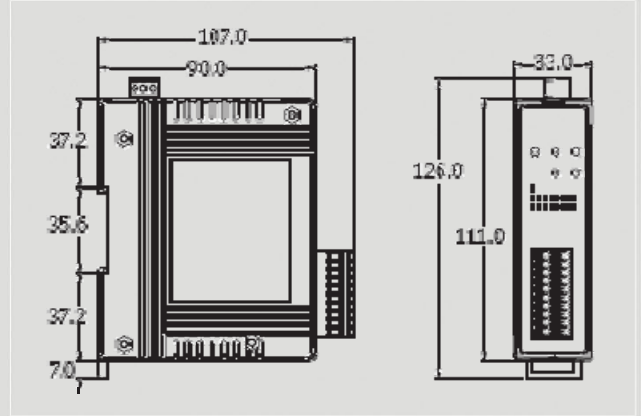# PROFINET Series Products

## PROFINET I/O Module

PFN-2051

Dimensions

The PFN-2051 is one of the PROFINET IO series products produced by ICP DAS. It provides the PROFINET IO communication protocol with any PROFINET IO controllers. It has 16-channel isolated digital inputs, and it provides ±4kV ESD protection contacting for all terminals. You can access and configure it by using the GSDML file in any PROFINET Engineering tool.

Features

- Protocol: PROFINET IO Device
- PROFINET Conformance Class B and RT Class 1
- Cyclic Time: 1ms (min)
- Generic GSDML File Provided (Version 2.25)
- DI ON/OFF voltage level: +10 ~ +50 VDC / +4V max.
- 4 kV Contact ESD protection for any terminal
- Wide range of power input (+10 ~ +30 VDC) and operating temperature (-25 ~ +75 °C)

Internal I/O Structure

I/O Pin & Wire Connection
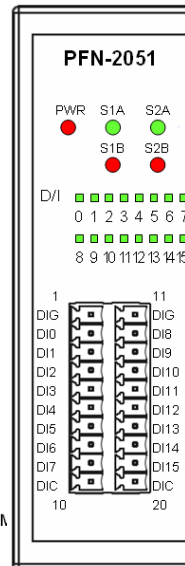
Terminal No.	Pin Assignment	Terminal No.	Pin Assignment
01	DI GND	11	DI GND
02	DI0	12	DI8
03	DI1	13	DI9
04	DI2	14	DI10
05	DI3	15	DI11
06	DI4	16	DI12
07	DI5	17	DI13
08	DI6	18	DI14
09	DI7	19	DI15
10	DI COM	20	DI COM
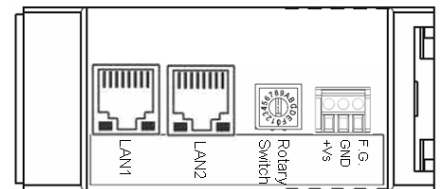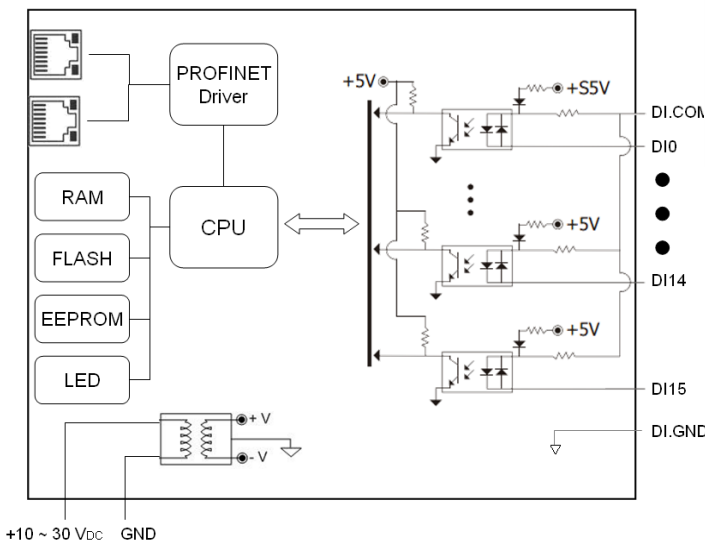
Wire Connection
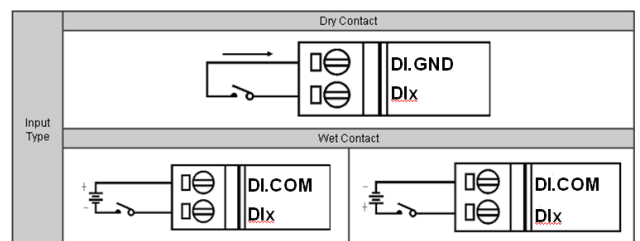
Hardware Specifications

Hardware	
CPU	32-bit CPU Core
RAM/Flash/EEPROM	32 MB / 4 MB / 8 KB
Watchdog	CPU built-in
ESD Protection	4 kV class B
PROFINET Interface	
Protocol	PROFINET IO Device
Conformance Classes	Class B
Services	RTC, RTA, CL-RPC, DCP, LLDP, I&M
Cycle Time	1 ms (min)
Ethernet Interface	
Controller	10/100Base-TX Ethernet Controller (Auto-negotiating, Auto_MDIX)
Connector	RJ-45 x 2 (LED indicators) , Integrated 2-Port Switch
Services	ICMP, IGMP, ARP, DHCP, TELNET, TFTP, SNMP, VLAN Priority Tagging
Digital Input	
Channels	16, Dry Contact: Source, Wet Contact: Sink or Source
Dry Contact Level	Off Voltage Level : Open, On Voltage Level : Close to GND
Wet Contact Level	Off Voltage Level : +4 VDC max., On Voltage Level : +10 VDC to +50 VDC
LED	
Round LED	PWR LED, S1A LED, S1B LED, S2A LED, S2B LED
Power	
Power supply	Unregulated +10 ~ +30 V_{DC}
Protection	Power reverse polarity protection, Over-voltage brown-out protection
Power Consumption	3.5 W
Mechanism	
Installation	DIN-Rail
Dimensions	33 mm x 107 mm x 126 mm (W x L x H)
Environment	
Operating Temp.	-25 ~ 75 ℃
Storage Temp.	-30 ~ 80 ℃
Humidity	10 ~ 90% RH, non-condensing

Applications
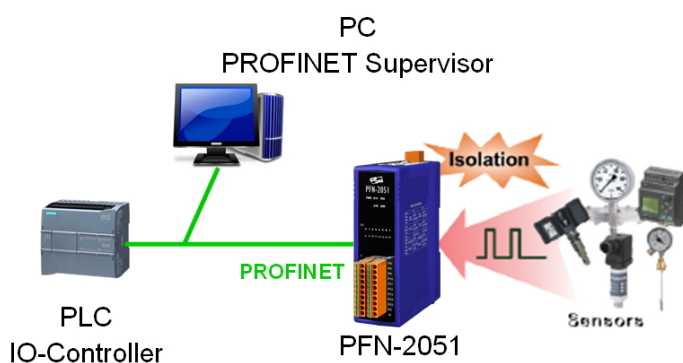
Ordering Information

PFN-2051 CR	PROFINET I/O Module (Isolated 16-ch DI) (RoHS)