

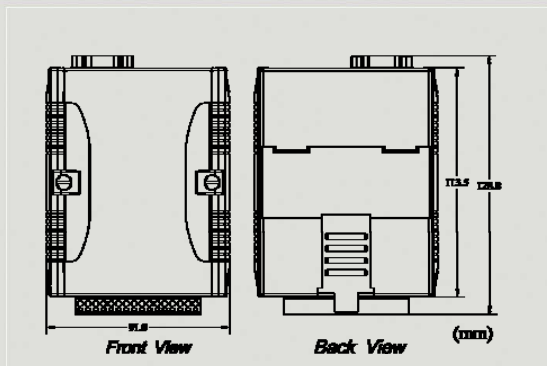


# PROFIBUS Series Products

## PROFIBUS Remote I/O Module



PROFI-5053



Dimensions

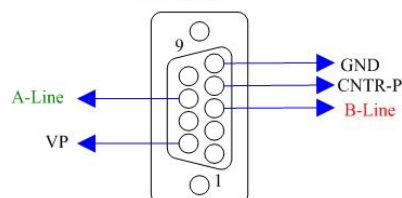
The PROFI-5053 is one of the PROFIBUS DP series products produced by ICP DAS. It provides the PROFIBUS DP communication protocol with any DP-Masters. The PROFI-5053 provides  $\pm 4\text{KV}$  ESD protection contacting for all terminals (include I/O Terminals and PROFIBUS connector). By applying the PROFI-5053, users can easily establish a PROFIBUS DP network with other DP-Masters. In advance, it can be used in the application of building automation, remote data acquisition, environment control and monitoring, laboratory equipment & research, factory automation, etc..

### Features

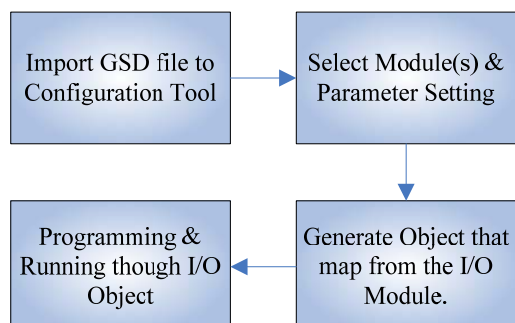
- Support for PROFIBUS DP-V0 protocol
- Detect transmission rate automatically(Max. 12Mbps)
- Address 0~99 set by rotary switches
- Network Isolation Protection
- $3000\text{V}_{\text{DC}}$  isolation protection on PROFIBUS side
- $4\text{KV}$  ESD Protection (contact for any terminal).
- Wide range of power input (DC  $10\sim 40\text{V}_{\text{DC}}$ ) and operating temperature ( $-25^{\circ}\text{C}\sim +75^{\circ}\text{C}$ )

### Pin Assignments

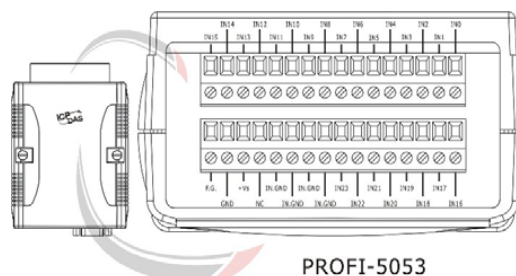
Female D-Sub Connector



### Design Flowchart



| Pin No. | Signal | Meaning                             |
|---------|--------|-------------------------------------|
| 3       | B-Line | Receive/Transmit data - plus        |
| 4       | CNTR-P | Repeater control signal, RTS signal |
| 5       | GND    | Power ground of active terminator   |
| 6       | VP     | Power 5 volt of active terminator   |
| 8       | A-Line | Receive/Transmit data - minus       |



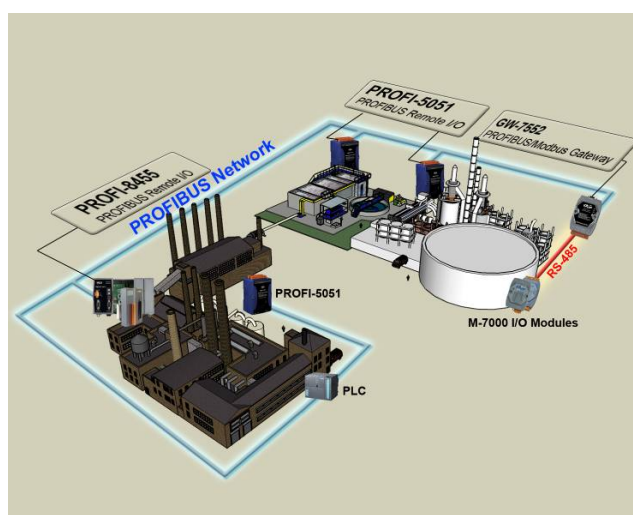
PROFI-5053



## Hardware Specifications

| Hardware                  |                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| ESD Protection            | 4 kV class A                                                                                                                |
| PROFIBUS Interface        |                                                                                                                             |
| Controller                | Profichip VPCLS2                                                                                                            |
| Transceiver               | ADI ADM2486                                                                                                                 |
| 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                                                      |
| Transmission Distance (m) | Depend on baud rate (for example, max. 1200 m at 9.6 kbps )                                                                 |
| Isolation                 | 3000 V <sub>DC</sub> for DC-to-DC, 2500 Vrms for bus-to-logic                                                               |
| Protocol                  | DP-V0                                                                                                                       |
| LED                       |                                                                                                                             |
| Round LED                 | PWR LED, RUN LED                                                                                                            |
| Power                     |                                                                                                                             |
| Power supply              | Unregulated +10 ~ +40 V <sub>DC</sub>                                                                                       |
| Protection                | Reverse polarity protection, Over-voltage brown-out protection                                                              |
| Power Consumption         | 1 W                                                                                                                         |
| I/O                       |                                                                                                                             |
| Digital Input             | 24 Channels (Dry Contact), Non-Isolated with common ground.<br>Off Voltage Level: Close to IN.GND<br>On Voltage Level: Open |
| Mechanism                 |                                                                                                                             |
| Installation              | DIN-Rail                                                                                                                    |
| Dimensions                | 91 mm x 128 mm x 52 mm (W x L x H)                                                                                          |
| Environment               |                                                                                                                             |
| Operating Temp.           | -25 ~ 75°C                                                                                                                  |
| Storage Temp.             | -30 ~ 85°C                                                                                                                  |
| Humidity                  | 5 ~ 95% RH, non-condensing                                                                                                  |

## Application



## Ordering Information

|                      |                                                                  |
|----------------------|------------------------------------------------------------------|
| <b>PROFI-5053 CR</b> | PROFIBUS Remote I/O Module<br>(24-Ch Non-Isolated Digital Input) |
|----------------------|------------------------------------------------------------------|