



**PROFI
NET**

REOVIB

Control Equipment for the Vibratory Feeder Industry

MFS 268
Frequency Converter for Vibratory Feeders

Annex: PROFINET - programming

Safety Notice for the User

This description contains the required information for the intended usage of the products described herein. They are intended for use by technically qualified personnel.

Qualified personnel are those persons who, due to their training, experience and instruction, as well as their knowledge of the relevant standards, requirements, accident prevention regulations and operational conditions, are authorized by those responsible for the safety of the system to carry out their respective duties, and to recognize possible dangers and prevent them (Definition for experts according to IEC 36.4).

Danger Notices

The following notices serve to protect the personnel safety of the operators and the safety of the described products as well as the devices connected to them.



Warning!

Dangerous Voltage.

Inattention can lead to death, serious injuries or damage to equipment.

- Turn off the supply power before assembly or disassembly work and when fuses are changed or equipment modifications are undertaken.
- Observe the applicable accident prevention and safety regulations for the respective application.
- Before placing the equipment in operation, check whether the rated voltage of the device is in agreement with the supply voltage.
- **Emergency OFF equipment must remain effective in all operating modes. Unlocking the emergency OFF equipment must not cause an uncontrolled startup of equipment.**
- **The Ground lead connections must be inspected after mounting to insure that they function perfectly!**

Usage According to the Regulations

The devices described herein are electrical operational equipment for application in industrial systems. They are constructed for the regulation of vibratory feeder equipment.

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1.0 General

The frequency converter for vibratory feeders REOVIB MFS 268 series can be operated with a PROFINET interface. Here, the target value for the output devices and the release of the PLC is transmitted to the controller in "normal mode". Back to the Device Status Reported for operation / fault, the output current and in case of using the regulation mode the actual vibration (acceleration).

In a further parameter mode, the device can be fully configured via PROFINET.

For the interface an external voltage supply of 24 V DC is required.



Note!

The device is classified as an IO device i.e. as a decentralized arranged device that is connected via PROFINET. (Compared with Profibus-DP corresponds to the function of a slave.)

The devices have a 100 Mbit / s Fast Ethernet connection. The interface has integrated switches, allowing the installation of the PROFINET network in linear structure without the need for external switches are required.

The bus connection is made via 2 x RJ-45 Connectors.

PROFINET looks through the connection of field devices via switches only point-to-point connections (such as Ethernet), i.e. the connection between two field devices interrupted in a line, the underlying field devices are no longer accessible. Therefore, it is important to provide redundant communication paths already in plant design and deploy field devices / switches that support the concept of redundancy PROFINET. This achieves a high availability of the participants in an automation system.



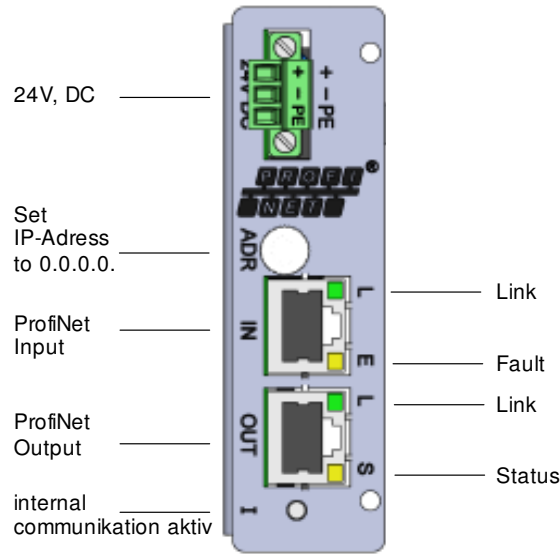
Tip!

For detailed information on PROFINET, refer to the PROFIBUS & PROFINET User Organization website: www.profibus.com

Delivery of the equipment belongs a corresponding XML file (GSDML file).

To integrate the controls into a "STEP7" project, use the file from the specific device.

Interface module



The interface enables communication with the frequency converter, using 4 data words (i.e. 16 Bits). The four 16 Bit words are transmitted and acknowledged every bus cycle.



! Important – Data consistence is required to operate with PROFINET!!

Note:

Data consistence is defined in a Siemens S7 PLC with SFC14 and SFC15, for example



Units are factory set prior to delivery and so are configured for bus operation. If the unit is required for manual control then the parameter "CAN." in menu C 017 should be set on "0". You get back to bus operation, if you choose CAN. = „1“.

2.0 Interface operation

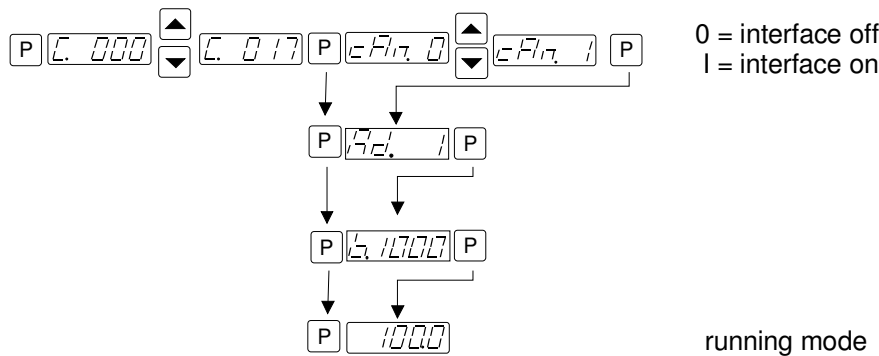
| | |
|----------------------|---------------------------|
| Bus Power Supply | 24 V, DC, 250 mA |
| Bus connector | 2 x RJ-45 |
| Internal interface | CAN-Bus |
| Supported baud rates | 100 MBaud |
| Communication | Data consistency required |
| Protocol | TCP/IP - UDP/IP |
| Functionality | Class B |

3.0 Activate interface

For the interface version parameter “CAN” is set to “1”. Then communication through the interface is possible. If manual control of the unit should be required e.g. for testing, this parameter must firstly be set back to “0” again.

Important: The parameter “Ad.” must be set to “1” and the baud rate must be set to “b 1000”.

Code 017



4.0 XML-File

Following XML File is required for the operation with the PROFINET interface:

| | |
|----------------|---|
| XML File name: | GSDML-V2.25-Reo-REOGATE-PN-20140424.xml |
|----------------|---|

The XML-file is supplied on a CD with each new unit or alternatively, visit www.reo.de to download the file from the website.

5.0 Bus operating modes

Two fundamental operating modes can be chosen for bus communication.

Normal Operation: Control of the frequency controller in production, in which case the Set point and ON/OFF control signals are transmitted

Parameter Operation: Adjustment of the frequency controller for the desired operation mode and limits. In a special mode the parameter and parameter addresses are transmitted and acknowledged. In parameter operation, the unit’s specific values, such as frequency, soft start time, timers and switching etc., are set.

5.1 Programming for the Bus operation

In normal operation the set point for Amplitude (throughout/feed rate) and the digital control signals, such as enable are set across the interface. The actual voltage/current values and unit status (ready or fault) are fed back. All data words are within the range 0...FFFF H.
The following communication words are given in bit form.

5.1.1 Send to Controller

| | | | | | | | | | | | | | | | | | |
|-------------------------------------|----|----|----|----|----|---|---|--------|---|---|---|---|---|---|---|---|--|
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 1 | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | 0000 H (reserved) | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 2 | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Set point 1, 16-Bit 100 % = FFFF H | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 3 | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | reserved | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 4 | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Control - word | |
| Mode bit | | | | | | | | | | | | | | | | Bit = „1“ = Function ON | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | All unused bits MUST be set to `0` | |
| Control information (unit specific) | | | | | | | | | | | | | | | | | |

0 = Normal operation
1 = Parameter operation

Enable - bit

5.1.2 Reply from Controller

| | | | | | | | | | | | | | | | | | |
|-------------------------------|----|----|----|----|----|---|---|-------------------------------------|---|---|---|---|---|---|---|--|--|
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 1 | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | xxxx H (undefined) | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 2 (only in regulation mode) | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Feed back actual acceleration 16 Bit 100% = 8000H | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 3 | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Feed back actual output current, 16 Bit 100% = 8000H (in % von I-nom) | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 4 | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Status - Word | |
| Status - Code ERROR - Code | | | | | | | | | | | | | | | | X = Not defined Bit = „1“ = Function ON | |
| | | | | | | | | Status information Unit specific | | | | | | | | | |

- 00 Unit not responding
- A5 (H) Unit ready
- 57 (H) ERROR Peak
- 58 (H) ERROR OC
- 02 (H) ERROR OL
- 0C (H) ERROR ACC
- 05 (H) ERROR OU
- C0 (H) Acknowledge
Parameter mode

OFF – Bit
Acknowledge

Status, actual acceleration and actual output current are received.

5.2 Parameter Operation

In parameter operation, the specific unit parameters can be monitored and adjusted. A `write` enable must be transmitted before parameters can be altered. On closing, the `write` enable must be cancelled.

A `read` request must be sent before data can be read.

Word 4 in the acknowledge is always `CODE H`. This indicates that the controller is in parameter mode.

5.2.1 Creating parameter addresses and values

In parameter operation the most significant bit (msb) in Word 1 is defined as a read or write bit (R/W), where 1 = write and 0 = read, this should be accompanied by the corresponding parameter address.

The mode bit (msb in Word 4) is used to select normal or parameter operation, 0 = Normal or 1 = parameter operation.

| | | |
|----------------|-------------------------------------|--|
| Word 1: | reserved | 0000 H |
| Word 2: | R / W – Bit + Address | e.g. 8000 H + 1009 H => 9009 H |
| Word 3: | Value of the parameters | e.g. 7FFF H |
| Word 4: | Mode bit = 1 + Control bit's | e.g. 8000 H + 0004 H => 9004 H |

5.2.2 Send Write Enable

| | | | | | | | | | | | | | | | | |
|-----------------------------------|----|----|----|----|----|---|---|-----------|---|---|---|---|---|---|---|---|
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 1 0000 H (reserved) |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 2 Write Enable Address = CODE H |
| C0 | | | | | | | | DE | | | | | | | | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 3 Write Enable = B5E7 H |
| B5 | | | | | | | | E7 | | | | | | | | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 4 Control - Word + 8000 H Mode Bit must be set to `1` !! All unused bits must be set to `0` Bit = `1` = Function ON |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | |
| 1 Mode bit | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Control Information unit specific | | | | | | | | | | | | | | | | |

5.2.3 Receive, Acknowledge Write Enable

| | | |
|---------------------|---------------------|-------------------------------------|
| H-Byte 00 | L-Byte 0E | Word 1 xxxx H (undefined) |
| H-Byte C0 | L-Byte DE | Word 2 CODE H |
| H-Byte B5 | L-Byte E7 | Word 3 B5E7 H |
| H-Byte C0 | L-Byte DE | Word 4 CODE H |

The parameters can be sent after receipt of the acknowledge

5.2.4 Send Parameter

| | | | | | | | | | | | | | | | | |
|-------------------------------------|--------------------------|----|----|----|----|---|---|-----------|---|---|---|---|---|---|---|--|
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 1 |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | 0000 H (reserve) |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 2 |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Parameter address + R / W – Bit (16-Bit) = 0...FFFF H |
| R / W | <i>Parameter address</i> | | | | | | | | | | | | | | | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 3 |
| XX | | | | | | | | XX | | | | | | | | Parameter value (16-Bit) = 0...FFFF H |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 4 |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Control - Word + 8000H Mode must be set to `1`!! All unused bits must be set to `0` Bit = `1` = Function ON |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Control Information (unit specific) | | | | | | | | | | | | | | | | |

Received acknowledge

| | | | | | | | | | | | | | | | | |
|---------------------|--------------------------|----|----|----|----|---|---|---------------------|---|---|---|---|---|---|---|---|
| H-Byte 00 | | | | | | | | L-Byte 00 | | | | | | | | Word 1 xxxx H |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 2 |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Acknowledge the sent address + R / W - Bit |
| R / W | <i>Parameter address</i> | | | | | | | | | | | | | | | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 3 |
| XX | | | | | | | | XX | | | | | | | | Acknowledge the Parameter value |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 4 |
| C0 | | | | | | | | DE | | | | | | | | Acknowledge the Parameter mode (always „CODE“ H) |

5.2.5 Close write enable

| | | | | | | | | | | | | | | | | | |
|-------------------------------------|----|----|----|----|----|---|---|--------|---|---|---|---|---|---|---|--|--|
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 1 | |
| 00 | | | | | | | | 00 | | | | | | | | 0000 H | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 2 | |
| C0 | | | | | | | | DE | | | | | | | | Write Enable Address = C0DE H | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 3 | |
| 00 | | | | | | | | 00 | | | | | | | | Enable Value 0000 | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 4 | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Control - Word + 8000 H Mode bit must be set to `1`! All unused bits must be set to `0` Bit = `1` = Function ON | |
| Mode bit | | | | | | | | | | | | | | | | | |
| | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Control Information (unit specific) | | | | | | | | | | | | | | | | | |

5.2.6 Parameter read (send)

| | | | | | | | | | | | | | | | | | |
|--------|----|--------------------------|----|----|----|---|---|--------|---|--------|---|---|---|---|---|---------------------------------|--|
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 1 | |
| 00 | | | | | | | | 00 | | | | | | | | xxxx H (undefined) | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 2 | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Parameter address + R / W - Bit | |
| R / W | | <i>Parameter address</i> | | | | | | | | | | | | | | | |
| | | H-Byte | | | | | | | | L-Byte | | | | | | | |
| 00 | | | | | | | | 00 | | | | | | | | Read Enable Value = 0000 | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 4 | |
| 80 | | | | | | | | 00 | | | | | | | | Mode bit = 1 + Control bits | |

Received parameter

| | | | | | | | | | | | | | | | | | |
|--------|----|--------------------------|----|----|----|---|---|--------|---|--------|---|---|---|---|---|--|--|
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 1 | |
| 00 | | | | | | | | 00 | | | | | | | | xxxx H (undefined) | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 2 | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Acknowledge Parameter address + R / W - Bit | |
| R / W | | <i>Parameter address</i> | | | | | | | | | | | | | | | |
| | | H-Byte | | | | | | | | L-Byte | | | | | | | |
| XX | | | | | | | | XX | | | | | | | | Parameter value | |
| H-Byte | | | | | | | | L-Byte | | | | | | | | Word 4 | |
| C0 | | | | | | | | DE | | | | | | | | Acknowledge Parameter mode | |

6.0 Parameter Table

Non listed addresses cannot be altered!

| Parameter: | Adjustment | Display-Code | Factory Setting: | Entry code | Parameter address HEX (.bit) | Value HEX |
|---|-------------------|--------------|------------------|--------------------|------------------------------|---|
| Vibratory feeder | | | | | | |
| • Amplitude (throughput) | 0...100 % | A. | 0 % | 000, 002, 008, 096 | 100C | 0x0000...0xFFFF |
| • Second set point / coarse - fine | 0...100 % | 2. | 0 | 002 | 0x1006 | 0x0000...0xFFFF |
| • Maximum control limit (U_{max}) | 5...100 % | P. | 90 % | 096, 008 | 1009 | 0CCC...FFFF H |
| • Vibrating frequency | 5...300 Hz | F. | 100 Hz | 096, 008 040 | 1005 | 01F4...7530 H 500...30000 dec. (FL)...(FH.) |
| • Soft start ramp up | 0...60 sec. | /. | 0,1 sec. | 096 | 1013 | 0x0000...0xFFFF |
| • Soft stop ramp down | 0...60 sec. | \. | 0,1 sec. | 096 | 1012 | 0x0000...0xFFFF |
| • Switch to external set point | 0 / 1 | E.S.P. | 0 | 003 | 0x5800 | 0x0000 / 0x FFFF |
| • Set point 0(4)...20 mA | 0 / 1 | 4.20 | 0 | 003 | 0x5801 | 0x0000 / 0x FFFF |
| • Potentiometer set point (for 3 / 6 / 8 A units) | 0 / 1 | POT. | 0 | 003 | 0x5805 | 0x0000 / 0x FFFF |
| • Coarse / Fine control | 0 / 1 | S.P.2. | 0 | 003 | 0x580C | 0x0000 / 0x FFFF |
| • Switch to second set point (delayed) | 0 / 1 | S.2.d | 0 | 003 | | 0x0000 / 0x FFFF |
| • Invert enable | 0 / 1 | -En. | 0 | 003 | 0x5811 | 0x0000 / 0x FFFF |
| • Switch status/ ready relay | 0 / 1 | r.b. | 0 | 003 | 0x583D | 0x0000 / 0x FFFF |
| Regulation (with sensor) | | | | | | |
| • Switch to regulation | 0 / 1 | ACC. | 0 | 008 | 0x5808 | 0x0000 / 0x FFFF |
| • P characteristic | 0...100 | P.A. | 40 | 008 | 0x100F | 0x0000...0xFFFF |
| • I characteristic | 0...100 | I.A. | 100 | 008 | 0x1014 | 0x0000...0xFFFF |
| • Automatic frequency control | 0 / 1 | A.F.C. | 0 | 008 | 0x5809 | 0x0000 / 0x FFFF |
| • Start automatic frequency search | start | A.F.S. | | 008 | 0x1400 | 0x0AF5 |
| Track control | | | | | | |
| • Switch on time delay | 0...60 sec. | I. | 1 sec. | 007, 167 | 0x1003 | 0x0000...0xFFFF |
| • Switch off time delay | 0...60 sec. | O. | 1 sec. | 007, 167 | 0x1002 | 0x0000...0xFFFF |
| • Invert sensor | PNP / PNP inverse | -SE. | 0 | 007, 167 | 0x580A | 0x0000 / 0x FFFF |
| Sensor control | | | | | | |
| • Sensor Time-out | 0 / 1 | E.En | 0 | 015, 167 | 0x580B | 0x0000 / 0x FFFF |
| • Sense time delay (Sensor Time-out) | 30...240 sec. | E. | 180 sec. | 015, 167 | 0x1004 | 0x0000...0xFFFF |
| • lead time valve output ¹⁾ | 0...60 sec. | A.r. | 0,0 | 015 | | 0x0000...0xFFFF |
| • follow-up time valve output ¹⁾ | 0...60 sec. | Ai. | 4,0 | 015 | 0x102C | 0x0000...0xFFFF |
| Interface (option) | | | | | | |
| • Interface OFF / ON | 0 / 1 | cAn. | I | 017 | 0x5818 | 0x0000 / 0x FFFF |
| Service | | | | | | |
| • ERROR Reset | Reset | CLr.Er. | | 009 | 1400 | C009 H |
| • Hide programming menus | 0 / 1 | Hd.C. | | 117 | 0x5804 | 0x0000 / 0x FFFF |
| • Choose user parameter menu Nr. 0...3 | 0...3 | U.S.I. | 0 | 143 | | |
| • Save user settings | | PUSH. | | 143 | | |
| • Recall factory settings | | FAC. | | 210 | | |
| • Choose user parameter menu Nr. 0...3 | 0...3 | U.S.I. | 0 | 210 | | |
| • Recall user parameter | | US.PA. | | 210 | | |

| Service limits | | | | | | |
|------------------------------------|------------|--------|-----|-----|--------|-----------------------------------|
| • Enable service menu | 0 / 1 | En.S. | 0 | 127 | 0x5834 | 0x0000 / 0x FFFF |
| • Show output current (0... 100 %) | | i. | | 040 | 0x200A | 0x0000...0x8000 H |
| • Show active vibration frequency | | F. | | 040 | 0x1005 | 0x01F4...0x7530 H |
| • Current limit | 0...100 % | l. | 100 | 040 | 0x1016 | 0x0000...0x8000 H |
| • Stop at current limit | 0 / 1 | E.F.u. | 0 | 040 | 0x5850 | 0x0000 / 0x FFFF |
| • Current regulator P-part | 1...100 | I.P. | 20 | 040 | 0x100D | 0x0000...0xFFFF |
| • Current regulator I-part | 1...100 | I.I | 40 | 040 | 0x1032 | 0x0000...0xFFFF |
| • Min frequency limit | 5...150 Hz | F.L: | 35 | 040 | 0x1020 | 01F4...7530 H 500...30000 dec. |
| • Max frequency limit | 5...150 Hz | F.H. | 140 | 040 | 0x1021 | 01F4...7530 H 500...30000 dec. |
| • Start level AFC | 0...100 | A.S. | 25 | 040 | 0x1033 | 0x0000...0xFFFF |
| • Output voltage limited | 0...100 | P.L. | 100 | 040 | 0x1018 | 0x0000...0xFFFF |

- 1) Not available IP20 Version
- 2) Not for fieldbus operation

7.0 Example of bus communication with Frequency controller

Variable values are shown in *italics*.

7.1 Normal mode

(Set point to 70 %)

| Send Set point | Word | Code | send | Code | Received |
|----------------|------|---------------|-------------------------|---------------|----------|
| | 1 | | 0000 H | | 0000 H |
| 2 | | B332 H | Set point = 70 % | --- | --- |
| 3 | | | | | |
| 4 | | <i>0004 H</i> | Enable On | <i>A5xx H</i> | Ready |

Enable ON, Stop controller (with enable)

| Send Set point | Word | Code | send | Code | Received |
|----------------|------|---------------|-------------------------|---------------|----------|
| | 1 | | 0000 H | | 0000 H |
| 2 | | B332 H | Set point = 70 % | --- | --- |
| 3 | | | | | |
| 4 | | <i>0000 H</i> | Enable OFF | <i>A5xx H</i> | Ready |

7.2 Parameter mode

(e.g. set frequency to 50 Hz and soft start to 2 second)

| Open write enable | Word | Code | send | Code | Received |
|-------------------|------|--------------------------|----------------------|--------|-------------|
| | 1 | | 0000 H | | 0000 H |
| 2 | | C0DE H | Write enable Address | C0DE H | Acknowledge |
| 3 | | B5E7 H | Write enable value | B5E7 H | Acknowledge |
| 4 | | 8000 H + Control bits | Set mode bit = 1 | C0DE H | Acknowledge |

| Write parameter | Word | Code | send | Code | Received |
|-----------------|------|--------------------------|---|---------------|-------------------|
| | 1 | | 0000 H | | 0000 H |
| 2 | | <i>9005 H</i> | Parameter address Vibrating frequency + R / W - Bit | <i>9005 H</i> | Acknowledge |
| 3 | | <i>1388H</i> | Frequency 50 Hz | <i>1388 H</i> | Acknowledge 50 Hz |
| 4 | | 8000 H + Control bits | Set mode bit = 1 | C0DE H | Acknowledge |

| Write parameter | Word | Code | send | Code | Received |
|-----------------|------|--------------------------|--|---------------|-----------------------|
| | 1 | | 0000 H | | 0000 H |
| 2 | | <i>9013 H</i> | Parameter address Soft start + R / W - Bit | <i>9013 H</i> | Acknowledge |
| 3 | | <i>3333 H</i> | Soft start 2 Sec. | <i>3333 H</i> | Acknowledge 2 seconds |
| 4 | | 8000 H + Control bits | Set mode bit = 1 | C0DE H | Acknowledge |

| Close Write enable | Word | Code | send | Code | Received |
|--------------------|------|--------------------------|----------------------|--------|-------------|
| | 1 | | 0000 H | | 0000 H |
| 2 | | C0DE H | Write enable address | C0DE H | Acknowledge |
| 3 | | 0000 H | Write enable Value | 0000 H | Acknowledge |
| 4 | | 8000 H + Control bits | Set mode bit = 1 | C0DE H | Acknowledge |

Example of switch parameter change

Enable invert

| Open Write enable | Word | Code | send | Code | Received |
|----------------------|------|--------------------------|----------------------|--------|-------------|
| | 1 | 0000 H | | 0000 H | |
| | 2 | C0DE H | Write Enable Address | C0DE H | Acknowledge |
| | 3 | B5E7 H | Write Enable Value | B5E7 H | Acknowledge |
| | 4 | 8000 H + Control bits | Set mode bit = 1 | C0DE H | Acknowledge |

| | | | | | |
|--------------------|---|--------------------------|-------------------|--------|-------------|
| Write Parameter | 1 | 0000 H | | 0000 H | |
| | 2 | D811 H | Parameter address | D811 H | Acknowledge |
| | 3 | FFFF H | new Parameter | FFFF H | Acknowledge |
| | 4 | 8000 H + Control bits | Set mode bit = 1 | C0DE H | Acknowledge |

| Close Write enable | Word | Code | send | Code | Received |
|-----------------------|------|--------------------------|----------------------|--------|-------------|
| | 1 | 0000 H | | 0000 H | |
| | 2 | C0DE H | Write Enable Address | C0DE H | Acknowledge |
| | 3 | 0000 H | Write Enable Value | 0000 H | Acknowledge |
| | 4 | 8000 H + Control bits | Set mode bit = 1 | C0DE H | Acknowledge |

Read only the parameter)

| Read | Word | Code | send | Code | Received |
|------|------|--------------------------|---------------------------------|--------|---------------------------------|
| | 1 | 0000 H | | 0000 H | |
| | 2 | 1013 H | Parameter address Soft start | 1013 H | Acknowledge |
| | 3 | 0000 H | Read parameter | 8000 H | Parameter value (=> 5 seconds) |
| | 4 | 8000 H + Control bits | Set mode bit = 1 | C0DE H | Acknowledge Parameter mode |

7.3 RESET Controller

| Open Write enable | Word | Code | send | Code | received |
|----------------------|------|--------------------------|----------------------|--------|-------------|
| | 1 | 0000 H | | 0000 H | |
| | 2 | C0DE H | Write Enable Address | C0DE H | Acknowledge |
| | 3 | B5C9 H | Write Enable Value | B5C9 H | Acknowledge |
| | 4 | 8000 H + Control bits | Set mode bit = 1 | C0DE H | Acknowledge |

| | | | | | |
|-----------------|---|--------------------------|---|--------|-------------|
| Write Parameter | 1 | 0000 H | | 0000 H | |
| | 2 | 9400 H | Parameter address Reset + R / W - Bit | 0000 H | Acknowledge |
| | 3 | C009 H | RESET. | 0000 H | |
| | 4 | 8000 H + Control bits | Set mode bit = 1 | C0DE H | |

Allow approximately 0.5 sec. for RESET

8.0 Methods for adjusting the IP-address

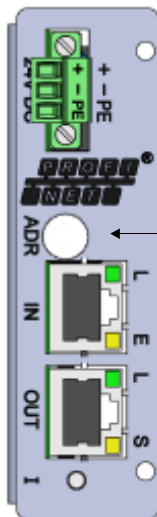
All PROFINET devices based on the Industrial Ethernet standard and therefore need for the operation an IP address.

To simplify the configuration, you are prompted only once to assign an IP address. When configuring the PROFINET IO controller in STEP 7 HW config displays a dialog to select the IP address and the Ethernet subnet one.

The IP addresses of the PROFINET IO devices are generated by STEP 7 and automatically assigned to the PROFINET IO Devices from PROFINET IO controller only during CPU startup. The IP addresses of all PROFINET IO devices that are connected to a PROFINET IO controller, always have the same subnet mask; based on the IP address of the PROFINET IO controller are automatically awarded for PROFINET IO devices with IP addresses in ascending order.

Before a PROFINET IO device can be addressed from a PROFINET IO controller, the PROFINET IO devices with a device name must be assigned. In PROFINET, this approach has been chosen because names are easier to handle than complex IP addresses. Assigning a device name for a specific PROFINET IO device can be compared with setting the PROFIBUS address for a DP slave.

Reset address:



By pressing the ADR switch > 6 seconds will be reset to the default IP address.
Delivery: 0.0.0.0.

Adresse zurücksetzen

Setting the IP address and name

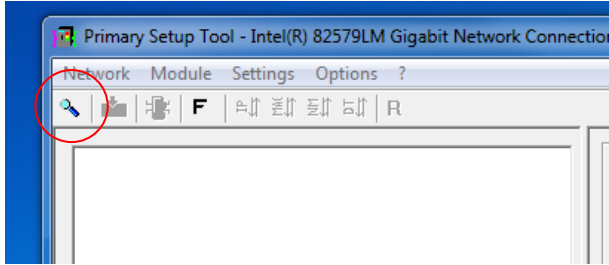
Setting on the Siemens "Primary Setup Tool"

With the Siemens "Primary Setup Tool" IP address assignment can also present without IO-Controller (PLC) are made. The software is available free on the Siemens "Automation & Drive" website in the support section available:

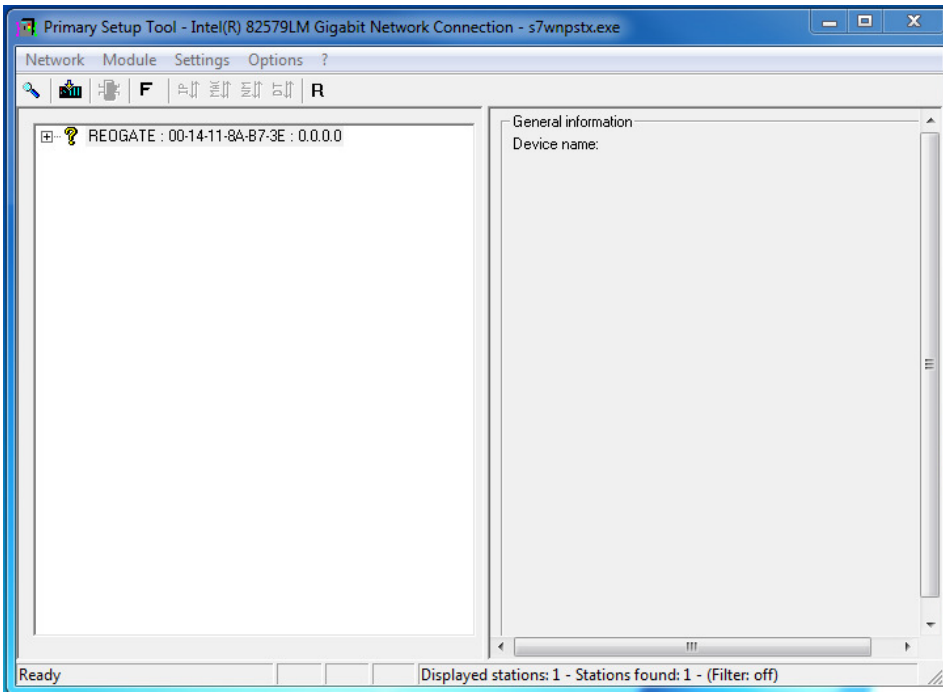
<http://support.automation.siemens.com/WW/llisapi.dll?func=cslib.csinfo&lang=de&objid=19440762&caller=view>

To assign the IP address via the Siemens »Primary Setup Tool“:

1. PC with PROFINET connecting device.
2. Start the Siemens “Primary Setup Tool”.
3. Click the Search button for participants in the PROFINET network to search.

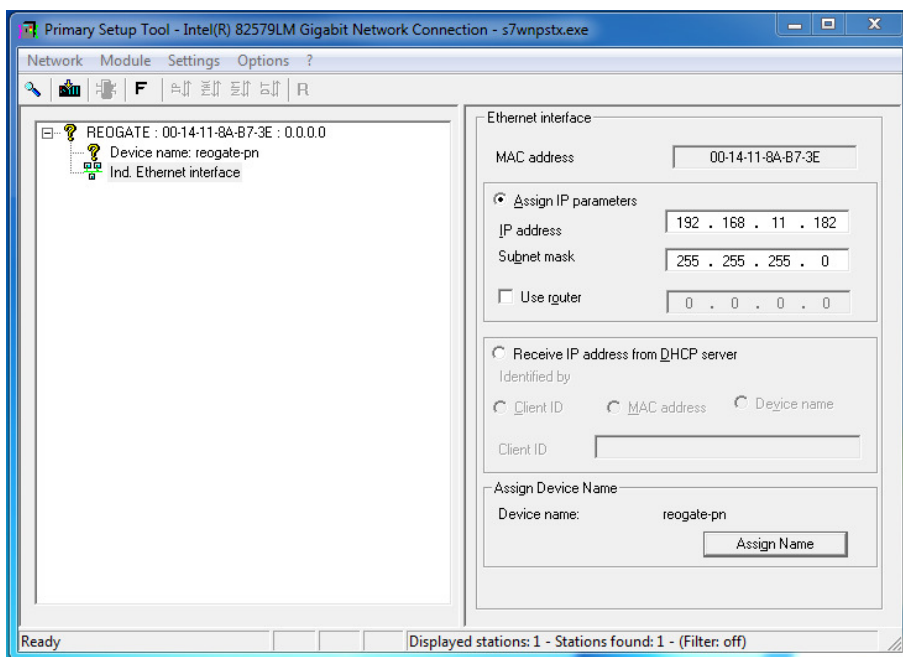
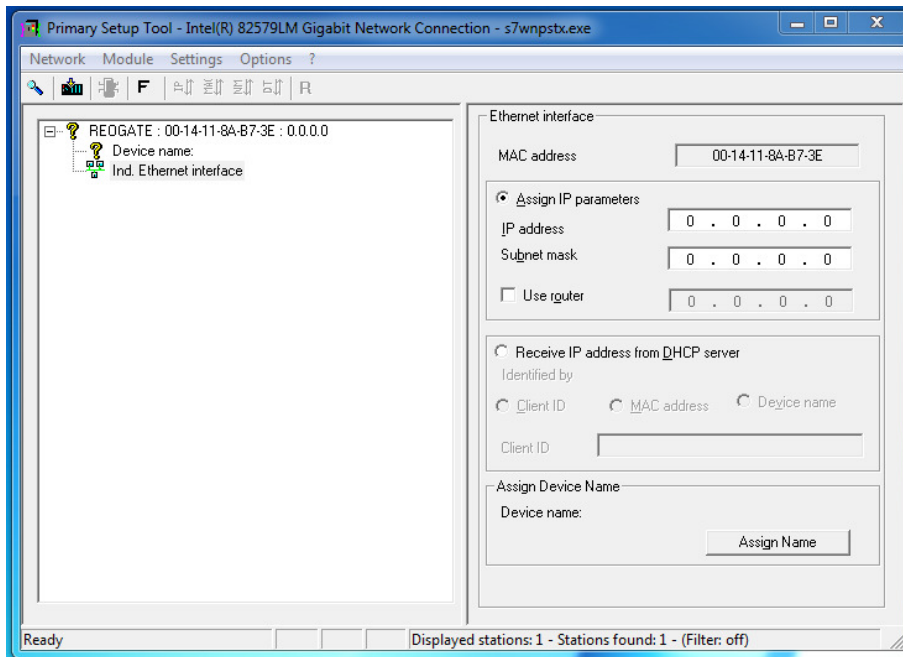


4. The found PROFINET nodes are displayed.



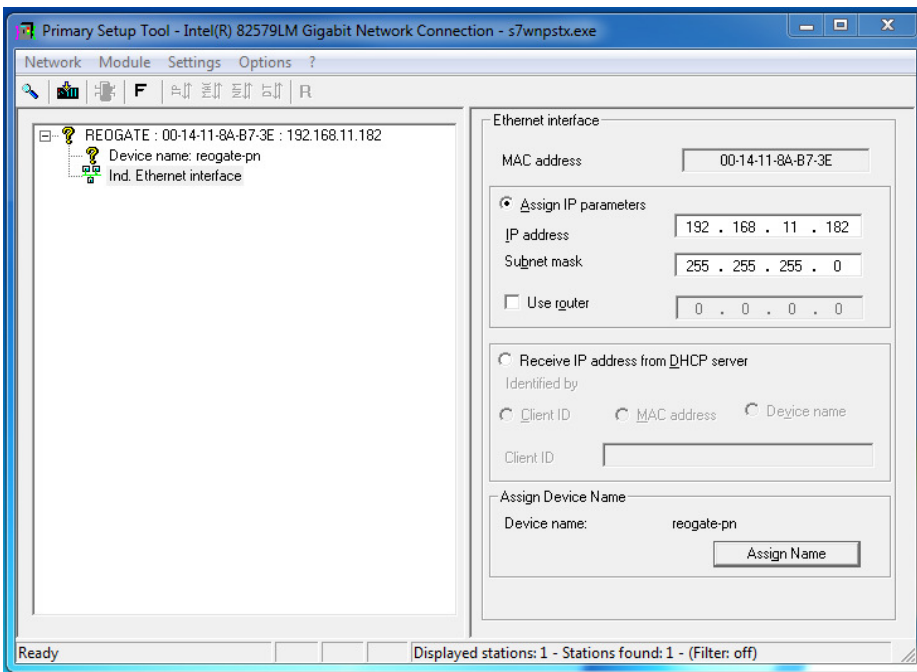
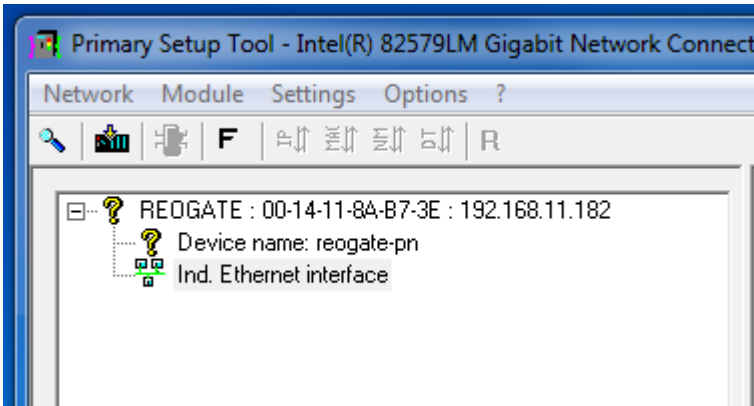
In the example, the search has a REO PROFINET nodes found, with no IP address (0.0.0.0 entry).

Click to the device and enter the IP address, subnet mask, and assign the device name.



5. Click in "Settings" the "Download" button to transfer the assigned IP address. Each IP address must individually using the "Download" button to the respective IO device be transferred.

IP address and the device name are now assigned to the device.



In the example, the IP address 192.168.11.182 and the name “reogate-pn” was awarded for the device with the MAC address 014-11-8A-B7-3E.



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