

# TECHNOLOGIEN MIT VORSPRUNG



## isPro Gate

Slave Interface for Profibus DP, DP/V1 and PA

**User Manual**



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# CHAPTER 1 :

## Hardware Installation

### Introduction

As the fieldbus standard Profibus advances to more and more production sectors the need for devices to fit to a Profibus system increases. Devices which already include a RS-232 interface should be connectable to Profibus in an inexpensive and easy way.

Devices which are sold in small unit numbers don't justify the time and money required for the development of a vendor-specific Profibus interface. Nevertheless the need for a Profibus connection remains. The *is Pro Gate* provides an efficient solution for this kind of problem. It enables a Profibus access without any hardware changes to existing products. In case of rising sales in the area of Profibus the interface can be integrated into the device with an add-on board. In this case the data exchange is linked through a dual ported RAM, thus increasing the speed of the data exchange between the device and the interface.

The *isPro Gate* supports the Profibus protocol classes DP and DP/V1. With an optional Profibus profile chip the device can be accessed in conformance to the Profibus PA standard. The physical layer remains unchanged so the IEC-1158-2 physical specification is not supported. This is of special interest for all devices which want to access the additional functionality provided by Profibus PA without having any need for intrinsic-safe transmission.

The areas of applications are limitless as far as the basic DP standard is concerned. The main feature that distinguishes the *isPro Gate* from products of other vendors is that it also includes the acyclic services of DP/V1 (AC2). The interface can be rail- or

wallmounted. The serial communication protocol of the RS-232 connection is adaptable to the special needs of any customer.

## Documentation

This documentation contains important information for the secure and correct operation of the is Pro Gate interface. Please read this documentation carefully before using the device.

Throughout the manual different fonts are used to indicate different meanings. A short explanation can be found below:

|              |                                    |
|--------------|------------------------------------|
| Courier New: | file names, code sequences         |
| Arial        | names, commands, remarks           |
| ATTN:        | marks generally useful information |

## Our Service

In case you have any questions which can not be solved by this manual, please contact our service by phone, fax or e-mail.

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# Installation

## Technical Data

### Hardware

|                    |                          |
|--------------------|--------------------------|
| Dimensions:        | 75 x 55 x 110 mm         |
| Operating voltage: | 24 V DC                  |
| Operating current: | 100 mA                   |
| Processor:         | H8/3003                  |
| DPR:               | 2 kByte (optional extra) |
| RAM:               | 64 kByte                 |
| ROM:               | 256 kByte                |

### Interfaces

|                     |                         |
|---------------------|-------------------------|
| Profibus:           | RS485                   |
| Transmission speed: | 9,6 kBaud to 12,0 MBaud |
| Application:        | RS-232                  |
| Transmission speed: | 9,6 kBaud               |

### Firmware

|                 |                        |
|-----------------|------------------------|
| Profibus-DP:    | Slave                  |
| Profibus-DP/V1: | Slave                  |
| Profibus-PA:    | Slave (optional extra) |

### Data Length

|                         |               |
|-------------------------|---------------|
| Cyclic data (in + out): | max. 160 Byte |
| Acyclic data:           | max. 130 Byte |
| Config string length:   | max. 128 Byte |

## Connection

The isPro Gate interface can be connected to the Profibus via screw terminals. Connect your data device to the RS-232 interface of the converter. The converter requires a 24 V power supply.

*Figure 1: The Slave isPro Gate*

*Power connector on the lower right hand side,  
RS-485 connector and RS-232 connector on the upper side*

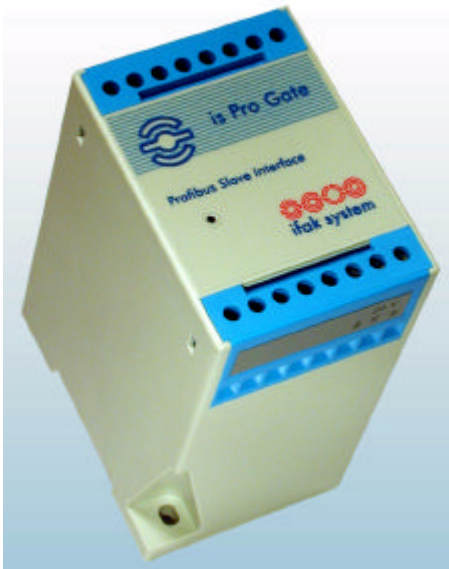


Figure 2: Pinning RS-232 (application device) and RS-485 (Profibus)



Figure 3: Pinning Voltage



### Version Information

|             |              |
|-------------|--------------|
| DP Firmware | version 1.51 |
| PA Firmware | version 2.0  |

## Termination Resistors

On the device there are three jumpers in order to set the bus termination resistors. Resistors are necessary for all stations which have to terminate the Profibus line.

The jumpers are not set on delivery. The cover plate has to be removed first.

When you use the bus termination resistors, please set all three jumpers together.

*Figure 4: Bus termination resistors: The Jumpers are not set.*

