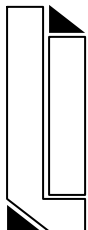


PMD

PRO-NET Modem and Data Switch



Manual V1.0 September 2000



Splinterlaan 152
2352 SM Leiderdorp
The Netherlands

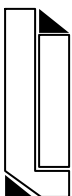
Leiderdorp Instruments

Phone: (--31) (0)71 - 541 55 14
Fax: (--31) (0)71 - 541 89 80
E-mail: Info@Leiderdorpinstruments.nl
www.Leiderdorpinstruments.nl

P.O.Box 319
2350 AH Leiderdorp
The Netherlands

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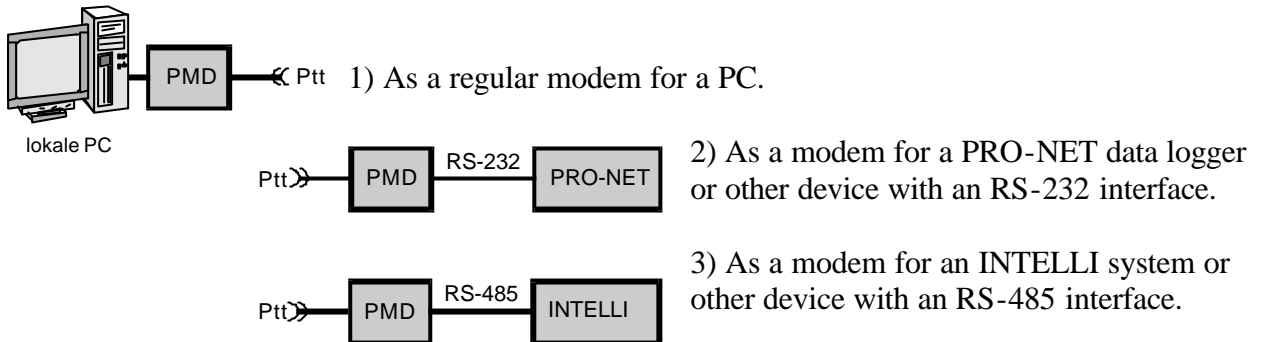
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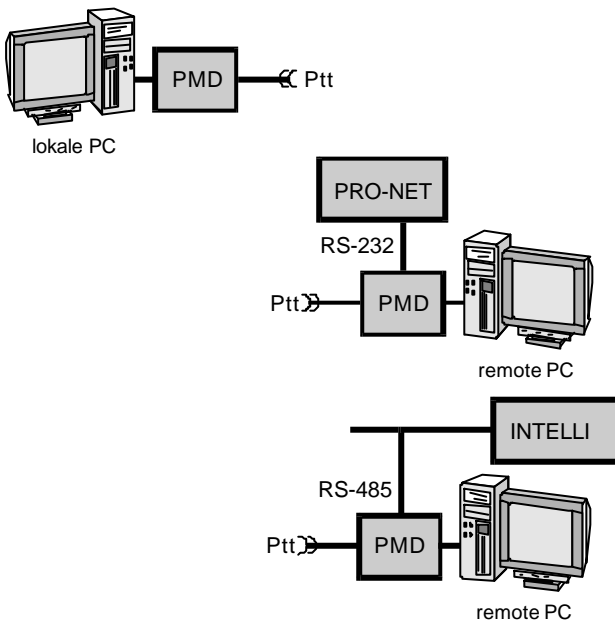
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Splinterlaan 152
NL-2352 SM Leiderdorp
The Netherlands
Phone: --31-71-541 55 14 Fax: --31-71-541 89 80
E-mail: Info@Leiderdorpinstruments.nl

1. Applications.

The PMD PRO-NET modem and data switch can be used in the following configurations:

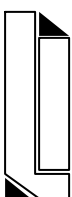


The PMD modem can automatically disconnect a local PC when it is called. This is shown below.



In this configuration the PRO-NET data logger is connected to the PC as long as there is no external call. As soon as the modem is called, the local PC is disconnected and the PRO-NET system is connected to the caller. Instead of a PRO-NET system, any device with an RS-232 interface may be connected.

The same applies for systems with an RS-485 interface, such as the INTELLI system.



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Splinterlaan 152
NL-2352 SM Leiderdorp
The Netherlands
Phone: --31-71-541 55 14 Fax: --31-71-541 89 80
E-mail: Info@Leiderdorpinstruments.nl

2. Connections and settings.

The connections on the PMD are shown on the pictures below.



The RS-485 interface connecting is at the front. There are 4 pins:

L+ : RS-485 line +

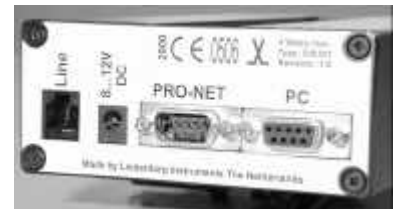
L- : RS-485 line -

0: RS-485 0 volt (optional, this connection is not always present on the device that is connected).

shield: The shield connection is meant for the shield of the RS-485 cable. This connection is connected to the metal parts of the SUB-D connectors on the rear panel of the PMD. If an RS-232 plug is connected to the modem, the shield usually is connected to the earth ground of the PC mains supply.

On the rear panel you will find:

Line : The analog telephone line connection.



8...12VDC: The power supply (adapter is included in the delivery). The current consumption is approximately 200

mA. The supply must be a DC voltage. The + is connected to the pin of the connector, the 0V to the outer contact. The PMD is protected against reversed polarity of the power.

PRO-NET: The RS-232 connection for a PRO-NET system or other device.

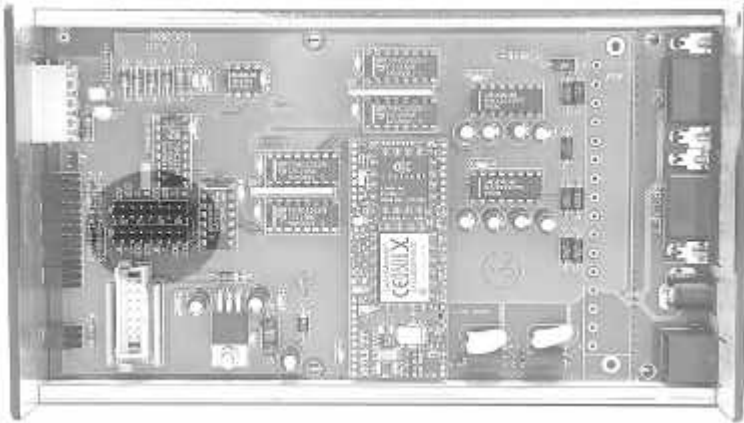
PC: The PC connection.

The functionality of the PMD is set with jumpers. As described in chapter 1, the PMD can automatically switch between a local PC and the calling PC when called. This is controlled by the DCD (Data Carrier Detect) signal of the modem. If there is no connection, the DCD signal is not active. When a connection is established, DCD is active.

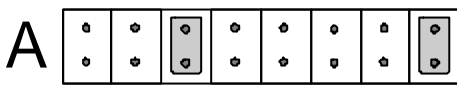
The PMD can be opened by removing the upper two screws on the front and rear panel. The position of the jumpers on the printed circuit board is shown below.



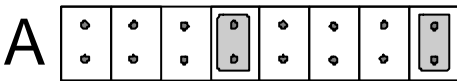
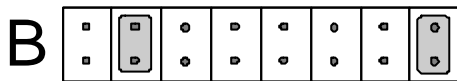
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The Netherlands
Phone: --31-71-541 55 14 Fax: --31-71-541 89 80
E-mail: Info@Leiderdorpinstruments.nl



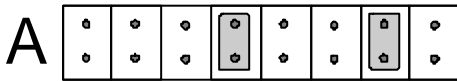
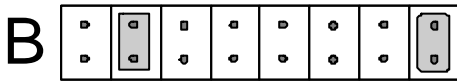
The settings are as follows:



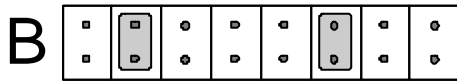
DCD inactive: PRO-NET/RS-232 to PC
 DCD active: PRO-NET/RS-232 through modem connected to caller



DCD inactive: INTELLI/RS-485 to PC
 DCD active: INTELLI/RS-485 through modem connected to caller

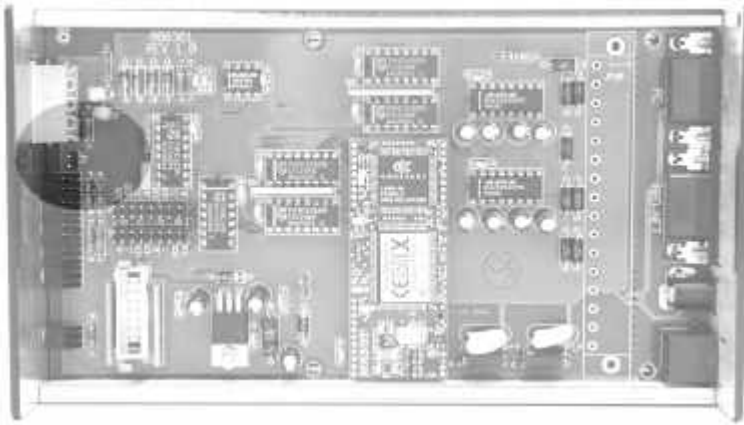


Normal modem function. The caller is connected to the system that is connected to the modem. This configuration can also be used to program the modem with AT commands.



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Splinterlaan 152
NL-2352 SM Leiderdorp
The Netherlands
Phone: --31-71-541 55 14 Fax: --31-71-541 89 80
E-mail: Info@Leiderdorpinstruments.nl

There is another jumper on the printed circuit board, as shown below:



This jumper connects the resistor that terminates the RS-485 network. This is only required if the cable of the RS-485 network is long (100's of meters). The jumper is normally not placed.

The modem has an instruction set that can be used to determine how the modem communicates with another modem and how the signals on the RS-232 interface must be interpreted. This is the so-called AT command set.

The settings and relevant commands for the PRO-NET and INTELLI systems are listed below. These settings can be programmed into the modem with a terminal program such as HyperTerminal that is part of the Windows accessories.

The complete AT command set is available on request.

The standard settings of the PMD for PRO-NET and INTELLI systems are:

S0=1 (auto answer after 1 ring)
&K0 (no DTE/DCE flow control)
&Q0 (asynchronous, no buffering)
&D0 (ignore DTR)
+MS=9,0,9600,9600 (V.32, no auto detection, communication speed 9600 baud)

The complete initialization looks as follows:

```
AT&FS0=1  
AT&K0&Q0&D0+MS=9,0,9600,9600  
AT&W0&W1
```



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The following settings are recommended for the calling modem (this depends on the type of modem):

AT&F
 AT&K0&Q0+MS=9,0,9600,9600
 AT&W0&W1

The PMD is also available as a PRO-NET system board. In this shape it can be mounted in a standard PRO-NET rack. The connections are:

	Function	To be connected to:
1	DCD PC	PC (DB-9 female pin 1)
2	DSR PC	PC (DB-9 female pin 6)
3	RxD PC	PC (DB-9 female pin 2)
4	TxD PC	PC (DB-9 female pin 3)
5	DTR PC	PC (DB-9 female pin 4)
6	n.c.	
7	n.c.	
8	DTR PRO-NET	PRO-NET (DB-9 male pin 4)
9	TxD PRO-NET	PRO-NET (DB-9 male pin 3)
10	RxD PRO-NET	PRO-NET (DB-9 male pin 2)
11	DSR PRO-NET	PRO-NET (DB-9 male pin 6)
12	+V supply	Adapter 12VDC @ 300mA
13	GND (0V)	PC (DB-9 female pin 5), PRO-NET (DB-9 male pin 5), Adapter 12VDC @ 300mA
14	PTT a	PTT
15	n.c.	
16	PTT b	PTT



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The Netherlands
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If the modem is used in a PRO-NET rack, and there is no local PC, make the following connections:

PMD modem board	Function	PMB-V5 master	
1	DCD PC		
2	DSR PC		
3	RxD PC		
4	TxD PC		
5	DTR PC		
6	n.c.		
7	n.c.		
8	DTR PRO-NET	13	
9	TxD PRO-NET	8	
10	RxD PRO-NET	10	
11	DSR PRO-NET	15	
12	+V supply	(3)	If the PRO-NET power supply has sufficient capacity left (200mA) then connect +15V to pin 3 of the master PMB-V5. If not, use the external adapter.
13	GND (0V)	1	Pin 3 van de PMD to pin 1 of the master PMB-V5.
14	PTT a		PTT
15	n.c.		
16	PTT b		PTT

Also set the jumpers for this function. See above.



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NL-2352 SM Leiderdorp
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Phone: --31-71-541 55 14 Fax: --31-71-541 89 80
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If there is a local PC, connect the PMD as follows:

PMD modem board	Function	Wire color according to manual	MASTER connector on front	PMB-V5 master board	
1	DCD PC	<new>	1		Optional.
2	DSR PC	Green	6		
3	RxD PC	Blue	2		
4	TxD PC	Red	3		
5	DTR PC	Yellow	4		
6	n.c.				
7	n.c.				
8	DTR PRO-NET	Yellow		13	
9	TxD PRO-NET	Red		8	
10	RxD PRO-NET	Blue		10	
11	DSR PRO-NET	Green		15	
12	+V supply			(3)	If the PRO-NET power supply has sufficient capacity left (200mA) then connect +15V to pin 3 of the master PMB-V5. If not, use the external adapter.
13	GND (0V)	Black	5	1	Pin 3 van de PMD to pin 1 of the master PMB-V5.
14	PTT a				PTT
15	n.c.				
16	PTT b				PTT

Also set the jumpers for this function. See above.



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3. Technical specifications.

Power supply:	8...12 VDC, 200 mA max.
Temperature range:	0...+40°C operating -20...+60°C storage
Communication speed:	9600 baud
Dimensions:	186 x 45 x105 mm
Required space for mounting on DIN rail:	approx. 220 x 60 x 105 mm
DIN rail size:	TS32
Housing material:	aluminum
Telephone line connection:	RJ-11 pin 3 and 4



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NL-2352 SM Leiderdorp
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