

User
manual
PB6000



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Contents:

- 1. Introduction..... 3**
 - 1.1 General..... 3
 - 1.2 General design principles 3
- 2 Signal Connections 4**
 - 2.1 RS232 interface 4
 - 2.2 RS485 interface 4
- 3 System settings 5**
 - 3.1 General..... 5
 - 3.2 System pages 5
 - 3.2.1 General page 5
- 4 Technical Specifications..... 7**

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1. Introduction

1.1 General

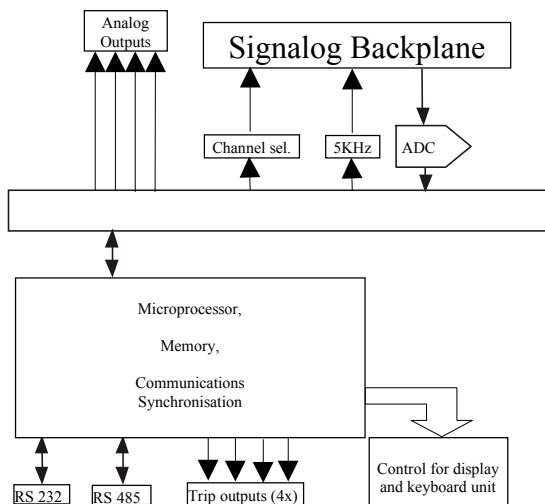
The PB6000 is a processor card, which is used in the Signalog 6000 to control the I/O cards. Also the communication to external devices is done through the PB6000.

1.2 General design principles

The following drawings only show the basic principles of the electronics, as it is outside the scope of this user's manual to go in full detail.

Basically, the PB6000 consists of a common processor circuit, which controls the settings of the amplifiers as well as the communication with the PC, other devices, etc.

The Processor



The blockdiagram shows the basic elements of the central processor module.

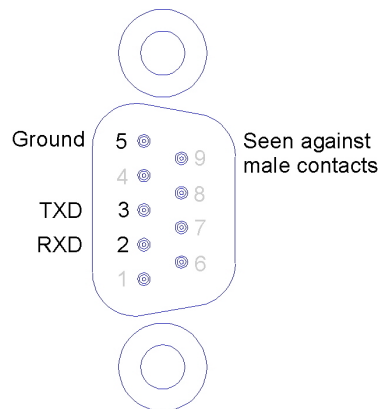
2 Signal Connections

At the front panel of the card the following connectors are fitted.

2.1 RS232 interface

This port can be used to connect a COM-port of a PC, which is running COMPANEL software. The Baudrate can be selected with System Menu 02.

- pin 1 : -
- pin 2 : RXD
- pin 3 : TXD
- pin 4 : -
- pin 5 : Ground
- pin 6 : -
- pin 7 : -
- pin 8 : -
- pin 9 : -

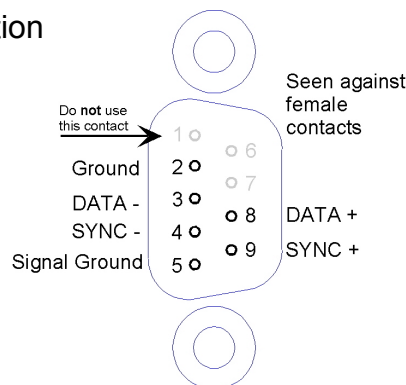


2.2 RS485 interface

The RS-485 interface connector is used to build a network (bus) between 2 or more system units.

Connections shall be made on a 1-to-1 basis with twisted-pair lines. The SYNC connection is to synchronize the oscillator frequencies of the various systems. If this option is used, only 1 system may generate this synchronization signal. If more then 1 system generates this signal, it will be disturbed. The measurements of a slave system will then also be disturbed.

- pin 1 : do not use this connection
- pin 2 : Ground
- pin 3 : DATA -
- pin 4 : SYNC -
- pin 5 : Signal Ground
- pin 6 : -
- pin 7 : -
- pin 8 : DATA +
- pin 9 : SYNC +



3 System settings

3.1 General

The PB6000 card is the processor card, which controls the system and its I/O cards. The cards are connected to each other through the backplane. When the settings of a PB6000 must be changed, this can be done by using the Active X Control.

The different settings shall now be explained using the property windows, which are displayed by the Active X Control.

3.2 System pages

The system pages are displayed on the screen of the PC, when the properties of the Active X control are displayed. On the top of the property box, a TAB is present for each page. Clicking on the desired TAB, will display that page.

3.2.1 General page

This page contains the most general system settings.



Controls and Functions

Device Address	<i>selectable</i>	(1 . . . >>> . . . 99)
CF Master	<i>selectable</i>	(Master/Slave/Local)
Serial number	<i>provided by system</i>	
Firmware (version no.)	<i>provided by system</i>	
RS-232 Speed	<i>selectable</i>	(4800,9600, 19200, 38400)
RS-485 Speed	<i>selectable</i>	(9600, 19200, 38400)
Presentation	<i>selectable</i>	(Amplifier / Physic. Unit / Amplif. V out)
Disp. Time(s)	<i>adjustable</i>	(+0.1 /... / +5.0)

Functional Description

Device Address: can be selected from 1 to 99 and is to be used when more than one PB6000 based systems are connected to the bus.

CF-master: should always be set to **Local** if the device is operated separately. If more than one PB6000 is connected to the bus, only one is to be set to **master** and the other(s) are set to **slave**

When more PB6000 systems are connected to each other through the RS485 bus, all the PB6000 systems should be local, or just 1 PB6000 is master and all the other systems are slave. If more then 1 PB6000 is master, the synchronization frequency on the RS485 will be the sum of the frequency send by each PB6000. This signal will be out of specification to be used for synchronizing a PB6000. In this case the slave PB6000 will not operate within specifications.

Serial number: this is automatically displayed and cannot be altered

Firmware (version no.): this is automatically displayed version-number of the firmware installed and cannot be altered

With the **RS-232 & RS485 Speed** you can select the Baudrate with which to communicate with the external device(s). (It shall be noticed that the other device(s) are set to the same Baudrate).

The device from which you can communicate with the other(s) **is always device number 1. Device 1 is the Master on the RS-485 bus.**

The *presentation* parameter defines how measurements are delivered by the controls to the main application.

When set to *amplif.Vout* the value represents the output voltage of the amplifier. When set to *amplifier* the value represents the input signal of the amplifier in V/V (volts-per-volt).

When set to **physic.unit**, the display shows the physical unit, as chosen in channel settings with the **range of** parameter. In that case the presentation can be, either with the sensor-unit, the strain gauge-unit, or again the amplifier-signal in V/V.

The value **disp.time(s)** indicates the software filter time for the actual value. Depending on the time chosen, the instrument calculates the average value of the number of measured values in that time.

4 Technical Specifications

On-board micro controller

A/D converter resolution: 16 bits

Synchronization: digital with other boards (via RS-485 connection)

Communications:

1 x serial port (RS-232),

1 x serial port (RS-485)

Dimensions

Card front: 25 x 174 mm (W x H)