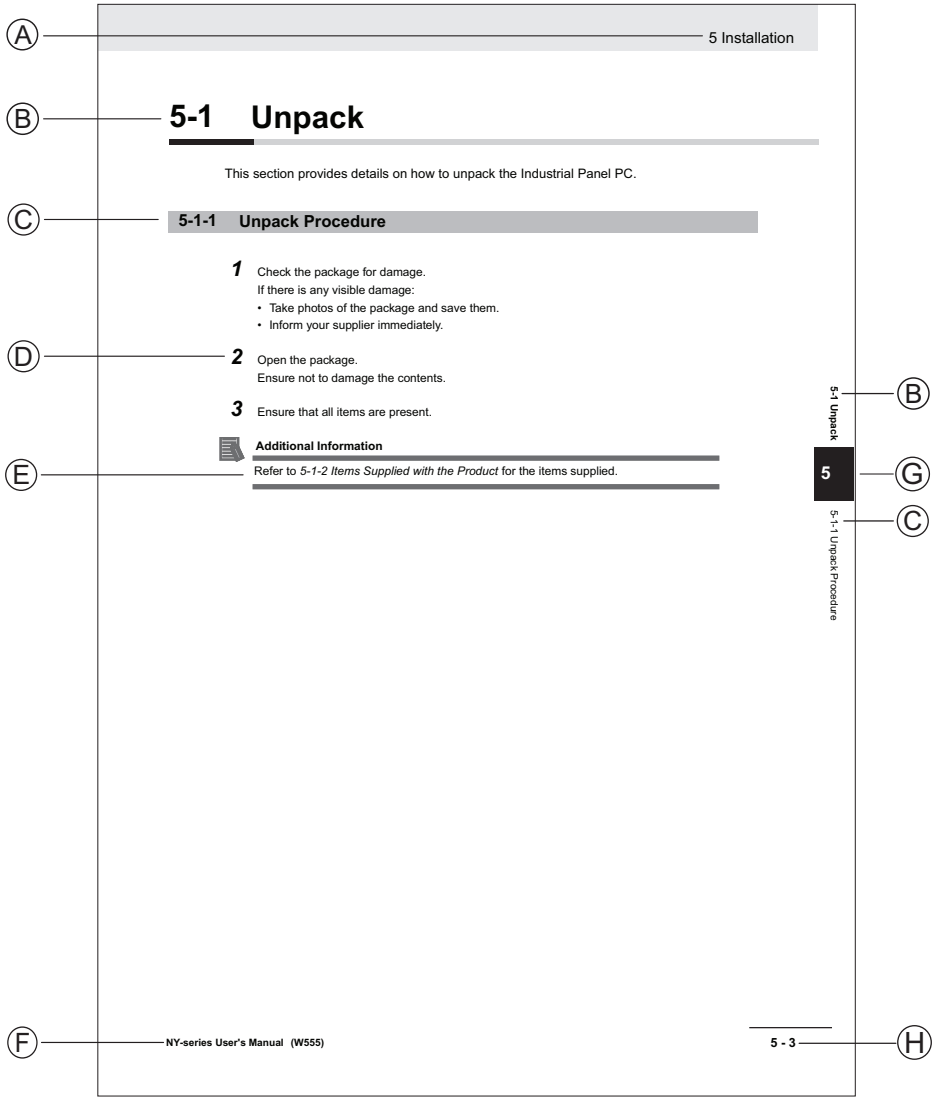
CONTENTS

Manual Information

This section provides information about this manual.

Page Structure

The following page structure is used in this manual.

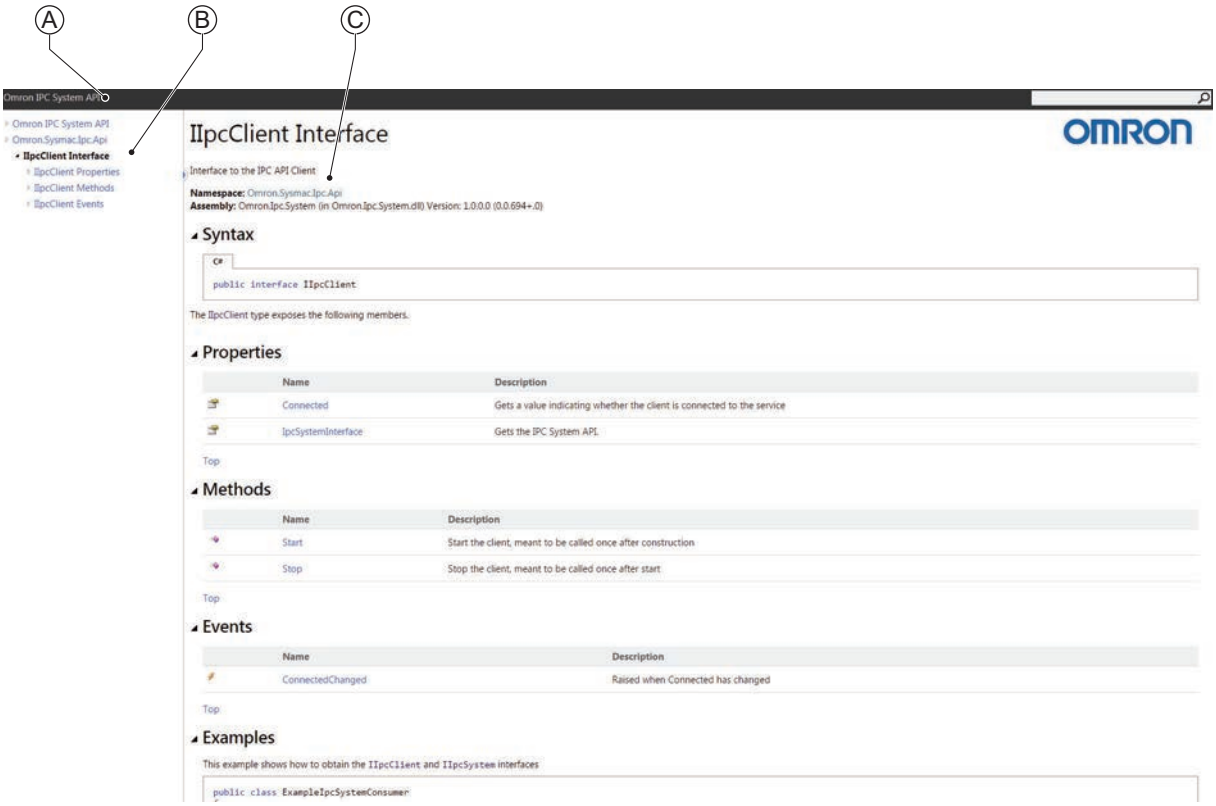


Note: This illustration is provided as a sample. It will not literally appear in this manual.

Item	Explanation	Item	Explanation
A	Level 1 heading	E	Special Information
B	Level 2 heading	F	Manual name
C	Level 3 heading	G	Page tab with the number of the main section
D	Step in a procedure	H	Page number

Screen Structure

The following screen structure is used in the HTML help files for the APIs.



Note: This illustration is provided as a sample. It will not literally appear in the HTML help files.

Item	Explanation
A	Level 1 heading
B	Menu with submenus
C	Content with Syntax, Properties, Methods, Events and Examples where applicable.

Special Information

Special information in this manual is classified as follows:

Precautions for Safe Use

Precautions on what to do and what not to do to ensure safe usage of the product.

Precautions for Correct Use

Precautions on what to do and what not to do to ensure proper operation and performance.

Additional Information

Additional information to read as required.
This information is provided to increase understanding or make operation easier.

Version Information

Information on differences in specifications and functionality between different versions.

Terms and Conditions Agreement

Warranty and Limitations of Liability

WARRANTY

- The warranty period for the Software is one year from the date of purchase, unless otherwise specifically agreed.
- If the User discovers defect of the Software (substantial non-conformity with the manual), and return it to OMRON within the above warranty period, OMRON will replace the Software without charge by offering media or download from OMRON's website. And if the User discovers defect of media which is attributable to OMRON and return it to OMRON within the above warranty period, OMRON will replace defective media without charge. If OMRON is unable to replace defective media or correct the Software, the liability of OMRON and the User's remedy shall be limited to the refund of the license fee paid to OMRON for the Software.

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Application Considerations

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Safety Precautions

Refer to the section **Safety Precautions** of the applicable manuals for details.
The applicable manuals are available in *Related Manuals* on page 14.

Precautions for Safe Use

Operating System and Software

- Before operating the system, please make sure the appropriate software is installed and configured. Doing so may prevent unexpected operation.
- Virtual memory settings can affect the performance of the system. Disable the paging file after installation of applications or updates.
- Always make sure the operating system can be shut down by the UPS automatically.
- Install all updates and ensure the browser stays up-to-date.
- Install all updates and ensure the firewall and virus definitions remain up-to-date.
- Make sure that your operating system environment is protected against malicious software and viruses.
- Choose a password that is not obvious to prevent unauthorized access.

General Communications

- Separate the machine network segment from the office network to avoid communication failures.

Regulations and Standards

Software Licenses and Copyrights

This product incorporates certain third party software. The license and copyright information associated with this software is available at https://www.fa.omron.co.jp/nj_info_e/.

Related Manuals

The following manuals are related. Use these manuals for reference.

Industrial Monitor Manual

This table contains the related manual of the Industrial Monitor.

Manual name	Cat. No.	Model numbers	Application	Description
Industrial Monitor User's Manual	W554	• NYM12W-C1□□□ • NYM15W-C1□□□ • NYM19W-C1□□□	Learning all basic information about the Industrial Monitor. This includes introductory information with features, hardware overview, specifications, mounting, wiring, connecting, operating and maintaining the Industrial Monitor.	An introduction to the Industrial Monitor is provided along with the following information: • Overview • Hardware • Software • Specifications • Installation • Operating Procedures • Maintenance

Related Industrial PC Manuals

This table contains the related manuals of other Industrial PC products.

Manual name	Cat. No.	Model-ID	Application	Description
Industrial Box PC Hardware User's Manual	W553	NYB	Learning all basic information about the Industrial Box PC. This includes introductory information with features, hardware overview, software overview, specifications, mounting, wiring, connecting, operating and maintaining the Industrial Box PC.	An introduction to the Industrial Box PC is provided along with the following information: • Overview • Hardware • Software • Specifications • Installation • Operating Procedures • Maintenance
Industrial Panel PC Hardware User's Manual	W555	NYP	Learning all basic information about the Industrial Panel PC. This includes introductory information with features, hardware overview, software overview, specifications, mounting, wiring, connecting, operating and maintaining the Industrial Panel PC.	An introduction to the Industrial Panel PC is provided along with the following information: • Overview • Hardware • Software • Specifications • Installation • Operating Procedures • Maintenance

Manual name	Cat. No.	Model-ID	Application	Description
Operating Systems and Software Utilities Manual	W616	NYB NYP	Learning all software related information about the Industrial PC. This includes introductory information, installation, operating procedures and maintenance. Mainly software information is provided.	An introduction to the SDK is provided along with the following information: • Overview • Software • Specifications • Installation • Operating Procedures • Maintenance

Related IPC Machine Controller Manuals

This table contains the related manuals of other Industrial PC with Machine Automation Control Software products.

Manual name	Cat. No.	Model-ID	Application	Description
Industrial Box PC with Machine Automation Control Software Industrial Box PC Hardware User's Manual	W556	NY512-□1□□□-1□13□□X	Learning all basic hardware information about the Industrial Box PC with Machine Automation Control Software Industrial Box PC. This includes introductory information with features, hardware overview, specifications, mounting, wiring, connecting, operating and maintaining the Box PC.	An introduction to the Industrial Box PC with Machine Automation Control Software Box PC is provided along with the following information: • Overview • Hardware • Specifications • Installation • Operating Procedures • Maintenance
Industrial Panel PC with Machine Automation Control Software Industrial Panel PC Hardware User's Manual	W557	• NY532-1□00-111□13□□0 • NY532-1□00-112□13□□0	Learning all basic hardware information about the Industrial Panel PC with Machine Automation Control Software Industrial Panel PC. This includes introductory information with features, hardware overview, specifications, mounting, wiring, connecting, operating and maintaining the Panel PC.	An introduction to the Industrial Panel PC with Machine Automation Control Software Panel PC is provided along with the following information: • Overview • Hardware • Specifications • Installation • Operating Procedures • Maintenance

Terminology and Abbreviations

Industrial PC Platform

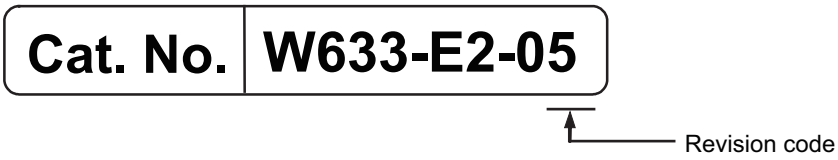
Term / Abbreviation	Description
Industrial PC Platform	An integrated range of OMRON products designed for use in any industrial application that will benefit from advanced PC technology
Industrial Monitor	An industrial monitor with a touchscreen as the user interface designed to work in industrial environments
Industrial Panel PC	An industrial PC with an integrated touchscreen monitor designed to work in industrial environments
Industrial Box PC	A box-shaped industrial PC including an OS designed to work in industrial environments
IPC	Industrial PC
Industrial Pharmaceutical Monitor	An industrial monitor with a touchscreen as the user interface designed to work in pharmaceutical environments.
Sysmac	OMRON's brand name of the product family for the industrial automation equipment

Software

Term / Abbreviation	Description
ACPI	Advanced Configuration and Power Interface protocol for operating systems
API	Application Programming Interface
BIOS	Basic Input Output System. The first software run by a PC when powered on.
Developer	Any person involved with the development of software
DST	Daylight Saving Time
EWF	Enhanced Write Filter
FBWF	File-Based Write Filter
IIoT	Industrial Internet of Things
Linux	An open source Operating System
MBR	Master Boot Record
Merge module	A module providing a standard method by which developers deliver shared Windows installer components and setup logic to their applications
MSDN	Microsoft Developer Network
NUI	Natural User Interface
OS	Operating System
PLC	Programmable Logic Controller
RTOS	Realtime Operating System
SDK	Software Development Kit
TCP/IP	Transmission Control Protocol / Internet Protocol, a core member of the Internet protocol suite
TPM	Trusted Platform Module
Windows	An Operating System designed by Microsoft

Revision History

A manual revision code appears as a suffix to the catalog number on the front and back covers of the manual.



Revision code	Date	Revised content
05	November 2025	• Added Windows 11 • Minor modifications
04	June 2023	• Added API calls for I/O connector configuration • Changed Manual ID from WSDK to W633 • Removed Industrial PC with RTOS Controller
03	January 2021	• Added PowerShell examples • Minor modifications
02	September 2017	• Added Change Touch Input • Minor modifications
01	October 2016	Original production

1

Overview

This section provides general information about the Software Development Kit.

1-1 Intended Use

The Software Development Kit is intended to be used as a software tool in factory automation environments. This SDK gives access to advanced software functionality of Industrial PC Platform products and provides sample applications for several software environments.
A user can use the SDK to implement control, configuration and supervisory functionality in the user software.
The SDK can easily be integrated in software development environments.
The SDK provides functionality to implement software features of the Industrial PC Platform products in your software.

2

Software for Developers

This section provides information on the software that is available for developers.

2-1 Overview of IPC Developer Software for Windows

This section gives an overview of the software available for developers for all Industrial PC Platform products with a Windows operating system.

Availability of the developer software:

Product	Developer software
Industrial Monitor	Industrial Monitor SDK Industrial Monitor API
Industrial Box PC	Industrial PC System SDK Industrial PC System API
Industrial Panel PC	Industrial Monitor SDK Industrial Monitor API Industrial PC System SDK Industrial PC System API

Select and download the SDK software from the OMRON website.

A short description of the developer software:

Type of API	Description	Reference
Industrial PC System API	Gets information on the Industrial PC, such as production information, temperature, and battery status.	*Section 3 Industrial PC System API* on page 3-1
Industrial Monitor API	Controls the hardware features and gets information from connected Industrial Monitors.	*Section 4 Industrial Monitor API* on page 4-1

2-1-1 SDK Compatibility

The SDK can be used on any development PC with:

- Operating system:
  - Windows 10, including Windows 10 IoT Enterprise LTSB and LTSC
  - Windows 11 IoT Enterprise 2024 LTSC - 64 bit.
- Software development environment:
  - Microsoft Visual Studio version 2013 or higher
  - PowerShell

2-2 Industrial PC System SDK

This section provides information on the Industrial PC System SDK.

2-2-1 Industrial PC System SDK Features

The Software Development Kit (SDK) provides access to the Industrial PC System API, the API help files and sample applications.
The API is accessible with PowerShell and with source code in C#, VB and C.

2-2-2 Industrial PC System SDK Help Information

The help information is automatically installed with the Industrial PC System SDK.
The help information is available:

- with **Start** Menu item **OMRON\Industrial PC\SDK\System API Documentation**
- in the directory **C:\Program Files(x86)\OMRON\Industrial PC\SDK\Ipc System SDK\API Documentation**

2-2-3 SDK Sample Applications

The sample applications demonstrate how to implement and use the API in your application.
The sample applications can be opened in Visual Studio.
The PowerShell examples can be opened in PowerShell or in a text editor. The accompanying batch files can be opened in a text editor.

The sample applications are available:

- with **Start** Menu items
  - **OMRON\Industrial PC\SDK\System SDK Examples**
  - **OMRON\Industrial PC\SDK\Monitor SDK Examples**
- in the directories
  - **C:\Program Files(x86)\OMRON\Industrial PC\SDK\IPC System SDK\Examples**
  - **C:\Program Files(x86)\OMRON\Industrial PC\SDK\Monitor SDK\Examples**

Additional Information

Read the **README** file in the Examples directory.

2-2-4 Installation

The Industrial PC System API is part of the Industrial PC System SDK download.
The Industrial PC System API is pre-installed on the Industrial Panel PC and the Industrial Box PC.

Install the Industrial PC System SDK to use the Industrial PC System API on development PCs.

To use the Industrial PC System API the API needs to be referenced in your development project.
Use the Merge Module to include the Industrial PC System API in the installer for custom applications.

2-3 Industrial Monitor SDK

This section provides information on the Industrial Monitor SDK.

2-3-1 Industrial Monitor SDK Features

The Software Development Kit (SDK) provides access to the Industrial Monitor API, the API help files and sample applications.
The API is accessible with PowerShell and with source code in C#, VB and C.

2-3-2 Industrial Monitor SDK Help Information

The help information is automatically installed with the Industrial Monitor SDK.
The help information is available:

- with **Start** Menu item **OMRON\Industrial PC\SDK\Monitor API Documentation**
- in the directory **C:\Program Files(x86)\OMRON\Industrial PC\SDK\Monitor SDK\API Documentation**

2-3-3 SDK Sample Applications

The sample applications demonstrate how to implement and use the API in your application.
The sample applications can be opened in Visual Studio.
The PowerShell examples can be opened in PowerShell or in a text editor. The accompanying batch files can be opened in a text editor.

The sample applications are available:

- with **Start** Menu items
  - **OMRON\Industrial PC\SDK\System SDK Examples**
  - **OMRON\Industrial PC\SDK\Monitor SDK Examples**
- in the directories
  - **C:\Program Files(x86)\OMRON\Industrial PC\SDK\IPC System SDK\Examples**
  - **C:\Program Files(x86)\OMRON\Industrial PC\SDK\Monitor SDK\Examples**

Additional Information

Read the **README** file in the Examples directory.

2-3-4 Installation

The Industrial Monitor API is part of the Industrial Monitor SDK download.
The Industrial Monitor API is pre-installed on the Industrial Panel PC and Industrial Box PC.

Install the Industrial Monitor SDK to use the Industrial Monitor API on development PCs.

To use the Industrial Monitor API the API needs to be referenced in your development project.
Use the Merge Module to include the Industrial Monitor API in the installer for custom applications.

3

Industrial PC System API

This section describes some of the Industrial PC System API functions.
The Industrial PC System API allows programmers to create programs that can retrieve information or set an indicator status of the product.
The API makes use of the included OMRON IPC System Service to manage the hardware.

3-1 Features

The Industrial PC System API can:

- Retrieve product information from the Industrial PC
- Retrieve system flags
- Retrieve maintenance information

Combined with a Windows operating system the API can also:

- Configure and program the Watchdog[*1]
- Set the status of the Run LED Indicator and the ERR LED Indicator
- Set and Get the I/O pin status
- Configure the I/O settings

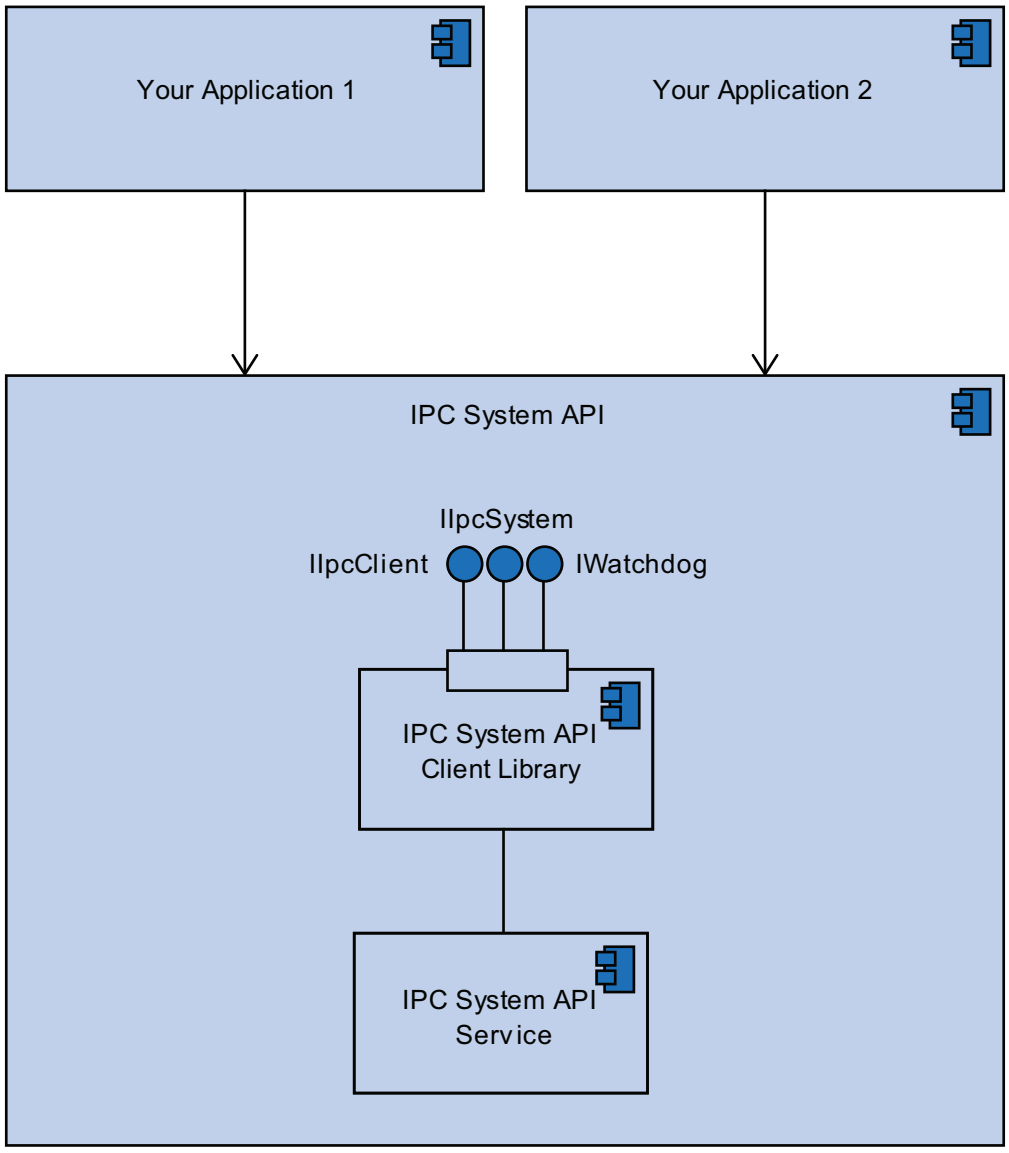
3-2 Industrial PC System API Functions

This section describes the Industrial PC System API functions.
The Industrial PC System API functions allow programmers to create programs that can retrieve information or set an indicator status of the SDK Software.
The API makes use of the included IPC System Service to manage the hardware.

3-2-1 Industrial PC System API Components

This section gives an overview of the components of the Industrial PC System API.

Your applications will use the Industrial PC System API Client Library to interact with the Industrial PC System API.



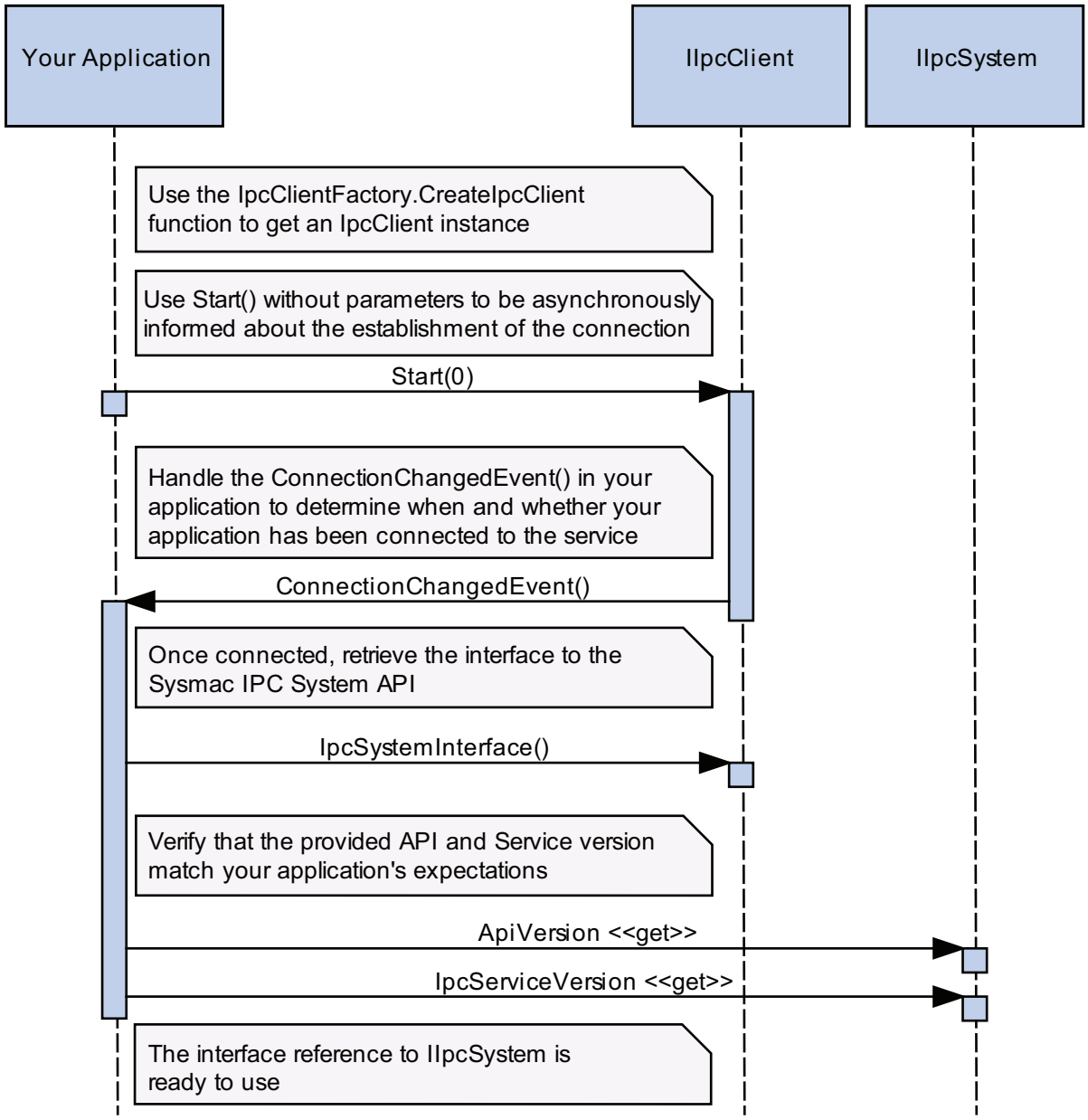
Remarks:
Use the IpcClientFactory class in your application to retrieve an IIpcClient interface.

Additional Information

- Refer to *3-2-3 Boot Time Information Retrieval* on page 3-6 for boot details.
- Refer to *3-2-2 Initialization Sequence* on page 3-5 for initialization details.
- Refer to *3-2-5 System Status Retrieval* on page 3-8 for polling details.
- Refer to *3-2-4 Static Information Retrieval* on page 3-7 for information retrieval details.
- Refer to *3-2-6 Watchdog Sequence* on page 3-9 for watchdog details.

3-2-2 Initialization Sequence

This section describes the Initialization sequence for the Industrial PC System API.

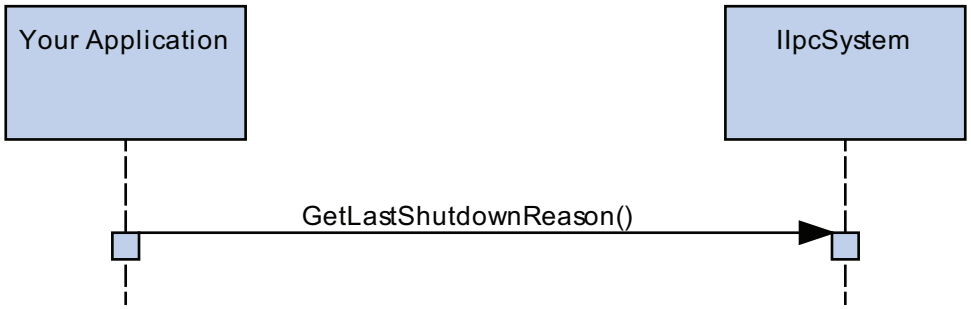


Additional Information

- Refer to *3-3 Industrial PC System API Programming Support* on page 3-11 for API details
- Refer to the Sample Applications for code examples.

3-2-3 Boot Time Information Retrieval

This section describes how to retrieve information about how the IPC Machine Controller started and stopped.



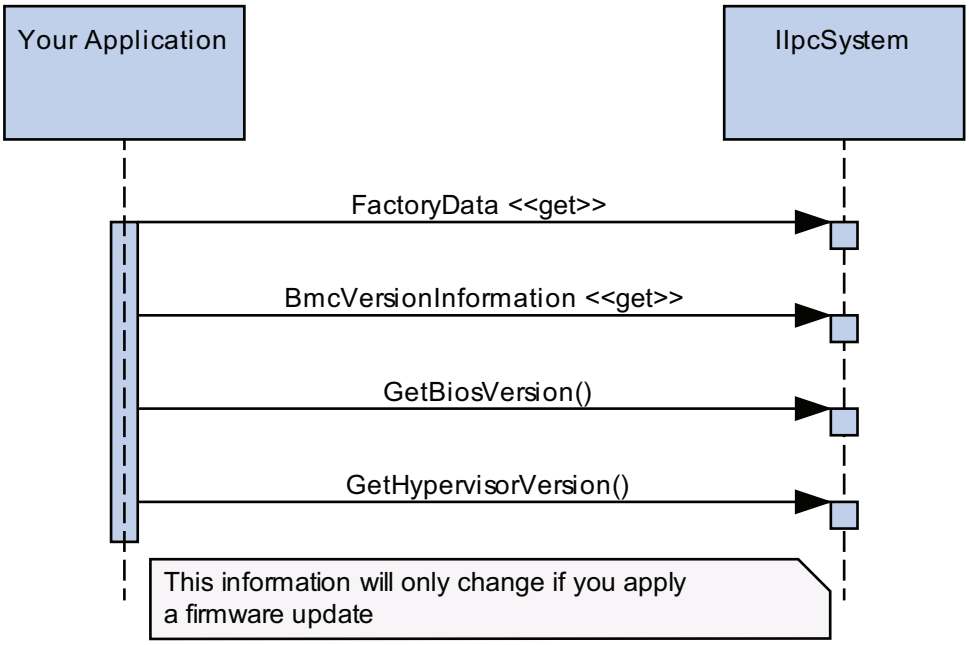
Additional Information

- Refer to *3-3 Industrial PC System API Programming Support* on page 3-11 for API details
- Refer to the Sample Applications for code examples.

3-2-4 Static Information Retrieval

This section describes how to retrieve static information.

Static information is information that does not change at every system start.

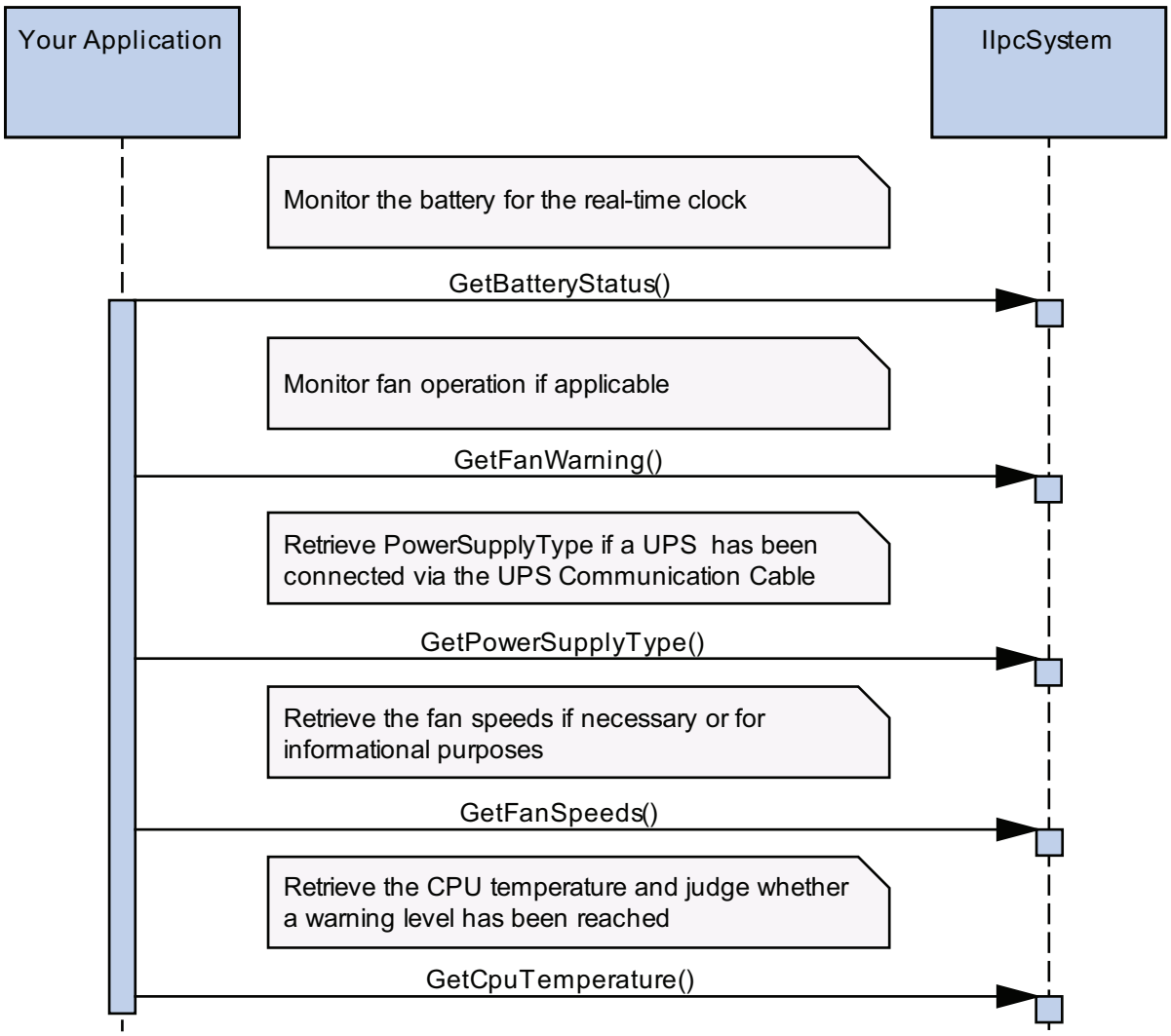


Additional Information

- Refer to *3-3 Industrial PC System API Programming Support* on page 3-11 for API details.
- Refer to the Sample Applications for code examples.

3-2-5 System Status Retrieval

This section describes how to retrieve system status information.



Remark:

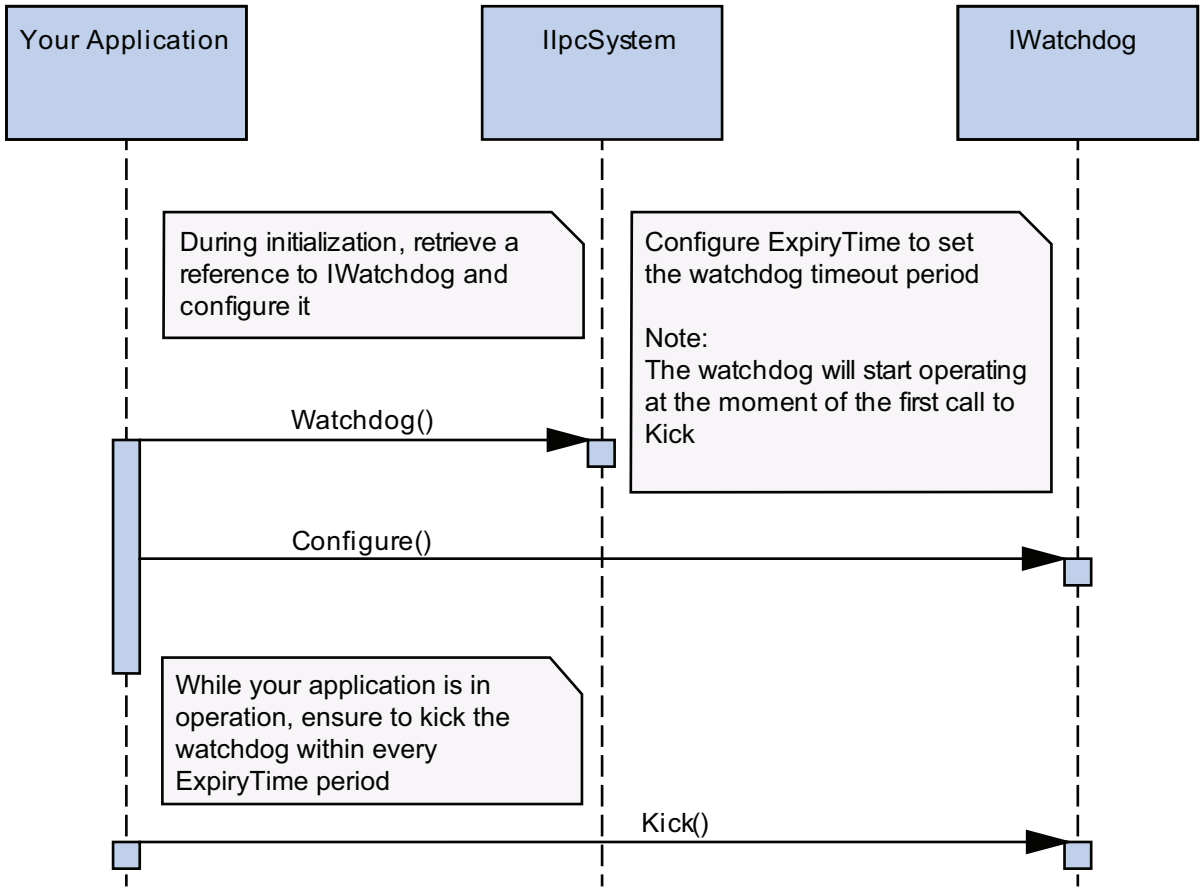
To poll the system status build these requests into a polling sequence.

Additional Information

- Refer to *3-3 Industrial PC System API Programming Support* on page 3-11 for API details.
- Refer to the Sample Applications for code examples.

3-2-6 Watchdog Sequence

This section describes the sequence to use the watchdog for the Industrial PC System API.



Remarks:

- Initialize the Industrial PC System API with *Watchdog():IWatchdog* and *Configure(int,int)*.
- Use *Kick()* regularly in your application and ensure the interval between *Kick()* events is less than the configured ExpiryTime.

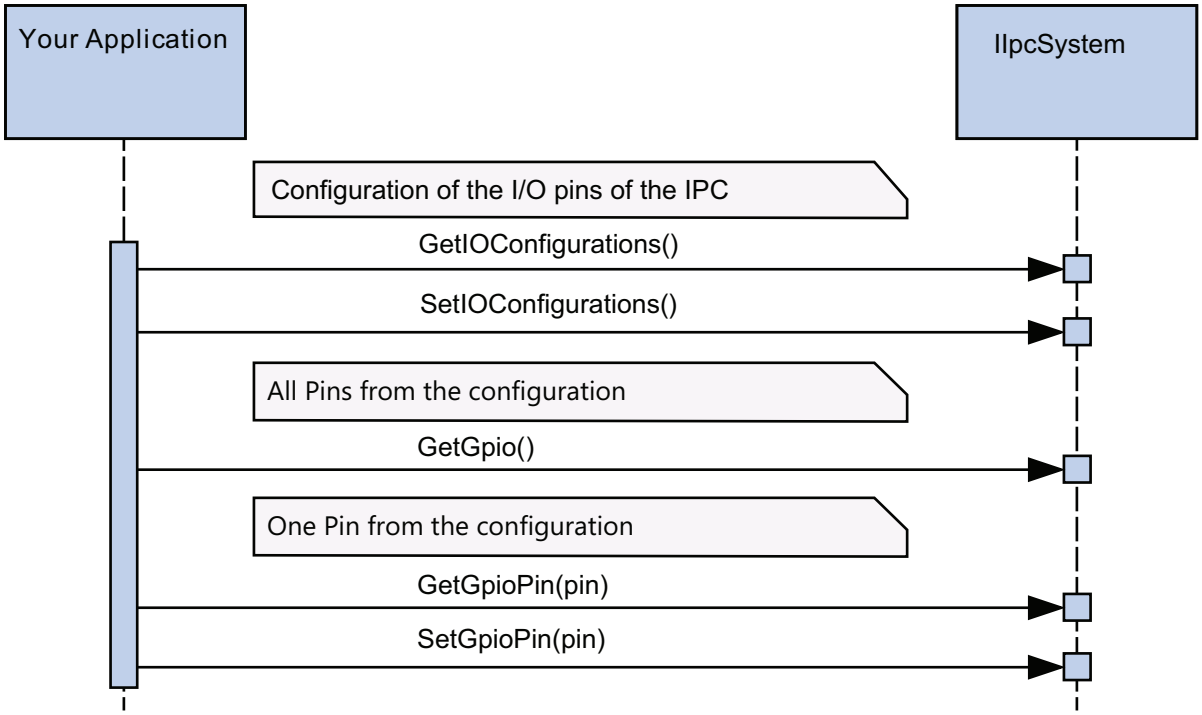
Additional Information

- Refer to *3-3 Industrial PC System API Programming Support* on page 3-11 for API details.
- Refer to the Sample Applications for code examples.

3-2-7 I/O Connector Configuration and Inputs and Outputs

This section gives details on the configuration and inputs and outputs of the I/O Connector using the SDK.

The created customer's application is shown in the image below as 'Your Application'.



Remarks:

- *GetIOConfigurations()* will retrieve the active configuration of the I/O connector.
  Refer to the System Status Tab details of the Industrial PC Support Utility in the NY-series Operating Systems and Software Utilities Manual (Cat. No. W616) for more information.
- *SetIOConfigurations()* will set the configuration of the I/O connector.
- *GetGpio()* will retrieve the high/low status of all pins.
- *GetGpioPin(pin)* will retrieve the status of a specified pin.
- *SetGpioPin(pin)* will set the status of a specified pin.

Additional Information

- Refer to *4-3 Industrial Monitor API Programming Support* on page 4-11 for API details.
- Refer to the Sample Applications for code examples.

3-3 Industrial PC System API Programming Support

This section describes the programming support available in the Industrial PC System API.
Detailed programming support for the Industrial PC System API is only available when the Industrial PC System SDK is installed.
If installed then the help information for this Industrial PC System API is available in HTML format with **Start** Menu item **OMRON\Industrial PC\SDK\System API Documentation**.

4

Industrial Monitor API

This section describes some of the Industrial Monitor API functions.
The Industrial Monitor API allows programmers to create applications that can control the hardware features and retrieve information from connected Industrial Monitors.
The main function of the Industrial Monitor API is to enable the brightness of the back-light and the LEDs of the monitor to be increased or decreased according to the working environment.
The API makes use of the included OMRON Industrial Monitor Service to manage the hardware.

4-1 Features

For all connected Industrial Monitors, the Industrial Monitor API can:

- Retrieve product information from the Industrial Monitor or Industrial Panel PC display
- Retrieve product status information
- Set the brightness of the Status LED indicator
- Set the brightness of the backlight
- Set the brightness of the Logo LED
- Set the touch points of the monitor
- Store settings
- Restore to factory defaults

The API makes use of the included OMRON Industrial Monitor Service to manage all Industrial Monitors connected via USB.

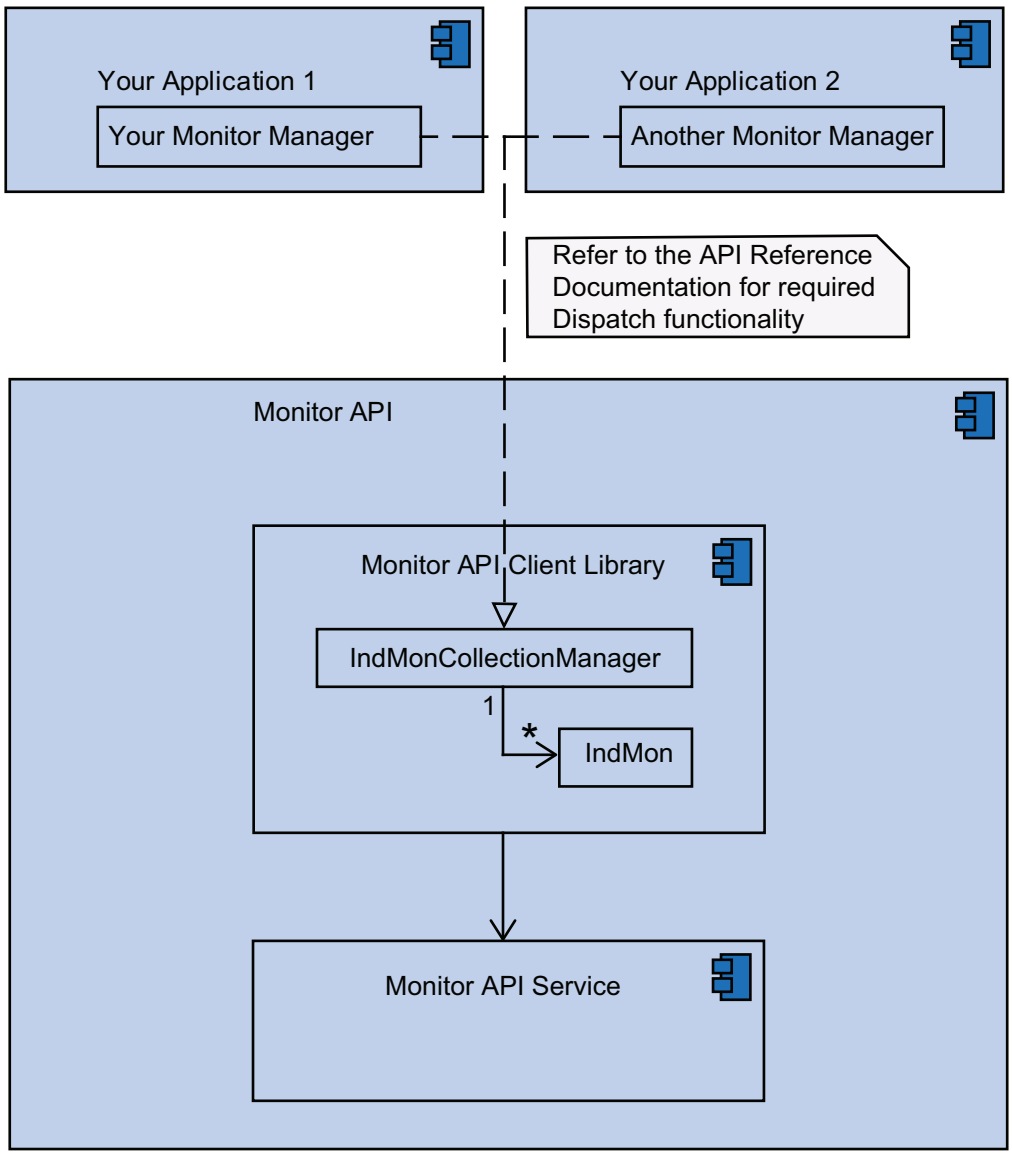
4-2 Industrial Monitor API Functions

This section describes the Industrial Monitor API functions.
The Industrial Monitor API functions allow programmers to create programs that can retrieve information or set an indicator status of the monitor.
The API makes use of the included OMRON Industrial Monitor Service to manage the hardware.

4-2-1 Industrial Monitor API Components

This section gives an overview of the components of the Industrial Monitor API.

Your applications instantiate a class that derives from 'IndMonCollectionManager'. This instance provides access to the collection of connected Industrial Monitors.

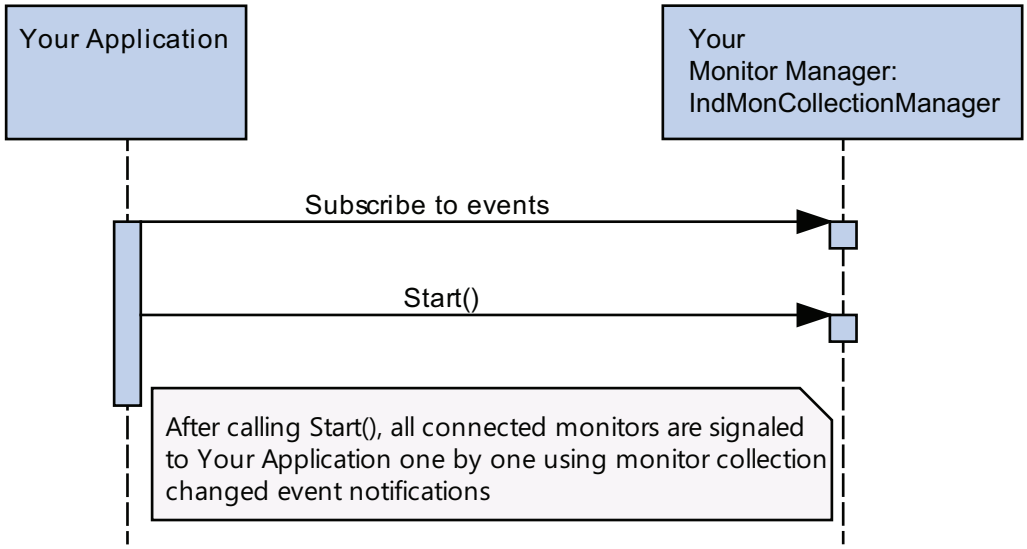


Additional Information

- Refer to *4-2-2 Initialization* on page 4-5 for initialization details.
- Refer to *4-2-7 Store Defaults* on page 4-10 for default details.
- Refer to *4-2-4 Property Changed Events* on page 4-7 for changed events details.
- Refer to *4-2-3 Collection Changed Events* on page 4-6 for (dis)connected monitors.
- Refer to *4-2-5 Change Brightness* on page 4-8 for brightness details.
- Refer to *4-2-6 Change Touch Input* on page 4-9 for touch input details.

4-2-2 Initialization

This section gives an overview of the initialization of the Industrial Monitor API.



Remarks:

- Subscribe to events to let IndMonCollectionManager know your application wants to receive Changed Event notifications.
- Call *Start()* to start receiving Changed Event notifications from IndMonCollectionManager. All connected monitors will initially send all properties to your application using Changed Event notifications.

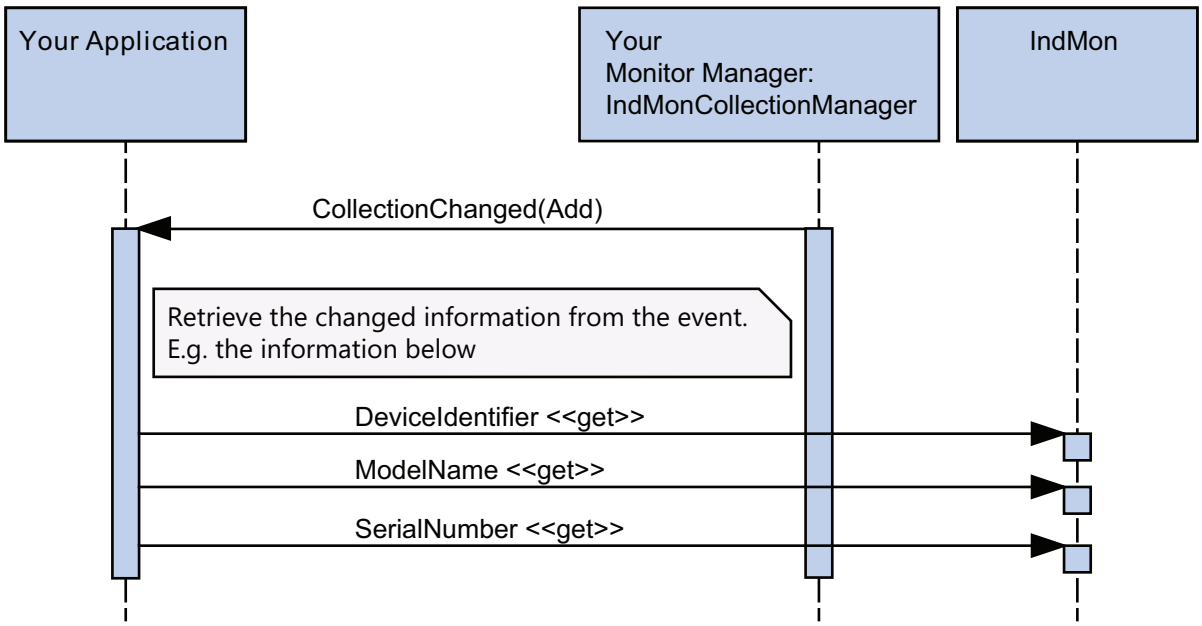
Additional Information

- Refer to *4-2-4 Property Changed Events* on page 4-7 for changed Events.
- Refer to *4-3 Industrial Monitor API Programming Support* on page 4-11 for API details.
- Refer to the Sample Applications for code examples.

4-2-3 Collection Changed Events

This section gives an overview of the events when a monitor is connected or disconnected.

Your application will use the Industrial Monitor API Client Library to interact with the Industrial Monitor API.



Remarks:

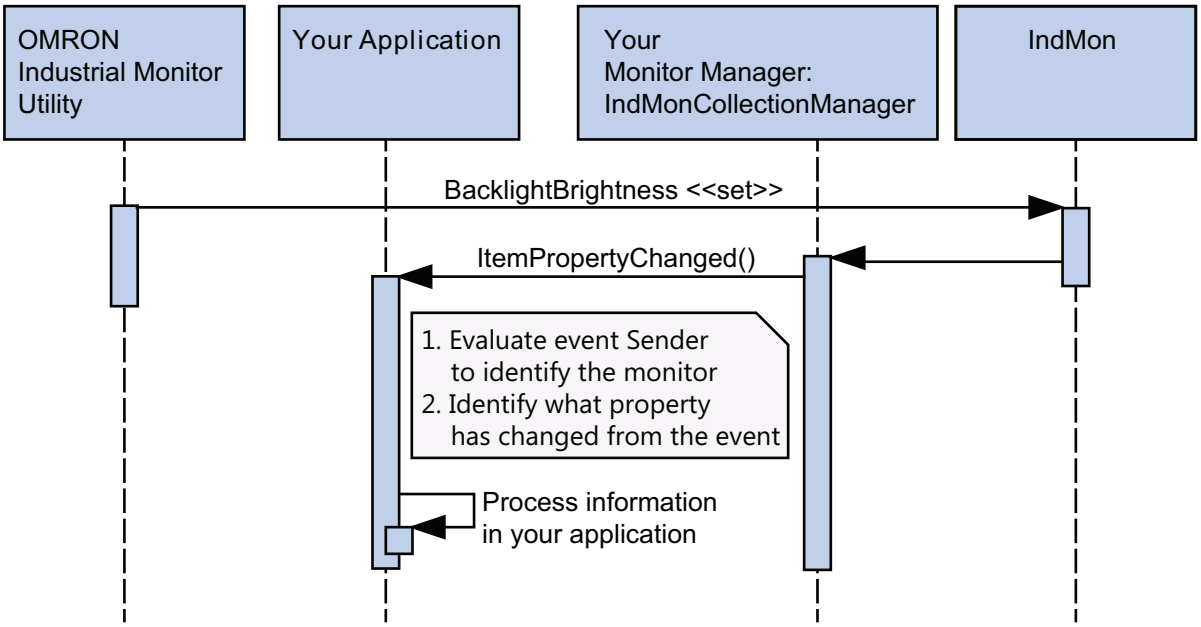
- The *CollectionChanged(Add)* event informs your application that the collection of connected monitors has changed.
- To change monitor settings from your application call the applicable methods.

Additional Information

- Refer to *4-2-5 Change Brightness* on page 4-8 and to *4-2-6 Change Touch Input* on page 4-9 for monitor setting changes.
- Refer to *4-3 Industrial Monitor API Programming Support* on page 4-11 for API details.
- Refer to the Sample Applications for code examples.

4-2-4 Property Changed Events

This section gives an overview and an example of the property Changed Events.



Remarks:

- With the Industrial Monitor Brightness Utility or Industrial Monitor Utility users can change monitor settings.
- When a property is changed the IndMonCollectionManager will be informed and send an *ItemPropertyChanged()* to your application.
- Your application can use the received information to identify the applicable monitor and the changed property.
- When 'Your Application' changes a property then all subscribed applications will be informed with *ItemPropertyChanged()*.

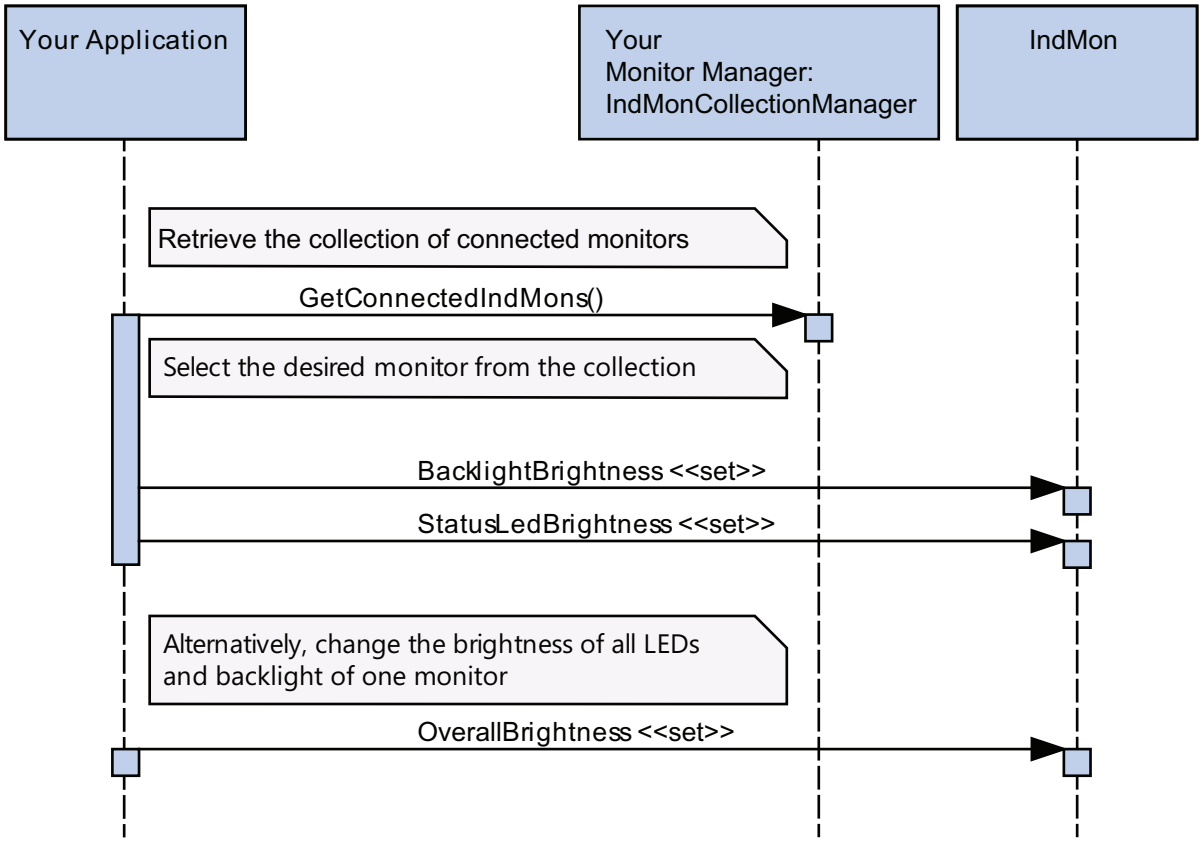
Additional Information

- Refer to *4-3 Industrial Monitor API Programming Support* on page 4-11 for API details.
- Refer to the Sample Applications for code examples.

4-2-5 Change Brightness

This section gives an overview of the sequence to change brightness.

The created customer's application is shown in the image below as 'Your Application'.



Remarks:

- *Overall brightness* <<*set*>> will change the properties of all LEDs and the backlight.
- When a property is changed the IndMonCollectionManager will be informed and send an *ItemPropertyChanged()* to your (subscribed) application.

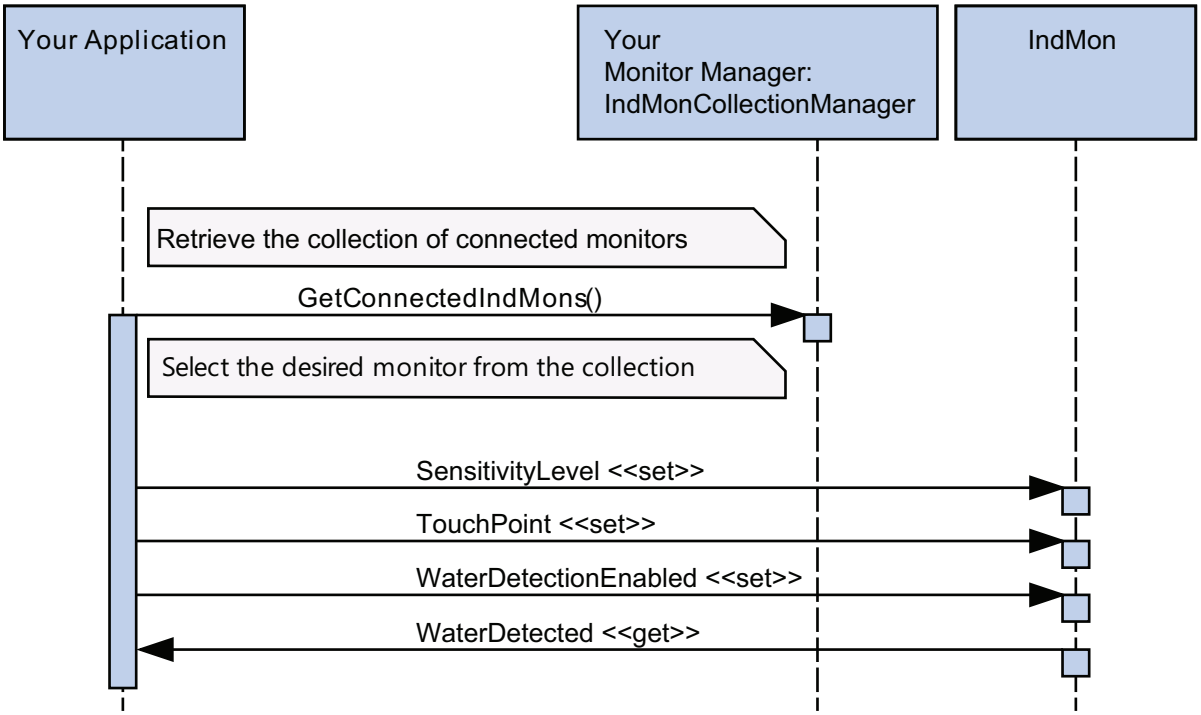
Additional Information

- Refer to *4-3 Industrial Monitor API Programming Support* on page 4-11 for API details.
- Refer to the Sample Applications for code examples.

4-2-6 Change Touch Input

This section gives an overview of the sequence to change Touch Input settings.

The created customer's application is shown in the image below as 'Your Application'.



Remarks:

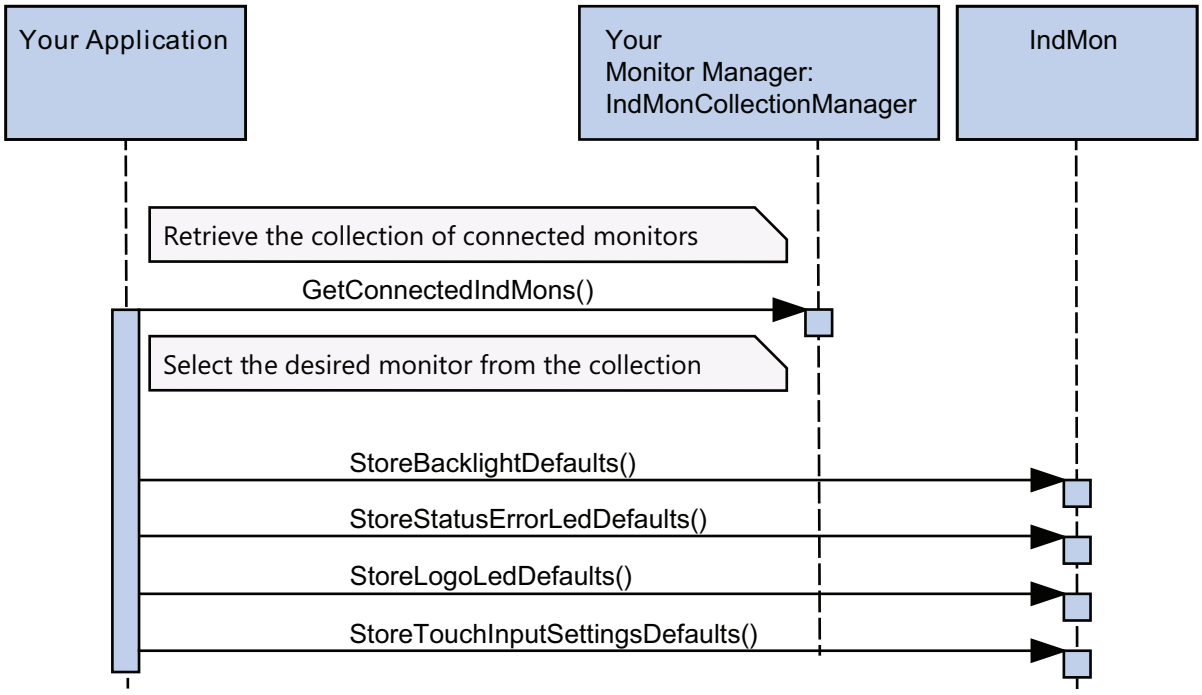
- *SensitivityLevel<<set>>* will change the sensitivity of the touch input device.
- *TouchPoint<<set>>* will set the monitor to singe-touch or multi-touch.
- *WaterDetectionEnabled<<set>>* will set the waterdetection to enabled or disabled.
  When enabled then WaterDetected<<get>> can get the status.
- *WaterDetected<<get>>* will get the status of water on the display surface when *WaterDetectionEnabled<<set>>* is enabled.
- When a property is changed the IndMonCollectionManager will be informed and send an *ItemPropertyChanged()* to your (subscribed) application.

Additional Information

- Refer to *4-3 Industrial Monitor API Programming Support* on page 4-11 for API details.
- Refer to the Sample Applications for code examples.

4-2-7 Store Defaults

This section gives an overview of the sequence to store the current monitor setting properties as default values.



Additional Information

- Refer to *4-3 Industrial Monitor API Programming Support* on page 4-11 for API details
- Refer to the Sample Applications for code examples.

4-3 Industrial Monitor API Programming Support

This section describes the programming support available in the Industrial Monitor API.
Detailed programming support for the Industrial Monitor API is only available when the Industrial Monitor SDK is installed.
If installed then the help information for this Industrial Monitor API is available in HTML format with **Start** Menu item **OMRON\Industrial PC\SDK\Monitor API Documentation**.

5

Installation

This section provides all installation details for the Software Development Kit.

5-1 SDK Installation

This section gives the procedure to install the SDK in a functional development environment.
This environment can be on an Industrial PC Platform product or on a developers PC.

1 Download the SDK from the Omron website.

2 Install the SDK.
Follow the steps of the installation procedure.
The installer will create following directory structure in **C:\Program Files(x86)**:
- **OMRON\Industrial PC\SDK\Ipc System SDK\API**
- **OMRON\Industrial PC\SDK\Ipc System SDK\API Documentation**
- **OMRON\Industrial PC\SDK\Ipc System SDK\Examples**
- **OMRON\Industrial PC\SDK\Ipc System SDK\Merge Module**
- **OMRON\Industrial PC\SDK\Monitor SDK\API**
- **OMRON\Industrial PC\SDK\Monitor SDK\API Documentation**
- **OMRON\Industrial PC\SDK\Monitor SDK\Examples**
- **OMRON\Industrial PC\SDK\Monitor SDK\Merge Module**
- **OMRON\Industrial PC\SDK\SDK Manual**

The installer will create following **Start** Menu entries for all users:
- **OMRON\Industrial PC\SDK\Monitor API Documentation**
- **OMRON\Industrial PC\SDK\Monitor SDK Examples**
- **OMRON\Industrial PC\SDK\SDK Manual**
- **OMRON\Industrial PC\SDK\System API Documentation**
- **OMRON\Industrial PC\SDK\System SDK Examples**

3 Install Microsoft Visual Studio.

Additional Information

- Use the Windows **Uninstall a program** to uninstall the SDK.
  Manually delete the Example files if these should also be removed.
- Refer to *Section 3 Industrial PC System API* on page 3-1 for Industrial PC System API details.
- Refer to *Section 4 Industrial Monitor API* on page 4-1 for Industrial Monitor API details.

6

Operating Procedures

This section provides the operating procedures for the Software Development Kit.

6-1 Use an API in Visual Studio

This section describes the operating procedure for an API in a custom application.

1. Ensure the development environment and the SDKs are installed.
   Refer to *Section 5 Installation* on page 5-1 for installation details.
2. Create a C# application in Visual Studio or VS Code.
3. Reference the unzipped SDK.
4. Call a method or a property of the API when required.

6-2 Use an API in a PowerShell script

This section describes the operating procedure for an API using a PowerShell script.

1 Ensure the SDKs are installed.
Refer to *Section 5 Installation* on page 5-1 for installation details.

2 Create a PowerShell script that references an API.
Refer to the SDK help information for example files.

3 Create a batch file (*.bat) that activates the PowerShell script (*.ps1).
Call a method or a property of the API when required.

4 Run the batch file.

Additional Information

- Refer to *Section 3 Industrial PC System API* on page 3-1 for Industrial PC System API details.
- Refer to *Section 4 Industrial Monitor API* on page 4-1 for Industrial Monitor API details.
- Use the merge module if you want to create an installer for your application that includes all required software parts.
  Refer to *6-3 Distribute Your Application* on page 6-4 for merge module details.

6-3 Distribute Your Application

This section provides the details to distribute your application with the required software parts.
A merge module makes it possible to create an installer for your application that contains all required software parts.
Following merge modules are available:

- Industrial PC System API Merge Module
- Industrial Monitor API Merge Module

Additional Information

- Refer to *6-3-1 Use the Industrial PC System API Merge Module* on page 6-4 for Industrial PC System API Merge Module details.
- Refer to *6-3-2 Use the Industrial Monitor API Merge Module* on page 6-5 for Industrial Monitor API Merge Module details.

6-3-1 Use the Industrial PC System API Merge Module

This section describes the operating procedure for the Industrial PC System API Merge Module.

To use the Industrial PC System API Merge Module:

1. Add the Merge Module to InstallShield's merge module folder
2. Add the Merge Module to the stand-alone installer project
3. Install the 'Congatec' API
   The 'Congatec' API is part of the SDK download.
4. Ensure compatibility between the IPC Firmware and the API
5. Start the API Service

Additional Information

- Refer to *5-1 SDK Installation* on page 5-2 for the location of the Industrial PC System API Merge Module and related documentation.
- Ensure the 'Congatec' API is also installed on the target system.

6-3-2 Use the Industrial Monitor API Merge Module

This section describes the operating procedure for the Industrial Monitor API Merge Module.

To use the Industrial Monitor API Merge Module:

1. Add the Merge Module to InstallShield's merge module folder
2. Add the Merge Module to the stand-alone installer project

Additional Information

Refer to *5-1 SDK Installation* on page 5-2 for the location of the Industrial Monitor API Merge Module and related documentation.

6-3-3 Distribute your PowerShell script

This section describes the operating procedure to distribute a PowerShell script that references an API.

To use the PowerShell script on another PC:

1. Ensure the SDK is installed on the target PC
2. Copy the PowerShell script files to the target PC
3. If applicable, copy batch files that activate a PowerShell script to the target PC

The PowerShell script files and batch files are distributed.

Additional Information

Refer to *5-1 SDK Installation* on page 5-2 for installation details.

6-4 Troubleshooting

This section describes what to do when your software shows unexpected behavior.

1. Check your code using your software development environment.
2. Use a programming example that is available in the SDK.
   Refer to the SDK help information for example files.

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