RS 232 communication

Configuration
Mita WP2000
Macro Mita
Nordex Hjerm
Nordex CC

1. Table of contents

2. Introduction

This document shows how to enable RS232 communication on a WP2000 controller, Macro Mita controller and the Hjerm controller.

The document includes:

- How to change parameter and which settings that needs to be changed.
- Hardware updates and changes
- What new hardware is needed
- Cable connections.

3. Parameters

3.1. Micon: WP2000 controller

To change parameters is it necessary to enter the parameter list.
This is done by pressing:

- Press the PROG button
- Enter password
- Press the PROG button to accept the password

This opens the parameter list:

- Date
- Time
- 0: GB 1: DK 2: D
- **Baud rate** **Set to 4800** **(See note)**
- WP Phone: The turbines phone number (Not used)
- Alarm Phone no: 1 Is not used can be cleared
- Alarm Phone no: 2 Is not used can be cleared
- Alarm Phone no: 3 Is not used can be cleared
- 1:TONE 2:PULS 1
- **ID number** **Set to 00010001** **(00000001 to 99999999)**
- **Modem install 0/1/2** **Set to 0**
- …

Use the arrow keys up and down to navigate the list. A value is modified simply by entering the new parameter and pressing enter to accept it.

To exit the parameter list press the PROG button.

The communication is now set to 4800 7E1

Alternative baud rates can be used but have to be tested on site. The top speed highly depends on if the turbine is a alone or if there is a communication network (Current loop) between the turbines.

Be aware that the data bits, parity and stop bits cannot be changed.

Micon WP2000 with 1 generator program (Program 89048) has a tendency to lockup in the communication if the baud rate is above 1200 Baud. It is highly recommended that the baud rate for Micon turbines with Macro Mita is set to only 1200 baud.

3.2. Micon: Macro Mita controller

To change parameters is it necessary to enter the parameter list.
This is done by pressing:

- Press the PROG button
- Enter password
- Press the PROG button to accept the password

This opens the parameter list:

- Max. Power
- Wind power
- Cut.-in gen.
- …
- …
- Nacelle temp.
- Date
- Time
- **ID –No** **Set to 00010001** **(000X000X)**
- **Comm. On/off** **Set to 1**
- …

Use the arrow keys up and down to navigate the list. A value is modified simply by entering the new parameter and pressing enter to accept it.

To exit the parameter list press the PROG button.

Micon Macro Mita is locked to 1200 Baud 7E1.

3.3. Nordex: Hjerm controller

To change parameters is it necessary to enter the parameter list.
This is done by pressing:

- Press the PROG button
- Enter password
- Press the PROG button to accept the password

This opens the parameter list:

- Date
- Time
- 0: GB 1: DK 2: D
- **Opkaldsforsøg** **Set to 0**
- T0
- T1
- T2
- Alarm test
- Test / Print
- CMR password
- **Modem install 0/1/2** **Set to 0**
- OPS delay
- **ID number** **Set to 00010001** **(00000001 to 99999999)**
- **Baud rate** **Set to 4800**
- **…**

Use the arrow keys up and down to navigate the list. A value is modified simply by entering the new parameter and pressing enter to accept it.

To exit the parameter list press the PROG button.

The communication is now set to 4800 7E1

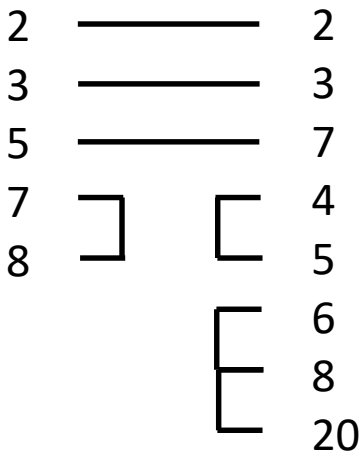
Alternative baud rates can be used but have to be tested on site. The top speed highly depends on if the turbine is a alone or if there is a communication network (Current loop) between the turbines.

Be aware that the data bits, parity and stop bits cannot be changed.

4. Cables

4.1. Cable layout for F2403

Four-Faith	WP2000 / Nordex Hjerm
DB9 Female	DB25 Male / DB25 Female



4.2. Cable layout for F2816 - COM 1

Four-Faith 2816	**WP2000 / Nordex Hjerm**	
Terminal	**DB25 Male / DB25 Female**	
3	2	Green
4	3	White
5	7	Brown
1 PWR	4	
2 GND	5	
	6	
	8	
	20	

The Power (PWR) must be between +5V to +36V DC (Standard power supply is 12V DC)

An easy way to check if the wires on pin 3 and 4 (COM1) or pin 6 and 7 (COM2) is mounted correct is to measure the DC voltage on both pins in reference to GND (pin 5). If the Rx and Tx wires are mounted correct, should it be possible to measure a voltage on both pins (Above 3 volts). If there is only voltage on one pin is the wires wrong and they must be flipped.

4.3. Cable layout for F2816 - COM 2

Four-Faith 2816	**WP2000 / Nordex Hjerm**	
Terminal	**DB25 Male / DB25 Female**	
6	2	Green
7	3	White
5	7	Brown
1 PWR	4	
2 GND	5	
	6	
	8	
	20	

The Power (PWR) must be between +5V to +36V DC (Standard power supply is 12V DC)

An easy way to check if the wires on pin 3 and 4 (COM1) or pin 6 and 7 (COM2) is mounted correct is to measure the DC voltage on both pins in reference to GND (pin 5). If the Rx and Tx wires are mounted correct, should it be possible to measure a voltage on both pins (Above 3 volts). If there is only voltage on one pin is the wires wrong and they must be flipped.

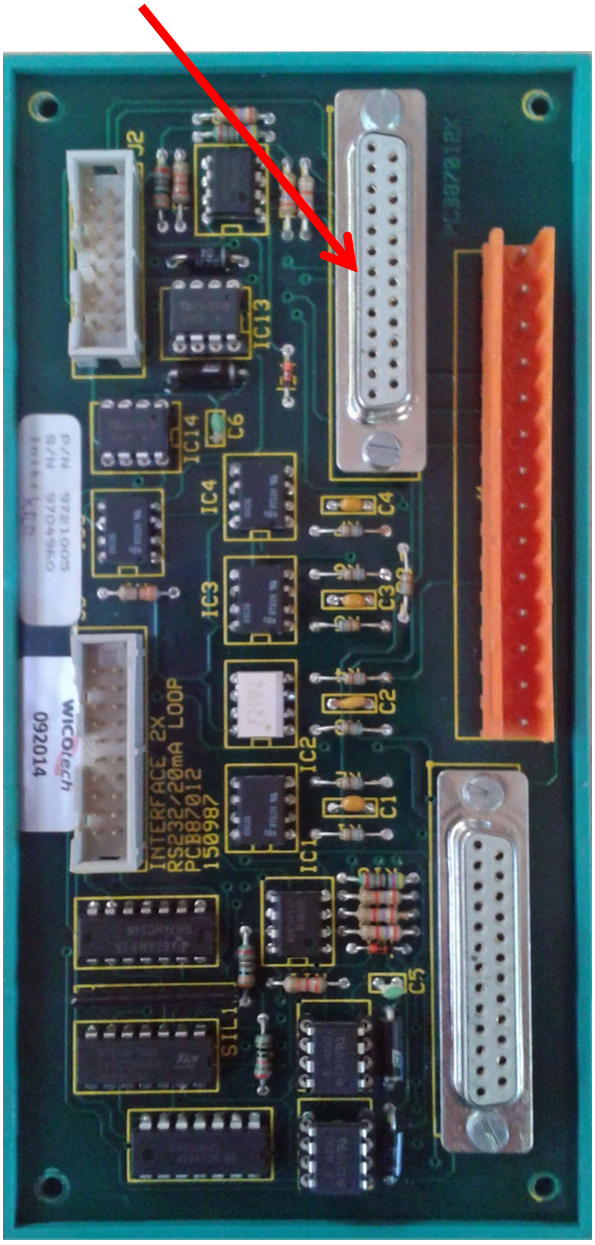
4.4. WP2000 to a US Robotics modem

Modem		**WP2000**
DB25 Female		**DB25 Male**
2	———	2
3	———	3
4	———	4
5	———	5
6	———	6
7	———	7
8	———	8
20	———	20
22	———	22

4.5. Macro Mita Communication board

This is the communication board on a Macro Mica controller.

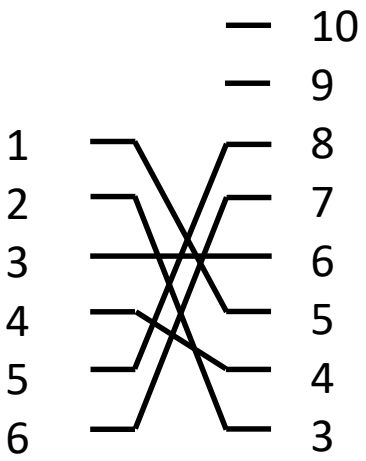
The RS232 communication must be connected on the top DB9 connector.

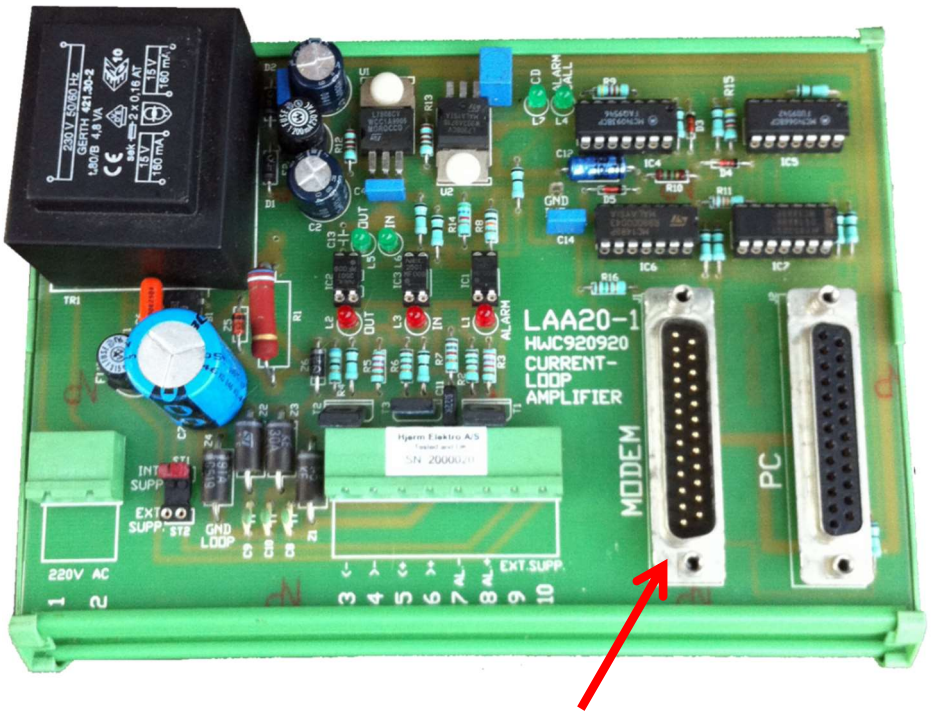


4.6. Nordex Hjerm controller and current loop driver / amplifier LAA20

This is the layout of the connection between the Hjerm controller and the current loop driver.

Hjerm controller	Current loop driver / amplifier
6 pin	8 pin





Serial communication must be connected on the MODEM connector.

5. Four Faith – Signal monitoring

5.1. F2403 Signal monitoring

The Four Faith F2403 GPRS modem can be used to monitor the signal strength during installation.

This can be done on units bought after October 2014 and with firmware versions after this date.

The Signal mode is activated using a special DB9 adaptor that is inserted into the RS232 port on the Four Faith modem. When the adaptor is inserted will the online LED on the modem not display the online status anymore but instead will the signal strength be display. The signal level is illustrated by a number of blinks that is repeated every 3 seconds.

There are 5 different blink levels.

Level	Signal strength (dBm)	Quality
1	-113 -> -103	Bad
2	-101 -> -95	Marginal
3	-93 -> -85	OK
4	-83 -> -75	Good
5	-73 or higher	Excellent

The GPRS modem will not attempt to connect unless the signal strength is 2 or above but the signal should be no less than 3 or more before a stable connection can be expected.

Be aware that when the Signal tester adaptor is inserted will the modem NOT attempt to go online. The modem will return to normal operation when the adaptor is removed.

5.1. F2816 Signal monitoring

The Four Faith F2816 GPRS modem can be used to monitor the signal strength during installation.

The Signal mode is activated by pressing the signal tester button on the “Multiport interface” unit. The button has to be kept pressed during the signal testing.

If the kit is not equipped with the signal tester button can the signal mode be activated by connecting pin 11 (IO2) to the ground pin 2 or 5.

When the connection is established will the online LED on the modem not display the online status anymore but instead will the signal strength be display. The signal level is illustrated by a number of blinks that is repeated every 3 seconds.

There are 5 different blink levels.

Level	Signal strength (dBm)	Quality
1	-113 -> -103	Bad
2	-101 -> -95	Marginal
3	-93 -> -85	OK
4	-83 -> -75	Good
5	-73 or higher	Excellent

The GPRS modem will not attempt to connect unless the signal strength is 2 or above but the signal should be no less than 3 or more before a stable connection can be expected.

Be aware that when the Signal tester is active will the modem NOT show the online signal anymore. The modem will return to normal operation when the adaptor is removed.