OPTEX FA CO., Ltd.
OPPD provider

Version 1.0.0

User's guide

January 31, 2022

Remarks:

This document is translated from Japanese into English by the machine translation.

【 revision history 】

Version	Date	Content
1.0.0	2017-04-25	First edition.
	2022-01-31	Corrected the errors of the usage example. WriteDeviceLock, ResetLightingSequence,ReadEmissionTimeUnit

【 hardware 】

Model	Version	Notes
OPPD 30E	-	

Contents

1. Introduction

This book is an user's guide of the ORiN provider (OPTEX-FA OPPD provider) for LED Lighting controller (OPPD 30E) for Ethernet made of OPTEX FA CO,. Ltd.

This book explains the function of this OPTEX-FA OPPD provider and the mounting method.

2. Outline of provider

2.1. Outline

The OPTEX-FA OPPD provider acquires data by using the Telnet communication from the device. The file format of this provider is DLL(Dynamic Link Library), Table2.1 shows the details.

Table2.1OPTEX-FA OPPD provider

File name	CaoProvOPTEX-FAOPPD.dll
ProgID	CaoProv. OPTEX-FA. OPPD
Registry registration	regsvr32 CaoProvOPTEX-FAOPPD.dll
Blotting out of registry registration	regsvr32 /u CaoProvOPTEX-FAOPPD.dll

2.2. Method property

2.2.1. CaoWorkspace::AddController method

When the Controller object is generated, a necessary option is specified.

The specification of AddController is shown as follows.

Format

AddController
(
        "< controller name >",   // Controller name (arbitrariness)
        "CaoProv.OPTEX-FA.OPPD",   // Provider name (fixation)
        "< machine name >",   // Provider execution machine name (unused)
        "< option >"   // Optional character string
)

The character string specified for an optional character string is shown as follows.

Table2.2Optional character string of CaoWorkspace::AddController

Option	Indispensability	Explanation	Range of value	Default value
CONN=< optional connection >*1	✓	Parameter in communication tools is specified. About the specification method, please refer 2.2.1.1.	-----	-----
Response standby time of TIMEOUT=< >	-	The response standby time is specified (ms). It becomes a default value when it is not specified or a specified value is outside the range.	0 - 65535	500

*1 Either ETH optional connection or TCP optional connection can be specified about optional CONN.

 CONN=ETH:192.168.10.1

2.2.1.1. Conn is optional.

 Connected parameter character string of optional Conn is shown as follows. It is shown to omit it here in the brace) and the underlined part under the explanation of each parameter shows the default value when the option is not specified respectively.

   The line shows the default value in case of Ethernet.
    "Conn=ETH:<IP>[:<Port>[:<Local IP>:<Local Port>]]]"
      <IP>   : Connection destination Internet Protocol address.
      <Port>   : Connection destination port. (61440)
      <Local IP>   : Local Internet Protocol address.
      <Loacal Port>   : Local port.

2.2.2. CaoController::AddVariable method

 The CaoVariable object is generated from CaoController. To the variable identifierTable2.4It drinks and only the variable name can be used.

 The specification of AddVariable is shown as follows.

Format

   AddVariable
   (
        "< variable identifier >",   // Variable identifier
        ""   // Optional character string
)

2.2.3. CaoController::get_VariableNames method

Table2.4It drinks and the variable name list is acquired.

2.2.4. CaoController::Execute method

The data of the device can acquisition/be set by using the Execute method.

Please refer to Capter2.3 for details.

Format

```
Execute
(
        <bstrCommand:BSTR>          // In command name
        [,<vntParam:VARIANT>]       // In parameter
        [,<pVal:VARIANT>]])         // In execution result
)
```

2.2.5. CaoVariable::get_Value method

Data is acquired from the device according to the specified variable identifier.

Please refer to Chapter Table2.4 for details.

2.2.6. CaoVariable::put_Value method

Data is set to the device according to the specified variable identifier.

Please refer to Chapter Table2.4 for details.

2.3. Execute command list

Show the command list that can be used in the controller class in Table2.3.

Table2.3 Execute command list

Command name	Explanation	Details
WriteOnOffForced	The lamp is lit or is compulsorily turned off. The setting etc. are disregarded.	WriteOnOffForced
Light	The lamp that has selected the specified lighting control input is lit according to the lighting value by a present sequence number.	Light
WriteDeviceLock	It is written whether the device accepts the operation with the switch.	WriteDeviceLock
ResetLightingSequence	An internal state of the lighting control sequence is reset.	ResetLightingSequence
WriteCommonConfiguration	A common setting to lamp 1 and lamp 2 is written. A common setting (lighting control sequence frequency at the PWM frequency and the time of the lighting control input filter) to lamp 1 and lamp 2 is written.	WriteCommonConfiguration
ReadCommonConfiguration	A common setting to lamp 1 and lamp 2 is read.	ReadCommonConfiguration
WriteLightingDelayTime	The lighting delay time of each lamp is written.	WriteLightingDelayTime
ReadLightingDelayTime	The lighting delay time of each lamp is read.	ReadLightingDelayTime
WriteEmissionTimeUnit	The unit of each lamp of the luminescence width is written.	WriteEmissionTimeUnit
ReadEmissionTimeUnit	The unit of each lamp of the luminescence width is read.	ReadEmissionTimeUnit
WriteMonitorAlarmThreshold	The threshold of the monitor brightness alarm of each lamp is written.	WriteMonitorAlarmThreshold
ReadMonitorAlarmThreshold	The threshold of the monitor brightness alarm of each lamp is read.	ReadMonitorAlarmThreshold
WriteFeedbackSetting	The setting of the address feedback on each lamp is written.	WriteFeedbackSetting
ReadFeedbackSetting	The setting of the address feedback on each lamp is read.	ReadFeedbackSetting
WriteLightingValueSetting	The lighting value of each sequence is set ([totonohikaatai] and width of the issue).	WriteLightingValueSetting
ReadLightingValueSetting	The setting of the lighting value of each sequence is read.	ReadLightingValueSetting

WriteLightingControlInput	The lighting control input of each sequence is set.	WriteLightingControlInput
ReadLightingControlInput	The setting of the lighting control input of each sequence is read.	ReadLightingControlInput
ReadCurrentData	The value (monitor value and brightness and absolute interior temperature) of each lamp is read now.	ReadCurrentData
ReadCorrectionDimmingValue	[Totonohikaatai] after it corrects it by simple feedback is read.	ReadCorrectionDimmingValue
GetTimeout	The set timeout period is acquired.	-----
SetTimeout	The timeout period is set.	-----

WriteOnOffForced

The command that compulsorily lights or turns off the lamp. The setting etc. are disregarded.

Item	Type explanation		Remarks
vntParam	VT_ARRAY | VT_I2		When the writing preservation flag is not specified, it is possible to specify it even by the VT_I2 type.
	0	Turning off/point light of the lamp is specified. 　0: Turning off 　1: Lighting	
	1	Writing preservation flag 　0: The writing value is not preserved (default). 　1: The writing value is preserved.	
pVal	None		

Usage example

CaoController.Execute("WriteOnOffForced", Array(1,0))

Light

It is a command to which the lamp that has selected the specified lighting control input is lit according to the lighting value by a present sequence number.

One sequence number of the lamp specified that this method is executed advances.

Please execute the WriteLightingControlInput command to change the lighting control input selection of the lamp and execute the WriteLightingValueSetting command when you change the lighting value of the lamp.

Item	Type explanation

vntParam	VT_UI2	The lit lamp number is specified.
		1: Lamp 1
		2: Lamp 2
pVal	None	

Usage example

CaoController.Execute("Light", 1)

WriteDeviceLock

It is a command in which it is written whether the device accepts the operation with the switch.

Item	Type explanation		Remarks
vntParam	VT_ARRAY | VT_I2		When the writing preservation flag is not specified, it is possible to specify it even by the VT_I2 type.
	0	Turning off/point light of the lamp is specified. 　0: 　1: Lighting	
	1	Writing preservation flag 　0: The writing value is not preserved (default). 　1: The writing value is preserved.	
pVal	None		

Usage example

CaoController.Execute("WriteDeviceLock", 1)

ResetLightingSequence

It is a command to reset an internal state of the lighting control sequence.

Item	Type explanation
vntParam	None
pVal	None

Usage example

CaoController.Execute("ResetLightingSequence")

WriteCommonConfiguration

A common setting to lamp 1 and lamp 2 is written. It is a command in which a common setting (lighting control sequence frequency at the PWM frequency and the time of the lighting control input filter) to lamp 1 and lamp 2 is written.

Item	Type explanation				Remarks
vntParam	VT_ARRAY | VT_VARIANT				
	0	VT_ARRAY | VT_I2			
		0.0	VT_I2	The PWM frequency is specified. 0: 50 kHz 1: 100 kHz 2: 99 kHz 3: 98 kHz 4: 97 kHz	
		0.1	VT_I2	The time of the lighting control input filter is specified. 0: 1 μ s 1: 6 μ s 2: 25 μ s 3: 100 μ s	
		0.2	VT_I2	The lighting control sequence frequency is specified. 0: Once 1: Twice 2: Three times 3: Four times	
	1	VT_I2		Writing preservation flag 0: The writing value is not preserved (default). 1: The writing value is preserved.	The writing preservation flag can be omitted.
pVal	None				

Usage example

CaoController.Execute("WriteCommonConfiguration", Array(0,0,3))

ReadCommonConfiguration

It is a command that reads a common setting (lighting control sequence frequency at the PWM frequency and the time of the lighting control input filter) to lamp 1 and lamp 2.

Item	Type explanation			
vntParam	None			
pVal	VT_ARRAY | VT_VARIANT			
	0	VT_ARRAY | VT_I2		
		0.0	VT_I2	The PWM frequency is specified. 0: 50 kHz 1: 100 kHz 2: 99 kHz 3: 98 kHz 4: 97 kHz
		0.1	VT_I2	The time of the lighting control input filter is specified. 0: 1 μs 1: 6 μs 2: 25 μs 3: 100 μs
		0.2	VT_I2	The lighting control sequence frequency is specified. 0: Once 1: Twice 2: Three times 3: Four times

Usage example

CaoController.Execute("ReadCommonConfiguration")

WriteLightingDelayTime

It is a command in which the lighting delay time of each lamp is written. Please set the lamp number and the set value to be set and set the value.

Item	Type explanation					Remarks
vntParam	VT_ARRAY | VT_VARIANT					The range of i is 0 - It is one.
	0	VT_ARRAY | VT_VARIANT				The part that exceeded the range is disregarded.
		0.i	VT_ARRAY | VT_I2			
			0.i.0	VT_I2	A set lamp is specified. 　1: Lamp 1 　2: Lamp 2	
			0.i.1	VT_I2	The lighting delay time is specified. The unit is 0. It becomes a unit specified with i.2. 　0 ~ 999	
			0.i.2	VT_I2	It specifies it every lighting delay time. 　0: 10 μs 　1: 1 ms	
		1	VT_I2		Writing preservation flag 　0: The writing value is not preserved (default). 　1: The writing value is preserved.	The writing preservation flag can be omitted.
pVal	None					

CaoController.Execute("WriteLightingDelayTime", Array(Array(Array(1,0,0),Array(2,10,0))))

ReadLightingDelayTime

It is a command that reads the lighting delay time of each lamp. Please specify the lamp number to be read.

Item	Type explanation					Remarks
vntParam	VT_I2	The read lamp is specified. 1: Lamp 1 2: Lamp 2 3: All lamps				
pVal	VT_ARRAY | VT_VARIANT					The range of i is 0 - It is one.
	0	VT_ARRAY | VT_VARIANT				
		0.i	VT_ARRAY | VT_I2			
			0.i.0	VT_I2	Lamp (i+1) is acquired. 1: Lamp 1 2: Lamp 2	
			0.i.1	VT_I2	The lighting delay time is acquired. The unit is 0. It becomes a unit acquired with i.2. 0 ~ 999	
			0.i.2	VT_I2	It acquires it every lighting delay time. 0: 10 μs 1: 1 ms	

Usage example

CaoController.Execute("ReadLightingDelayTime", 3)

WriteEmissionTimeUnit

It is a command in which the unit of each lamp of the luminescence width is written. Please set the lamp number and the set value to be set and set the value.

Item	Type explanation					Remarks
vntParam	VT_ARRAY | VT_VARIANT					The range of i is 0 – It is one.
	0	VT_ARRAY | VT_VARIANT				The part that exceeded the range is disregarded.
		0.i	VT_ARRAY | VT_I2			
			0.i.0	VT_I2	A set lamp is specified. 1: Lamp 1 2: Lamp 2	
			0.i.1	VT_I2	The unit of the issue width is specified. 1: 10 μs 2: 1 ms	
	1	VT_I2			Writing preservation flag 0: The writing value is not preserved (default). 1: The writing value is preserved.	The writing preservation flag can be omitted.
pVal	None					

CaoController.Execute("WriteEmissionTimeUnit", Array(Array(Array(1,1),Array(2,1)), 0))

ReadEmissionTimeUnit

It is a command that reads the unit of each lamp of the luminescence width. Please specify the lamp number to be read.

Item	Type explanation					Remarks
vntParam	VT_I2	The read lamp is specified. 1: Lamp 1 2: Lamp 2 3: All lamps				
pVal	VT_ARRAY | VT_VARIANT					The range of i is 0 – It is one.
	0	VT_ARRAY | VT_VARIANT				
		0.i	VT_ARRAY | VT_I2			
			0.i.0	VT_I2	Lamp (i+1) is acquired. 1: Lamp 1 2: Lamp 2	
			0.i.1	VT_I2	The unit of the issue width is acquired. 1: 10 μs 2: 1 ms	

Usage example

CaoController.Execute("ReadEmissionTimeUnit", 3)

WriteMonitorAlarmThreshold

It is a command in which the threshold of the monitor brightness alarm of each lamp is written. Please set the lamp number and the set value to be set and set the value.

Item	Type explanation				Remarks
vntParam	VT_ARRAY | VT_VARIANT				The range of i is 0 - It is one.
	0	VT_ARRAY | VT_VARIANT			The part that exceeded the range is disregarded.
		0.i	VT_ARRAY | VT_I2		
			0.i.0	VT_I2	A set lamp is specified. 1: Lamp 1 2: Lamp 2	
			0.i.1	VT_I2	Lower bound value (%) is specified. Range of set value: 0 ～ 200	
			0.i.2	VT_I2	Upper bound value (%) is specified. Range of set value: 0 ～ 255	
	1	VT_I2			Writing preservation flag 0: The writing value is not preserved (default). 1: The writing value is preserved.	The writing preservation flag can be omitted.
pVal	None				

Usage example

CaoController.Execute("WriteMonitorAlarmThreshold",Array(Array(Array(1,50,100),Array(2,200,255)),0))

ReadMonitorAlarmThreshold

 It is a command that reads the threshold of the monitor brightness alarm of each lamp. Please specify the lamp number to be read.

Item	Type explanation				Remarks
vntParam	VT_I2	The read lamp is specified. 1: Lamp 1 2: Lamp 2 3: All lamps			
pVal	VT_ARRAY | VT_VARIANT				The range of i is 0 – It is one.
	0	VT_ARRAY | VT_VARIANT			
		0.i	VT_ARRAY | VT_I2		
			0.i.0	VT_I2	Lamp (i+1) is acquired. 1: Lamp 1 2: Lamp 2
			0.i.1	VT_I2	Lower bound value (%) is specified. Range of set value: 0 ~ 200
			0.i.2	VT_I2	Upper bound value (%) is specified. Range of set value: 0 ~ 255

Usage example

CaoController.Execute("ReadMonitorAlarmThreshold", 3)

WriteFeedbackSetting

It is a command in which the setting of the address feedback on each lamp is written. Please set the lamp number and the set value to be set and set the value.

Item	Type explanation					Remarks
vntParam	VT_ARRAY | VT_VARIANT					The range of i is 0 – It is one.
	0	VT_ARRAY | VT_VARIANT				The part that exceeded the range is disregarded.
		0.i	VT_ARRAY | VT_I2			
			0.i.0	VT_I2	A set lamp is specified. 1: Lamp 1 2: Lamp 2	
			0.i.1	VT_I2	The setting of the address feedback is specified. 0: OFF 1: ON 2: cPb(6V OFF)	
	1	VT_I2			Writing preservation flag 0: The writing value is not preserved (default). 1: The writing value is preserved.	The writing preservation flag can be omitted.
pVal	None					

Usage example

CaoController.Execute("WriteFeedbackSetting",Array(Array(Array(1,0),Array(2,1)),0))

ReadFeedbackSetting

It is a command that reads the setting of the address feedback on each lamp. Please specify the lamp number to be read.

Item	Type explanation				Remarks
vntParam	VT_I2	The read lamp is specified. 1: Lamp 1 2: Lamp 2 3: All lamps			
pVal	VT_ARRAY | VT_VARIANT				The range of i is 0 – It is one.
	0	VT_ARRAY | VT_VARIANT			
		0.i	VT_ARRAY | VT_I2		
			0.i.0	VT_I2	Lamp (i+1) is acquired. 1: Lamp 1 2: Lamp 2
			0.i.1	VT_I2	The setting of the address feedback is acquired. 0: OFF 1: ON 2: cPb(6V OFF)

CaoController.Execute("ReadFeedbackSetting", 3)

WriteLightingValueSetting

It is a command in which the setting of the lighting value of the lamp and each sequence is written. Please set the sequence number and the set value to be set and set the value.

Item	Type explanation					Remarks
vntParam	VT_ARRAY | VT_VARIANT					The range of i is 0 –
	0	VT_ARRAY | VT_VARIANT				The range of 1 and j is
		0.i	VT_ARRAY | VT_VARIANT			1 – It is four.
			0.i.0	VT_I2	A set lamp is specified. 1: Lamp 1 2: Lamp 2	The part that exceeded the range is disregarded.
			0.i.j	VT_ARRY | VT_I2		
				0.i.j.0	VT_I2 The set sequence number is specified. 1: Sequence 1 2: Sequence 2 3: Sequence 3 4: Sequence 4	
				0.i.j.1	VT_I2 [Totonohikaatai] is specified. Range of value: 0 ~ 999	
				0.i.j.2	VT_I2 The width of the issue is specified. Range of value: 0 ~ 999	
	1	VT_I2			Writing preservation flag 0: The writing value is not preserved (default). 1: The writing value is preserved.	The writing preservation flag can be omitted.
pVal	None					

Usage example

CaoController.Execute("WriteLightingValueSetting",Array(Array(Array(1,Array(1,300,10),Array(3,1,10)),

Array(2,Array(1,200,10),Array(4,50,10))),0))

ReadLightingValueSetting

It is a command in which the setting of the lighting value of the lamp and each sequence is written. Please set the sequence number and the set value to be set and set the value.

Item	Type explanation					Remarks
vntParam	VT_ARRAY | VT_I2					
	0	VT_I2	The lamp is specified. 1: Lamp 1 2: Lamp 2 3: All lamps			
	1	VT_I2	The sequence number is specified. 1: Sequence 1 2: Sequence 2 3: Sequence 3 4: Sequence 4 5: All sequence numbers			
pVal	VT_ARRAY | VT_VARIANT					The range of i is 0 –
	0	VT_ARRAY | VT_VARIANT				The range of 1 and j is
		0.i	VT_ARRAY | VT_VARIANT			1 – It is four.
			0.i.0	VT_I2	Lamp (i+1) is acquired.	The part that exceeded
			0.i.j	VT_ARRY | VT_I2		the range is
				0.i.j.0	VT_I2	Sequence number (j) is acquired.	disregarded.
				0.i.j.1	VT_I2	[Totonohikaatai] is acquired. Range of value: 0 ～ 999	
				0.i.j.2	VT_I2	The width of the issue is acquired. Range of value: 0 ～ 999	
pVal	None					

CaoController.Execute("ReadLightingValueSetting",Array(3,5))

WriteLightingControlInput

It is a command in which the setting of the lighting control input of each sequence is written. Please set the sequence number and the set value to be set and set the value.

Item	Type explanation					Remarks
vntParam	VT_ARRAY | VT_VARIANT					The range of i is 0 –
	0	VT_ARRAY | VT_VARIANT				The range of 1 and j is
		0.i	VT_ARRAY | VT_VARIANT			1 – It is four.
			0.i.0	VT_I2	A set lamp is specified. 1: Lamp 1 2: Lamp 2	The part that exceeded the range is disregarded.
			0.i.j	VT_ARRY | VT_I2		
				0.i.j.0	VT_I2	The set sequence number is specified. 1: Sequence 1 2: Sequence 2 3: Sequence 3 4: Sequence 4	
				0.i.j.1	VT_I2	The lighting control input is specified. 1: Lighting control input 1 2: Lighting control input 2	
	1	VT_I2			Writing preservation flag 0: The writing value is not preserved (default). 1: The writing value is preserved.	The writing preservation flag can be omitted.
pVal	None					

CaoController.Execute("WriteLightingControlInput",Array(Array(Array(1,Array(1,1),Array(3,2)),

Array(2,Array(1,2),Array(4,1))),0))

ReadLightingControlInput

It is a command in which the setting of the lighting control input of the lamp and each sequence is written. Please set the sequence number and the set value to be set and set the value.

Item	Type explanation						Remarks
vntParam	VT_ARRAY | VT_I2						
	0	VT_I2	The lamp is specified. 1: Lamp 1 2: Lamp 2 3: All lamps				
	1	VT_I2	The sequence number is specified. 1: Sequence 1 2: Sequence 2 3: Sequence 3 4: Sequence 4 5: All sequence numbers				
pVal	VT_ARRAY | VT_VARIANT						The range of i is 0 -
	0	VT_ARRAY | VT_VARIANT					The range of 1 and j is
		0.i	VT_ARRAY | VT_VARIANT				1 - It is four.
			0.i.0	VT_I2	Lamp (i+1) is acquired.		The part that exceeded
			0.i.j	VT_ARRY | VT_I2			the range is
				0.i.j.0	VT_I2	Sequence number (j) is acquired.	disregarded.
				0.i.j.1	VT_I2	The lighting control input is acquired. 1: Lighting control input 1 2: Lighting control input 2	
pVal	None						

Usage example

CaoController.Execute("ReadLightingControlInput",Array(3,5))

ReadCurrentData

It is a command that reads the value of each lamp now. Please specify the lamp number to be read.

Item	Type explanation					Remarks
vntParam	VT_I2	The read lamp is specified. 1: Lamp 1 2: Lamp 2 3: All lamps				
pVal	VT_ARRAY | VT_VARIANT					The range of i is 0 - It
	0	VT_ARRAY | VT_VARIANT				is one.
		0.i	VT_ARRAY | VT_I2			
			0.i.0	VT_I2	Lamp (i+1) is acquired.	
			0.i.1	VT_I2	The monitor value is acquired. Range of value: 0 ～ 4095	
			0.i.2	VT_I2	Brightness is absolutely acquired. Range of value: 0 ～ 4095	
			0.i.3	VT_I2	Interior temperature (℃) is acquired. Range of value: -100℃ ～ 155℃	

Usage example

CaoController.Execute("ReadCurrentData", 3)

ReadCorrectionDimmingValue

It is a command that reads [totonohikaatai] after it corrects it by simple feedback. Please specify the lamp number to be read.

Item	Type explanation					Remarks
vntParam	VT_I2		The read lamp is specified. 1: Lamp 1 2: Lamp 2 3: All lamps			
pVal	VT_ARRAY | VT_VARIANT					The range of i is 0 – It is one.
	0	VT_ARRAY | VT_VARIANT				
		0.i	VT_ARRAY | VT_I2			
			0.i.0	VT_I2	Lamp (i+1) is acquired.	
			0.i.3	VT_I2	Correction [totonohikaatai] is acquired. Range of value: 0 ~ 999	

CaoController.Execute("ReadCorrectionDimmingValue", 3)

GetTimeout

It is a command to acquire set timeout period (ms).

Item	Type explanation	
vntParam	None	
pVal	VT_UI2	Time-out value (ms) 0 ～

Usage example

CaoController.Execute("GetTimeout")

SetTimeout

It is a command that sets timeout period (ms).

Item	Type explanation	
vntParam	VT_UI2	Time-out value (ms) 0 ～
pVal	None	

Usage example

CaoController.Execute("SetTimeout", 500)

2.4. Variable list

Table2.4The variable list that can be used in [ni] controller class is described.

<div align="center">Table2.4Controller class variable list</div>

Variable identifier	Explanation	Type	Attribute	
			get	put
@MAKER_NAME	The manufacturer name is acquired.	VT_BSTR	−	−−
@VERSION	The device version is acquired.	VT_BSTR	−	−−
@STATUS	Status is acquired in the bit flag form. The meaning of each bit is as follows. (# shows the bit.) 　　#0: Internal circuit communication abnormality 　　#1: More than power supply temperature 　　#2: Failure 　　#3: 18V in the input voltage is abnormal. 　　#4: Internet Protocol address overlaps. 　　#5: DHCP error 　　#6: LAMP1 feedback error 　　#7: LAMP2 feedback error 　　#8: LAMP1 6V supply 　　#9: LAMP1 monitor brightness alarm 　　#10: LAMP1 overcurrent 　　#11: LAMP1 output stop 　　#12: LAMP2 6V supply 　　#13: LAMP2 monitor brightness alarm 　　#14: LAMP2 overcurrent 　　#15: LAMP2 output stop	VT_I4	−	−−

3. Sample program

An easy sample to acquire the state of status of the device is shown as follows.

Precondition:
・The address of the device is adjusted to 192.168.10.1.

List 3-1	Sample.frm

```
Dim eng As CaoEngine
Dim ctrl As CaoController
Dim var As CaoVariable
Private Sub Form_Load()
        Set eng = New CaoEngine
        ' make controller object.
        Set ctrl = eng.Workspaces(0).AddController(
                "",
                "CaoProv.OPTEX-FA.OPPD",
                "",
                "CONN=TCP:192.168.10.1")
        ' make controller variable object.
        Set var = ctrl.AddVariable("@STATUS", "")
End Sub


' Get value
Private Sub GetValue_Click()
        ' Get control variable value
        Dim value As Variant
        Set value = ctrl.Value
End Sub
```