

## **Manual IFC PBDP**

### **Foreword**

This manual presents installation and function description for the expansion card IFC PBDP.

The module is connectable to the terminals in the E-series with expansion slots.

Besides this manual, the following manuals are also available.

- E-series, Manual
- E900/E910, Manual
- E-series, Installation
- E900/E910, Installation

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All examples in this manual are used solely to promote understanding of how the equipment works and its operation. Beijer Electronics AB take no responsibility if these examples are used in real applications.

Because of the great many application areas for this equipment, the user himself must acquire the appropriate knowledge needed to use the equipment correctly for particular applications.

Beijer Electronics AB absolves itself of all responsibilities for damage and injuries that may occur during installation or use of this equipment.

Beijer Electronics AB absolves itself of all responsibilities for any type of modification made to the equipment.

Beijer Electronics AB will take no responsibility of damage on products caused by connected products from other manufactures.



If you have any comments or recommendations about the manual, please fill out this form to help us improve. Post, fax or e-mail this page, or copy of it to our address below.

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## **Safety precautions**

### **General**

- Check the delivery for transport damage. If damage is found, advise your supplier.
- The product fulfils the requirements of article 4 of EMC directive 89/336/EEC.
- Do not use the product in an explosive environment.
- Modifications, changes and additions to the product are forbidden.
- Use only spare parts approved by the manufacture.
- Read the user instructions carefully before use.
- This equipment should only be operated by qualified personnel.

### **At installation**

- The product is constructed for stationary installation.
- Install the product according to the accompanying installation instructions.
- The product must be grounded according to the accompanying installation instructions.
- This equipment must be installed by qualified personnel.
- High voltage-, signal- and supply cables must be separated.

### **In use**

- Keep the equipment clean.
- Emergency stop- and other safety functions should not be controlled from the terminal.

**Service and maintenance**

- The agreed guarantee applies.
- Repairs should be made by qualified personnel.

**At disassembly and scrapping**

- Local regulations apply concerning recycling of products or part.

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## **1 Introduction**

PROFIBUS DP is a vendor-independent, open industrial fieldbus which can be used in a very wide range of applications. It is an established technology with a large installed base.

Process automation equipment such as sensors, actuators, transmitters, drives and programmable logic controllers, increasingly use digital microelectronics.

PROFIBUS ensures that devices from different vendors can communicate together without the need to adapt interfaces. PROFIBUS is standardized as European Standard pr EN 50170.

The PROFIBUS DP card is supplied with a type diskette containing PLC programs for communication between the terminal and the PLC system. For more information see respective driver manual.



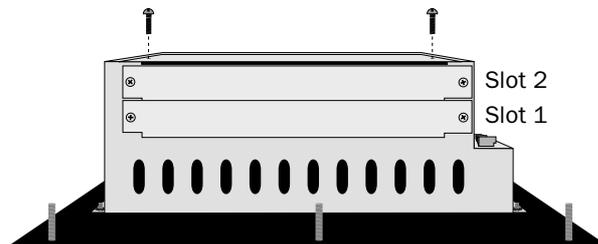
## 2 Installation

This chapter describes how the expansion card is mounted in the terminal.

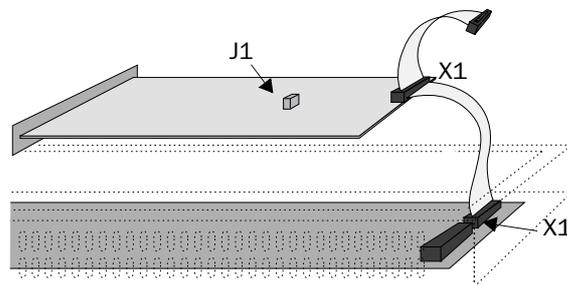
### 2.1 Install one expansion card

Carry out the following steps to mount an IFC PBDP.

1. Switch off the terminal power.
2. Make sure that your ESD protection is good.
3. Remove the cover plates on the rear of the terminal, and the two expansion plates on the short side. The bigger terminals have two expansion slots, Slot 1 and Slot 2. On terminals with one expansion slot, it is called Slot 1.



4. Put the jumper J1 on the expansion card in the position SLOT 1 if the expansion card is mounted in slot 1, and in position SLOT 2 if the card is mounted in slot 2.



### *Installation*

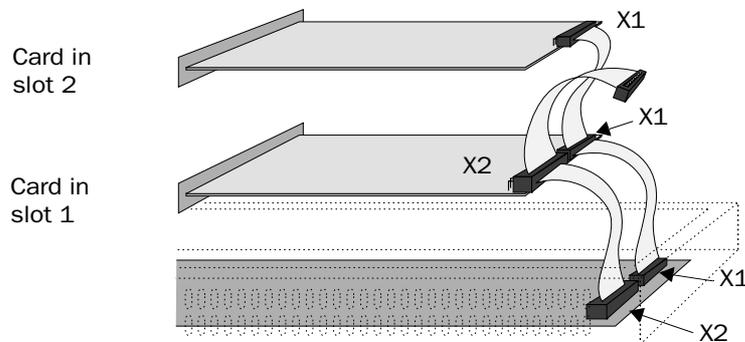
5. Mount the expansion cable with the components of the expansion card placed upwards. One of the expansion cable is mounted between X1 on the CPU card and X1 on the expansion card.
6. Fasten the card with the spacers or the screws. Use the screws if the expansion card is mounted in slot 1, and the spacers if the card is mounted in slot 2.
7. Check that the expansion cable is correctly mounted.
8. Mount the cover plates.

## 2.2 Install two expansion cards

In the bigger terminals in the E-series you can mount two expansion cards. They are mounted in parallel to the connector on the CPU card in the terminal. Two expansion cards can be connected via one expansion cable since there is a parallel contact on the cable. The connector in the middle is used for the expansion card placed in slot 1 and the end connector is used for the expansion card placed in slot 2. If only one card is used it doesn't matter which connector is used.

The connector X1 on the expansion card in slot 2 is connected to the connector X1 and the CPU card in the terminal via the the X1 connector on the expansion card in slot 1. If the X2 connector on the CPU card in the terminal is used by any or both cards this connector is connected to the X2 connector in the expansion card.

When two expansion cards are mounted in the same terminal you mount the card in slot 1 with the distances and the card in slot 2 with the screws in the distances.





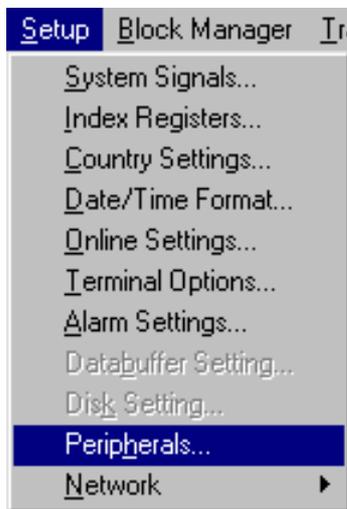
## 3 Settings in MAC Programmer+

Make the following steps to configure the terminal as a slave in a PROFBUS DP network.

1. Install the IFC PBDP card in the terminal.

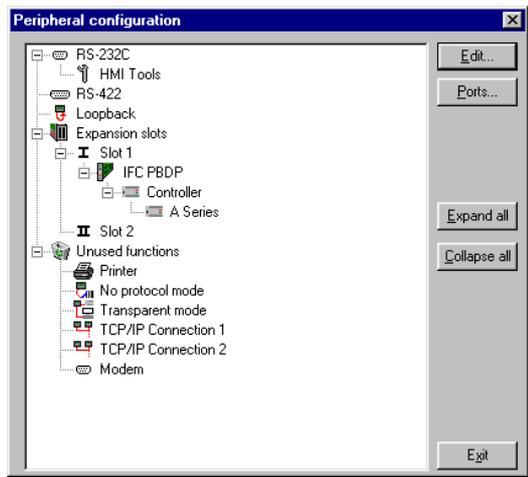
### 3.1 Define slot

1. Select **Peripherals** in the **Setup** menu.

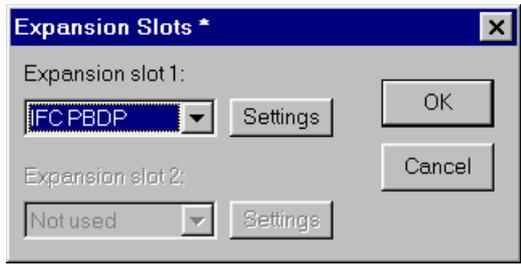


2. Select the slot you define with the jumper J1 on the expansion card and press **Edit...**

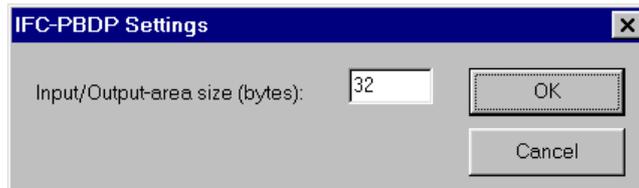
*Settings in MAC Programmer+*



3. Select type of expansion card, in this case **IFC PBDP**.



4. Select **Settings** to state the settings for the **MMI profile**. State the size of the input and output area in bytes. Default settings is 32 bytes. .

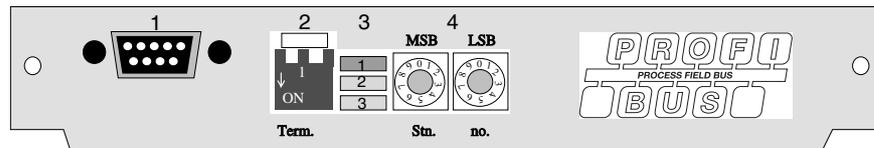


5. Click **OK**.
6. Click **Exit**.

*Settings in MAC Programmer+*

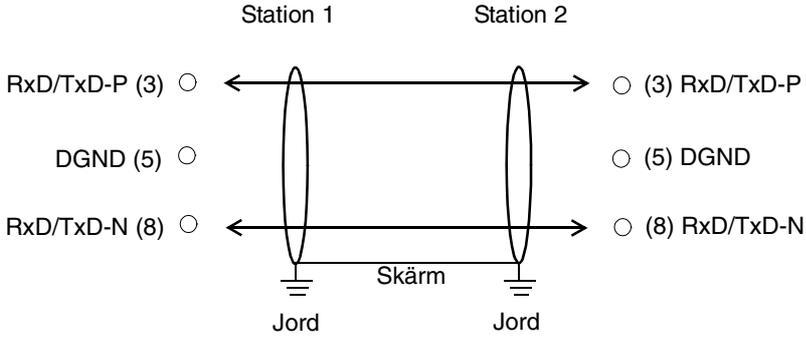
## 4 The expansion card IFC PBDP

### 4.1 Settings on the card



1. Connector for the communication cable.
2. Bus termination. Set to ON on the first and last units in the network. The first unit in the network often is the master unit in the PLC system.
3. 1: Red, **ERR**, Configuration or communication error. The LED is red until the unit is configured, Indicates time out.  
2: Green, **PWR**, Power supply 5 VDC OK.  
3: Green, **DIA**, Diagnostic error on the PROFIBUS network, not used by the terminal.
4. State the station number.

### 4.2 Cable to PROFIBUS DP



### 4.3 Technical data

I/O area size	32-200 byte
Baudrate	9600 bit/s - 12 MBit/s
Identity code	1002
Max. number of nodes without repeater	32
Max. number of nodes with repeater	96
Max. cable length (with repeater)	3000m, 9.6 kb
Max. cable length (without repeater)	200m, 12 Mb

The cable Unitronic-Bus L2/F.I.P is tested and has the following performance:

Capacitance	30 nF/km
Impedance	150 Ohm (3-20 MHz)
Resistance	115 Ohm/km