

Advantech Equipment

AMC-6300 Series ***Industrial Ethernet I/O Converter***

Datasheet

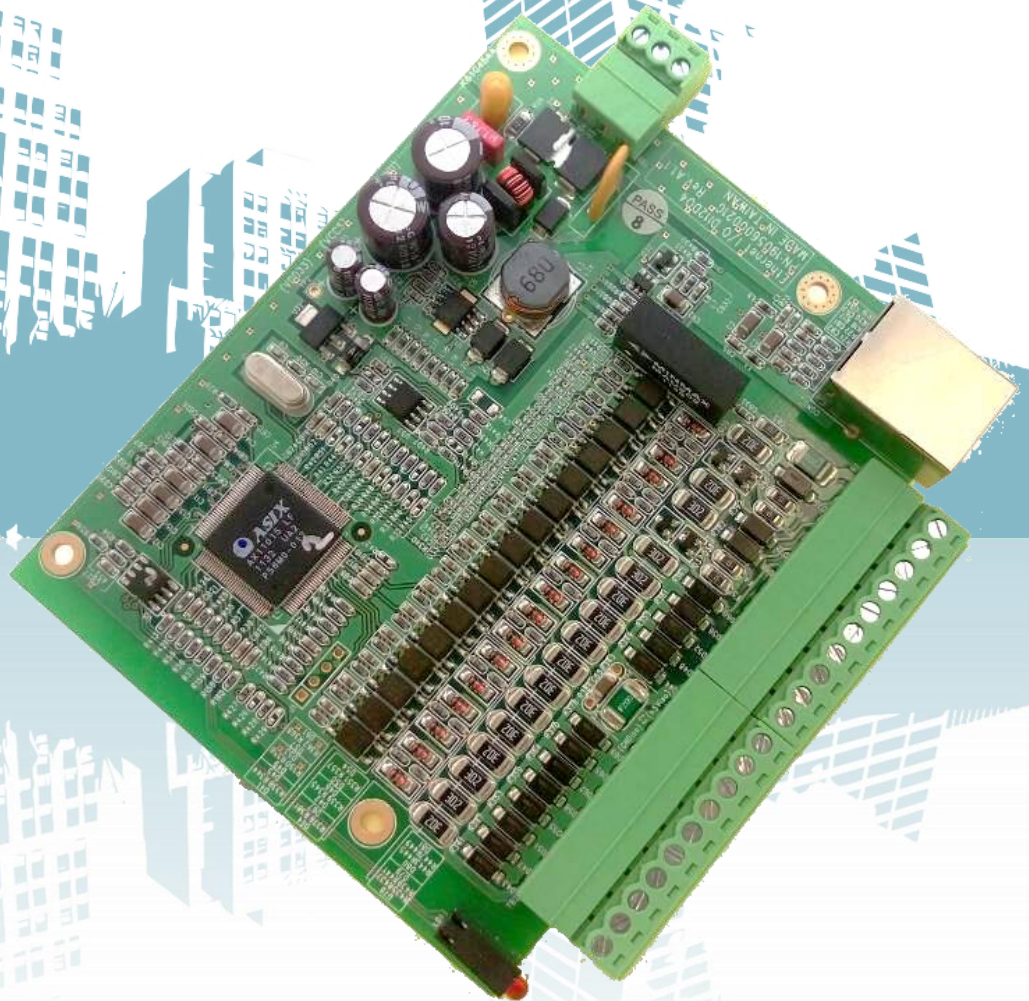


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CHAPTER 1 INTRODUCTION

The AMC 6300 series is an industrial smart Ethernet I/O converter with multiple digital input and output channels. AMC 6300 series converts the signal of each I/O channel into Ethernet messages. The input channels support either digital-input mode or event-counter mode, while the output channels provide digital-output mode or pulse-output mode. User can monitor the real-time status or control all the channels remotely through the built-in Ethernet connectivity.

In addition to remote data acquisition and channel control, AMC-6300 series is programmable with smart I/O rules. An event of logic rule can be defined to modify the status of digital output channel either on the same device or to multiple AMC-6300 series devices. With the user defined logic rules, multiple AMC-6300 devices can execute the programmed control logic without further step in by user or other controls.

The configuration is user friendly and the management interfaces include AMC-6300 Series Utility Tool as well as Modbus/TCP protocol.

PACKAGE CHECKLIST

AMC 6300 series is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

- Terminal blocks for power connector and I/O channels
- Documentation and Software CD-ROM
- Documentation contains Hardware Installation and Configuration

ABOUT THIS MANUAL

This manual provides detailed information on hardware installation. For software and configuration, please refer to the software configuration manual. There are more detailed instructions there.

If you have more questions or needs, please contact us.

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AMC-6330 HARDWARE SPECIFICATION

System

CPU: 100MHZ, RISC-Based
SDRAM: 32K bytes
Flash ROM: 512K bytes
EEPROM: 2K bytes
Watchdog: embedded watchdog to auto reset system when system failure

Indicator LED:

PWR: Power Input plugged and On (Green)
RDY: System startup ready (Yellow)
STS: System fail (Red)

Network Interface

Ethernet: IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX
Connector: 1 * RJ-45, Auto MDI/MDI-X
Protection: Built-in 1.5 KV magnetic isolation protection

Ethernet LED:

LAN Activity: Green On & Blinking
Network Speed: 10M (Yellow Off) /100M (Yellow ON)

Power Requirements

System Power: external unregulated +24V (10-30V) Power Consumption: Max. 2W

Digital Input

Input Channels: 16 Channels
Input Type: source type
Input Mode: DI or event counting
DC Input: 30V max
Threshold Voltage: 3.8V
Responding Time to Host PC Request: <2ms
Isolation Voltage: 3.75KVrms

Isolated Power supply

Power supply: 5V/200mA, power on/off with Configuration
Isolation Voltage: 3KVdc

Features

Network Protocols: IP, TCP, UDP, HTTP, BOOTP, DHCP, Modbus/TCP
Configuration tool: Windows Utility
Logic Rules: Conditions of the DI/Counter values, Actions include DO/Pulse, Counter, Peer to Peer
Peer to Peer: One to one, multiple to one or one to multiple peers

Environmental

Operating Temperature: -25 ~ 70°C
Storage Temperature: -40 ~ 85°C

AMC-6350 HARDWARE SPECIFICATION

System

CPU: 100MHZ, RISC-Based

SDRAM: 32K bytes

Flash ROM: 512K bytes

EEPROM: 2K bytes

Watchdog: embedded watchdog to auto reset system when system failure

Indicator LED:

PWR: Power Input plugged and On (Green)

RDY: System startup ready (Yellow)

STS: System fail (Red)

Network Interface

Ethernet: IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX

Connector: 1 * RJ-45, Auto MDI/MDI-X

Protection: Built-in 1.5 KV magnetic isolation protection

Ethernet LED:

LAN Activity: Green On & Blinking

Network Speed: 10M (Yellow Off) /100M (Yellow ON)

Power Requirements

System Power: external unregulated +24V (10-30V) Power Consumption: Max. 2W

Digital Input

Input Channels: 12 Channels

Input Type: source type

Input Mode: DI or event counting

DC Input: 30V max

Threshold Voltage: 3.8V

Responding Time to Host PC Request: <2ms

Isolation Voltage: 3.75KVrms

Digital Output

Output Channels: 4 Channels

Output Type: FET output, sink type

Output Mode: Level or pulse output with programmable pulse width

Working Range: 5-30VDC

Driving Capacity: 200mA @23°C

Responding Time to Host PC Request: <2ms

Output Initial State: Programmable

Isolation Voltage: 3.75KVrms

Isolated Power supply

Power supply: 5V/200mA, power on/off with Configuration

Isolation Voltage: 3KVdc

Features

Network Protocols: IP, TCP, UDP, HTTP, BOOTP, DHCP, Modbus/TCP

Configuration tool: Windows Utility

Logic Rules: Conditions of the DI/Counter values, Actions include DO/Pulse, Counter, Peer to Peer

Peer to Peer: One to one, multiple to one or one to multiple peers

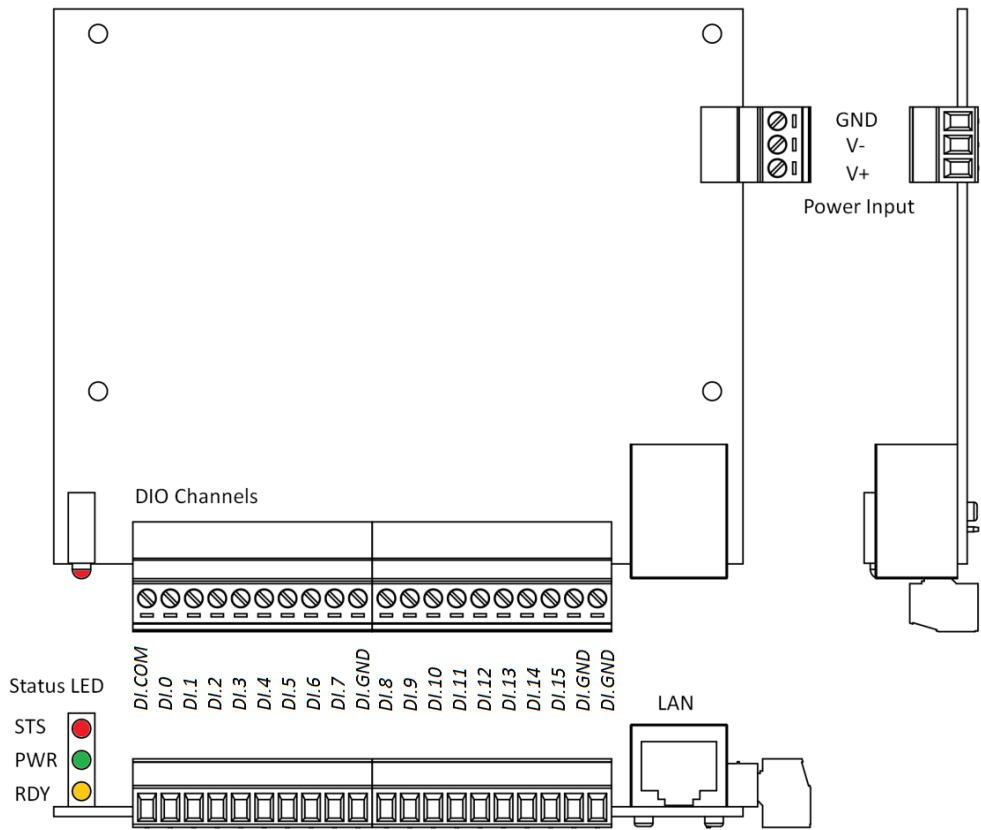
Environmental

Operating Temperature: -25 ~ 70°C

Storage Temperature: -40 ~ 85°C

CHAPTER 2 SPECIFICATIONS

AMC-6330 CONNECTIONS



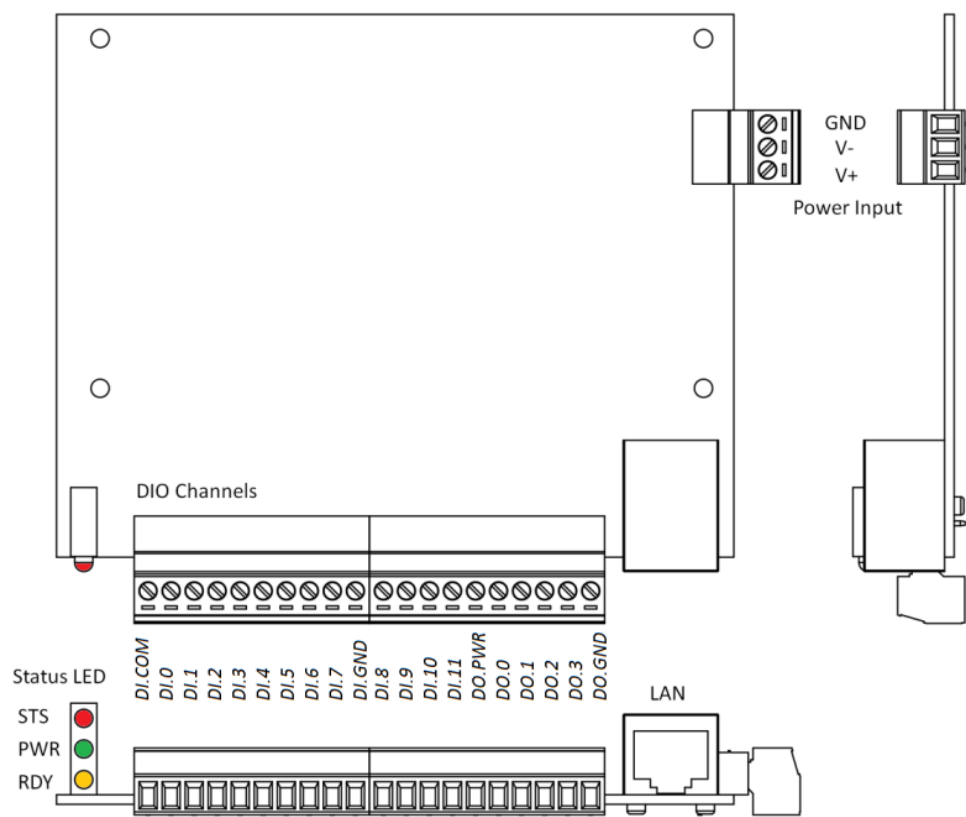
Connections Description

Connect	Function	Description
DIO Channels	DI/O	16CH DI, 20pins, Pitch 3.8mm
RJ45 LAN	Fast Ethernet	10/100 Base-TX Fast Ethernet
Power Input	Power Input	DC 24V (10~30V)

Status LED indicators

LED	Color	Indicates
RDY	Yellow	System Ready
	Blink	System Safe mode
PWR	Green	Power
STS	Red	System Failare

AMC-6350 CONNECTIONS



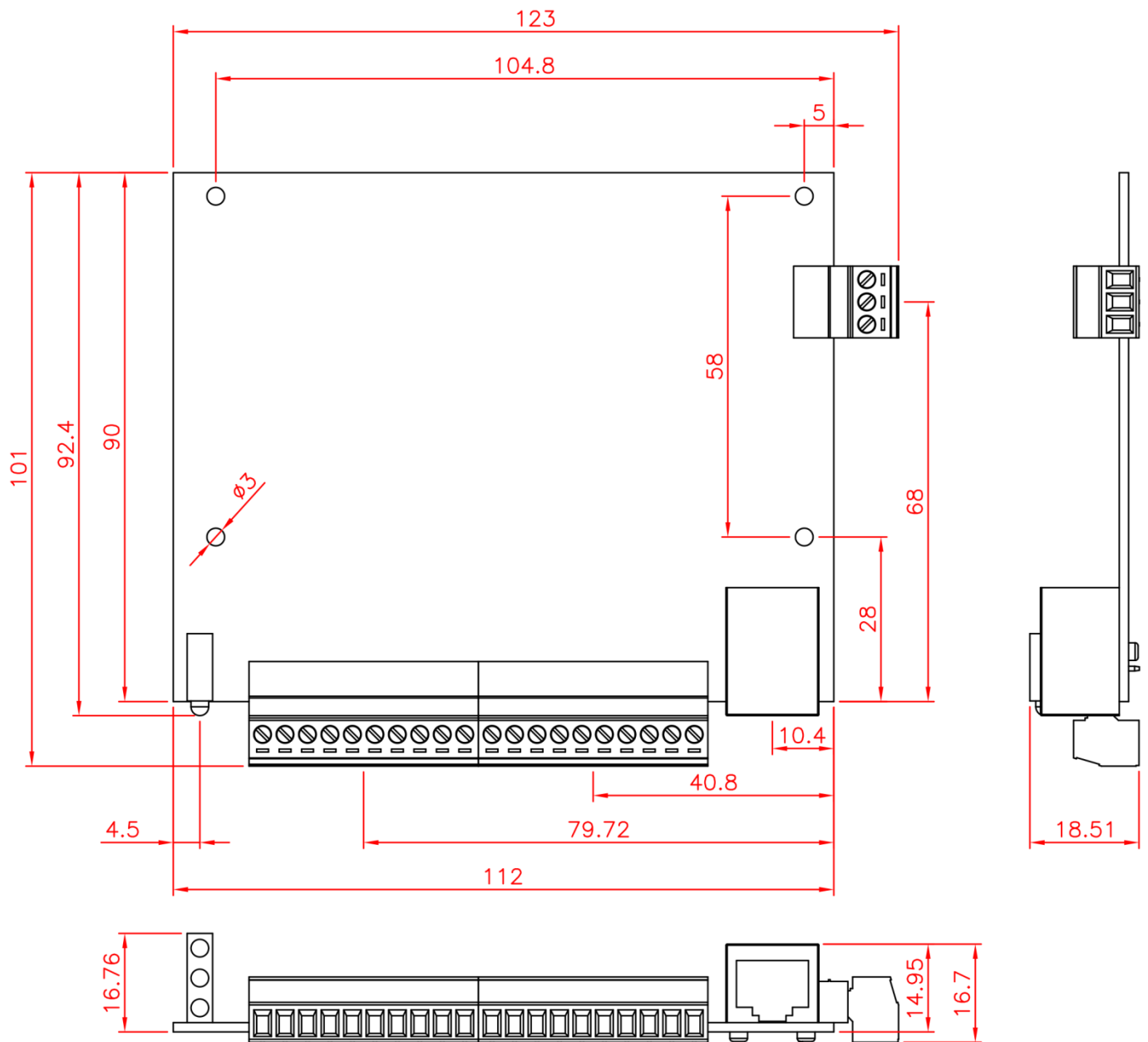
Connections Description

Connect	Function	Description
DIO Channels	DI/O	12CH DI and 4CH DO, 20pins, Pitch 3.8mm
RJ45 LAN	Fast Ethernet	10/100 Base-TX Fast Ethernet
Power Input	Power Input	DC 24V (10~30V)

Status LED indicators

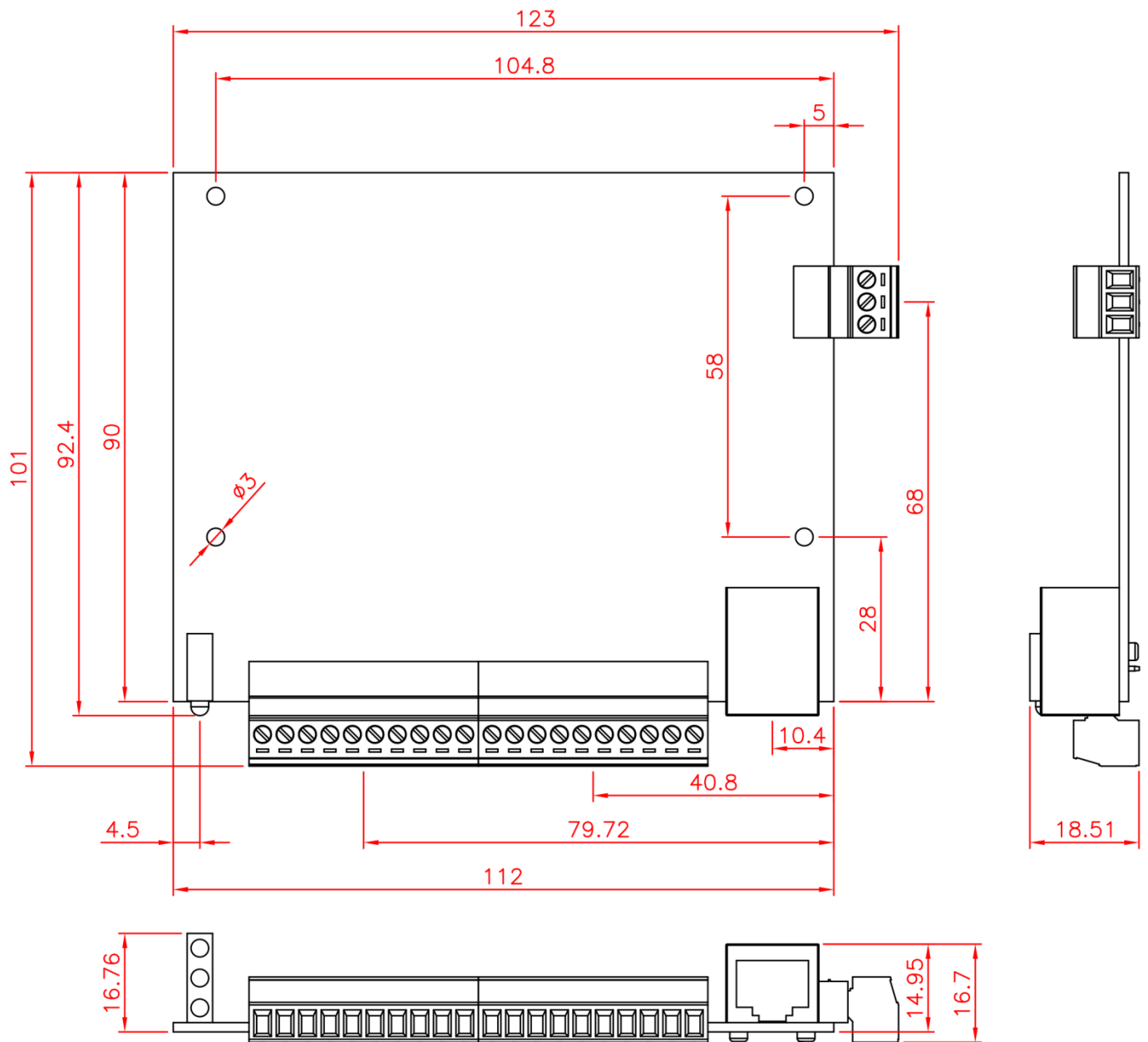
LED	Color	Indicates
RDY	Yellow	System Ready
	Blink	System Safe mode
PWR	Green	Power
STS	Red	System Failare

AMC-6330 DIMENSIONS



Dimensions: 123 (H) x 101 (W) x 18.51 (D) mm

AMC-6350 DIMENSIONS

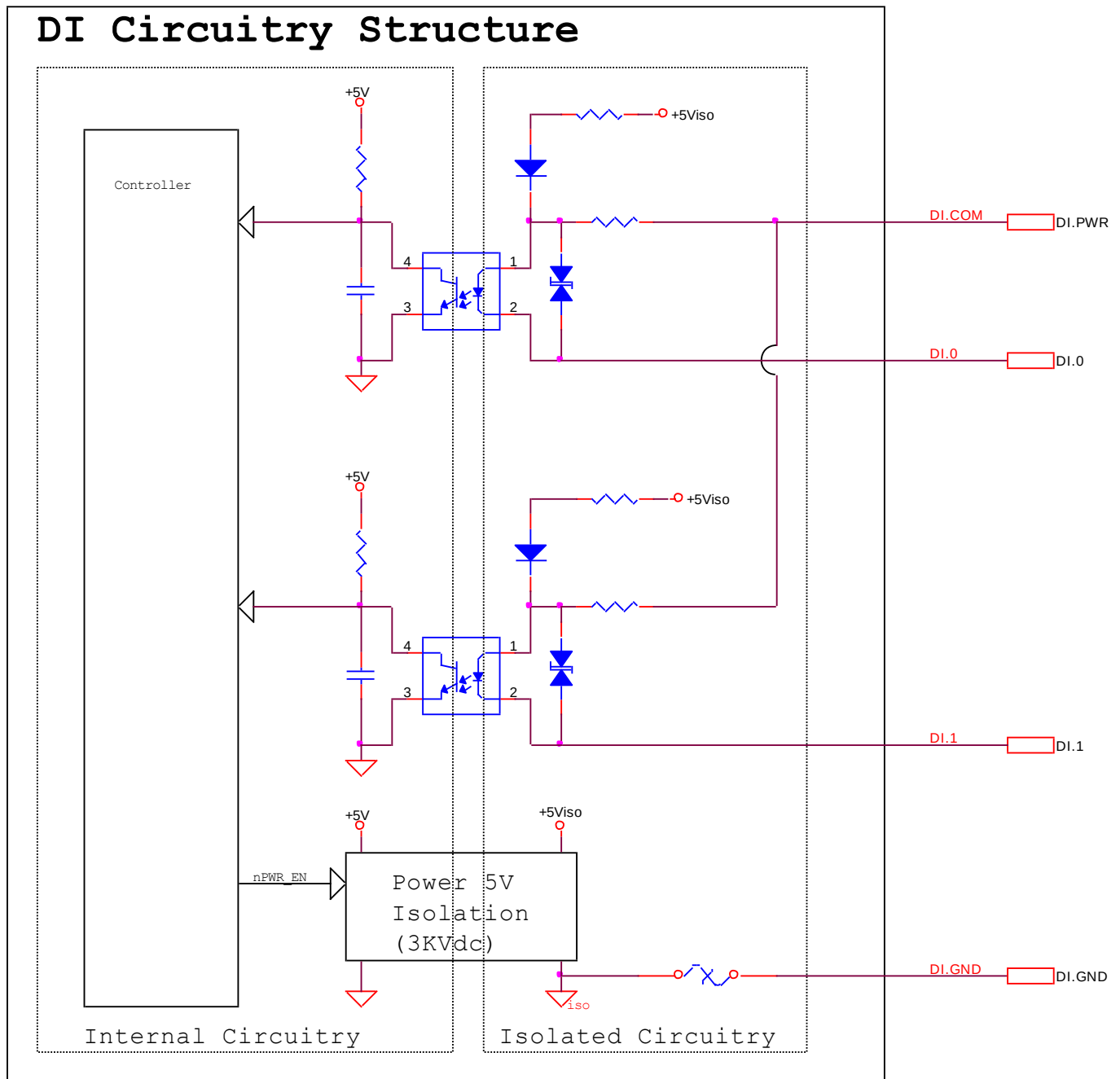


Dimensions: 123 (H) x 101 (W) x 18.51 (D) mm

CHAPTER 3 WIRING I/O CHANNELS

Follow the pin assignment to insert the I/O wires into the front contacts of the terminal block. Tighten the wire-clamp screws to prevent the I/O wires from being loosened.

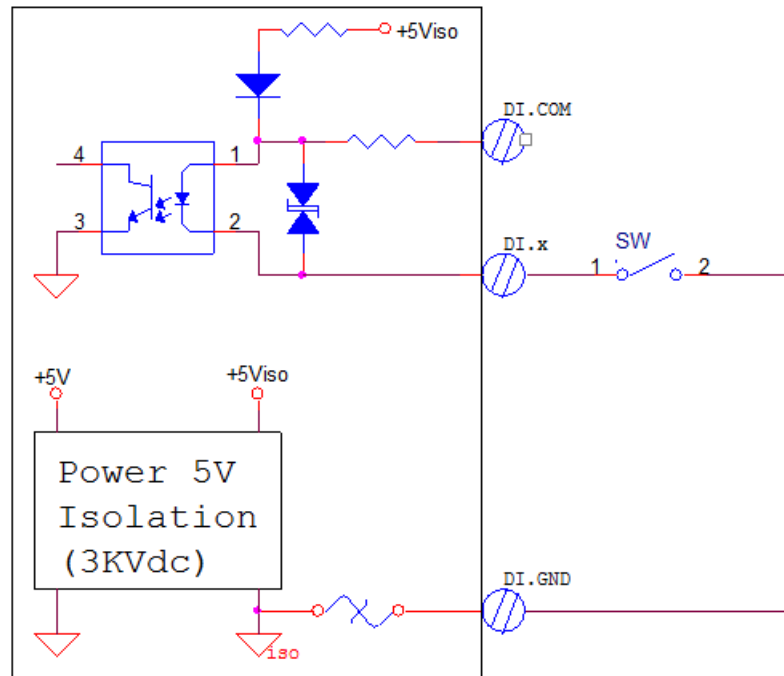
3-1 DI CIRCUITRY STRUCTURE



3-2 DI INTERFACE DRY CONTACT WIRING

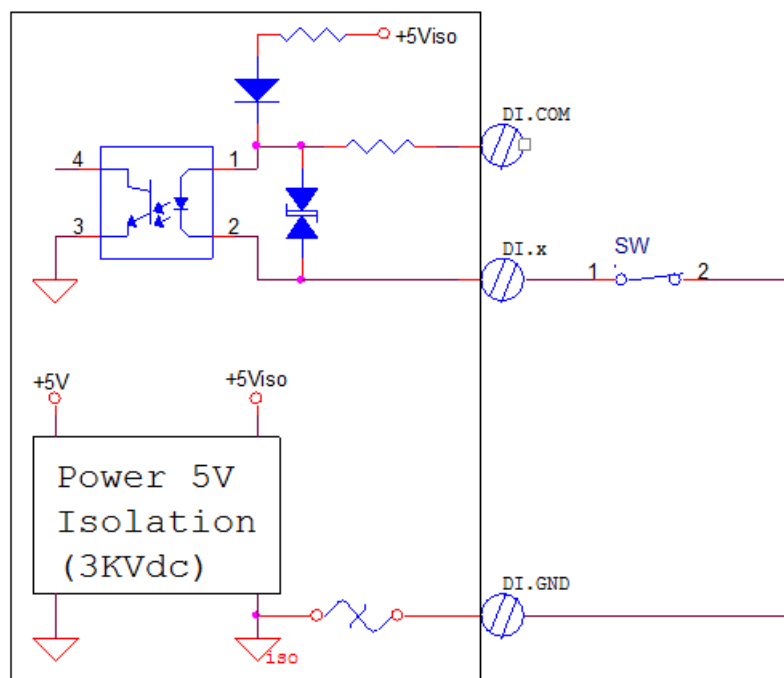
Digital Input OFF State (Readback as 0)

Dry Contact Open



Digital Input ON State (Readback as 1)

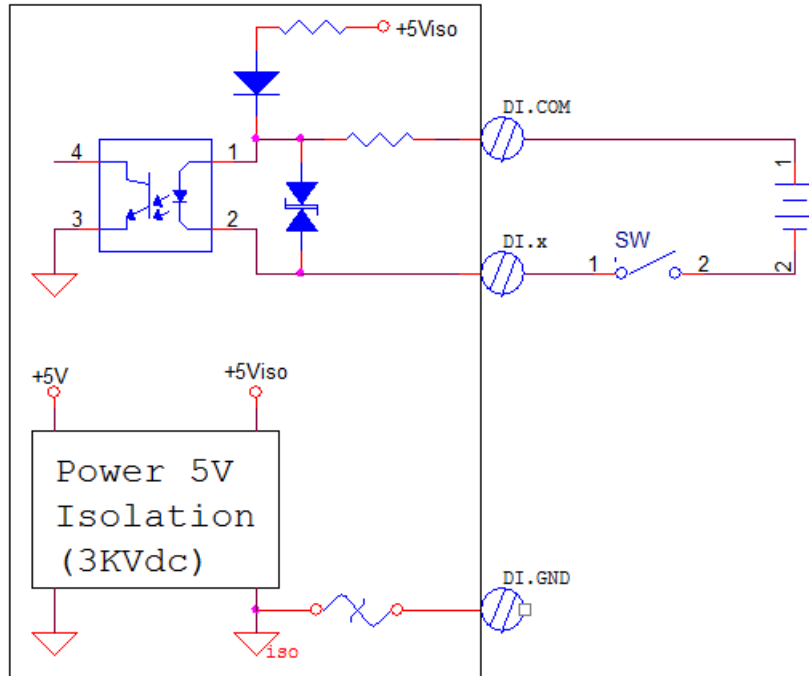
Dry Contact Close to GND



3-3 DI INTERFACE WET CONTACT WIRING

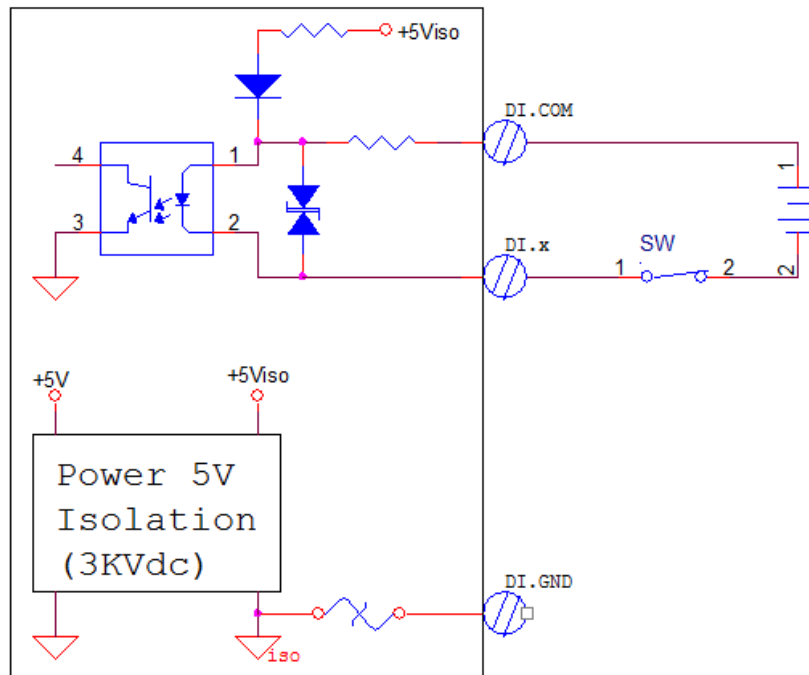
Digital Input OFF State (Readback as 0)

Wet Contact Open or <3 Vdc

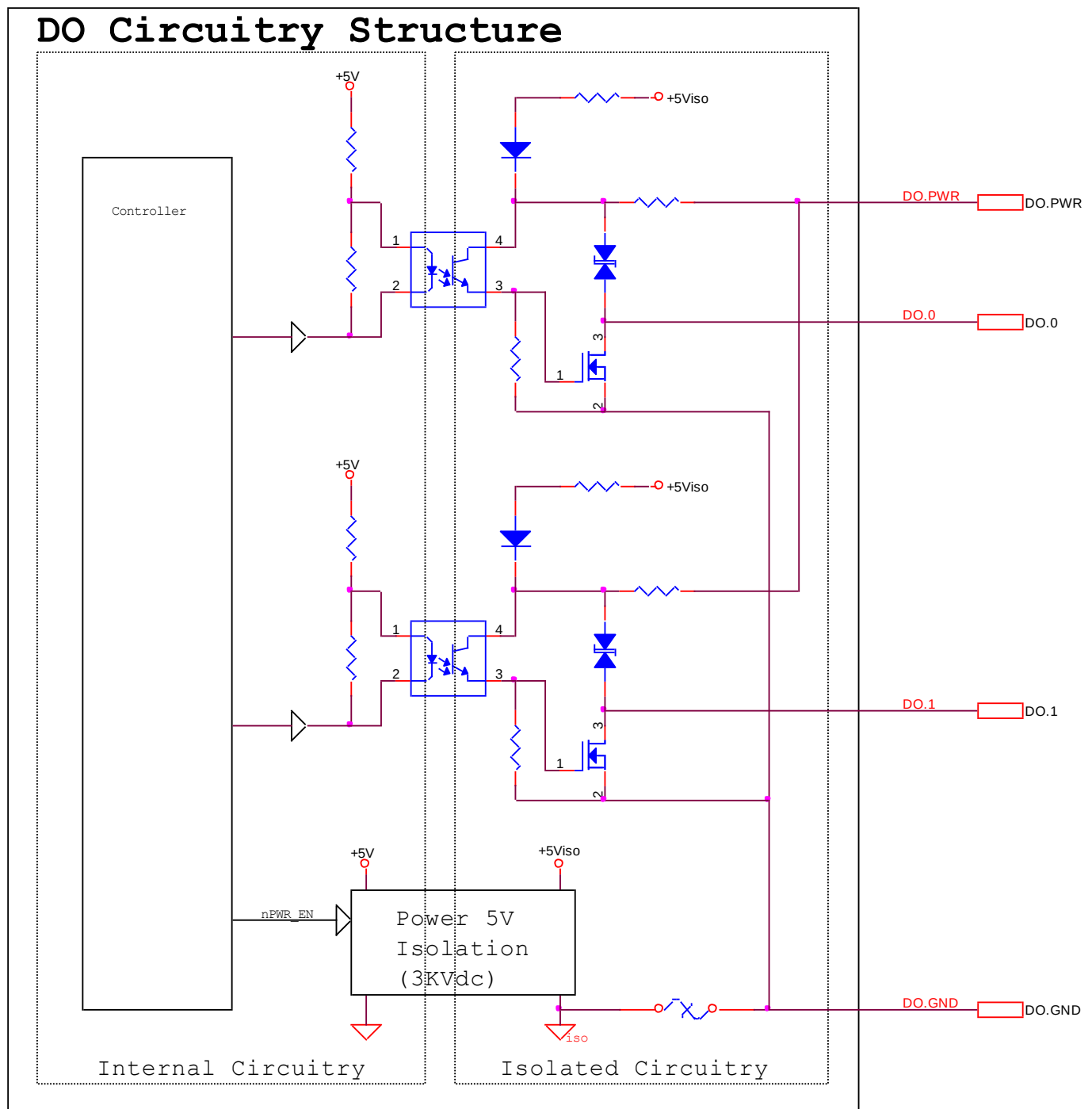


Digital Input ON State (Readback as 1)

Wet Contact +3 ~ 30Vdc



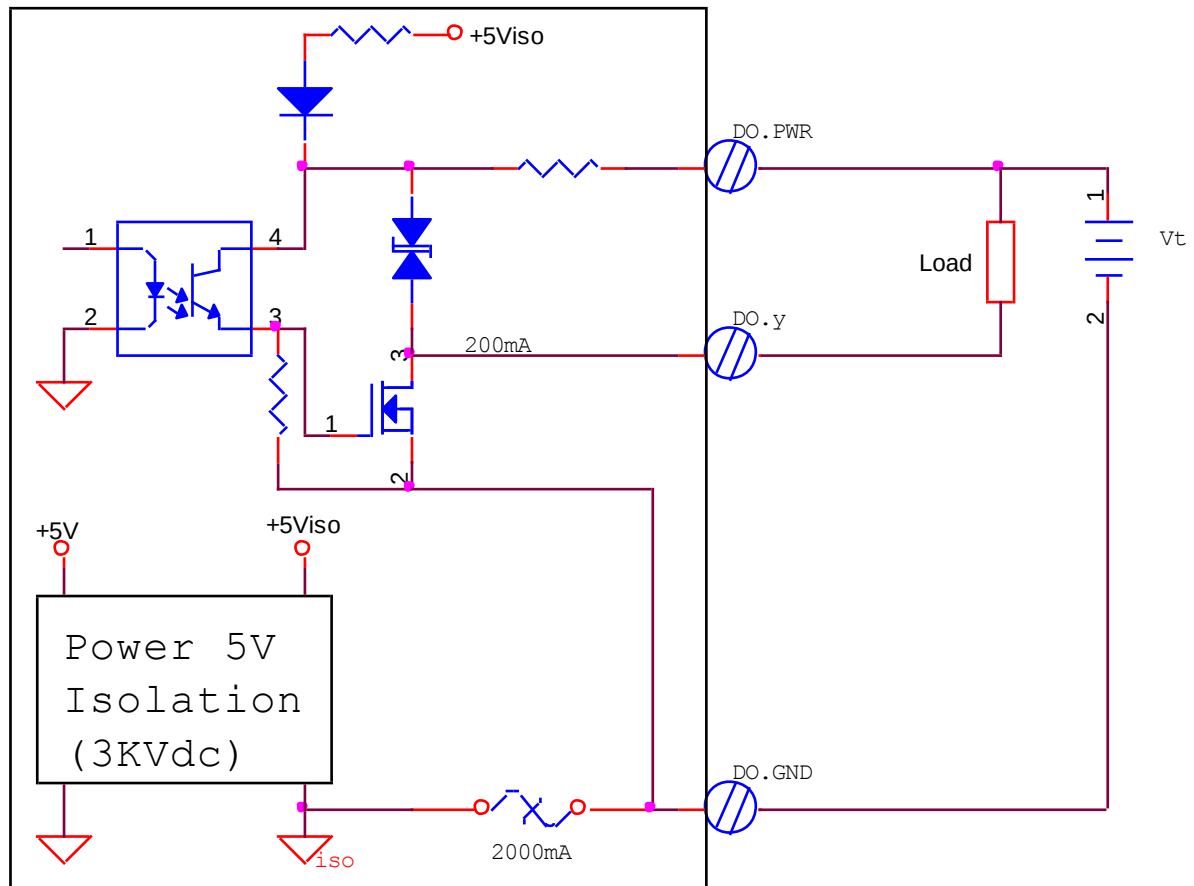
3-3 DO CIRCUITRY STRUCTURE (AMC-6350 ONLY)



3-4 DO INTERFACE WIRING (AMC-6350 ONLY)

Digital Output (Sink Type)	ON State (Readback as 1)	OFF State (Readback as 0)
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Short to GND

 Vt 

3-5 DI / DO WIRING AND ON / OFF LOGIC TABLE

AMC-6300 series provides an internal isolated voltage, called Viso, for DI/DO contacts. Viso can be turn on/off through management. The relationship of Viso state, DI/DO wiring and the result of channel is summarized below:

	Viso = ON (Default)		Viso = OFF	
	ON State	OFF State	ON State	OFF State
DI Dry Contact	SW=Close to GND	SW=Open	N/A	N/A
DI Wet Contact	Vt= 3.5 ~ 30Vdc and SW=Close	SW=Open or Vt< 3Vdc	Vt=3.5 ~ 30Vdc and SW=Close	SW=Open or Vt< 3Vdc
DO (6350 only has)	Load with Vt, 200mA max	Load without current	Load with Vt (Vt>=4Vdc), 200mA	Load without current

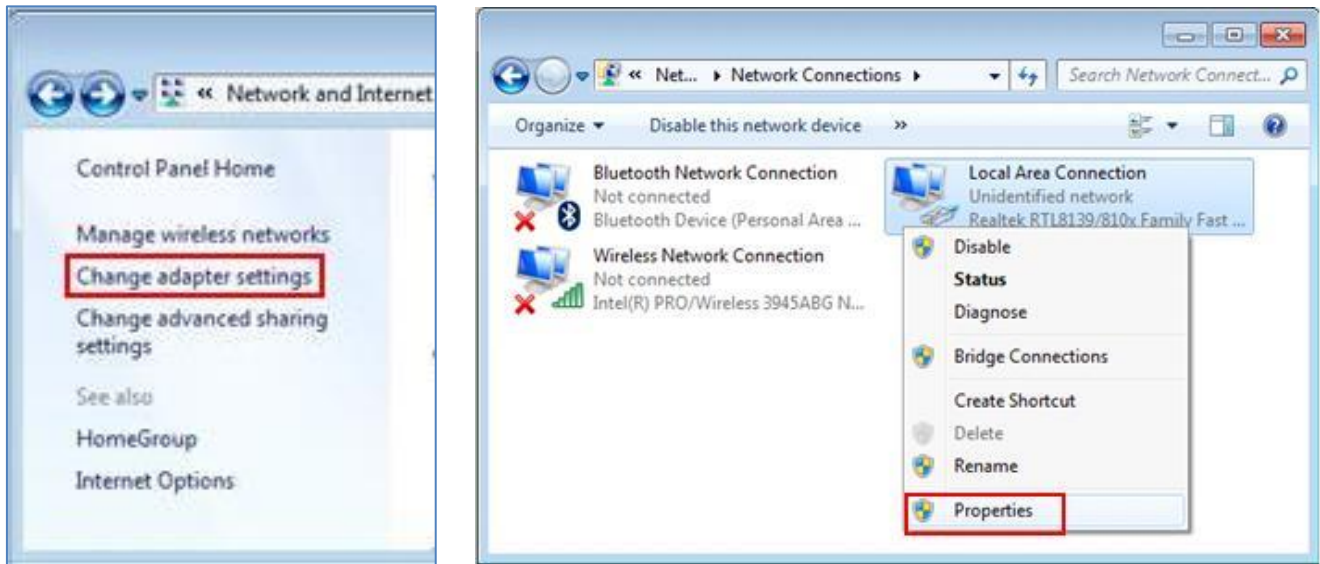
Viso: an isolated power supply

Vt: The power voltage from an external device

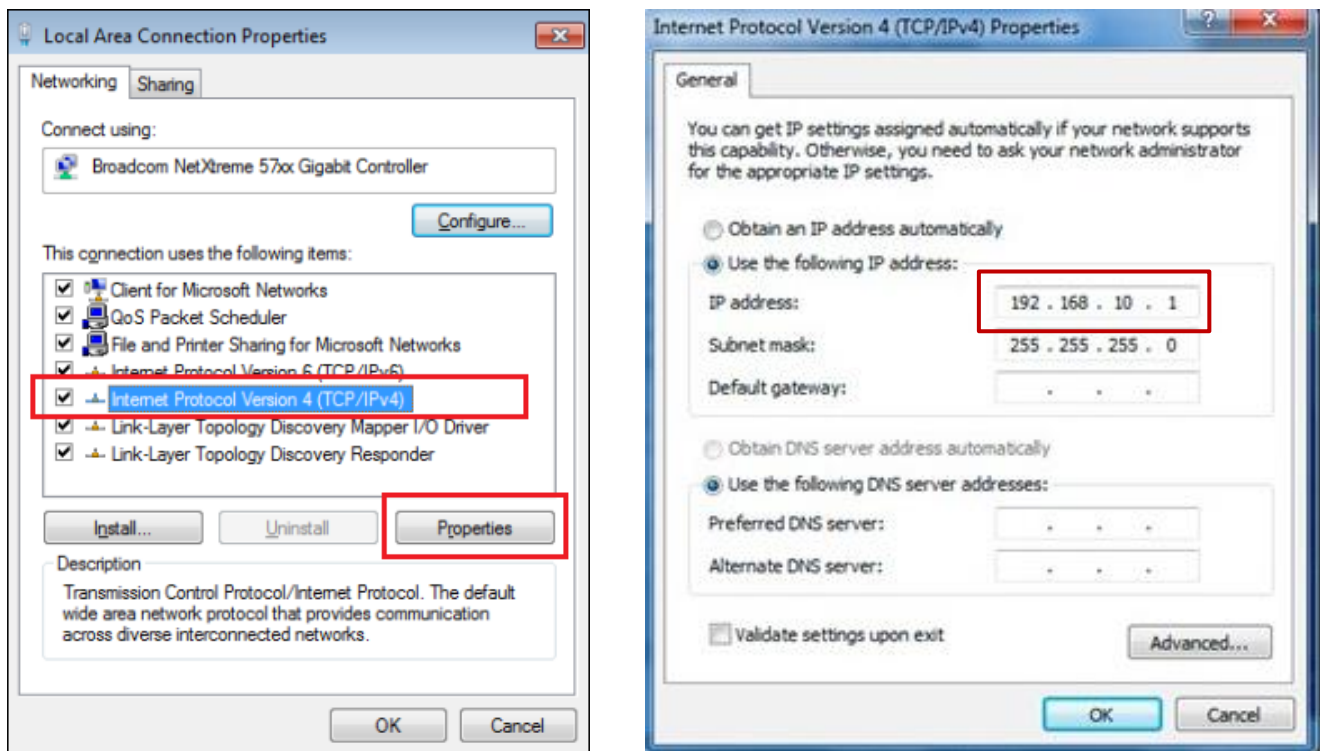
CHAPTER 4 NETWORK SETTING

PC NETWORK SETTING

1. PC network setting for first device: Control Panel -> Network and Sharing Center -> Change adapter setting -> Local Area Connection -> Properties



2. General -> Internet Protocol (TCP/IP) -> Properties -> Set IP and Network mask (Device default IP = 192.168.10.3)



APPENDIX