

# I-8050W

# API Reference Manual

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Service and usage information for

WinPAC 8000 and XPAC 8000



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# 1. Introduction

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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	+10 V to 30 V
Off Voltage Level	+4 V max
Input Impedance	3 K Ohms, 0.25 W
Intra-module Isolation, Field to Logic	3750 Vrms
4 kV ESD Protection	Contact for each channel

## ■ Digital Output Mode

Output Type	Open-collector (Sink)
Max. Load Current	100 mA/Channel
Load Voltage	5 V <sub>DC</sub> to 30V <sub>DC</sub>
Intra-module Isolation, Field to Logic	3750 Vrms
4kV ESD Protection	Contact for each channel

## ■ LED

1 LED as Power Indicator

16 LEDs as Digital Input & Digital Output Indicators

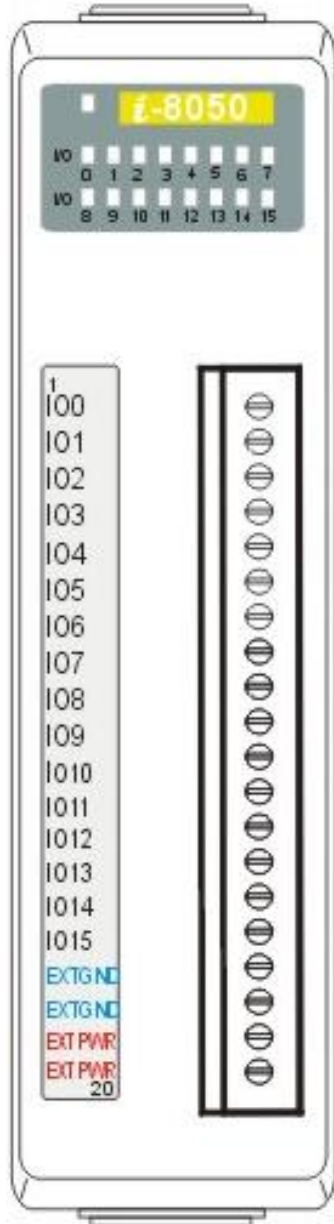
## ■ Power consumption

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

■ **Environment**

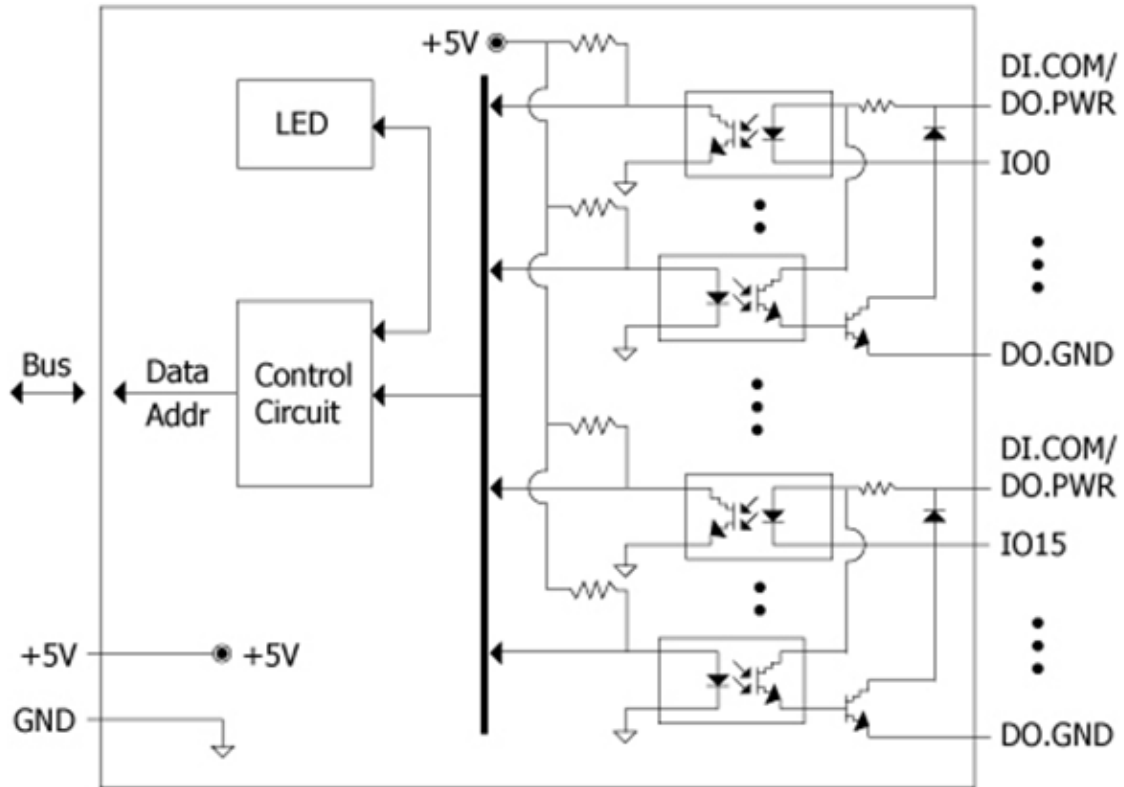
Operating Temperature	-25 to 75 °C
Storage Temperature	-30 to 85 °C
Humidity	5 to 95 % RH, non-condensing

## 1.2. Pin Assignment



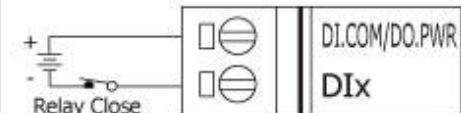
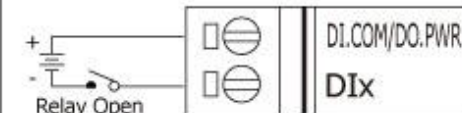
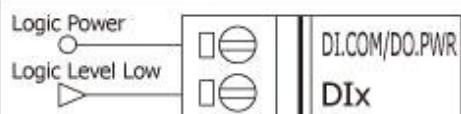

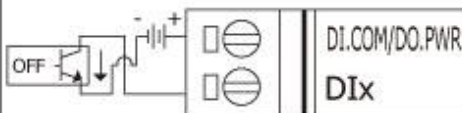
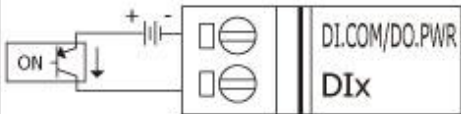
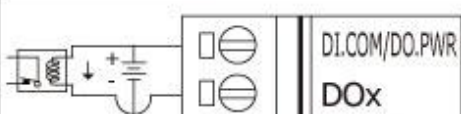
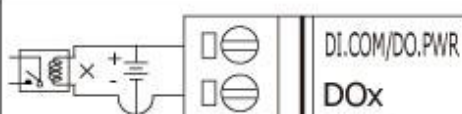
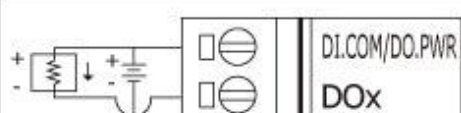
<i>Terminal No.</i>	<i>Pin name</i>
1	I0 0
2	I0 1
3	I0 2
4	I0 3
5	I0 4
6	I0 5
7	I0 6
8	I0 7
9	I0 8
10	I0 9
11	I0 10
12	I0 11
13	I0 12
14	I0 13
15	I0 14
16	I0 15
17	Ext.GND
18	Ext.GND
19	Ext.PWR
20	Ext.PWR

### 1.3. Block Diagram

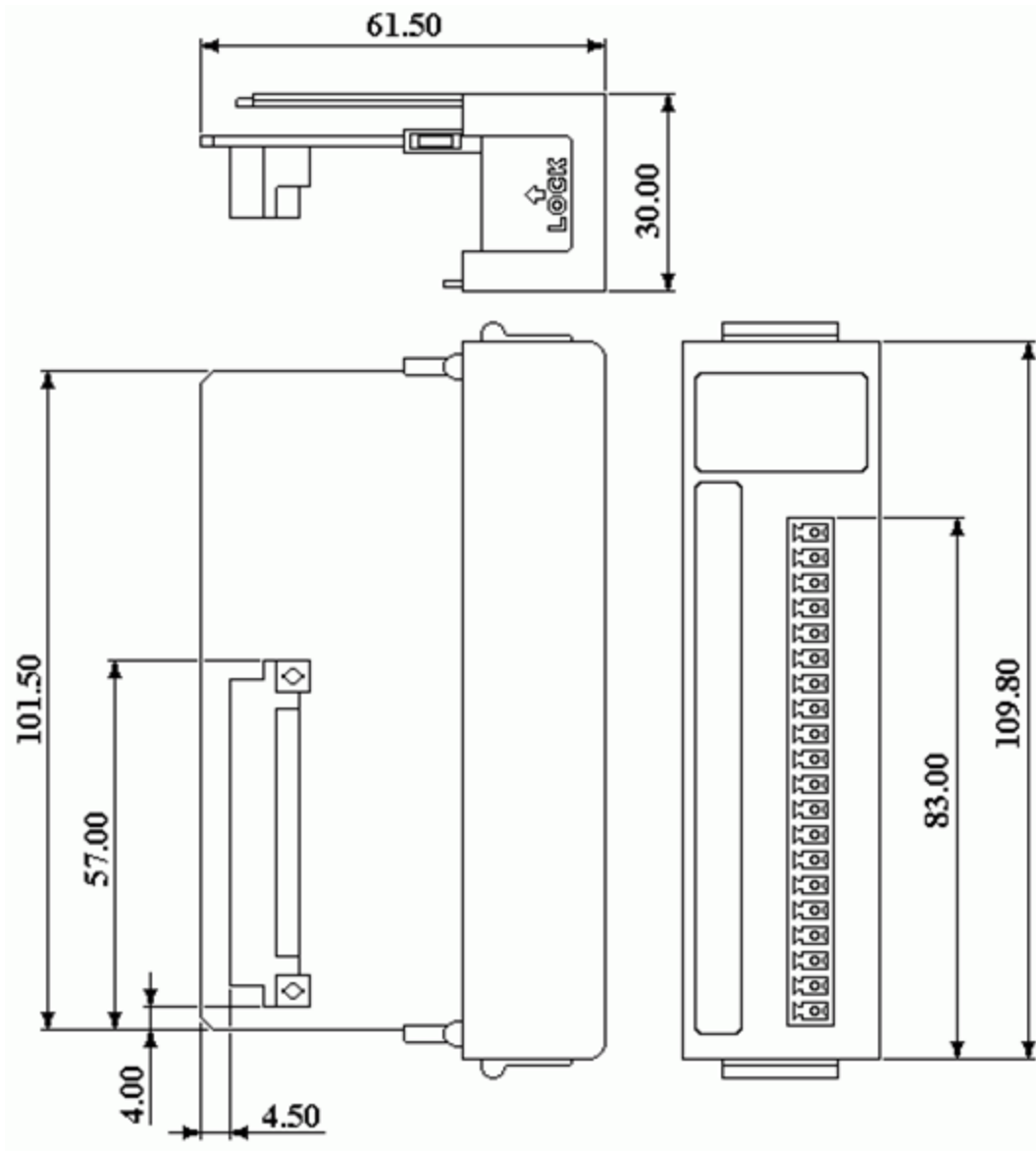




# 1.4. Wiring Connection

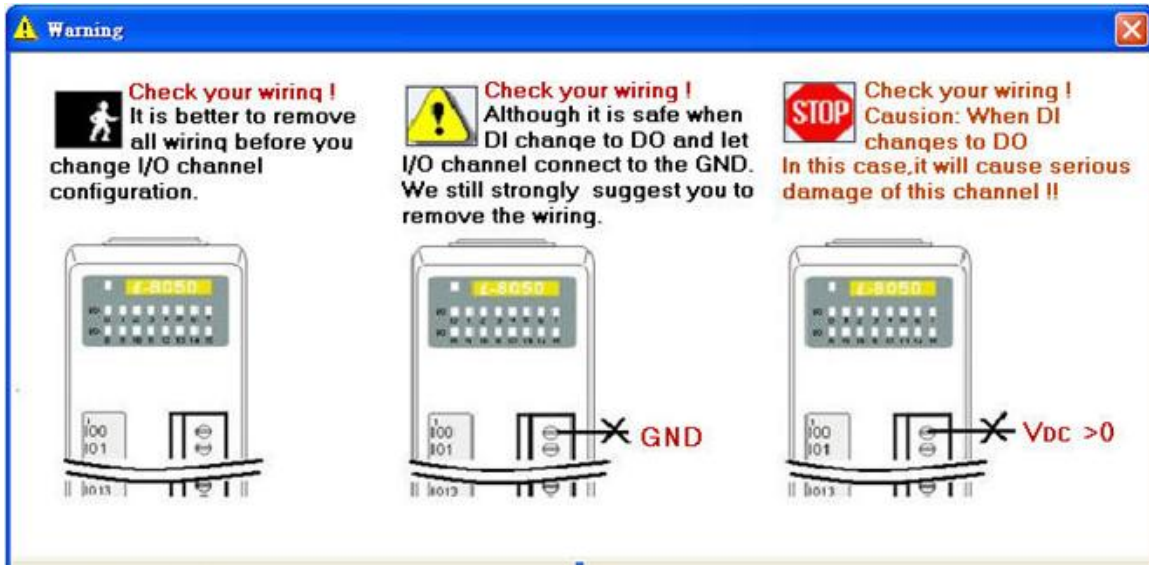
Input Type	ON State LED ON Readback as 0	OFF State LED OFF Readback as 1
Relay Contact	Relay ON 	Relay Off 
	TTL/CMOS Logic	Voltage > 10V 
NPN Output	Open Collector On 	Open Collector Off 
	PNP Output	Open Collector On 
Output Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
Drive Relay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

## 1.5. Dimension



## 1.6. 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.



## **2. API functions**

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## 2.1. 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)
```

## 2.2. 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 ();
```

## 2.3. 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);
```

## 2.4. 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);
```



## 2.5. 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);
```

## 2.6. 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);
```

## 2.7. 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);
```

## 2.8. 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);
```