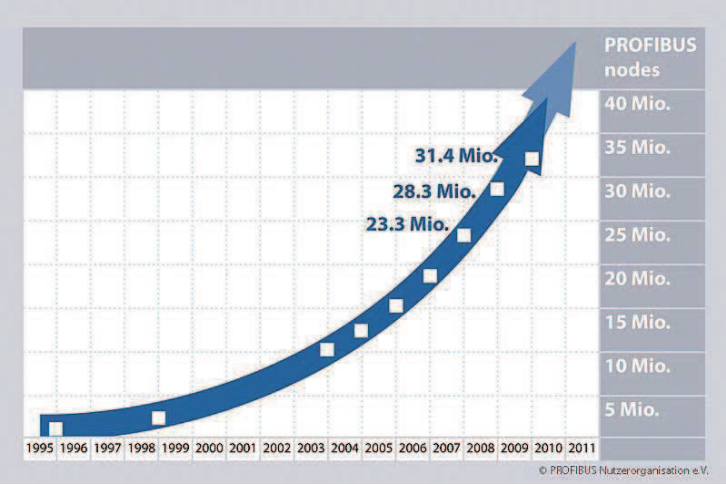
PROFIBUS Remote I/O Modules

6

6.1. Overview

PROFIBUS (Process Field Bus) is a standard for fieldbus communication in automation technology and was first promoted (1989) by BMBF (German department of education and research). It is the world's most successful fieldbus, with more than 31 million devices installed by the end of 2009. Over 5.4 million of these were in the process industries.



There are two variations of PROFIBUS in use today. The most commonly used PROFIBUS DP, and the lesser used PROFIBUS PA.

- **PROFIBUS DP (Decentralized Peripherals)**
  It is used to operate sensors and actuators via a centralized controller in production (factory) automation applications.

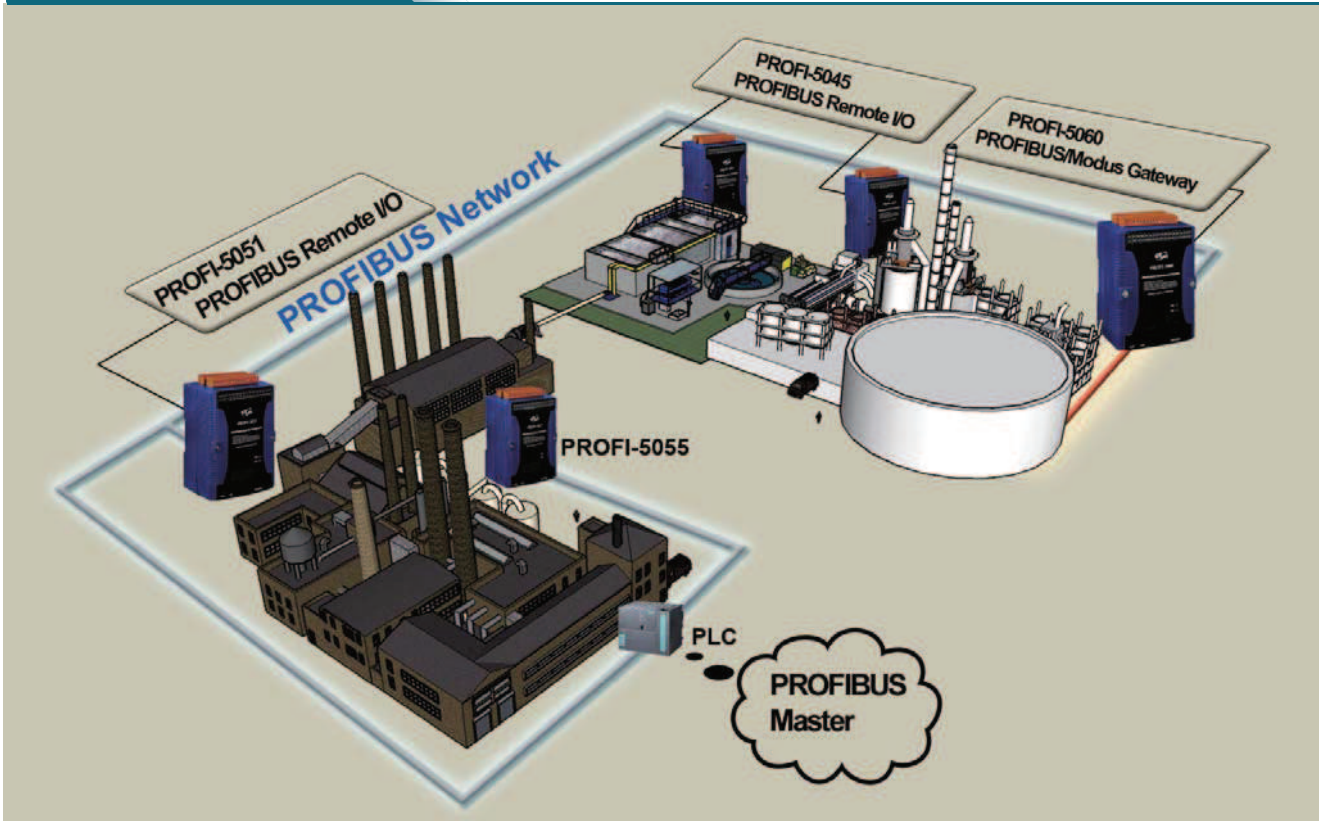
- **PROFIBUS PA (Process Automation)**
  It is used to monitor measuring equipment via a process control system in process automation applications. This variant is designed for use in explosion/hazardous areas.

ICP DAS has been developing various PROFIBUS DP Slave products for several years. We offer converters, gateways, and remote I/O to our customers, and help them to resolve technology problems.

• Features

- Baudrate up to 12Mbit/s.
- Maximum 244 bytes input and 244 bytes output per slave.
- Slave configuration and parameters are set from the master side by GSD file.
- Allow Multi-master system.
- Fast Cyclic data communication between master and slave.
- 124 slaves can be put in Data Exchange.
- 32 stations on one segment.

• Applications

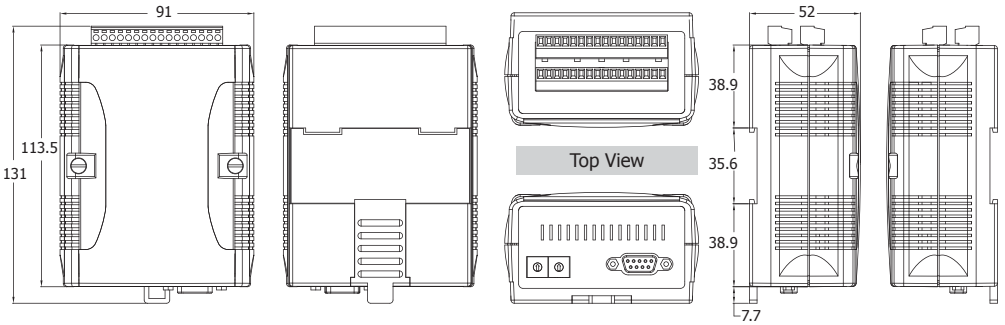


• Hardware

1. Installation

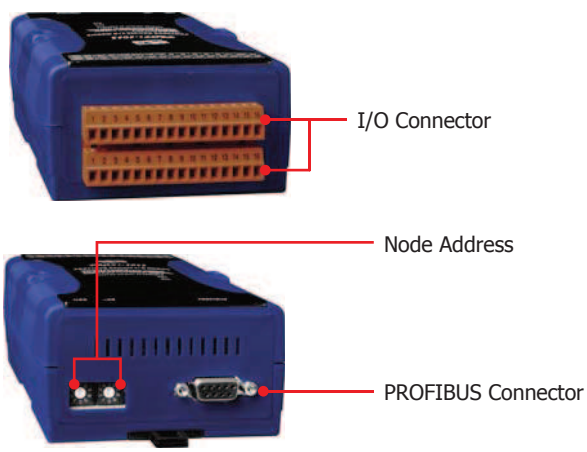
DIN-Rail Mounting

2. Mechanical



Front View | Rear View | Bottom View | Left View | Right View

3. Appearance

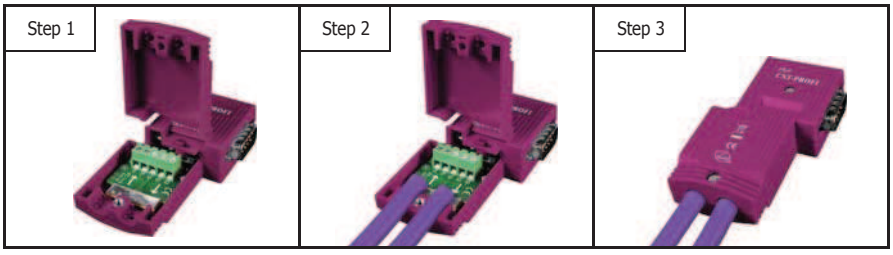


6.2. PROFIBUS Digital I/O Modules

PROFIBUS Digital I/O Modules							
Model Name	**PROFI-5045**	**PROFI-5050**	**PROFI-5051**	**PROFI-5052**	**PROFI-5053**	**PROFI-5055**	**PROFI-5060**
Pictures							
DI							
Channels	-	16	24	12	24	8	8
Isolation Voltage	-	-	3750 V_{rms}	5000V_{rms}	-	3750 V_{rms}	3750 V_{rms}
Contact	-	Dry	Wet	Wet	Dry	Wet	Wet
Sink/Source(NPN/PNP)	-	Sink/Source	Sink/Source	Sink/Source	-	Sink/Source	Sink/Source
ON Voltage Level	-	+4~ +30 V_{DC}	+10~ +50 V_{DC}	+4~ +30 V_{DC}	Open	+10~ +50 V_{DC}	+4~ +30 V_{DC}
OFF Voltage Level	-	+1 V_{DC} Max.	+4 V_{DC} Max.	+1 V_{DC} Max.	Close to IN.GND	+4 V_{DC} Max.	+1 V_{DC} Max.
Input Impedance	-	-	10 KΩ	3 KΩ	-	10 KΩ	3 KΩ
DO							
Channels	24	8	-	-	-	8	4
Isolation Voltage	3750 V_{rms}	-	-	-	-	3750 V_{rms}	-
Type	Open Collector	Open Collector	-	-	-	Open Collector	Relay (Form C)
Sink/Source(NPN/PNP)	Sink	Sink	-	-	-	Sink	-
Load Voltage	+10 ~ +40 V_{DC}	+10 ~ +30 V_{DC}	-	-	-	+10 ~ +40 V_{DC}	0 ~ 125 V_{AC} 0 ~ 30 V_{DC}
Max. Load Current	650mA/channel	30 mA/channel	-	-	-	650 mA/channel	0.6 A @ 125 V_{AC} 2 A @ 30 V_{DC}
Communication							
Connector	9-pin female D-Sub						
Baud Rate (bps)	9.6 k, 19.2 k, 45.45 k, 93.75 k, 187.5 k, 500 k, 1.5 M, 3 M, 6 M, 12 M						
Controller	Profichip VPCLS2						
Transceiver	ADI ADM2486						
Protocol	CDP-V0						
Node Address	0~99 selected by rotary switch						
System							
ESD Protection	4 kV Contact for each channel						
Isolation	3000 V_{DC} for DC-to-DC, 2500 V_{rms} for bus-to-logic						
Watchdog	Yes						
Power							
Input range	Unregulated +10 ~ +40 V_{DC}						
Power Consumption	1 W	1 W	1 W	1 W	1 W	1 W	2.1 W
Mechanism							
Installation	DIN-Rail						
Dimensions (W x L x H)	91 mm x 131 mm x 52 mm						
Environment							
Operating Temperature	-25 ~ +75°C						
Storage Temperature	-30 ~ +80°C						
Relative Humidity	10 ~ 90% RH, non-condensing						

Accessory

Optional PROFIBUS connector: CNT-PROFI



Installation

For more products refer to Industrial Fieldbus Catalog

- CAN bus
- CANopen
- DeviceNet
- J1939
- PROFIBUS
- HART
- EtherNet/IP
- BACnet