NuDAM -6058 28 Channels PPI Module

1. Introduction

NuDAM-6058 provides 28 digital I/O channels. It emulates industry standard mode zero configuration of 8255 programmable peripheral interface (PPI) chip. The PPI offers 3 ports A, B and C, the C port can also be subdivided into 2 nibble-wide (4-bit) port – C upper and C lower. A 50-pin SCSI II connector equipped with ND-6058 which is corresponding to PPI chip with 24 DIO points.

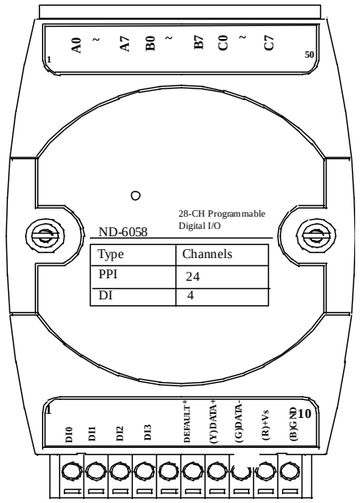
Features

- Industry standard 8255 programmable peripheral interface mode 0 emulation
- 24 programmable I/O channels
- 4 dedicated input channels
- completely TTL compatible I/O lines
- status read back capability
- direct bit set/reset capability
- direct interface with OPTO-22 compatible I/O modules
- programmable power on I/O status and output state
- programmable in/out polarity setting
- programmable host watchdog timer for host failure protection
- internal watchdog timer for device failure protection
- easy programming by software
- easy installation and wiring

Specifications

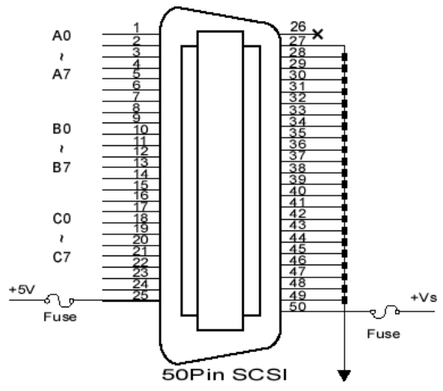
- Interface:
  - RS-485, 2 wires
  - Speed (bps): 600, 1200, 2400, 4800, 9600, 19.2k, 38.4k, 57.6k, 115.2k
- Programmable Digital Input/Output:
  - Channel number: 24
  - Logic level: TTL
  - Pull up resistor: 10KΩ
  - Maximum current: 0.5mA
- Digital Input:
  - Channel number: 4
  - Logic level: TTL
- Storage Temperature Range: -25 to 80 °C
- Operating Temperature Range: -10 to 70 °C
- Power Requirement: +10V to +30V_{DC} Unregulated with against power reversal
- Power Consumption: 1.60W
- Case: ABS with captive mounting hardware
- CE Class A Conformity

2. Pin Assignment



Pin Definitions

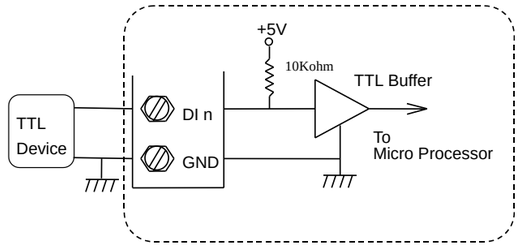
Pin #	Signal Name	Description
1	DI0	Digital input channel 0
2	DI1	Digital input channel 1
3	DI2	Digital input channel 2
4	DI3	Digital input channel 3
5		
6	DEFAULT*	Initial state setting
7	(Y)DATA+	RS-485 signal, positive
8	(G)DATA-	RS-485 signal, negative
9	(R)+VS	Power supply, +10V ~ +30Vdc
10	(B)GND	Ground



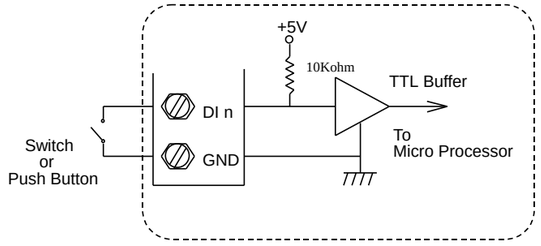
****The module is in DEFAULT mode when DEFAULT* pin connected to GND while applying power on the module.***
****Do not apply any power signal to DEFAULT* pin, just left it open or connected it to GND.***

3. Application Wiring

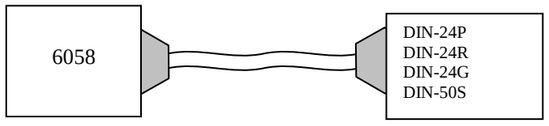
TTL Input



Digital Input Connect with Switch/Push Button



Open Collector Output with Power Load



DIN-24P
24-CH Opt-Isolated Digital Input Termination Board with DIN Socket

DIN-24R
24-CH Relay Output Termination Board with DIN Socket

DIN-24G
24-CH Grayhill I/O Modules Termination Board with DIN Socket

DIN-50S
50-Pin SCSI Connector Termination Board with DIN Socket

4. Installation

Equipment for Installation

A existing RS-485 network
NuDAM modules
DC Power supply (+10V~+30V)
Wires for power, communication and I/O signal

Installation Procedure

1. Configure every single NuDAM module under the administration utility.
2. The baud rate setting and calibration procedure must be done under the DEFAULT* mode.
3. The baud rate and check-sum status must be identity with the application network. The address ID must not be conflict with other modules on the network.
4. Plug the new module to the existing network.
5. Use the NuDAM administration utility to check the entire network.

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5. Command Set

There are three categories of NuDAM commands. The first is the ***general commands***, including set configuration command, read configuration, reset, read module's name or firmware version, etc. Every NuDAM can response to the general commands. The second is the ***functional commands***, which depends on functions of each module. Not every module can execute all function commands. The third is the ***special commands*** including functions about the programmable watchdog timer, safe values, and the programmable leading code. All the commands used in the NuDAM discrete input/output module are list in the following table.

Command	Syntax
General Command	
Set Configuration	**%(OldAddr)(NewAddr)(InputRange)(BaudRate)(DataFormat)**
Read Configuration	**$(Addr)2**
Read Module Name	**$(Addr)M**
Read Firmware Version	**$(Addr)F**
Software Reset	**$(Addr)RS**
Reset Status	**$(Addr)5**
Functional Command	
Digital Input	**$(Addr)6**
Digital Output	**#(Addr)T(OdataA)(OdataB)(OdataC)**
	#(Addr)(Port)(OutData)
	#(Addr)(Port)(ChannelNo)(BitData)
Synchronized Sampling	**#****
Read Synchronized Data	**$(Addr)4**
Set Programmable I/O Mode	**$(Addr)S(IOSts)**

Special Command	
Read Command Leading Code Setting	**~(Addr)0**
Change Command Leading Code Setting	**~(Addr)10(C1)(C2)(C3)(C4)(C5)(C6)**
Set Host Watchdog / Safety Value	**~(Addr)2(Flag)(TimeOut)(SafeValue)**
Read Host WatchDog / Safe Value	**~(Addr)3**
Host is OK	**~****
I/O Polarity Setting	**~(Addr)CP(State)**
Read Polarity Setting	**~(Addr)CR**

**** The module accepts baud rate and checksum configuration setting under the DEFAULT* mode.***

**** Please refer the manual in PDF file format in the CD for detail description of these commands.***

6. ADLINK on the Internet

The full version manual can be download from website
http://www.adlink.com.tw/download/manual/index.htm#6000

Homepage: http://www.adlink.com.tw
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