

HOKUYO URG04LX Provider

Version 1.0.0

User's guide

September 30, 2013

[Remarks]

[Revision History]

Version	Date	Contents
1.0.0	2013-9-30	First edition

[Supported devices]

Model	Version	Description

Contents

1. Introduction.....	4
2. Overview of URG04LX provider	5
2.1. Overview	5
2.2. Method and Property.....	6
2.2.1. CaoWorkspace::AddController method	6
2.2.1.1. Conn option.....	6
2.2.2. CaoController::Execute method	7
3. Command reference.....	8
3.1.1.1. CaoController::Execute("GetVersionInfo") command.....	8
3.1.1.2. CaoController::Execute("SetSensorState") command	8
3.1.1.3. CaoController::Execute("SetConnSettings") command	9
3.1.1.4. CaoController::Execute("GetSensorValue") command	9

1. Introduction

This document is a user's guide of CAO provider of HOKUYO URG-04LX.

CAO provider (CaoProvURG04LX.dll) described in this document is called URG04LX provider.

The next chapter shows the overview of URG04LX provider, and Chapter 3 shows the command reference.

2. Overview of URG04LX provider

2.1. Overview

URG04LX provider is a CAO provider that absorbs the URG-04LX-dependent processing and provides CAO provider interface specification based functions.

The file format is DLL (Dynamic Link Library) and it is dynamically uploaded from CAO engine when it is used. To use URG04LX provider, you need to install ORiN2SDK, or, complete registration manually based on the information on Table 2-1

Table 2-1 URG04LX provider

File name	CaoProvURG04LX.dll
ProgID	CaoProv.HOKUYO.URG04LX
Registry registration	regsvr32 CaoProvURG04LX.dll
Delete registry registration	regsvr32 /u CaoProvURG04LX.dll

2.2.2. CaoController::Execute method

Execute a command.

To specify arguments for Execute method, use BSTR typr for Command and VARIANT array for Parameter.

Syntax [<vntRet:VARIANT> =] Execute(<bstrCmd:BSTR > [,<vntParam:VARIANT>])

bstrCmd	:	[in]	Command
vntParam	:	[in]	Parameter
vntRet		[out]	Return value

For about necessary parameters for command execution and acquisition results, see Chapter 3.

3. Command reference

Table 3-1 Command list of CaoController::Execute method

Category	Command name	Description	
SCIP1.1			
	GetVersionInfo	Acquire version information	p. 8
	SetSensorState	Control the laser emission	p. 8
SCIP2.0			
Others			
	SetConnSettings	Change the communication setting	p. 9
	GetSensorValue	Acquire the distance data	p. 9

3.1.1.1. CaoController::Execute("GetVersionInfo") command

Acquire version information

Syntax GetVersionInfo ()

Argument : None

Return value : Version information (VT_BSTR|VT_ARRAY:6 elements)

[0]: Vendor information

[1]: Product information

[2]: Firmware version

[3]: Protocol version

[4]: Sensor-specific serial number

[5]: Status

Example

```
caoCtrl.Execute "GetVersionInfo" ' Acquire version information
```

3.1.1.2. CaoController::Execute("SetSensorState") command

Turn ON/OFF the laser emission

Syntax SetSensorState (<lState>)

lState : [in] Control code (VT_I4)

Return value : 0: ON
 1: OFF
 : Status(VT_I4)
 0: Normal
 1: Invalid number is entered in "Control code".
 2: Laser control is not available due to failure

Example

```
caoCtrl.Execute "SetSensorState", 0 ' Turn ON the laser emission
```

3.1.1.3. CaoController::Execute("SetConnSettings") command

Change the communication setting.

Syntax SetConnSettings (<IBaudRate>)

IBaudRate : [in] Baud rate (VT_I4)
 19200, 38400, 57600, 115200, 250000, 500000, 750000
 Return value : Status (VT_I4)
 0: Normal
 1: Non-numeric value is entered in Baud rate.
 2: The number entered in "Baud rate" is invalid.

Example

```
caoCtrl.Execute "SetConnSettings", 38400 'Set the baud rate to 38.4kbps
```

3.1.1.4. CaoController::Execute("GetSensorValue") command

Acquire the distance data.

Syntax GetSensorValue (<IStart>, <IEnd>[, <IStep>])

IStart : [in] Start direction (VT_I4)
 IEnd : [in] Stop direction (VT_I4)
 IStep : [in] Step count in one scanning (VT_I4)
 This should be 0 when it is omitted.
 Return value : Status (VT_I4) or distance data (VT_I4|VT_ARRAY)

Status(VT_I4)

- 1: Non-numeric values are entered in "Start direction".
- 2: Non-numeric values are entered in "Stop direction".
- 3: Non-numeric values are entered in "Step count in one scanning".
- 4: The number entered in "Start direction" is larger than the maximum range.
- 5: The number entered in "Stop direction" is equal to or smaller than that of "Start direction"
- 6: Laser is turned off by laser-OFF command execution
- 7: Laser is off due to laser failure 1
- 8: Laser is off due to laser failure 2
- 9: Hardware failure, such as, motor abnormal state

Distance data (VT_I4|VT_ARRAY)

Example

```
caoCtrl.Execute "GetSensorValue", ( 0, 768 )
```

```
' Acquire the distance data
```
