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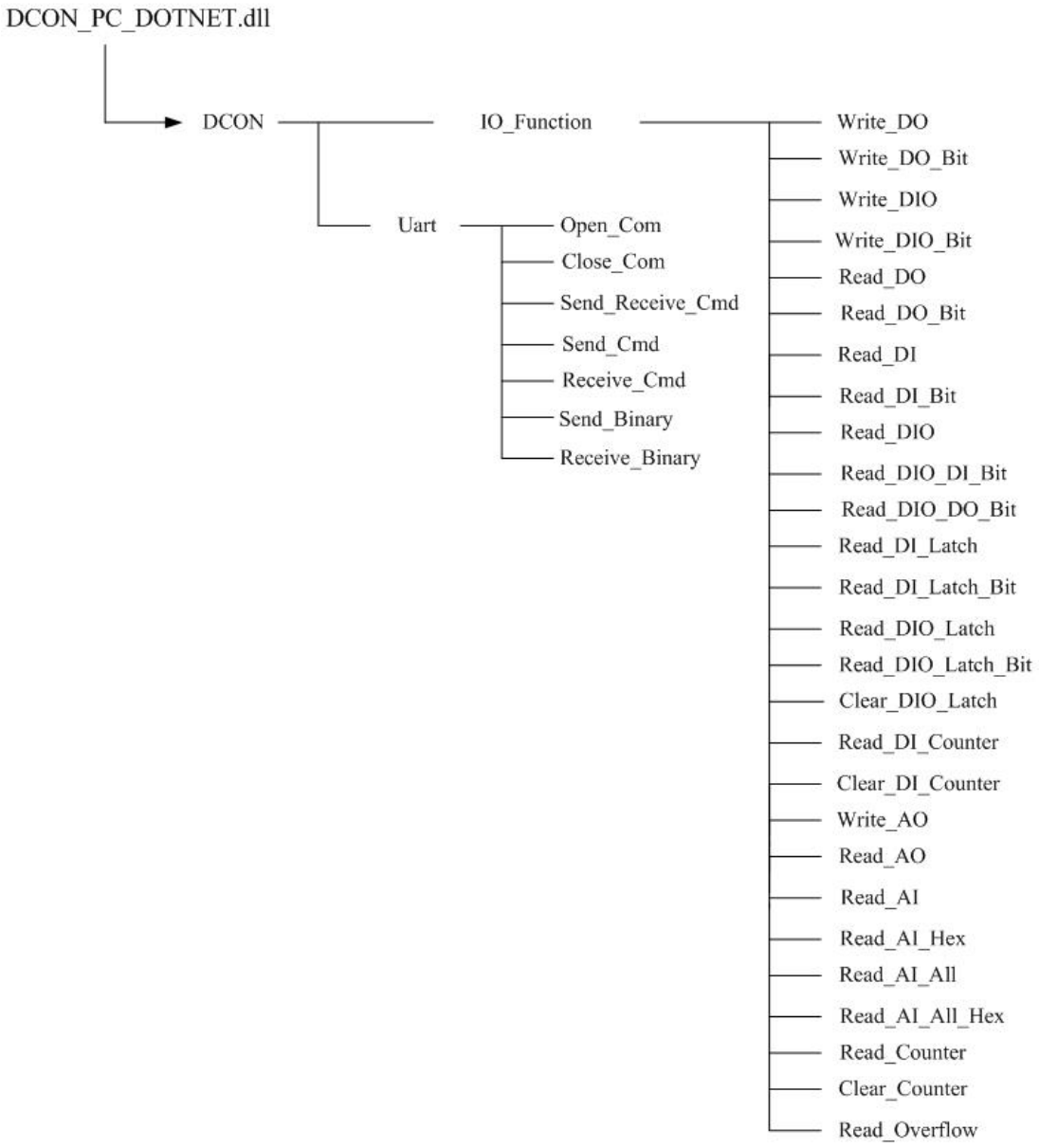
1. Introduction

The general Dcon function is a LIB or DLL functions designed for Minios7, Windows 95/98/2000/XP, or Wince and can use the same function interface on those platform.

1.1. Feature

	I7000.DLL	DCON_FUN
Support protocol	DCON protocol	DCON protocol
Method of communication	RS-232, RS-485	RS-232, RS-485
Support Module	DCON series modules	DCON series modules
Need Module ID?	Yes	No
Function Number	100~	20~
Support OS	Windows	Windows
Support Demo programs	VB5, Delphi, BCB3	VB6.0 VC++6.0 VB.net C#

2. Function Structure



3. Function List

Write_DO

Description:

Output the value of the digital output module.

Syntax:

Write_DO(byte cComPort,
short iAddress,
short iSlot,
short iDO_TotalCh,
uint lDO_Value,
short iCheckSum,
short iTimeOut);

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0x00 to 0xFF
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDO_TotalCh:	The total channel of DO module.
lDO_Value:	Digital output data
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms

Write_DO_Bit

Description:

Set the digital output value of the specific digital output channel No. of the digital output module. The output value is only for “0” or “1”.

Syntax:

Write_DO_Bit(byte cComPort,
short iAddress,
short iSlot,
short iChannel,
short iDO_TotalCh,
bool bBit,
short iCheckSum,
short iTimeOut)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The digital output channel No.
iDO_TotalCh:	The total channel of DO module.
bBit :	false: off true: on
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms

Write_DIO

Description:

Output the DO value of DIO module.

Syntax:

Write_DO(byte cComPort,
short iAddress,
short iSlot,
short iDO_TotalCh,
uint lDO_Value,
short iCheckSum,
short iTimeOut);

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0x00 to 0xFF
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDO_TotalCh:	The total channel of DO module.
lDO_Value:	Digital output data
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms

Write_DIO_Bit

Description:

Set the digital output value of the specific digital output channel No. of the digital output module. The output value is only for “0” or “1”.

Syntax:

Write_DO_Bit(byte cComPort,
short iAddress,
short iSlot,
short iChannel,
short iDO_TotalCh,
bool bBit,
short iCheckSum,
short iTimeOut)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The digital output channel No.
iDO_TotalCh:	The total channel of DO module.
bBit:	false: off true: on
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms

Read_DO

Description:

Obtain the DO value.

Syntax:

Read_DO(byte cComPort,
short iAddress,
short iSlot,
short iDO_TotalCh,
short iCheckSum,
short iTimeOut,
out uint lDO_Value)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDO_TotalCh:	The total channel of DO module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
lDO_Value:	Read Digital output data

Read_DO_Bit

Description:

Obtain the Single Channel state.

Syntax:

Read_DO_Bit(byte cComport,
short iAddress,
short iSlot,
short iChannel,
short iDO_TotalCh,
short iCheckSum,
short iTimeout,
out bool bDOCh_State)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel	Channel number
iDO_TotalCh:	The total channel of DO module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
bDOCh_State:	Read the single channel state of DO; false or true

Read_DI

Description:

Obtain the DI value.

Syntax:

Read_DI(byte cComPort,
short iAddress,
short iSlot,
short iDI_TotalCh,
short iCheckSum,
short iTimeOut,
Out uint lDI_Value)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDI_TotalCh:	The total channel of DI module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
iDI_Value:	Read Digital input data

Read_DI_Bit

Description:

Obtain the Single Channel state.

Syntax:

Read_DI_Bit(byte cComPort,
short iAddress,
short iSlot,
short iChannel,
short iDI_TotalCh,
short iCheckSum,
short iTimeOut,
out bool bDICh_State)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDI_TotalCh:	The total channel of DI module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
bDICh_State:	Read the single channel state of DI; false or true

Read_DIO

Description:

Obtain the DIO value.

Syntax:

Read_DIO(byte cComPort,
short iAddress,
short iSlot,
short iDI_TotalCh,
short iDO_TotalCh,
short iCheckSum,
short iTimeOut,
out uint lDI_Value,
out uint lDO_Value)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDI_TotalCh:	The total channel of DI module.
iDO_TotalCh:	The total channel of DO module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
lDI_Value:	Read Digital input data
lDO_Value:	Read Digital output data

Read_DIO_DI_Bit

Description:

Obtain the DI channel state of DIO module.

Syntax:

Read_DIO_DI_Bit(byte cComPort,
short iAddress,
short iSlot,
short iDI_Channel,
short iDI_TotalCh,
short iDO_TotalCh,
short iCheckSum,
short iTimeOut,
out bool bDICh_State)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDI_TotalCh:	The total channel of DI module.
iDO_TotalCh:	The total channel of DO module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
bDICh_State:	Read Digital input data; true or false

Read_DIO_DO_Bit

Description:

Obtain the DO channel state of DIO module.

Syntax:

Read_DIO_DO_Bit(byte cComPort,
short iAddress,
short iSlot,
short iDO_Channel,
short iDI_TotalCh,
short iDO_TotalCh,
short iCheckSum,
short iTimeOut,
out bool bDOCh_State)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDI_TotalCh:	The total channel of DI module.
iDO_TotalCh:	The total channel of DO module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
bDOCh_State:	Read Digital output data; true or false

READ_DI_Latch

Description:

Obtain the latch value of DI module

Syntax:

READ_DI_Latch(byte cComPort,
short iAddress,
short iSlot,
short iDI_TotalCh,
bool iLatchType,
short iCheckSum,
short iTimeOut,
out uint lDI_LatchValue)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDI_TotalCh:	The total channel of DI module.
iLatchType:	false: low latch mode true: high latch mode
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
lDI_Latch_Value:	Read Digital input latch

READ_DI_Latch_Bit

Description:

Obtain the single channel value of DI module.

Syntax:

READ_DI_Latch_Bit(byte cComPort,
short iAddress,
short iSlot,
short iDI_TotalCh,
short iLatchType,
short iCheckSum,
short iTimeOut,
out bool bDICh_State)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDI_TotalCh:	The total channel of DI module.
iLatchType:	false: low latch mode true: high latch mode
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
bDICh_State:	Read the DI state of single channel

READ_DIO_Latch

Description:

Obtain the latch value of DIO module.

Syntax:

DCON_READ_DIO_Latch(unsigned char cComPort,
short iAddress,
short iSlot,
short iDI_TotalCh,
short iDO_TotalCh,
short iLatchType,
short iCheckSum,
short iTimeOut,
out uint lDI_LatchValue,
out uint lDO_LatchValue)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDI_TotalCh:	The total channel of DI module.
iDO_TotalCh:	The total channel of DO module.
iLatchType:	false: low latch mode true: high latch mode
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
lDI_Latch_Value:	Read Digital input latch
lDO_Latch_Value:	Read Digital output latch

READ_DIO_Latch_Bit

Description:

Obtain the latch value of DIO module.

Syntax:

READ_DIO_Latch_Bit(unsigned char cComPort,
short iAddress,
short iSlot,
short iDI_TotalCh,
short iDO_TotalCh,
short iLatchType,
short iCheckSum,
short iTimeOut,
byte[] DI_LatchedBit,
byte[] DO_LatchedBit)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iDI_TotalCh:	The total channel of DI module.
iDO_TotalCh:	The total channel of DO module.
iLatchType:	0: low latch mode 1: high latch mode
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
cDI_Latch_BitValue:	Read DI state of single channel
cDO_Latch_BitValue:	Read DO state of single channel

Clear_DIO_Latch

Description:

The function can clear the latch status of DI, DO, DIO module when latch function has been enabled.

Syntax:

```
Clear_DIO_Latch(byte cComPort,
                short iAddress,
                short iSlot,
                short iCheckSum,
                short iTimeOut)
```

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms

Read_DI_Counter

Description:

Obtain the counter event value of the channel number of Digital input module.

Syntax:

Read_DI_Counter(unsigned char cComPort,
short iAddress,
short iSlot,
short iChannel,
short iDI_TotalCh,
short iCheckSum,
short iTimeOut,
out uint lCounter_Value)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The digital input Channel No.
iDI_TotalCh:	The total channel of DI module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
lCounter_Value:	Read counter value

Clear_DI_Counter

Description:

Clear the counter value of the channel number of Digital input module.

Syntax:

Clear_DI_Counter(unsigned char cComPort,
short iAddress,
short iSlot,
short iChannel,
short iDI_TotalCh,
short iCheckSum,
short iTimeOut)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The digital input Channel No.
iDI_TotalCh:	The total channel of DI module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms

Write_AO

Description:

Output the analog value from analog output module.

Syntax:

Write_AO(unsigned char cComPort,
short iAddress,
short iSlot,
short iChannel,
short iAO_TotalCh,
float fValue,
short iCheckSum,
short iTimeOut)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The analog output Channel No.
iAO_TotalCh:	The total channel of AO module.
fValue:	Write analog output value
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms

Read_AO

Description:

Read the analog output value of analog output modules.

Syntax:

Read_AO(unsigned char cComPort,
short iAddress,
short iSlot,
short iChannel,
short iAO_TotalCh,
short iCheckSum,
short iTimeOut,
out Single fSingleValue)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The analog output Channel No.
iAO_TotalCh:	The total channel of AO module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
fSingleValue:	Read analog output value

Read_AI

Description:

Obtain the analog input value in float format.

Syntax:

DCON_Read_AI(unsigned char cComPort,
short iAddress,
short iSlot,
short iChannel,
short iAI_TotalCh,
short iCheckSum,
short iTimeOut,
out Single fSingleValue)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The analog input Channel No.
iAI_TotalCh:	The total channel of AI module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
fSingleValue:	Read analog input value for float format.

Read_AI_Hex

Description:

Obtain the analog input value in Hex format.

Syntax:

DCON_Read_AI(unsigned char cComPort,
short iAddress,
short iSlot,
short iChannel,
short iAI_TotalCh,
short iCheckSum,
short iTimeOut,
short iDataFormat,
out short iSingleValue)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The analog input Channel No.
iAI_TotalCh:	The total channel of AI module.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
iSingleValue:	Read analog input value for hex format.

Read_AI_All

Description:

Obtain the all analog input value in float format.

Syntax:

Read_AI_All(unsigned char cComPort,
short iAddress,
short iSlot,
short iCheckSum,
short iTimeOut,
float[] fAllValue)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
fAllValue:	Read all analog input value for float format.

Read_AI_All_Hex

Description:

Obtain the all analog input value in Hex format.

Syntax:

Read_AI_All_Hex(unsigned char cComPort,
short iAddress,
short iSlot,
short iCheckSum,
short iTimeOut,
float *fValue,
short *iValue)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
iValue:	Read all analog input value for hex format.

Read_Counter

Description:

Obtain the value of the selected counter/frequence for the counter/freuence module.

Syntax:

Read_Counter(unsigned char cComPort,
short iAddress,
short iSlot,
short iChannel,
short iCheckSum,
short iTimeOut,
out uint iCounter_Value)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The Counter/frequence Channel No.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
lCounter_Value:	Read counter / frequnece value.

Clear_Counter

Description:

Clear the value of the selected counter.

Syntax:

```
Clear_Counter(unsigned char cComPort,
              short iAddress,
              short iSlot,
              short iChannel,
              short iCheckSum,
              short iTimeOut)
```

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The Counter/frequence Channel No.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms

Read_Overflow

Description:

Read specified channel's Counter overflow value.

Syntax:

Read_Overflow(unsigned char cComPort,
short iAddress,
short iSlot,
short iChannel,
short iCheckSum,
short iTimeOut,
out short iOverflow_value)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

cComPort:	COM port number, 0 to 255
iAddress:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7 or –1 (for module of RS-485)
iChannel:	The Counter/frequence Channel No.
iCheckSum:	0: Disable or 1: Enable
iTimeout:	Time out setting, normal=100, unit: ms
iOverflow_value:	Overflow value