

```

1 Imports System
2 Imports System.IO
3 Imports System.Windows.Forms
4 Imports Ivi.Visa.Interop 'VISA library namespace specification
5
6 ' Sample code for control of measuring instruments (power supply and load devices, etc.)
7 ' using KI-VISA
8 ' Copyright by Kikusui Electronics Corp. 2020
9 ' Code creation: SE Section 2, Yajima.
10
11 ' 2020.09.01 Ver1.00e English version(Ver1.01 based)
12
13 Public Class Form1
14
15     'Create resource manager object
16     Dim rm As IResourceManager3
17     Dim msg As IMessage
18
19     'Dialog box title
20     Dim sAppTitle = "KI-VISA Sample for VB.net"
21
22     'Main form
23     Public Sub New()
24         InitializeComponent()
25
26         'Specify form display position in screen center
27         Me.StartPosition = FormStartPosition.CenterScreen
28
29     End Sub
30
31     Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load
32
33         'Storage variable of VISA resource list found by FindResource
34         Dim foundResources() As String
35
36         'Initialize the Resource Manager
37         rm = New ResourceManager()
38
39         'Get the name of a VISA resource containing an INSTR available in FindResource
40         'For more information, please refer to KI-VISA Library VISA COM Guidebook 8 - Dynamically Setting
41         'VISA Addresses (starting on page 48).
42         Try
43             foundResources = rm.FindRsrc("?*INSTR")
44
45         Catch ex As Exception
46             MessageBox.Show _
47                 ("No available VISA resources found on the computer." _
48                 + vbCrLf + "Make sure your device is connected",
49                 sAppTitle, MessageBoxButtons.OK, MessageBoxIcon.Stop)
50             Exit Sub
51         End Try
52
53         'Add the acquired VISA resource name to the VISA Resource Name combo box.
54         cmb_Resources.DataSource = foundResources
55
56         'Add a setting command to the combo box.
57         'Commands not listed in the combo box can be entered manually at run time.
58         'If you edit the commands here, you can select any command from the pull-down menu.
59         'As a typical example, the following commands are available for the
60         'PMX18-5A (DC power supply 18V/5A model).
61         cmb_CommandString.Items.Add("SYST:REMOTE")
62         cmb_CommandString.Items.Add("SYST:LOCAL")
63         cmb_CommandString.Items.Add("*CLS")
64         cmb_CommandString.Items.Add("OUTP ON")
65         cmb_CommandString.Items.Add("OUTP OFF")
66         cmb_CommandString.Items.Add("VOLT 10")
67         cmb_CommandString.Items.Add("VOLT 1")
68         cmb_CommandString.Items.Add("CURR 1")
69         cmb_CommandString.Items.Add("CURR 0.1")
70         cmb_CommandString.SelectedIndex = 0 'Display the first command

```

```

72
73 ' Add a query command to the combo box
74 cmb_QueryString.Items.Add("*IDN?")
75 cmb_QueryString.Items.Add("*STB?")
76 cmb_QueryString.Items.Add("SYST:ERR?")
77 cmb_QueryString.Items.Add("OUTP?")
78 cmb_QueryString.Items.Add("VOLT?")
79 cmb_QueryString.Items.Add("CURR?")
80 cmb_QueryString.Items.Add("READ:VOLT?")
81 cmb_QueryString.Items.Add("READ:CURR?")
82 cmb_QueryString.SelectedIndex = 0 ' Show the first query command
83
84 ' Disable button before opening a VISA session.
85 btn_SendCommand.Enabled = False
86 btn_SendQuery.Enabled = False
87 btn_SerialPolling.Enabled = False
88
89 ' -----
90 ' [Caution] Searching for LAN Devices
91 ' Dynamic search may not be available for LAN devices.
92 ' In that case, you can use it by Finding with KI-VISA Instruments Explorer.
93 ' -----
94
95 End Sub
96 ' Open VISA session
97 Private Sub btn_Open_Click(sender As Object, e As EventArgs) Handles btn_Open.Click
98 ' For more information, see KI-VISA Library VISA COM Guidebook 6 – Opening VISA Sessions (starting
on page 35).
99 Dim gpib As IGpib
100 Dim seri As ISerial
101 Dim tcp As ITcpipInstr
102 Dim usb As IUsb
103
104 ' Open a VISA session with the resource name specified in the combo box
105 Try
106 msg = rm.Open(cmb_Resources.Text, AccessMode.NO_LOCK, 0, "") ' Support the change of timeout
specification in NI-VISA
107 MessageBox.Show("VISA session opened successfully!" + vbCrLf +
108 cmb_Resources.Text, sAppTitle, MessageBoxButtons.OK, MessageBoxIcon.Asterisk)
109
110 Catch ex As Exception
111 MessageBox.Show("VISA session opening failed." + vbCrLf +
112 cmb_Resources.Text, sAppTitle, MessageBoxButtons.OK, MessageBoxIcon.Stop)
113
114 Exit Sub
115
116 End Try
117
118 ' Configuration by Interface Type
119 ' Please refer to KI-VISA Library VISA COM Guidebook 7 – Basic IO (from page 39 onwards) for details.
120
121 msg.TerminationCharacter = 10
122 msg.TerminationCharacterEnabled = True ' When performing ReadString() on an IEEE 488.2 measuring
instrument,
123 ' "true" setting is recommended for correct terminating.
124 msg.SendEndEnabled = True
125
126 ' Configure interface type by HardwareInterfaceType
127 Select Case msg.HardwareInterfaceType
128 Case 1
129 ' GPIB
130 gpib = msg
131 gpib.RepeatAddressingEnabled = True
132 gpib.UnaddressingEnabled = False
133
134 ' Enable the serial polling button (since only GPIB and USB can be used)
135 btn_SerialPolling.Enabled = True
136
137 Case 4
138 ' ASRL (Serial port)
139 ' You can set the baud rate by changing the parameters here.
140 seri = msg
141 seri.BaudRate = 19200 ' baud rate 19200bps

```

Form1.vb

```
140         seri.DataBits = 8                                'Data Bits 8bit
141         seri.StopBits = SerialStopBits.ASRL_STOP_ONE     'Stop Bits 1bit
142         seri.Parity = SerialParity.ASRL_PAR_NONE         'No parity
143         seri.FlowControl = SerialFlowControl.ASRL_FLOW_NONE 'Without flow control
144
145         'Disabling the serial polling button
146         btn_SerialPolling.Enabled = False
147
148     Case 6
149         'LAN
150         '[Caution] Dynamic search may not be available for LAN devices.
151         'In that case, you can use it by Finding with KI-VISA Instruments Explorer.
152         tcp = msg
153
154         'Disabling the serial polling button
155         btn_SerialPolling.Enabled = False
156
157     Case 7
158         'USB
159         usb = msg
160
161         'Enable the serial polling button(since only GPIB and USB can be used)
162         btn_SerialPolling.Enabled = True
163
164     End Select
165
166     'Enable the button.
167     btn_SendCommand.Enabled = True
168     btn_SendQuery.Enabled = True
169
170 End Sub
171
172 'Sending commands
173 Private Sub btn_writeString_Click(ByVal sender As Object, ByVal e As EventArgs) Handles btn_SendCommand.
Click
174     Dim r As Integer
175
176     'Send the command selected by cmb_CommandString
177     r = msg.WriteString(cmb_CommandString.Text + vbCrLf) 'Add a delimiter after the command message
178
179
180     'If you want to write the command directly, you can also write it like this.
181     'r = msg.WriteString("VOLT 10" + vbCrLf)
182     'r = msg.WriteString("OUTP ON" + vbCrLf)
183
184 End Sub
185
186 'Example of sending query command and receiving result
187 Private Sub btn_SendQuery_Click(ByVal sender As Object, ByVal e As EventArgs) Handles btn_SendQuery.
Click
188     Dim r As Integer
189     Dim strret As String = ""
190
191     'query command transmission
192     r = msg.WriteString(cmb_QueryString.Text + vbCrLf) 'Add a delimiter after the command message
193
194
195     'Receive query results
196     Try
197         strret = msg.ReadString(1024) 'Buffer size 1024 bytes
198
199     Catch ex As Exception
200         MessageBox.Show("Failed to receive query message.",
201             sAppTitle, MessageBoxButtons.OK, MessageBoxIcon.Stop)
202     End Try
203
204     'Returns the value received by ReadString.
205     tb_Result.Text = strret
206 End Sub
207
208 'Example of serial polling the status byte register
209
```

Form1.vb

```
210 Private Sub btn_SerialPolling_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
    btn_SerialPolling.Click
211
212     Dim stb As Short
213
214     'Serial polling the status byte register.
215     'ReadSTB is only available for GPIB and USB interfaces.
216     'For other interfaces, the button are disabled. (because exception is occur)
217     stb = msg.ReadSTB()
218
219     'Write result data to text box
220     tb_Result.Text = stb.ToString()
221 End Sub
222
223 'Processing when the form was closed
224 Private Sub quitToolStripMenuItem_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
    QuitToolStripMenuItem.Click
225     'Close the VISA session
226     If Not msg Is Nothing Then
227         msg.Close()
228     End If
229     'Close the form
230     Me.Close()
231 End Sub
232
233 'Clear the Result text box
234 Private Sub btn_ClearResult_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
    btn_ClearResult.Click
235
236     'Clear the Result text box
237     tb_Result.Text = ""
238 End Sub
239
240 'AboutBox Version/Contact Information Display
241 Private Sub aboutToolStripMenuItem_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
    AboutToolStripMenuItem.Click
242
243     MessageBox.Show(
244         "Samplecode for KI-VISA for VB.net Ver1.00e" + vbCrLf +
245         "Copyright by Kikusui Electronics Corp. 2020" + vbCrLf + sAppTitle)
246
247 End Sub
248
249
250 End Class
```