

I-8050W

API Reference Manual

Version 1.0.0, April 2014

Service and usage information for

WinPAC 8000 and XPAC 8000



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General Information

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1. INTRODUCTION

I-8050W is a 16-channel universal digital I/O module. Each channel can be configured to be a Digital input or Digital output by programming.

1.1. Specification

■ Digital input mode

Input Type	One Common for All Digital Inputs(Sink)
On Voltage Level	+10V ~ 30V
Off Voltage Level	+4V max
Input Impedance	3K Ohms, 0.25W
Intra-module Isolation, Field to Logic	3750Vrms
4KV ESD Protection	Contact for each channel

■ Digital Output mode

Output Type	Open-collector(Sink)
Max Load Current	100 mA/ Channel
Load Voltage	5Vdc to 30Vdc
Intra-module Isolation, Field to Logic	3750Vrms
4KV ESD Protection	Contact for each channel

■ LED

1 LED as Power Indicator
16 LEDs as Digital Input & Digital Output Indicators

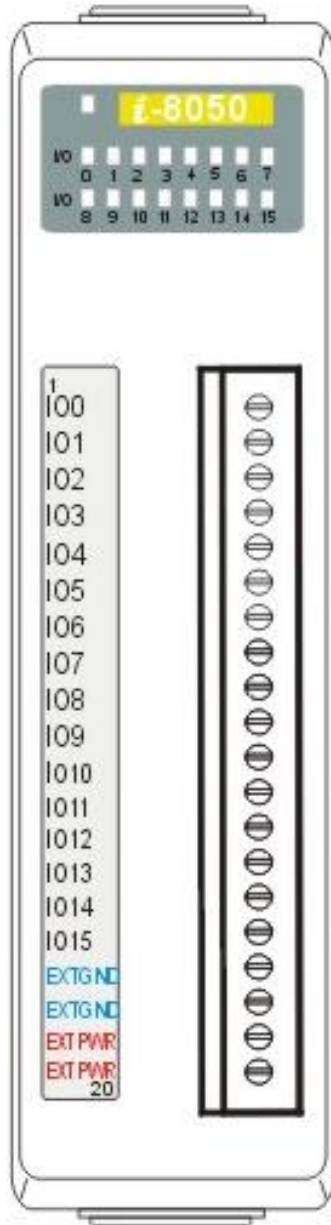
■ Power consumption

0.2A @ 5V = 1W ,+/- 5% For Hardware

■ Environment

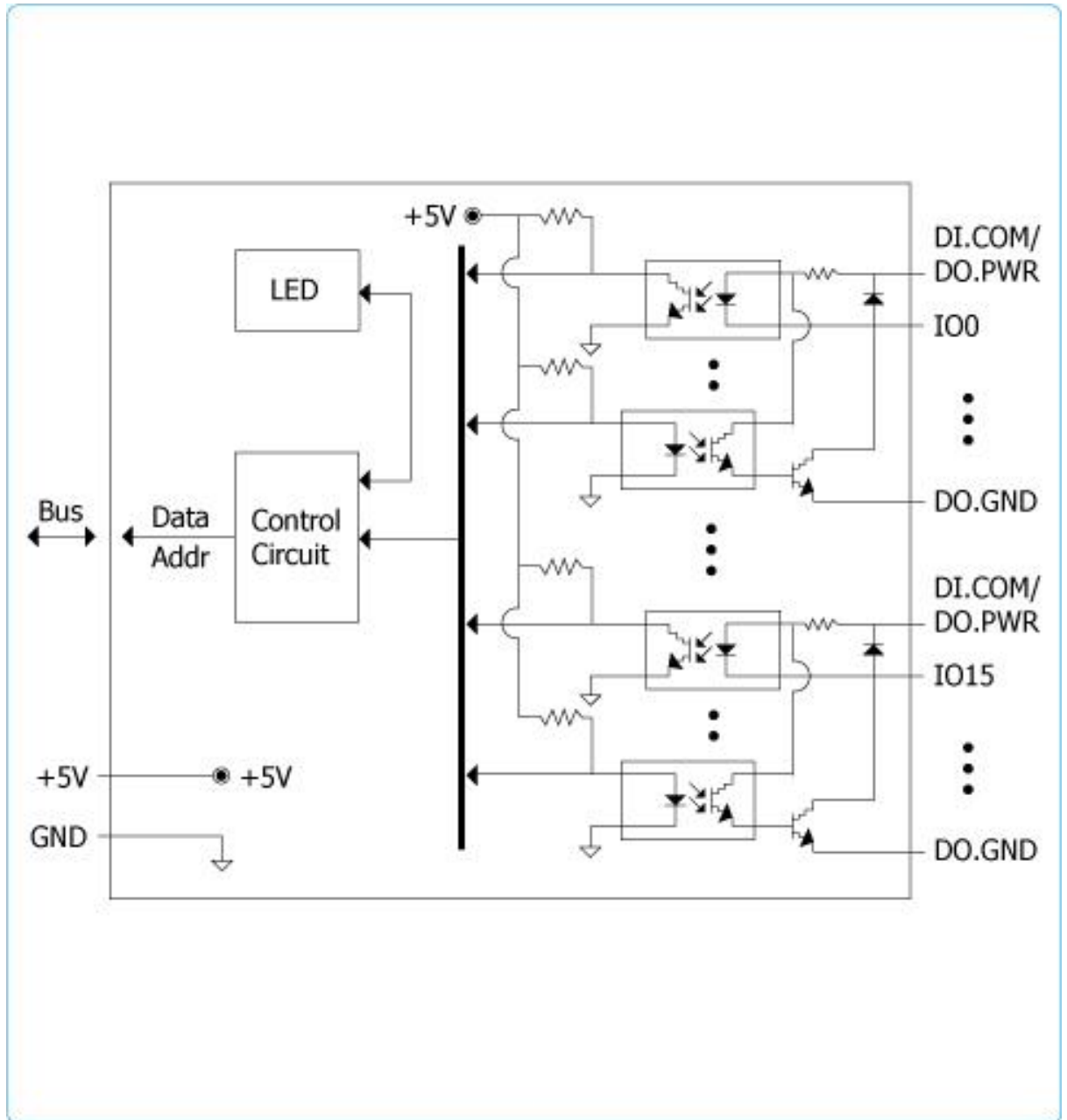
Operating Temperature	-25 to 75 °C
Storage Temperature	-30 to 85 °C
Humidity	5 to 95% RH, non-condensing

1.2. Pin Assignment

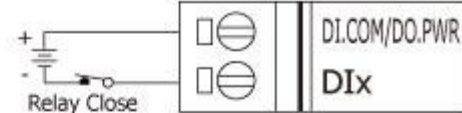

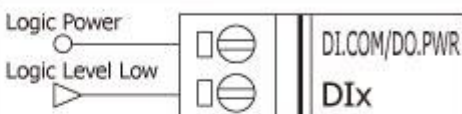


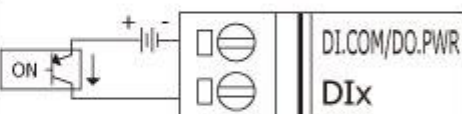


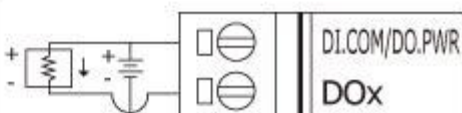


<i>Terminal No.</i>	<i>Pin name</i>
1	I0 0
2	I0 1
3	I0 2
4	I0 3
5	I0 4
6	I0 5
7	I0 6
8	I0 7
9	I0 8
10	I0 9
11	I0 10
12	I0 11
13	I0 12
14	I0 13
15	I0 14
16	I0 15
17	Ext.GND
18	Ext.GND
19	Ext.PWR
20	Ext.PWR

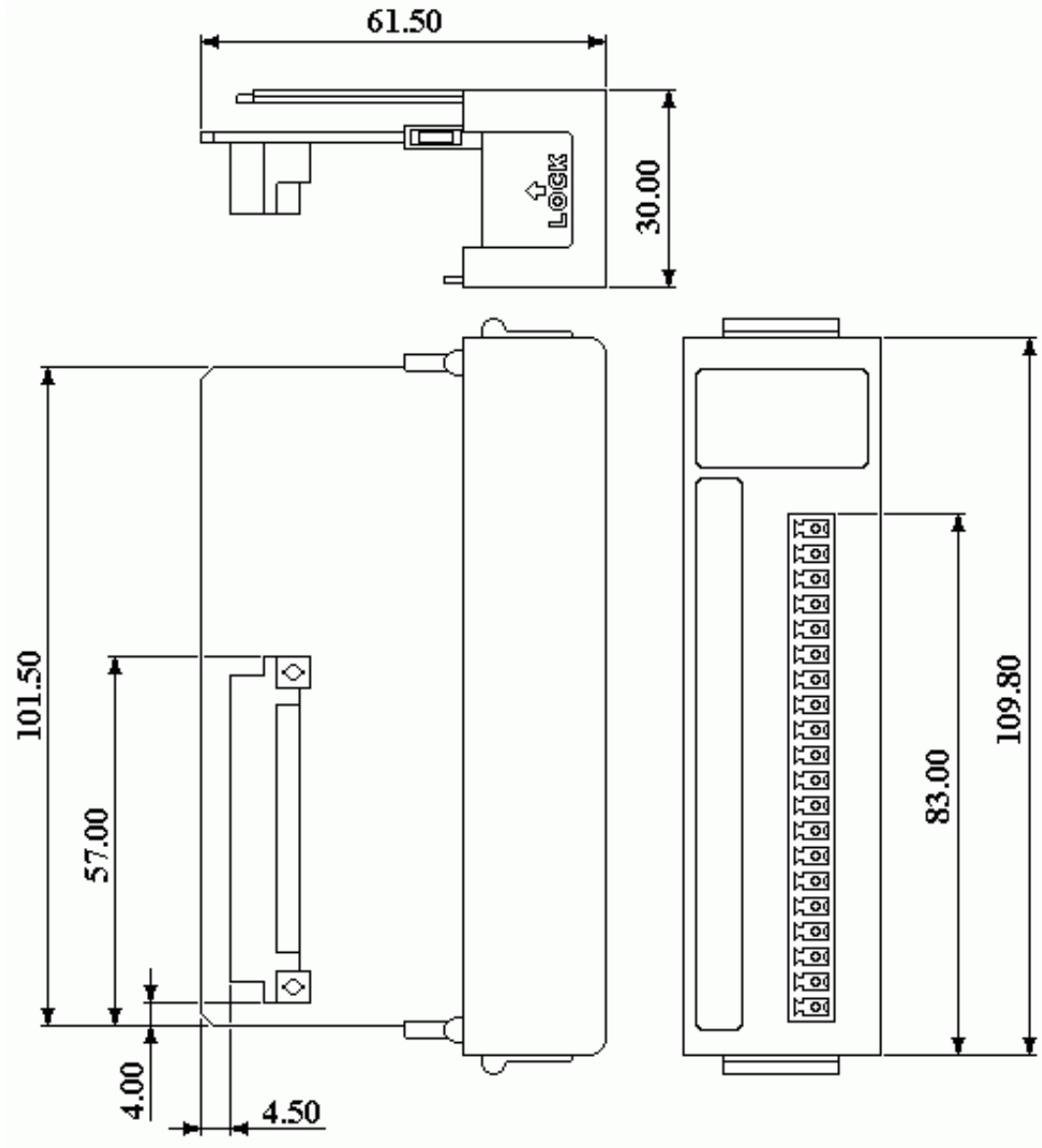
1.3. Block Diagram



1.4. Wiring Connection

Input Type	ON State LED ON Readback as 0	OFF State LED OFF Readback as 1
Relay Contact	Relay ON 	Relay Off 
	TTL/CMOS Logic	Voltage > 10V 
NPN Output	Open Collector On 	Open Collector Off 
	PNP Output	Open Collector On 
Output Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
Drive Relay	Relay ON 	Relay Off 
	Resistance Load	

1.5. Dimension

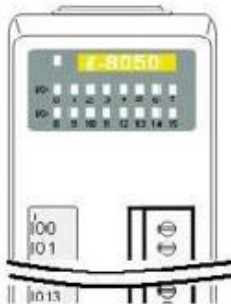


2. IMPORTANT NOTICE

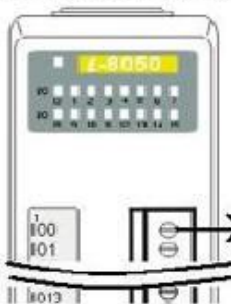
A channel may be damaged if it is subjected to an input signal while this channel status is changed from DI to DO. Please remove the input signal before the channel status is changed.

Warning

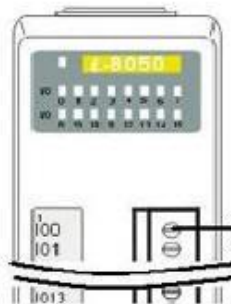
Check your wiring !
It is better to remove all wiring before you change I/O channel configuration.



Check your wiring !
Although it is safe when DI change to DO and let I/O channel connect to the GND. We still strongly suggest you to remove the wiring.



Check your wiring !
Caution: When DI changes to DO In this case, it will cause serious damage of this channel !!



3. API FUNCTIONS

3.1. pac_i8050W_GetFirmwareVersion

This function gets the firmware version of I-8050W hardware.

Syntax

```
WORD pac_i8050W_GetFirmwareVersion (BYTE slot);
```

Parameter

slot: 0 ~ 7

Return Values

The firmware version of I-8050W hardware

Examples

[C]

```
WORD wFirmwareVer;  
wFirmwareVer = pac_i8050W_GetFirmwareVersion(Slot)
```

3.2. pac_i8050W_GetLibVersion

This function gets the library version of i8050W.dll.

Syntax

```
WORD pac_i8050W_GetLibVersion ();
```

Parameter

none

Return Values

The library version of i8050W.dll

Examples

[C]

```
WORD wLibVer  
wLibVer = pac_i8050W_GetLibVersion ();
```

3.3. pac_i8050W_GetLibDate

This function gets the library built date of i8050W.dll.

Syntax

```
void pac_i8050W_GetLibDate (char *LibDate);
```

Parameter

LibDate the string buffer of library built date

Return Values

none

Examples

[C]

```
char lib_date[32];  
pac_i8050W_GetLibDate (lib_date);
```

3.4. pac_i8050W_UDIO_WriteDO16

This function to write DO values for 16 channels.

Syntax

```
void pac_i8050W_UDIO_WriteDO16(BYTE slot, WORD config);
```

Parameter

slot : 0 ~ 7

config:

Each bit for one output point

1 for active, 0 for inactive

Return Values

none

Examples

[C]

```
int slot=1; //i-8050W plugs on slot 1  
WORD Wvalue=0x3; //Turn on the channel0/channel 1 of DO  
pac_i8050W_UDIO_WriteDO16(slot, Wvalue);
```


3.5. pac_i8050W_UDIO_ReadDO16

This function to read DO values for 16 channels.

Syntax

```
WORD pac_i8050W_UDIO_ReadDO16 (BYTE slot);
```

Parameter

slot: 0 ~ 7

Return Values

A 2-byte DO value for 16 channels

Each bit for one output point

1 for active, 0 for inactive

Examples

[C]

```
int slot = 1; //i-8050W plugs on slot 1
WORD wValue;
wValue= pac_i8050W_UDIO_ReadDO16(slot);
```

3.6. pac_i8050W_UDIO_DI16

This function to read DI values for 16 channels.

Syntax

```
WORD pac_i8050W_UDIO_DI16 (BYTE slot);
```

Parameter

slot: 0 ~ 7

Return Values

A 2-byte DI value for 16 channels

Each bit for one input point

1 for active, 0 for inactive

Examples

[C++]

```
int slot = 1; //i-8050W plugs on slot 1  
WORD wValue;  
wValue= pac_i8050W_UDIO_DI16 (slot);
```

3.7. pac_i8050W_UDIO_WriteConfig_16

This function to set DIO mode for 16 channels.

Syntax

```
void pac_i8050W_UDIO_WriteConfig_16(BYTE slot,WORD config)
```

Parameter

slot: 0 ~ 7

config:

Each bit for one channel point

1: A channel sets as output mode (DO)

0: A channel sets as input mode (DI)

Return Values

none

Examples

[C]

```
int slot=1; //i-8050W plugs on slot 1  
WORD config=0x00FF;  
/* channel 0~channel7 set as output mode (DO)  
   Channel8~channel15 set as input mode (DI) */  
pac_i8050W_UDIO_WriteConfig_16(slot, config);
```

3.8. pac_i8050W_UDIO_ReadConfig_16

This function to read DIO mode for 16 channels

Syntax

```
WORD pac_i8050W_UDIO_ReadConfig_16(BYTE slot);
```

Parameter

slot: 0 ~ 7

Return Values

Each bit for one channel point

1: A channel sets as output mode (DO)

0: A channel sets as input mode (DI)

Examples

[C]

```
int slot=1; //i-8050W plugs on slot 1  
WORD config;  
config =pac_i8050W_UDIO_ReadConfig_16 (slot);
```