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I-87H17W API

User's Manual

(Version 1.0)

Dynamic Link Library (DLL) for DCON

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1. Introduction

The I-87H17W API function supports C, C++ functions. It designed for Minios7, Windows 95/98/2000/XP/XPe, or Wince and can use the same function interface on those platform.

1.1 Architectures under every OS platform

	OS	Hardware	Link name	Develop Environment
Platform	MiniOS7	I-8000 iPAC-8000	pac8khart.lib 8000l.lib	BC3.01 TC++1.2.1
	Windows	PC	dconhart.dll Uart.dll	VC++6.0
	Wince	WinPAC	winpachart.dll winpacsdk.dll	EVC4.0
		XPAC	Xpachart_ce.dll xpacsdk_ce.dll	VS 2005 C++
	XPe	XPAC	xpachart.dll xpacsdk.dll	VC++6.0

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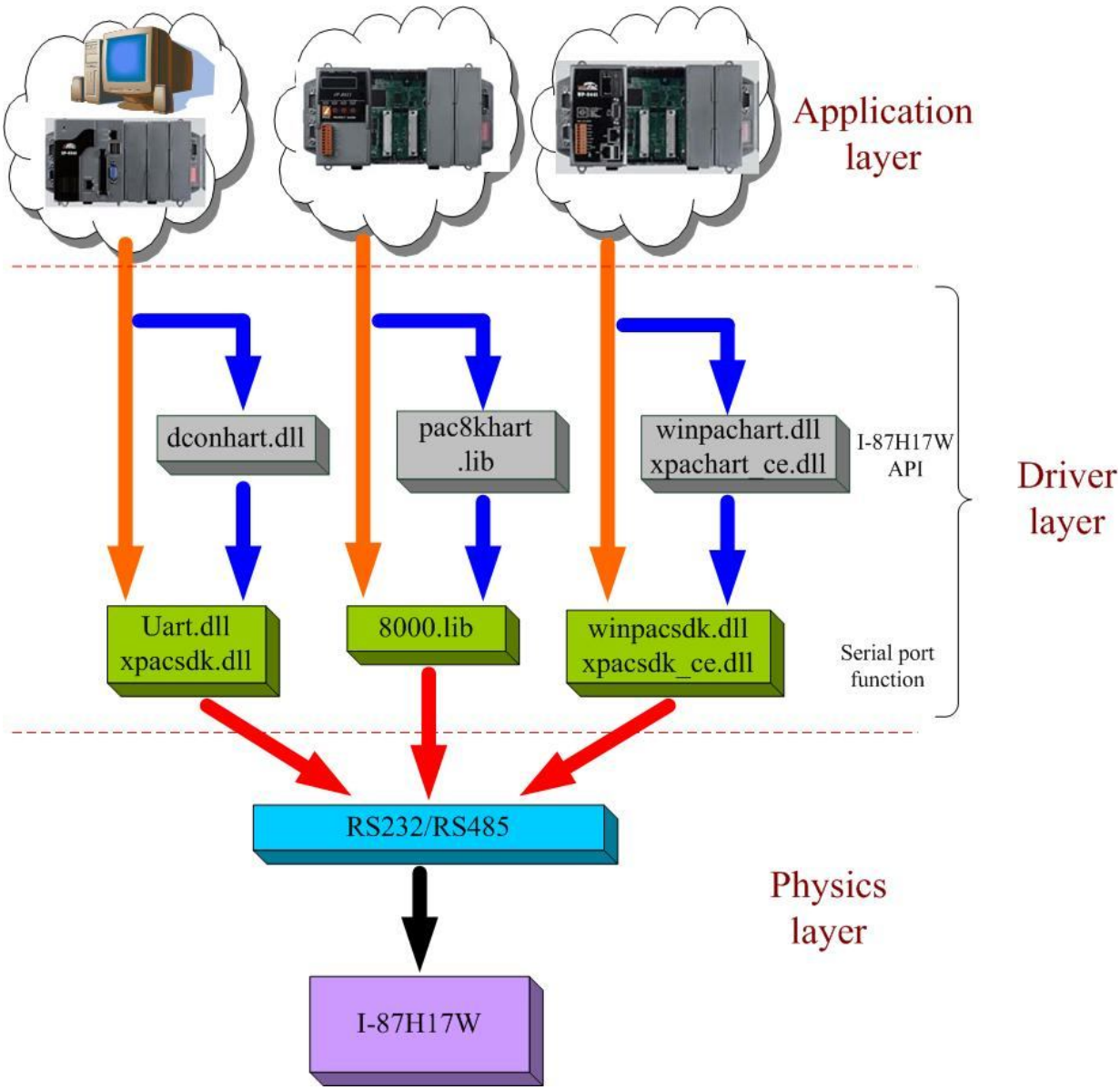
1.2 Software architecture



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2. API Application

2.1. USING C language compiler for I-8000 or iPAC-8000

The demo programs are tested OK under MiniOS7 and C language compiler .

Those usable compilers are shown as follows:

- TC 2.01
- TC++ 1.01
- BC++ 3.1
- MSC 6.0
- MSVC++ (before Version 1.52)

From Borland website, use can download the free TC2.01 and TC++1.01 compilers.

Website: http://community.borland.com/museum

The user of I-8000 series has to use these file to develop program as following:

- \8000e.lib → function to deal with RS-232 or RS-485 for i-8000
  \8000e.h
  \8000a.lib → function to deal with RS-232 or RS-485 for iPAC-8000
  \8000a.h
- \Lib\i-8000\pac8khart.lib → function for I-87H17W
- \Lib\i-8000\dcon2hart.h
- \Lib\i-8000\Demo

If user need the detail information, please refer to the following web site:

i-8000 library web site:
http://ftp.icpdas.com/pub/cd/8000cd/napdos/8000/841x881x/demo/lib/
iPAC-8000 library web site:
http://ftp.icpdas.com/pub/cd/8000cd/napdos/ipac8000/demo/basic/lib
I-87H17W library web site:
http://ftp.icpdas.com/pub/cd/fieldbus_cd/hart/IO/Lib/i-8000/

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2.2. USING VISUAL C++ for PC

The demo programs are tested OK in Windows 95/98/NT/2000/XP/XPe and VC6.0 version.

The user of PC has to implement these files as following:

PC:

- \uart.dll → functions to deal with RS-232
  \uart.h
- \Lib\XP\dconhart.dll → functions for I-87H17W
  \Lib\XP\dconhart.lib
  \Lib\XP\dcon2hart.h
- \Lib\XP\Demo

XPAC

- \xpacsdk.dll → functions to deal with RS-232
  \xpacsdk.lib
  \xpacsdk.h
- \Lib\XPe\xpachart.dll → functions for I-87H17W
  \Lib\XPe\xpachart.lib
  \Lib\XPe\dcon2hart.h
- \Lib\XPe\Demo

If user need the detail information, please refer to the following web site:

Uart library web site:
http://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon_dll/driver/vc5/
I-87H17W library web site:
http://ftp.icpdas.com/pub/cd/fieldbus_cd/hart/IO/Lib/XP/
XPAC library web site:
http://ftp.icpdas.com/pub/cd/xp-8000/sdk/xpacsdk/xpacsdk/
I-87H17W library web site:
http://ftp.icpdas.com/pub/cd/fieldbus_cd/hart/IO/Lib/XPe/

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2.3. Using Embedded VISUAL C++ for WinPAC

The demo program are tested OK in Wince and EVC 4.0 version.
From Microsoft website, user can download the free EVC++ 4.0.
Website: http://msdn.microsoft.com/downloads/Default.aspx

How to create the new project of wince?
Step 1: Installing Embedded Visual C++ 4.0
Please refer to Microsoft website and look up related information.
Step 2: Installing EVC++4.0 Service Pack 4(SP4)
Please refer to Microsoft website and look up related information.
Step 3: Downloading winpacsdk api to your PC.
Download website:
http://ftp.icpdas.com/pub/cd/winpac/napdos/wp-8x4x_ce50/sdk/winpacsdk/

The user of WinPAC series has to use these file to develop program as following:

- \winpacsdk.dll → function to deal with RS-232 or RS-485 for WinPAC
  \winpacsdk.lib → function to deal with RS-232 or RS-485 for WinPAC
  \winpacsdk.h
- \Lib\Wince\winpachart.dll → functions for I-87H17W
  \Lib\Wince\winpachart.lib
  \Lib\Wince\dcon2hart.h
- \Lib\Wince\Demo

If user need the detail information, please refer to the following web site:
WinPAC library web site:
http://ftp.icpdas.com/pub/cd/winpac/napdos/wp-8x4x_ce50/sdk/winpacsdk/
I-87H17W library web site:
http://ftp.icpdas.com/pub/cd/fieldbus_cd/hart/IO/Lib/Wince/

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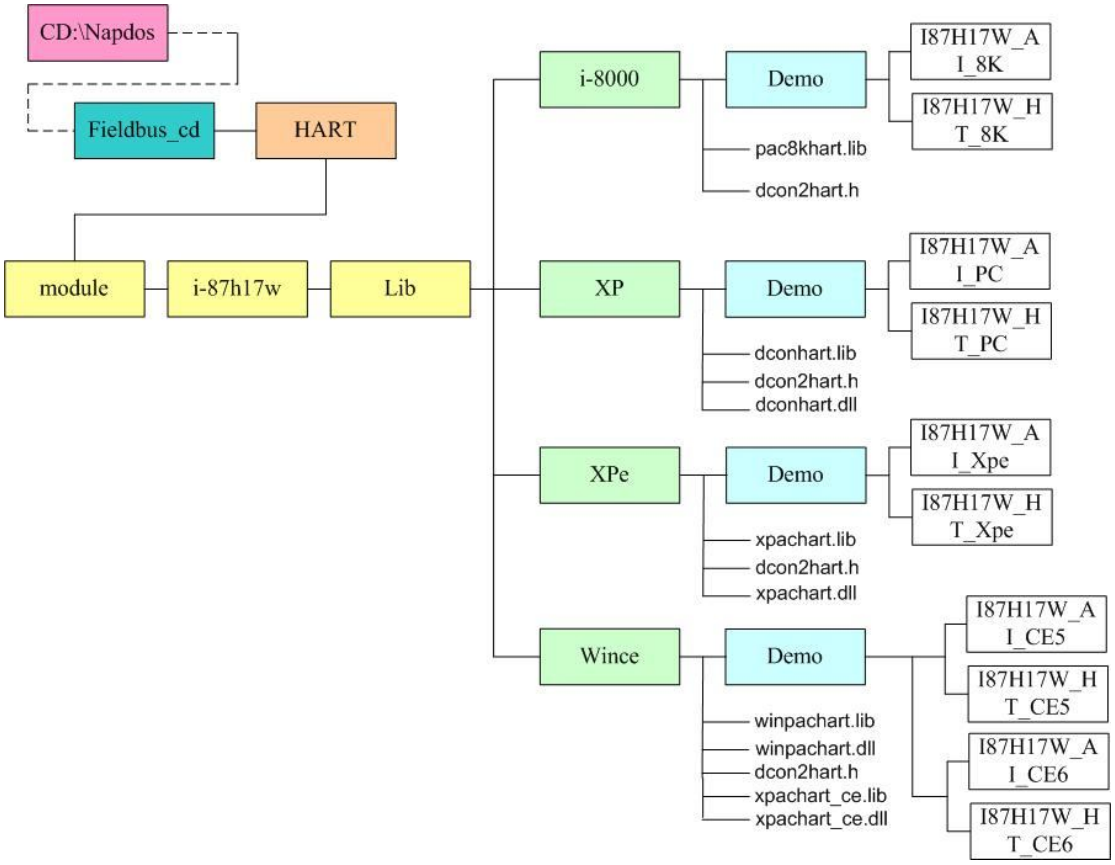
3. Demo List

Based on the demo programs, User can easily understand how to use the function and develop their own application in a quick way.

Sub of directory tree of All ICPDAS Controller



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4. Function List

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hart_ReadCHhVal	Reads the analog input of channel N(16h)	4.8
hart_ReadAllfVal	Reads the Analog Inputs of All Channels(float)	4.9
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4.1. hart_GetModuleName

Description:

Reads the module name.

Syntax:

hart_GetModuleName(
InitialVal *SetCPinfo,
char *InBuf,
WORD wTimeout)

Return Value:

0(NoError): OK
Others: Error code

Parameter:

*SetCPinfo: [input] The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
* InBuf: [output] Read the Module name
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.2. hart_SetModuleConfig

Description:

Sets the configuration of an analog input module.

Syntax:

hart_SetModuleConfig(
InitialVal *SetCPinfo,
unsigned char cModifyCh,
unsigned char cType,
unsigned char cBaudrate,
unsigned char cChecksum,
unsigned char cFormat,
WORD wTimeout)

Return Value:

0(NoError)**:** OK
Others**:** Error code

Parameter:

*SetCPinfo: [input] The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)

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cModifyCh： [input] New address of the module
cType： [input] It is fixed.
cBaudrate： [input] New Baud Rate code, see Section 1.11 for details. To change the Baud Rate, the INIT* terminal must be connected to ground or the rear slide switch must be set to the INIT position.
cChecksum： [input] 0: Disable or 1: Enable
cFormat： [input] 0:Engineer format
1:% of FSR Format
2: 2's Complement Hexadecimal Format
wTimeout： [input] Time out setting, normal=100, unit: ms

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4.3. hart_GetModuleConfig

Description:

Read configuration.

Syntax:

hart_GetModuleConfig(
InitialVal *SetCPinfo,
char *InBuf,
WORD wTimeout)

Return Value:

0(NoError)**:** OK
Others**:** Error code

Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
* InBuf: [output] Read configuration.
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.4. hart_GetFwVersion

Description:

Read the Version of API.

Syntax:

hart_GetFwVersion(
InitialVal *SetCPinfo,
char *InBuf,
WORD wTimeout)

Return Value:

0(NoError): OK
Others: Error code

Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
* InBuf: [output] Read the version of API.
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.5. hart_WriteHARTFrame

Description:

Send the frames of HART to HART Device.

Syntax:

hart_WriteHARTFrame(
InitialVal *SetCPinfo,
SendFrame *SetFrame,
unsigned char ch,
WORD wTimeout)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE   hPac_Port;
}InitialVal;
```

bComPort:	COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7
iCheckSum:	0: Disable or 1: Enable
hPac_Port:	COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
*SetFrame:	[input]The point of structure for SetFrame is defined as following,
preamble:	Preamble frame, only set 5 ~ 20(16h)
delimiter:	Delimetir frame(16h)
addr[5]:	HART Address, The short frame only uses array0(addr[0]). The long frame uses array0 ~ array5.

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cmd: Support Universal, Common-Practice and Transmitter-Specific command.

data[255]: The HART Data

SdataLen: The Length of HART data

ch: [input] Specifies the channel to be send.

wTimeout: [input] Time out setting, normal=100, unit: ms

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4.6. hart_ReadHARTslvInfo

Description:

Read the frames of HART frome HART Device.

Syntax:

hart_ReadHARTslvInfo(
InitialVal *SetCPinfo,
RcvFrame *GetFrame,
unsigned char ch,
WORD wTimeout);

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort:	COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7
iCheckSum:	0: Disable or 1: Enable
hPac_Port:	COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
*GetFrame:	[input]The point of structure for GetFrame is defined as following,
preamble:	Preamble frame, only set 5 ~ 20(16h)
delimiter:	Delimiter frame(16h)
addr[5]:	HART Address, The short frame only uses array0(addr[0]). The long frame uses array0 ~ array5.

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cmd: Support Universal, Common-Practice and Transmitter-Specific command.

data[255]: The HART data from HART device

Rdatalen: The length of HART data from device

response_code: Response code

ch: [input] Specifies the channel to be read.

wTimeout: [input] Time out setting, normal=100, unit: ms

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4.7. hart_ReadCHfVal

Description:

Reads the analog input of channel N.

Syntax:

hart_ReadCHfVal(
InitialVal *SetCPinfo,
unsigned char ch,
float *fValue,
WORD wTimeout)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort:	COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7
iCheckSum:	0: Disable or 1: Enable
hPac_Port:	COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
ch:	[input] Specifies the channel to be read
*fValue:	[output] Analog input float data of the specified channel
wTimeout:	[input] Time out setting, normal=100, unit: ms

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4.8. hart_ReadCHhVal

Description:

Reads the analog input of channel N.

Syntax:

hart_ReadCHhVal(
InitialVal *SetCPinfo,
unsigned char ch,
unsigned short *hValue,
WORD wTimeout)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE   hPac_Port;
}InitialVal;
```

bComPort:	COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7
iCheckSum:	0: Disable or 1: Enable
hPac_Port:	COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
ch:	[input] Specifies the channel to be read
*hValue:	[output] Analog input hex data of the specified channel
wTimeout:	[input] Time out setting, normal=100, unit: ms

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4.9. hart_ReadAllfVal

Description:

Reads the float data from every analog input channel.

Syntax:

hart_ReadAllfVal(

InitialVal *SetCPinfo,

float fValue[],

WORD wTimeout)

Return Value:

0(NoError): OK

Others: Error code

Input Parameter:

*SetCPinfo**:** [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE   hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)

iAddr: Module address, from 0 to 255

iSlot: Slot number, 0 to 7

iCheckSum: 0: Disable or 1: Enable

hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)

fValue[]**:** [output] The float data from every analog input channels

wTimeout: [input] Time out setting, normal=100, unit: ms

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4.10. hart_ReadAllhVal

Description:

Reads the hex data from every analog input channel.

Syntax:

hart_ReadAllhVal(
InitialVal *SetCPinfo,
unsigned short hValue[],
WORD wTimeout)

Return Value:

0(NoError): OK
Others: Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
hValue[]: [output] The hex data from every analog input channels
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.11. hart_ClrMaxMinCHVal

Description:

Clear maximum/minimum analog input of specified channel.

Syntax:

hart_ClrMaxMinCHVal(
InitialVal *SetCPinfo,
char clearState,
unsigned char ch,
WORD wTimeout)

Return Value:

0(NoError): OK
Others: Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
clearState: [input]Clear analog inputs, 'H': maximum, 'L': minimum
ch: [input] Specifies the channel to be clear
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.12. hart_ClrMaxMinAllVal

Description:

Clear maximum/minimum analog inputs.

Syntax:

hart_ClrMaxMinAllVal(
InitialVal *SetCPinfo,
char clearState,
WORD wTimeout)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort:	COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7
iCheckSum:	0: Disable or 1: Enable
hPac_Port:	COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
clearState:	[input] Clear analog inputs, 'H': maximum, 'L': minimum
wTimeout:	[input] Time out setting, normal=100, unit: ms

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4.13. hart_ReadMaxMinCHfVal

Description:

Read maximum/minimum analog input of specified channel.

Syntax:

hart_ReadMaxMinCHfVal(
InitialVal *SetCPinfo,
char rdState,
unsigned char ch,
float *fVal,
WORD wTimeout)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE   hPac_Port;
}InitialVal;
```

bComPort:	COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7
iCheckSum:	0: Disable or 1: Enable
hPac_Port:	COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
rdState:	[input] Read analog inputs, 1: maximum, 0: minimum
*fVal:	[output] maximum/minimum float data of specified channel
wTimeout:	[input] Time out setting, normal=100, unit: ms

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4.14. hart_ReadMaxMinCHhVal

Description:

Read maximum/minimum analog input of specified channel.

Syntax:

hart_ReadMaxMinCHhVal(
InitialVal *SetCPinfo,
char rdState,
unsigned char ch,
unsigned short *hVal,
WORD wTimeout)

Return Value:

0(NoError): OK
Others: Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
rdState: [input] Read analog inputs, 1: maximum, 0: minimum
*hVal: [output] maximum/minimum hex data of specified channel
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.15. hart_ReadMaxMinAllfVal

Description:

Read the float data of maximum/minimum analog inputs.

Syntax:

hart_ReadMaxMinAllfVal(
InitialVal *SetCPinfo,
short rstate,
float fValue[],
WORD wTimeout)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE   hPac_Port;
}InitialVal;
```

bComPort:	COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7
iCheckSum:	0: Disable or 1: Enable
hPac_Port:	COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
rstate:	[input] Read analog inputs, 1: maximum, 0: minimum
fValue[]:	[output] maximum/minimum float data of all channels
wTimeout:	[input] Time out setting, normal=100, unit: ms

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4.16. hart_ReadMaxMinAllhVal

Description:

Read the hex data of maximum/minimum analog inputs.

Syntax:

hart_ReadMaxMinAllhVal(
InitialVal *SetCPinfo,
short rstate,
unsigned short hValue [],
WORD wTimeout)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE   hPac_Port;
}InitialVal;
```

bComPort:	COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7
iCheckSum:	0: Disable or 1: Enable
hPac_Port:	COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
rstate:	[input] Read analog inputs, 1: maximum, 0: minimum
hValue []:	[output] maximum/minimum hex data of all channels
wTimeout:	[input] Time out setting, normal=100, unit: ms

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4.17. hart_GetHOSTwdtStatus

Description:

Reads the host watchdog status of a module.

Syntax:

Read_HOSTwdt_status(InitialVal *SetCPinfo,
unsigned short *status,
WORD wTimeout)

Return Value:

0(NoError): OK
Others: Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
*status: [output] Read the WDT of Host.
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.18. hart_ReSetHOSTwdtStatus

Description:

Resets the host watchdog time out status of a module.

Syntax:

hart_ReSetHOSTwdtStatus(
InitialVal *SetCPinfo,
WORD wTimeout)

Return Value:

0(NoError): OK
Others: Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.19. hart_GetHOSTwdtConfig

Description:

Reads the host watchdog time out value of a module.

Syntax:

hart_GetHOSTwdtConfig(
InitialVal *SetCPinfo,
unsigned char *enable,
unsigned char *times,
WORD wTimeout);

Return Value:

0(NoError): OK
Others: Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
*enable: [output] Read the WDT state of Host.
*times: [output] Read the WDT time out valueof Host.
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.20. hart_SetHOSTwdtStatus

Description:

Enables/disables the host watchdog and set the host watchdog time out value of a module.

Syntax:

hart_SetHOSTwdtStatus(
InitialVal *SetCPinfo,
unsigned char enable,
unsigned char times,
WORD wTimeout)

Return Value:

0(NoError): OK
Others: Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
enable: [input] Set the WDT state of Host.
times: [input] Set the WDT time out valueof Host.
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.21. hart_WriteOffsetCalibration

Description:

Performs a zero calibration on the specified channel.

Syntax:

hart_WriteOffsetCalibration(
InitialVal *SetCPinfo,
unsigned char ch,
WORD wTimeout)

Return Value:

0(NoError):	OK
Others:	Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort:	COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr:	Module address, from 0 to 255
iSlot:	Slot number, 0 to 7
iCheckSum:	0: Disable or 1: Enable
hPac_Port:	COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
ch:	[input] Specifies the channel to be calibrated
wTimeout:	[input] Time out setting, normal=100, unit: ms

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4.22. hart_WriteSpanClaibration

Description:

Performs a span calibration on the specified channel.

Syntax:

hart_WriteSpanClaibration(
InitialVal *SetCPinfo,
unsigned char ch,
WORD wTimeout)

Return Value:

0(NoError): OK
Others: Error code

Input Parameter:

*SetCPinfo: [input]The point of structure for SetCPinfo is defined as following,

```
typedef struct
{
    unsigned char bComPort;
    short iAddr;
    short iSlot;
    short iCheckSum;
    HANDLE  hPac_Port;
}InitialVal;
```

bComPort: COM port number, 0 to 255(for PC/WinCon/IPAC)
iAddr: Module address, from 0 to 255
iSlot: Slot number, 0 to 7
iCheckSum: 0: Disable or 1: Enable
hPac_Port: COM port number, 0 to 255(for XPAC/WinPAC/ViewPAC)
ch: [input] Specifies the channel to be calibrated
wTimeout: [input] Time out setting, normal=100, unit: ms

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4.23. hart_GetLibVer

Description:

Reads library version.

Syntax:

hart_GetLibVer()

Return Value:

The value is shown by 16h.

Input Parameter:

none

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