FAG


# FAG ProCheck

## User documentation

SCHAEFFLER

LuK INA FAG

## Imprint

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Version 2.2.4
Original user guide

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# 1 FAG ProCheck

## 1.1 General

### 1.1.1 About this manual

This manual describes the installation and use of the FAG ProCheck hardware and contains important information about the proper and safe use. Please read these instructions carefully prior to the start-up and keep them in a safe place.

Ensure that

- these instructions are available to all the users,
- these instructions are included when the product is transferred to other users,
- any additions and changes provided by the manufacturer 39 are always included.

**Additional information**

To operate a FAG ProCheck system, the included FAG Administrator software is required in addition to the hardware described in this manual. It is described in the "FAG Administrator" manual.

**Definitions**

- Product: The ProCheck hardware described in this manual.
- User: Person or organization with the ability to start up and use the product.
- Specialist: Person who is capable of recognizing risks and preventing potential hazards caused by the operation or maintenance of the product based on their relevant training and experience.
- Dangerous voltage: AC voltage > 42.4 V peak value, DC voltage > 60 V

**Symbols used**

*This symbol indicates*

- *helpful additional information and*
- *device settings or application tips that help you perform tasks more efficiently.*

Cross reference symbol 2: This symbol refers to a manual page containing further information. When reading the manual in PDF-format on the computer screen you can jump to that page by simply clicking on the word to the left of the symbol.

## 1.2 Product description

### 1.2.1 About FAG ProCheck


FAG Administrator is a modular online system designed for the continuous status and process monitoring, specially developed for use in oscillation monitoring and quality assurance. FAG Administrator systems can register, record and analyze measured values on up to 16 channels via connected sensors. After the analysis, the system can activate outputs depending on user-defined alarm limits, e. g. for the automatic shut down of a machine.

For the integration into a superordinate system, various inputs and outputs are available. They are used to record additional signals and trigger or validate measurements. As a result, these signals can be used as management parameters for a dependent signal analysis, e. g. to trigger measurement tasks controlled by time or event.

The ProCheck system is available is various pre-configured configuration levels covering a number of applications. Moreover, the system is easily expandable and customizable to individual needs. Any number of ProCheck systems can be combined in a single network. They are administrated centrally on a PC with FAG Administrator software, irrespective of the number of ProCheck systems.

### 1.2.2 Safety information

The ProCheck hardware is manufactured in accordance with the approved standards and guidelines (see Declaration of conformity in the appendix) and is safe for operation. Nevertheless, the device may pose certain unpreventable residual risks to users and third parties or objects. Therefore, it is essential that all safety information contained in this manual is complied with. Non-compliance can endanger the health and life of persons or cause material damage.

This manual distinguishes between

- **general security information**, which applies to the complete manual and is described in this chapter

and

- **special security information**, which can be found at the beginning of the corresponding chapter or next to the individual steps.

#### General safety information

FAG ProCheck is designed to be integrated in a plant as system for analyzing and monitoring oscillations. The installation into the plant, the connection of the ProCheck system to the components of the plant and the operation of the ProCheck system within the plant must only be performed with the observation of the specifications contained in this manual (see "Technical data" 10). The plant operator is responsible for the proper installation and the safe operation of the complete plant.

Depending on the model, it is possible to turn on and off or supply plant components with power/voltage via ProCheck output modules in addition to the registration of measured values. For this purpose, the limits of use of the connected plant components need to be taken into account in addition to the ProCheck specifications. This is the sole responsibility of the plant operator.

Before wiring the ProCheck device or individual modules, ensure that the device and all components are voltage free. To power-off in case of danger, a EMERGENCY-OFF switch must be installed in 1 to 1.5 meters distance to the system.

#### Operating staff

ProCheck systems must only be installed, operated and maintained by authorized electrotechnicians who have been trained in accordance with the relevant provisions.

#### Used hazard symbols

Safety and hazard information is characterized by standardized, specific hazard symbols. If no specific symbol applies, a general hazard symbol is used instead.

##### General hazard symbol

***DANGER***

***Type and source of the danger are described here***

*Measures to prevent the danger are explained here.*

##### Specific hazard symbols

***DANGER***

***ELECTRICAL SHOCK HAZARD***

*This symbol represents the electrical shock hazard which can lead to personal injury including death or material damage.*

### 1.2.3 Modifications by the user

The design of FAG ProCheck is modular. It can be expanded or reconfigured any time, by adding or removing modules. However, the reconfiguration of hardware components generally requires the firmware to be adjusted. Moreover, the new measured data is usually no longer compatible with the previous measurements of the reconfiguration. If you wish to modify the hardware configuration, please contact our Support 39 (see "Contact" 39) for individual and comprehensive advice.

#### Approved modifications

The user can modify the system as follows:

- Installation and connection of the power supply in accordance with the specifications contained in the technical data

(see "Technical data" 10),

- Changes to the settings on the device or via the FAG Administrator software,
- ProCheck systems with supply board: Connection of input and output signals in accordance with the specifications contained in the Technical data 10 on the supply board,
- ProCheck systems without a supply board: Connection of input and output signals in accordance with the specifications contained in the Technical data 10 on the input and output modules,

The user is responsible for any modifications exceeding the scope mentioned above. If you determine that the ProCheck controller or a module is defective, please contact our Support 39.

## 1.3 Layout and function

### 1.3.1 System description

#### Design of the ProCheck system

The ProCheck system consists of the components controller, the backplane with FPGA and input / output modules, which can be used in variable quantities and composition, and the supply board. It is supplied pre-configured in a chassis intended for industrial use. You only need to add the power supply.

In addition to the pre-configured standard models (see "Models" 8) additional variants can be designed, depending on the individual needs.

#### ProCheck controller


The ProCheck controller is the central control and processing unit of the ProCheck system. It consists of

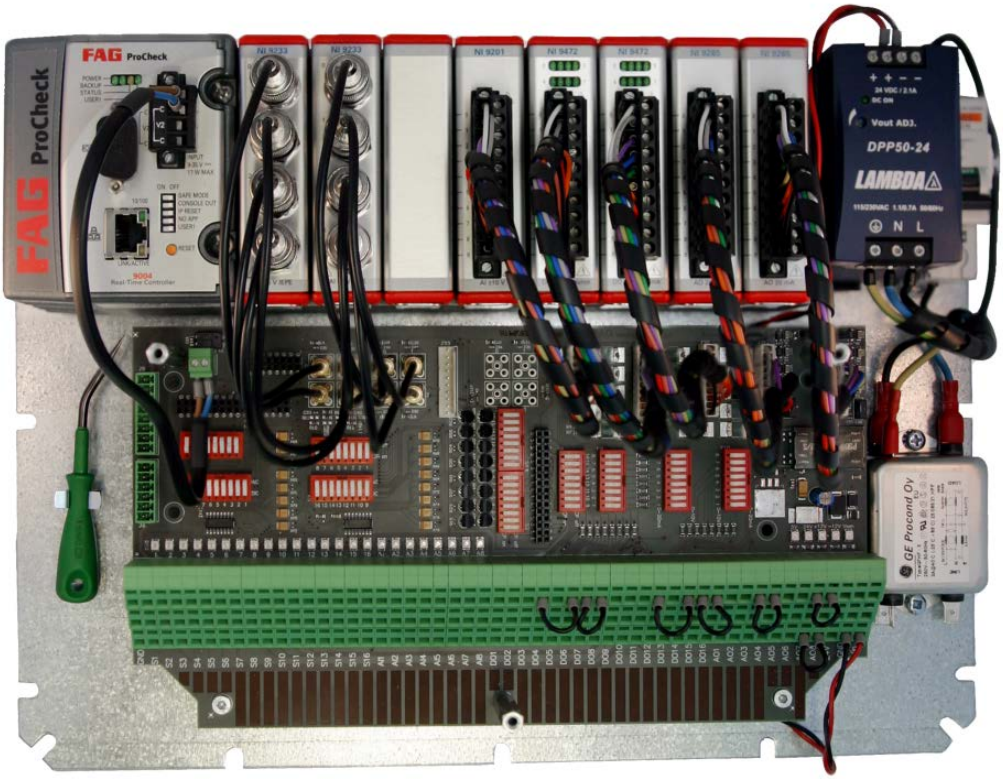
- the processor,
- RAM (128 MB DRAM),
- device memory (512 MB flash disk),
- a serial port (RS-232),
- a network interface (Ethernet 10/100 MBit),
- a USB port (actually not used).

A real-time operating system and the ProCheck system software are running on the controller. Moreover, the controller provides the power supply of the remaining components, unless they are modules with an external supply (e. g. analog output modules).

#### Supply board

The supply board brings all inputs and outputs of the modules together and provides them from a uniform connecting block. This allows the simple wiring of the complete system.

In addition, the supply board contains the required Multiplexer for configuration with 16 IEPE channels. The picture below illustrates the supply board located underneath the controller and the modules.




(Fig. similar)

## Input and output modules


(Fig. similar)

The input and output modules are used to connect sensors and provide analog and digital outputs used to integrate the ProCheck system into superordinate systems. The following module types are available:

- NI 9239: Analog sensor input module with 4 channels (IEPE sensors, 24 bit A/D converter, measuring range ± 10V) for systems with a multiplexer
- NI 9201: Analog input module with 8 channels (12 bit)
- NI 9472: Digital switch output module with 8 channels
- NI 9265: Analog current output module with 4 channels (0-20 mA, 16-bit D/A converter)

*In the pre-configured Models* 8*, the modules are connected to the supply board internally, i. e. all inputs and outputs are directly wired on the supply board.*

Please refer to the chapter Technical data 10 for more information about the modules.

### 1.3.2 Models

| | PRO-CHECK-12CH | PRO-CHECK-WIND | PRO-CHECK-16CH |
|---|---|---|---|
| IEPE channels | 12 | 16[1)] | 16[1)] |
| Analog inputs | 8 | 6[2)] | 6[2)] |
| Analog current outputs | 8 | 4 | 4 |
| Digital outputs | 16 | - | - |

[1)] Multiplexer

[2)] Inputs AI7/AI8 used by sensor OK detection

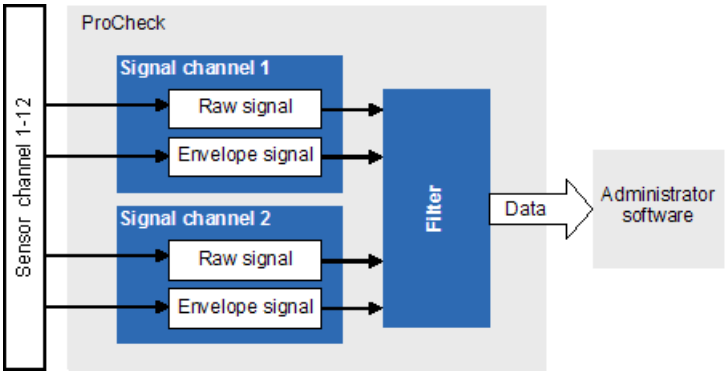
### 1.3.3 Signal processing

ProCheck systems are equipped with up to 12 or (with Multiplexer) 16 sensor channels. The sensor channels are led to two signal channels which are analyzed simultaneously and can record a raw signal or a demodulation signal. Data recorded on the signal channels is forwarded to a filter stage.

#### Parallel measurement without multiplexer

On a system without a multiplexer you can record up to four signals in parallel. For each of the sensor channels you can choose whether to record the raw or demodulation signal or both signals. This results in the following combinations:

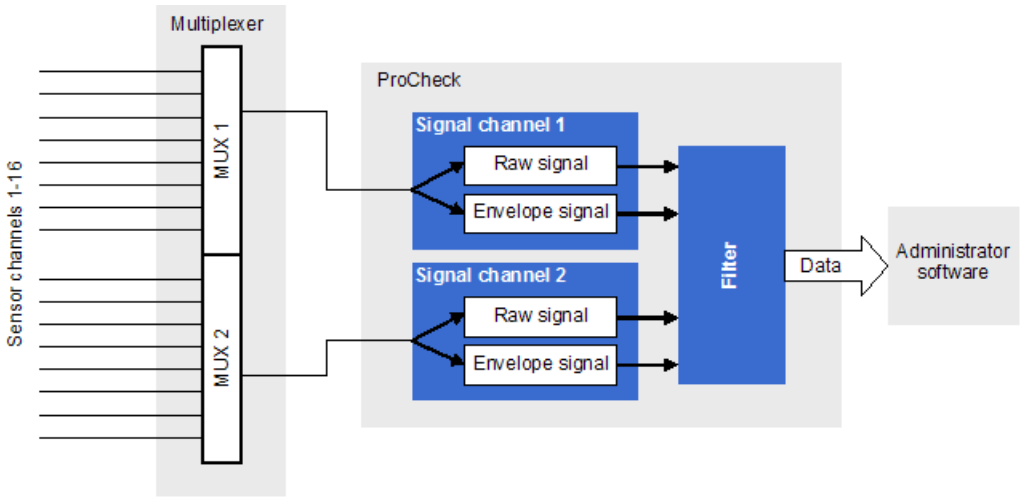
- Raw and demodulation signal on two sensor channels
- Raw and demodulation signal on one, raw or demodulation on two others
- Raw or demodulation on four sensor channels




ProCheck signal processing without multiplexer

## Parallel measurement with multiplexer

Systems with a multiplexer allow a maximum of two parallel measurements. The sensor channels evaluated in parallel must not be connected to the same Multiplexer bank. For each of the sensor channels you can choose whether to record the raw or demodulation signal or both signals simultaneously.




ProCheck signal processing with multiplexer

### Monitoring types

The ProCheck device offers the following monitoring types with the corresponding characteristic values:

- Broadband characteristic value monitoring in the target range
  - o RMS
  - o Crest factor
  - o Peak
  - o Peak-to-Peak
  - o Offset
- Frequency-selective monitoring
  - o RMS broadband or selective
  - o LDZ broadband or selective

### Auxiliary channels

The ProCheck device is equipped with 8 analog auxiliary channels used to record additional process or frequency factors (such as e. g. rotational speed, torque, temperature, pressure, etc.). They can be used to trigger the actual oscillation measurement, to record relevant additional information for the oscillation analysis or for the validation.

- **Trigger**: Triggering means that monitoring is only carried out under certain, predefined operating conditions, e.g. a certain working temperature. If the input level of an auxiliary channel chosen as trigger channel rises above a configurable threshold – the trigger level – monitoring begins. If the signal level drops below the trigger level, less a definable hysteresis, monitoring stops. Analogously, triggering may also be implemented for decreasing signal levels.
- **Validation**: An additional signal is recorded and evaluated during the registration of the measured value, which is used as validation factor. If the validation conditions are not met while taking readings, the measurement will be rejected. No evaluation and no alarm will take place. For example, if monitoring of a machine is only meaningful for rotational speeds between 400 and 600 rpm, the corresponding settings can be managed via validation conditions.
- **Speed-dependent settings**: Alarm levels or frequency bands are defined in accordance with the operating factor - e. g. the rotational speed - measured on an auxiliary channel. If the operating factor changes, the alarm limits and frequency bands for the oscillation measurement will be based upon the speed.

*The auxiliary channels are galvanically isolated from the other signal modules.*

### 1.3.4 Configurations

Any parameters concerning the ProCheck device, the connected sensors and the measurements to be performed will be stored in configurations. They are divided into device and monitoring configurations.

**Device configurations**

The device configuration includes any settings concerning the ProCheck device as a whole, including e. g. communication settings, sensor sensitivity or password to limit access to the hardware. Several device configurations can be created for each ProCheck device; but only one of them can be active. A device configuration consists of any number of monitoring configurations.

**Monitoring configurations**

Any settings which are relevant to a certain monitoring mode are set in the monitoring configuration, including the configuration of signal registrations (input channel, filter, signal type, signal length, etc.), password calculation and storage, alarms etc. If several monitoring configurations are stored in the active device configuration of a ProCheck device, they are processed in a cyclical sequence.

**Additional information**

Configurations are created, managed and transferred to ProCheck devices in the FAG Administrator software. Detailed information about handling configurations can be found in the "FAG Administrator" manual.

### 1.3.5 Technical data

| | |
|---|---|
| **Oscillation inputs** | |
| Sensor channels | 12 channels, 16 channels with Multiplexer |
| Parallel measurement | Systems with a multiplexer: 2 channels (raw time signal and demodulation); systems without a multiplexer: up to 4 channels (raw signal or demodulation) |
| Sensors | IEPE acceleration sensors |
| Measuring range | for 9239 ICP and DC signals: up to ± 10 V |
| Sensor supply | 2/4 mA (direct/Multiplexer) with 24 V |
| **Analog measurements** | |
| Measuring functions | Time signal, spectrum, demodulation, acceleration (RMS), velocity (peak, RMS), displacement (RMS) |
| Characteristic values within the time range | RMS, peak, peak to peak, crest factor, offset |
| Characteristic values within the frequency range | ISO 10816, LDZ (broad band/selective), RMS (broad band/selective) |
| **Signal processing** | |
| Lines | max. 26214 |
| Low-pass cut-off frequencies | 5, 10, 20, 50, 100, 200, 500 Hz / 1, 2, 5, 10, 20 kHz |
| Sample rate | 50 kHz |
| Dynamics / resolution | 120 dB / 24 bit |
| High-pass frequencies | 250, 750, 2 000 Hz |
| **Inputs (optionally analog or digital)** | |
| Input range | for 9201: ± 10 V |
| Resolution | 12 bit |
| Quantity | max. 8 |
| Sample rate | analog 50 Hz up to 10 kHz, digital 50 kHz |
| **Outputs** | |
| Switch outputs | max. 16, 6-30 V, source,100 µs, 750 mA (24 V) |
| Current outputs | max. 8, 16 bit, 0-20 or 4-20 mA |
| **Memory** | |
| Main memory | 64 MB |
| Memory | 512 MB (flash disk) |
| **Ports** | |
| | RS 232 (max. data rate 115 kbit/s) |

| | |
|---|---|
| **Ports** | |
| | Ethernet 10/100 Mbit/s (IEEE 802.3) |
| **ATEX-approved** | |
| | EEx nC IIC T4, VL class I, division 2 (for National Instruments â Hardware) only |
| **Other** | |
| Dimensions including chassis | 400x300x190 (W x H x D) |
| Weight | 7.5 kg |
| Class of protection | IP65 (in the chassis), IP 40 (for National Instruments â hardware) only |
| Temperature range | -40 °C to +70 °C (for National Instruments â hardware) only |
| Power supply | 9 to 35 V, 17 W (for National Instruments â hardware only) |
| Power requirement | 18 to 30 V, 48 W (in the chassis)<br>115 to 230 V, max. 50 W (with power supply) |
| Software | FAG Administrator (updates available in the internet)<br>Runs on Windows XP<br>Available in: German, English, Chinese |

- *Subject to technical modifications.*
- *To ensure EMC compliance all power supply lines and the network cable are equipped with ferrite cores, which must be mounted in close proximity to the device.*

## 1.4 Preparing FAG ProCheck for use

This chapter contains the description on how to

- install the power supply for the ProCheck system (if not included),
- configure and use the supply board,
- wire inputs and outputs directly, if your ProCheck system is not equipped with a supply board.

### 1.4.1 Power supply

**For your safety**

***DANGER*** ***The contact with dangerous voltages can be life-threatening.***

- *FAG ProCheck may only be prepared for use by persons with proven qualifications in accordance with the relevant rules and regulations.*
- *Please ensure that all components are voltage-free while the work is performed. Press the EMERGENCY-OFF switch (hazard switch) or disconnect the connector to the ProCheck device.*

**Voltage-free FAG ProCheck with EMERGENCY-OFF switch**

FAG ProCheck is designed to be integrated in a plant as system for analyzing and monitoring oscillations. The installation into the plant, the connection of the ProCheck system to the components of the plant and the operation of the ProCheck system within the plant must only be performed with the observation of the specifications contained in this manual (see "Technical data" 10). The plant operator is responsible for the proper installation and the safe operation of the complete plant.

Depending on the model, it is possible to turn on and off or supply plant components with power/voltage via ProCheck output modules in addition to the registration of measured values. For this purpose, the limits of use of the connected plant components need to be taken into account in addition to the ProCheck specifications. This is the sole responsibility of the plant operator.

Before wiring the ProCheck device or individual modules, ensure that the device and all components are voltage free. To power-off in case of danger, a EMERGENCY-OFF switch must be installed in 1 to 1.5 meters distance to the system.

**Installing the power supply**

***DANGER*** ***Damage of the ProCheck hardware caused by inappropriate power supply!***

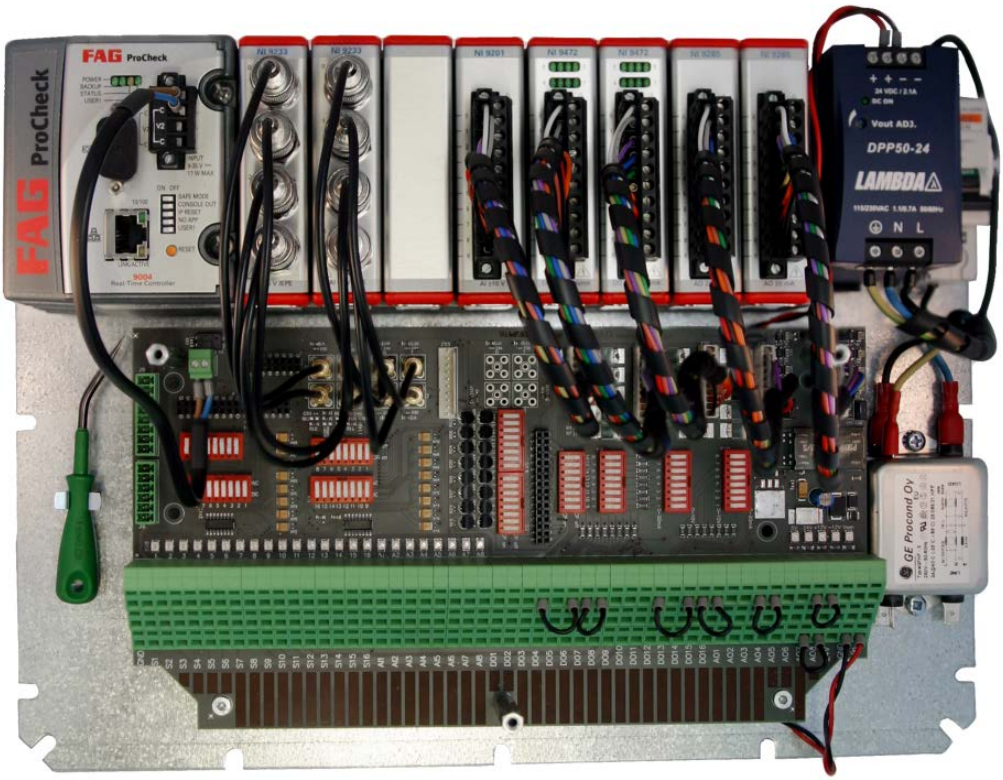
- *Exclusively use a power supply that corresponds to the specifications in the Technical data* 10 *and the applicable legal provisions for this type of components.*
- *Please observe the notes in the user manual of the power supply.*
- *Ensure the correct polarity when connecting the device. Incorrect polarity may damage the ProCheck hardware.*

The power supply for the ProCheck system is mounted on the right side next to the input / output modules on the provided top hat rail and connected to the input terminals of the ProCheck controller.

- Place the power supply on the top hat rail and screw it on tightly.
- Connect the positive pole of the voltage source to terminal V1 on the ProCheck controller and the negative pole to terminal C.

### 1.4.2 Supply board

The supply board brings all inputs and outputs of the ProCheck modules together and provides them from a uniform terminal block. This allows the simple wiring of the complete system. In addition, the supply board contains the required Multiplexer for configuration with 16 IEPE channels.




The supply board consists of

- a system board, containing the wiring with the ProCheck modules, LED displays, DIP switch and jumper for the configuration as well as the connection with the Multiplexer for models with 16 channels,
- a terminal block with three rows, providing the sensor inputs as well as the digital and analog input and output channels of the ProCheck modules.

*Please note that the number of inputs and outputs on the supply board depends on the model (see "Models" 8) of your ProCheck device.*

**Safety information**

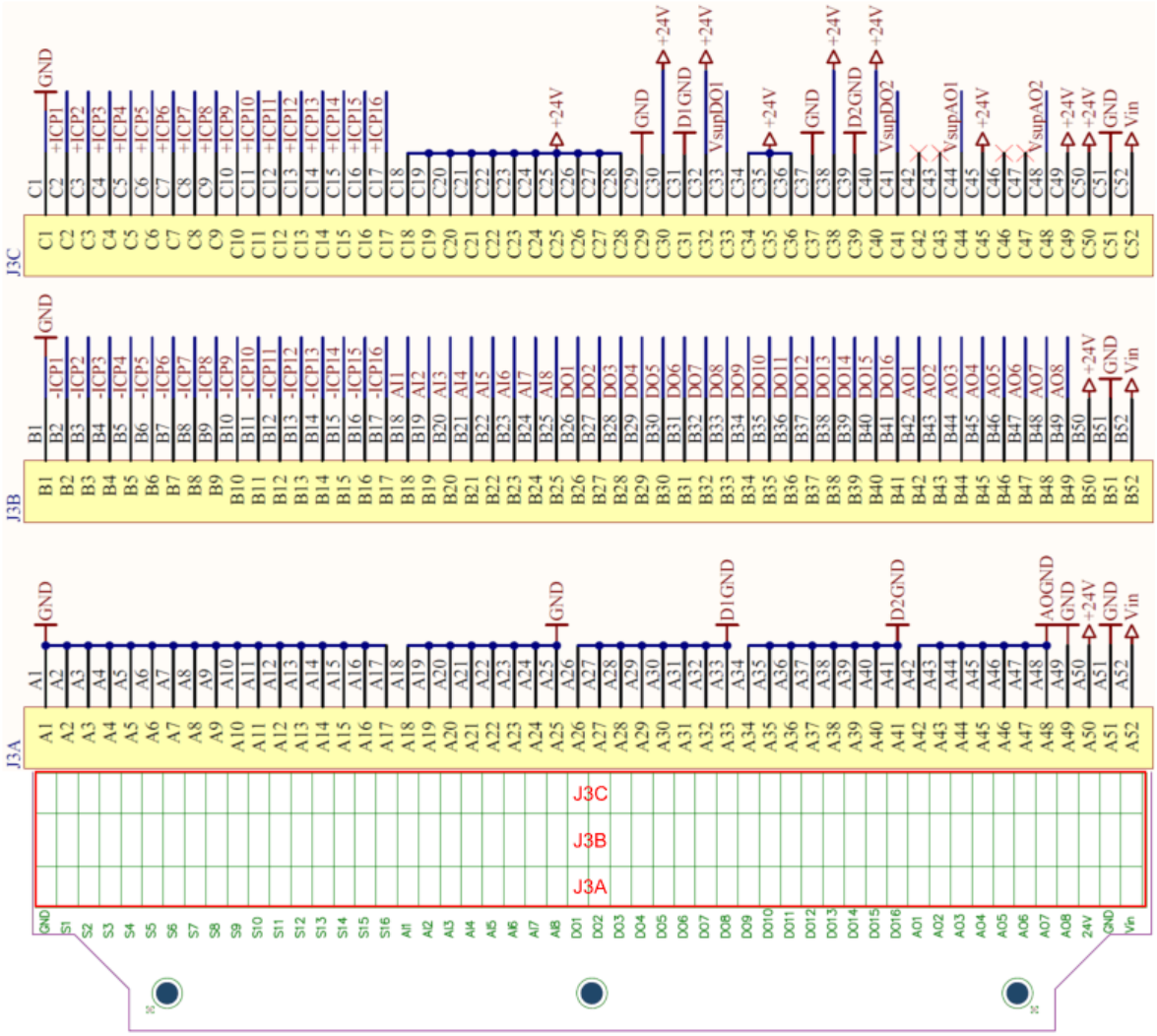
Please heed the following advice for your own safety and to prevent damages to the ProCheck hardware.

***CAUTION***

***Damages to the electronic components as a result of improper handling.***

- *Never touch the board and the components on it.*
- *Exclusively use the supplied special screw driver to attach cables to the terminal block and to unscrew cables.*

#### 1.4.2.1 Main connections




Terminal block J3, consisting of J3A, J3B and J3C

**Connection of cables and bridges to the terminal block**

- Any cables and bridges connected to the terminal block should be equipped with end splices.
- Sensors should be connected to the inputs by means of protected cables.
- To insert cables in the terminal block and to unscrew them, you must exclusively use the supplied angled flat-blade screw driver.
- The conductor cross section of cables and bridges must not exceed 1.5 $mm^2$.

### Connecting cables

- Push this screw driver into the upper slit of the respective terminal and push down the spring located in it.
- Keep the spring depressed and insert the cable to the stop or pull it out of the terminal block.
- Remove the screw driver from the slit in the terminal block.

### Bridges

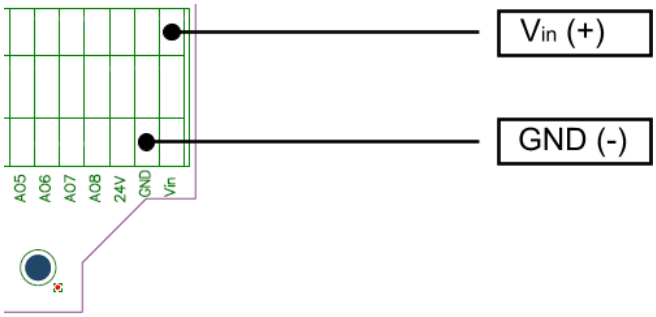
Bridges are attached on the terminal block the same way as cables.

## Power supply

**DANGER** ***The contact with dangerous voltages can be life-threatening.***

- *The power supply may only be connected by persons with proven qualifications in accordance with the relevant rules and regulations.*
- *The power supply must correspond to the specifications listed in the Technical data* 10.
- *Please ensure that all components are voltage-free when you connect the power supply.*

- Connect the positive pole of the voltage source to terminal Vin (J3-A52, J3-B52 or J3-C52on the supply board and the negative pole to the GND terminal (J3-A51, J3-B51 or J3-C51).




Connecting the power supply

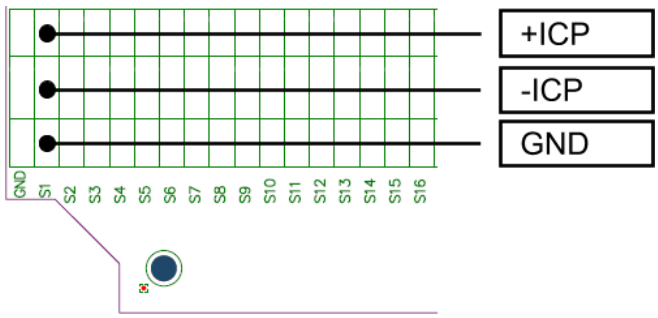
- *The input of the power supply is equipped with reverse battery protection. If the polarity is incorrect, the supply board will not work.*
- *If the current consumption exceeds 2 A, a fuse on the supply board will be triggered, turning off the supply voltage. This fuse is self-resetting, i. e. it will be activated automatically after the supply voltage is turned on again.*

## Sensor connections (S1-S16)

Terminals S1-S16 are used to connect ICP sensors. Depending on the model (see "Models" 8) up to 8, 12 or 16 ICP sensors can be used.

- Connect the positive poles of the sensors to terminals J3-C2 to J3-C17 (+ICP) and the negative poles to terminals J3-B2 to J3-B17 (-ICP).
- The shielding of the ICP sensor cables can be connected to the GND grounding terminals (J3-A1 to J3-A17).

Please refer to chapter "ICP settings" 21 for information about the selection of the power supply for the ICP sensors.




Sensor connection (using ICP sensor 1 as an example)

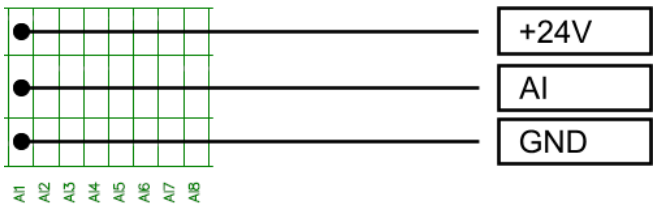
## Connection of the analog inputs (AI1-AI8)

Terminals AI1-AI8 are used to connect analog signals to the supply board.

- Connect the signal-bearing lines to terminals J3-B18 to J3-B25 (AI) and the grounding lines to terminals JA3-A18 to J3-

A25 (GND).

- Sensors requiring an external voltage source can be supplied with voltage via terminals J3-C18 to J3-C25 (+24 V).




Addition of an analog signal (with AI1 as an example)

Chapter "Analog input settings" 22 contains additional information about the selection of an input type (current / voltage) and the addition of digital signals.

*If the sensor OK recognition function is used:*

- *AI7 and AI8 are not available*
- *AI7 and AI8 must not be connected*

### Connecting digital signals (AI1-AI8)

Inputs AI1-AI8 are also used to connect digital signals (e.g. digital speed sensors). It is important to read the information regarding configuration of DIP switches S8/S9 (see "DIP switches, jumpers" ➔ "Analog input settings" 22).

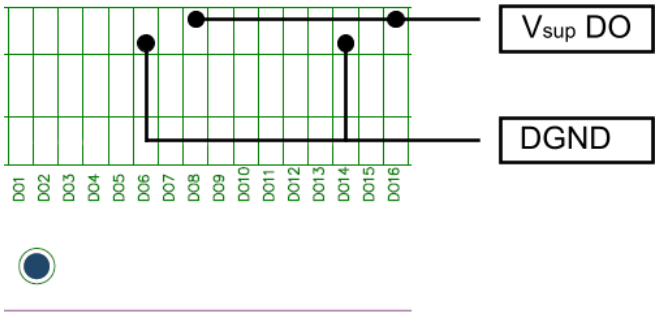
### Digital output connections (DO1-DO16), 8 channel digital output module NI 9472

An additional power supply is required to supply the users connected via digital outputs. An external power supply (6-30 V) or the internal power supply of the supply board can be used for this purpose.

*Both with internal and external power supply, the current consumption per digital output is limited to 0.75 A by means of an automatically resetting fuse.*

## External power supply

- Digital output module 1 (DO1-DO8: Connect the positive pole of the voltage source to terminal J3-C33 ($V_{sup}$DO1) on the supply board and the negative pole to terminal J3-C31 (D1GND).
- Digital output module 2 (DO9-DO16: Connect the positive pole of the voltage source to terminal J3-C41 ($V_{sup}$DO2) on the supply board and the negative pole to terminal J3-C39 (D2GND).




Digital outputs, external power supply

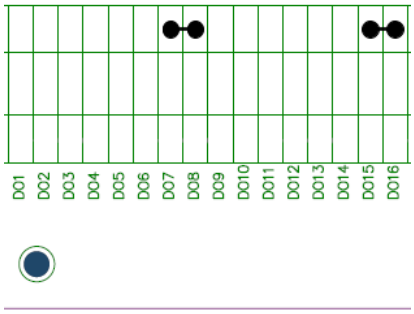
## Internal power supply

The internal power supply (+24 V) of the supply board can be used instead of an external power supply.

*Please note that the maximum current consumption of the users connected to the outputs must not exceed a total of 1 A if you use the internal power supply. If the current requirement is higher, use an external power supply.*

To use the internal power supply, connect the following terminals to a bridge:

- Digital output module 1 (DO1-DO8: J3-C32 (+24 V) and J3-C33 ($V_{sup}$DO1),
- digital output module 2 (DO9-DO6): J3-C40 (+24 V) and J3-C41 ($V_{sup}$DO2),

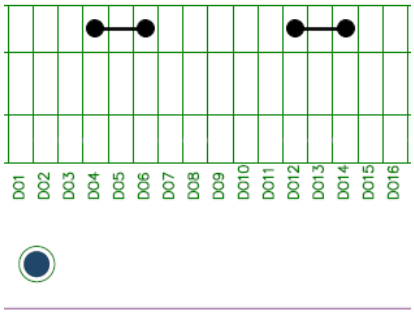



Digital outputs, bridges for the internal power supply

*When using the internal power supply, the ground of the digital outputs (D1GND/D2GND) must be connected to the GND terminal.*

*Connect the following terminals to a bridge for this purpose:*

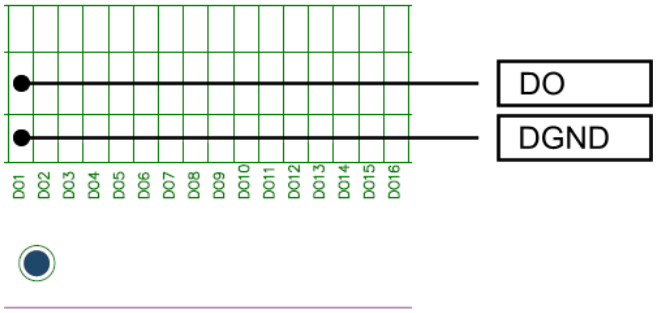
- *Digital output module 1 (DO1-DO8): J3-C29 (GND) and J3-C31 (D1GND),*
- *digital output module 2 (DO9-DO16): J3-C37 (GND) and J3-C39 (D2GND),*




Digital outputs, internal power supply, D1GND/D2GND connected to GND

### Signal outputs

The output signals of digital outputs DO1-DO16 are connected to terminals J3-B26 to J3-B41. Terminals J3-A26 to J3-A41 provide the associated grounding connections (GND).



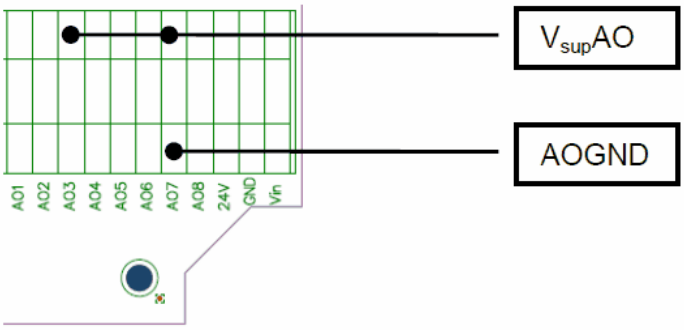

Connecting a digital output (using DO1 as an example)

## Analog output connections (AO1-AO8)

An additional power supply is required to supply the users connected via analog outputs. An external power supply (9-36 V) or the internal power supply of the supply board can be used for this purpose.

### External power supply

- Analog output module 1 (AO1-AO4: Connect the positive pole of the voltage source to terminal J3-C44 ($V_{sup}$AO1) on the supply board and the negative pole to terminal J3-A48 (AOGND).
- Analog output module 2 (AO5-AO8): Connect the positive pole of the voltage source to terminal J3-C48 ($V_{sup}$AO2) on the supply board and the negative pole to terminal J3-A48 (AOGND).




Analog outputs, external power supply

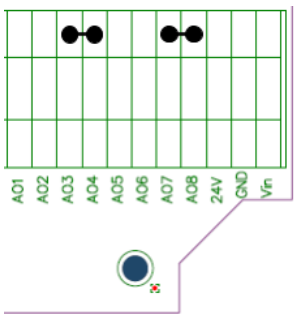
### Internal power supply

The internal power supply (+24 V) of the supply board can be used instead of an external power supply.

*Please note that the maximum current consumption of the users connected to the outputs must not exceed a total of 1 A if you use the internal power supply. If the current requirement is higher, use an external power supply.*

To use the internal power supply, connect the following terminals to a bridge:

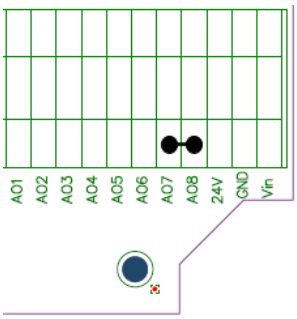
- Analog output module 1 (AO1-AO4: J3-C45 (+24 V) and J3-C44 ($V_{sup}$AO1),
- analog output module 2 (AO5-AO8): J3-C49 (+24 V) and J3-C48 ($V_{sup}$AO2),




Analog outputs, bridges for the internal power supply

*When using the internal power supply, the ground of the analog outputs (AOGND) must be connected to the GND terminal.*

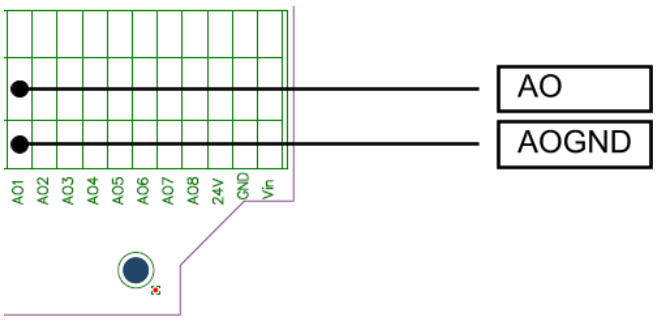
*Connect terminals J3-A49 (GND) and J3-A48 (AOGND) to a bridge for this purpose.*




Analog outputs, internal power supply, GND connected to AOGND

## Signal outputs

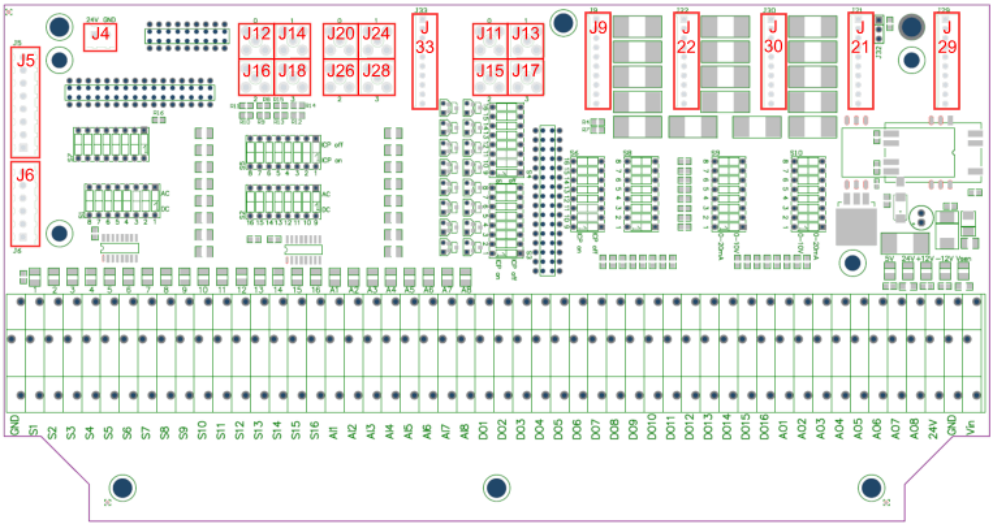
The output signals of analog outputs AO1-AO8 are connected to terminals J3-B42 to J3-B49. The associated ground connections are provided by terminals J3-A42 through J3-A49 for internal power supply and by terminals J3-A42 through J3-A48 for external power supply. Both the signals and supply grounds of both output modules are connected with each other and are provided by J3-A42 through J3-A48.s




Connecting an analog output (using AO1 as an example)

*Please refer to the "Analog output settings 22" section for information about selecting the output type (current / voltage).*

### 1.4.2.2 Additional connections

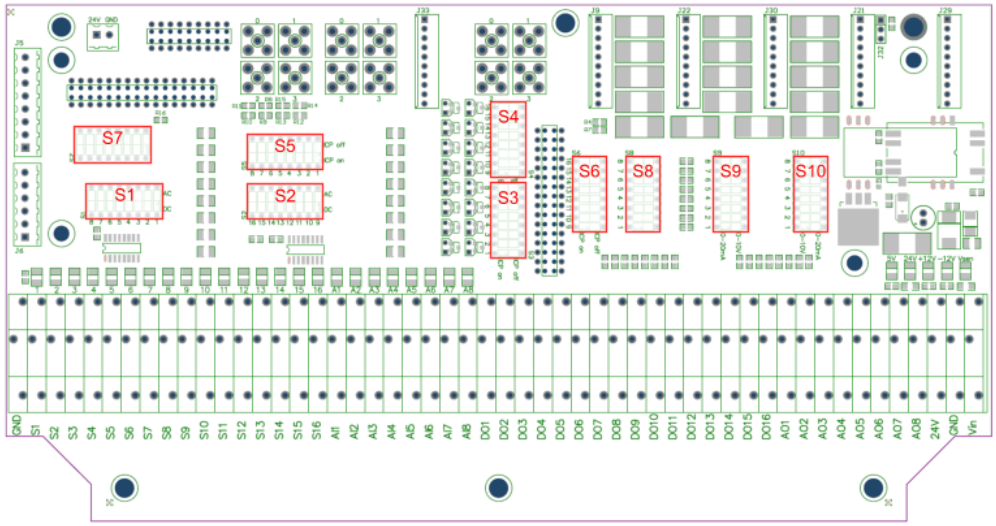



Additional connections

The connections displayed above are explained in the table below (clockwise from left to right)

| Identification on the board | Use | Type | Description |
|---|---|---|---|
| J6 | Forwarding of the Multiplexer sensor signal | 6-pole pin bar | This pin connector provides the sensor signals to be forwarded to a Multiplexer cascade. |
| J5 | Forwarding of the Multiplexer address bus | 8-pole pin bar | This pin connector provides the signals of the Multiplexer address bus to be forwarded to a Multiplexer cascade. |
| J4 | ProCheck power supply | 2-pole pin bar | ProCheck is supplied with the 24 V supply voltage via this terminal. |
| J12, J14, J16, J18 | Sensor inputs 1-4 | Mini-BNC | Are used to forward the sensor signals to the first ICP module. |
| J20, J24, J26, J28 | Sensor inputs 5-8 | Mini-BNC | Are used to forward the sensor signals to the second ICP module. |
| J33 | Multiplexer address bus | 10-pole pin bar | The Multiplexer address bus signal is connected to this pin connector. |
| J11, J13, J15, J17 | Sensor inputs 9-12 | Mini-BNC | Are used to forward the sensor signals to the third ICP module. |
| J9 | Analog inputs | 10-pole pin bar | Is used to forward the analog inputs AI1-AI8 to the corresponding ProCheck modules. |
| J22, J30 | Digital outputs | 10-pole pin bar | Provide the digital outputs DO1-8 and DO9-16. |
| J21, J29 | Analog outputs | 10-pole pin bar | Provide the analog outputs AO1-4 and AO5-8. |

### 1.4.2.3 DIP switches, jumpers




DIP switches, jumper

#### ICP settings

Use the DIP switches **S3/S5** (ICP sensors 1-8) and **S4/S6** (ICP sensors 9-16) to determine whether a sensor will be supplied with voltage via an external voltage source of via the respective ProCheck module:

- DIP switch in open position (0) = ICP OFF: The voltage is supplied from the module.
- DIP switch in closed position (1) = ICP ON: The voltage is supplied externally from the supply board.

- *Please note that both DIP switches always need to be connected to the respective channel (DIP switch S3 and S5 for ICP sensors 1-8 and S4 and S6 for ICP sensors 9-16). Please also note the inscription on the board.*
- *When using an external power supply, please select alternating coupling for module 9239. Please see chapter "AC/DC settings" below.*

#### AC/DC settings

Use the DIP switches **S1** (ICP sensors 1-8) and **S2** (ICP sensors 9-16) to select between alternating and direct coupling. Each switch represents a channel. Please also note the inscription on the board.

- DIP switch in open position (0): Alternating coupling
- DIP switch in closed position (1): Direct coupling

*Please note that alternating coupling is only available for module 9239.*

#### Multiplexer settings

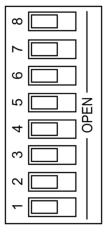
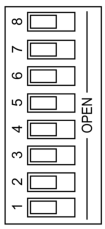
Use DIP switch **S7** to specify whether a Multiplexer is used or not. Please note that these settings must not be modified by the user. Selecting the Multiplexer is only meaningful with the connection of a MUX board. If no MUX board is available, the selection of the Multiplexer does not provide more channels, but in fact causes the hardware to stop working. This information refers to the complete DIP switch, S1 - S8 from left to right, position open (0), position closed (1).

- DIP switch in position 01010101: Multiplexer connected.
- DIP switch in position 10101010: Multiplexer not connected.

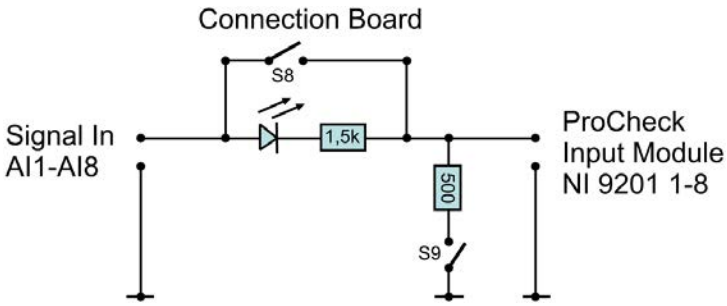
*This setting is not channel-specific, please always reset all switches completely.*

## Analog input settings

Depending on the type of input signal, DIP switches S8 and S9 must be set as follows:

| | Input | S8 | S9 |
|---|---|---|---|
| S8  S9  | Analog voltage input 0-10 V (default setting) | closed | open |
| | Analog current input 0-20 mA | closed | closed |
| | Digital current input > 10 V (Voltage divider 24 V ➔ 6 V) | open | closed |
| | no purpose | open | open |

The following wiring plan indicates the function of DIP switch S8/S9:




- One switch each is available per channel (AI1-AI8). Please also note the inscription on the board.
- Digital signals with a level > 10 V must be connected to the supply board. Switch S9 then activates a voltage divider that ensures that the maximum input voltage of the analog input is not exceeded. Digital signals with a level < 10 V may be connected directly to the analog input module.
- For digital input signals (S8 open), an LED displays whether the signal level is high (logical 1) or low (logical 0). For more information, please see chapter "LED A1-A8" 23.

*Please also observe the information regarding configuration of digital inputs in the FAG Administrator software (sections: Configuration Manager ➔ Device configuration ➔ Auxiliary channels).*

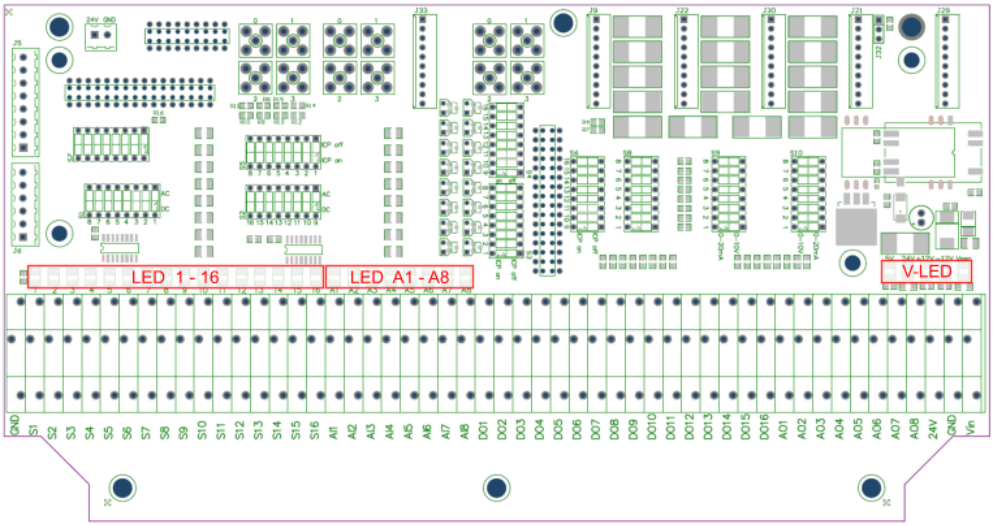
## Analog output settings

Use DIP switch **S10** to specify whether an output is a voltage or current output. One switch each is available per channel (AO1-AO8). Please also note the inscription on the board.

- DIP switch in open position (0) = 0..20 mA: The output is a current output.
- DIP switch in closed position (1) = 0..10 V: The output is a voltage output.

*Please note that the settings for the analog output type compared to the analog input type are exactly the opposite.*

#### 1.4.2.4 Displays




LED displays

**LED 1-16**

These LEDs display which Multiplexer channels are selected. If no Multiplexer is installed, all LEDs are turned off permanently.

**LED A1-A8**

LEDs A1-A8 display the status of the analog inputs AI1-AI8, if any data signals are connected to them and the LED display was activated. See chapter "DIP switches" 26 ➔ "Analog input settings" 22.

**V-LED**

These LEDs show if the various voltages on the supply board are correct: 5 V, 24 V, +12 V, -12 V, $V_{sen}$. Please note: If no Multiplexer has been connected, only the LEDs 24 V and $V_{sen}$ will be on.

### 1.4.3 Direct wiring of inputs and outputs

*In ProCheck systems with supply board, the input and output modules are connected to the supply board internally. In this case, all inputs and outputs are connected directly to the supply board. As a result, this chapter is only relevant to you if your ProCheck system is not equipped with a supply board.*

**Safety information regarding dangerous voltages**

ProCheck input / output channels can be wired with dangerous voltages (see "Definitions" 2). Before doing so, please pay attention to the following safety information.

***DANGER*** ***The contact with dangerous voltages can be life-threatening.***

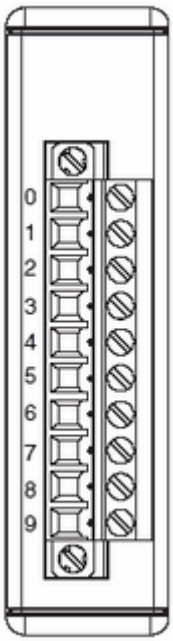
- *The wiring may only be performed by persons with proven qualifications in accordance with the relevant rules and regulations.*
- *Turn off the ProCheck system.*
- *If necessary, turn off the devices you wish to connect to the ProCheck input / output channels and disconnect them from the main supply.*
- *Ensure that all components of the ProCheck system are voltage-free.*
- *When connecting a module to a circuit with dangerous voltage, all other connected circuits, including low-voltage circuits, must be protected against accidental contact.*
- *Please ensure that any electrical devices or users connected to the module are double insulated in accordance with the applicable provisions and guidelines. An insulating protective cover with strain relief (NI 9932) is available for modules with terminal blocks as optional accessory.*

#### 1.4.3.1 Additional inputs

**Via analog input module NI 9201**

Modules labeled NI 9201 provide eight analog inputs. Each channel is equipped with a 12 bit A/D converter for the digitalization of the input signal and an overvoltage safety switch (± 100 V). The inputs are wired via a 10-pole terminal block. A connector for a voltage signal is available for each input channel. The COM connection to ground is internally connected to the ground of the module which is isolated from the other modules.

The following figure illustrates the layout of the terminal block:

| Front view of the module | Terminal | Signal |
|---|---|---|
|  © National Instruments | 0 | AI1 |
| | 1 | AI2 |
| | 2 | AI3 |
| | 3 | AI4 |
| | 4 | AI5 |
| | 5 | AI6 |
| | 6 | AI7 |
| | 7 | AI8 |
| | 8 | not allocated |
| | 9 | Ground (COM) |

**Before you wire the module**

- Please refer to the Safety information concerning the handling of dangerous voltages 23.
- Ensure that the voltage signals you wish to connect correspond to the Specifications for this module 10.
- Add end splices to all supply lines.

### Wiring the module

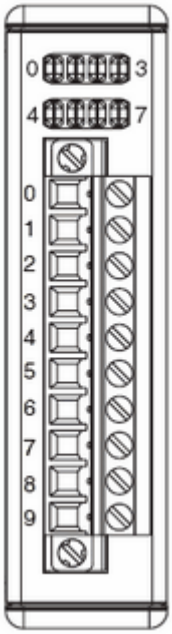
- Connect the positive poles of the voltage signals to inputs 0-7 and the corresponding ground to the COM terminal.

#### 1.4.3.2 Digital switch outputs

### Via digital switch output module NI 9472

Modules labeled NI 9472 provide eight digital switch outputs. They are wired via a 10-pole terminal block. To supply the users connected via the module, an additional power supply (6-30 V DC) is required which is equally connected to the terminal block. To monitor the function, the module is equipped with one LED per channel.

The following figure illustrates the layout of the terminal block:

| Front view of the module | Terminal | Signal |
|---|---|---|
|  © National Instruments | 0 | DO1 |
| | 1 | DO2 |
| | 2 | DO3 |
| | 3 | DO4 |
| | 4 | DO5 |
| | 5 | DO6 |
| | 6 | DO7 |
| | 7 | DO8 |
| | 8 | Supply voltage (+) |
| | 9 | Ground (COM) |

All outputs are grounded within the module.

### Before you wire the module

- Please refer to the Safety information concerning the handling of dangerous voltages 23.
- Ensure that the electrical users you wish to connect and the power supply correspond to the Specifications for this module 10.
- Add end splices to all supply lines.

### Wiring the module

- Connect the supply voltage to terminals 8 (+) and 9 (-).
- Connect the positive poles of the users you wish to wire to terminals 0-7 and the negative pole to terminal 9.

### Function control

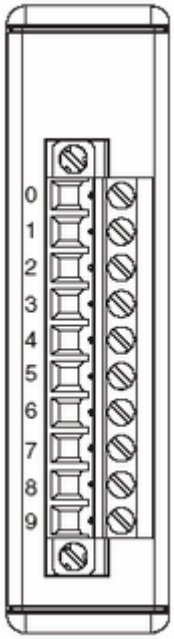
- If an output is connected via ProCheck controller, the associated LED turns on and the connected user is supplied with voltage.

#### 1.4.3.3 Analog current outputs

**Via analog current output module NI 9265**

Modules with the label NI 9265 are equipped with four analog current outputs. Each channel is equipped with a digital-to-analog converter to create the output current and with an overvoltage/short circuit safety switch (± 40 V). An additional power supply (9-36 V DC) is required to supply the users connected via the module.

The output channels and power supply are wired via 10-pole terminal block. Two terminals (AOx/COMx) are available for each channel. All COM terminals are internally connected to the ground of the module which is isolated from the other modules. The following figure illustrates the layout of the terminal block:

| Front view of the module | Terminal | Signal |
|---|---|---|
|  <br>© National Instruments | 0 | AO1 |
| | 1 | COM1 |
| | 2 | AO2 |
| | 3 | COM2 |
| | 4 | AO3 |
| | 5 | COM3 |
| | 6 | AO4 |
| | 7 | COM4 |
| | 8 | Supply voltage (+) |
| | 9 | Ground of the supply voltage (COM) |

**Before you wire the module**

- Please refer to the Safety information concerning the handling of dangerous voltages 23.
- Ensure that the electrical users you wish to connect and the power supply correspond to the Specifications for this module 10.
- Add end splices to all supply lines.

**Wiring the module**

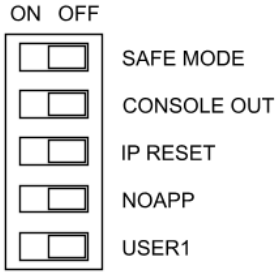
- Connect the supply voltage to terminals 8 (+) and 9 (-).
- Connect the corresponding users to terminals 0-7.

## 1.5 Operating instructions

### 1.5.1 Operating and display elements

#### 1.5.1.1 DIP switches

*In normal mode all DIP switches are in the OFF position.*



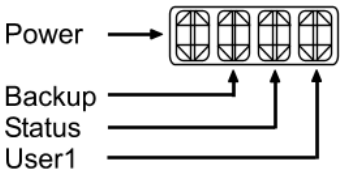

© National Instruments

| DIP switches | Meaning |
|---|---|
| SAFE MODE | *The switch **SAFE MODE** may be set only on explicit instruction of the support in the **ON** position.*<br><br>For maintenance purposes only. Always leave this switch in the **OFF** position. |
| CONSOLE OUT | Use this switch to select the IP address and BIOS version of the controller via serial port:<br>1. Connect a computer with the controller via serial port.<br>2. Push the DIP switch **CONSOLE OUT** to the **ON** position.<br>3. Start a terminal program on the computer. Select the following connection parameters in the program: 9600 bit/s, 8 data bits, parity off, 1 stop bit.<br>4. The terminal program displays the IP address of the controller and the BIOS version.<br>5. Push the **CONSOLE OUT** switch back to the **OFF** position.<br><br>*The switch **CONSOLE OUT** must be in the **OFF** position if the serial communication is activated in the actual configuration!* |
| IP RESET | ***CAUTION***<br>***The controller no longer detectable after IP RESET***<br>*If you reset the IP address of the controller, it is no longer accessible via network. The IP address needs to be re-configured (see "Installing ProCheck system software" 29).*<br><br>If you would like to reset the IP address of the controller to "`0.0.0.0`" push this switch to the **ON** position and restart the controller (see "Reset network setting" 29). |
| NO APP | For maintenance purposes only. Use this button only when instructed to do so by our Support 39.<br>If this switch is in the **ON** position, the ProCheck system software will not loaded when the system is booted. |
| USER1 | For maintenance purposes only. Use this button only when instructed to do so by our Support 39.<br>Use this button to stop the cyclic measurement. Moreover, combined with the **NO APP** switch, the communication can be interrupted and the ProCheck device turned off safely:<br><br>**Stop measuring cycle**<br>• Push the **USER 1** switch to the **ON** position.<br>The measuring cycle is stopped, the USER1 LED flashes 10x at intervals of 5 seconds.<br><br>**Safely shut down the ProCheck device**<br>• Push the **USER 1** and **NO APP** switches to the **ON** position.<br>The measuring cycle is stopped and the communication interrupted. The USER1 LED flashes 5 times ten times at an interval of 5 seconds each, before the device is safely shut down and restarted. |

| DIP switches | Meaning |
|---|---|
| | *If the NO APP switch is not in the OFF position during the restart, the ProCheck device will not load the ProCheck system software. In this case, set the NO APP switch to OFF after the restart and push the reset button.* |

#### 1.5.1.2 LEDs

The ProCheck controller is equipped with four LEDs, which display the following operating statuses:






| LED | Meaning |
|---|---|
| POWER | If this LED is on, it means:<br>• The controller is turned on.<br>• The connected power supply corresponds to the requirements of the controller.<br>• The controller supplies the ProCheck modules with voltage. |
| BACKUP | If this LED is on, the controller gets its operating voltage from the additional power supply connected to the terminals V2/C. |
| STATUS | In regular operation, this LED is turned off. In case of an error, this blinking LED indicates the following error codes:<br>• **LED blinks 1x:** the network connection was not configured (IP address is "0.0.0.0"). This message is displayed upon first startup or after the Reset of network settings 29.<br>• **LED blinks 2x:** the controller determined a software error. Please contact our Support 39.<br>• **LED blinks 3x:** the controller is in SAFE mode. If the DIP switch is set to ON for the SAFE mode (see "DIP switches" 26), turn off the SAFE mode and restart the ProCheck device. If the controller switches to SAFE mode although the corresponding DIP switch is set to OFF, please contact our Support 39.<br>• **LED blinks 4x:** the controller determined a non-recoverable software error. Please contact our Support 39.<br>• **LED blinks continuously:** the controller determined a non-recoverable error. Please contact the Support 39.<br>• **LED is permanently on:** the memory (flash disk) in the controller contains a data error. Reformat the flash disk (see chapter "Installing ProCheck system software" 30) or contact our Support 39. |
| USER1 | • **LED flashes 2x and then 4x:** the ProCheck system software was successfully loaded and started.<br>• **LED flashes 10x at an interval of 5 seconds:** The USER1 switch was set to ON and the measuring cycle stopped.<br>• **LED flashes 5x at an interval of 5 seconds**: the USER1 and NO APP switches were set to ON to shut down the ProCheck device safely. |

#### 1.5.1.3 Reset button

Use the reset button to restart the controller, e. g. if the network settings need to be reset. Please only push the reset button if you changed the network settings or if instructed to do so by our Support 39 team.

***CAUTION***

***Loss of data caused by pushing the reset button during operation.***

*If you push the reset button during operation, the file system of the ProCheck device may be damaged and the data it contains may no longer be readable.*

- *Use the USER1 DIP switch to restart the ProCheck device (see "DIP switches" 26).*

### 1.5.2 Start-up

- Connect all connected power units to the mains supply.
- If the ProCheck device has not yet been set up for network operation, the IP settings of the device need to be adjusted first using CM Installer (see "Set-up ProCheck device"➔ "IP settings" 31).
- The controller performs a self-test and loads the operating system as well as the ProCheck system software. During the self-test, the "Power", "Status" and "User1" LEDs are turned on in sequence (2x and 4x shortly thereafter). If this is not the case, an error occurred when the software was loaded. Please contact our Support 39 and indicate which LEDs are illuminated when the controller boots up.
- After the successful completion of the self-test only the "Power" LED will be still on. If the other LEDs do not turn off it indicates that there is an error. Please refer to "LEDs" 28 for more information about controller-related error messages.

### 1.5.3 Resetting network settings

If your ProCheck device is not found in the network, it may be due e. g. to incorrect network settings. To correct them, reset all settings to "`0.0.0.0`. The following are affected

- IP address,
- Subnet mask,
- Domain name server address,
- Gateway address,
- Time server address.

*If there is a router between the device and your computer, the device is no longer detected after you reset the network settings. In this case you must first add the device to the local network and then configure the IP settings.*

How to reset the network settings:

1. Set the **IP RESET DIP** switch on the ProCheck controller to **ON**.
2. Push the reset button. The controller restarts.
3. The status LED 28 **blinks once** to show that the network settings are not configured.
4. Set the **IP RESET DIP** switch to **OFF**.

### 1.5.4 CM Installer

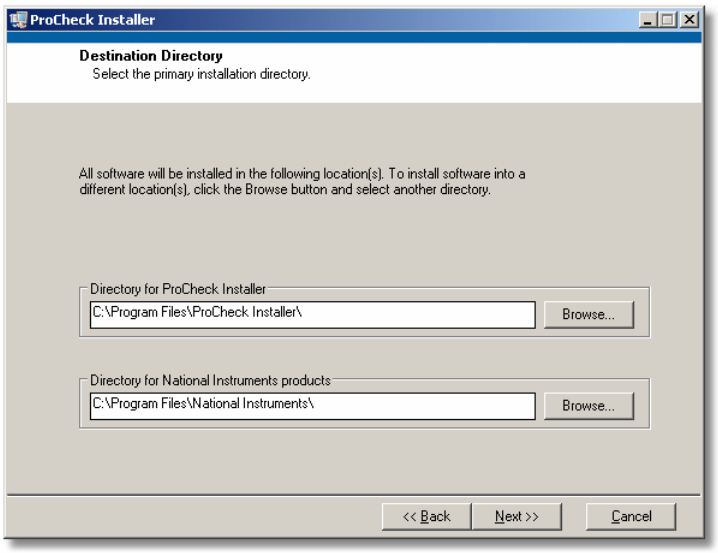
Use CM Installer to

- detect all ProCheck devices in the current network,
- change the IP settings of a ProCheck device,
- transfer the ProCheck system software to a ProCheck device,
- transfer an image file to the flash disk of a ProCheck device,
- create an image file from the flash disk of a ProCheck device,
- format the flash disk of a ProCheck device,
- restart a ProCheck device.

## Install CM Installer on your system

- *To install CM Installer on your computer, you need administrator authorizations.*
- *Restart the computer after the installation.*
- *To operate a ProCheck system, the included FAG Administrator software is required in addition to the CM Installer. It is described in the "FAG Administrator" manual.*

- In the **"CM Installer\Volume"** directory on the ProCheck CD double-click on **"setup.exe"**.
- Select the target directory for the CM Installer and the target directory for the National Instruments software. By default, the target directories are created in the program folder. If you have been using National Instruments software before, you should enter the existing directory here.




- The license agreement is displayed in the next step.

To continue installation you must accept the license conditions. The software will be installed.

- Click **Finish** after installation.
- Restart the computer to complete the installation.

*If you already have an earlier version of the CM Installer on your computer, you do not need to reboot.*

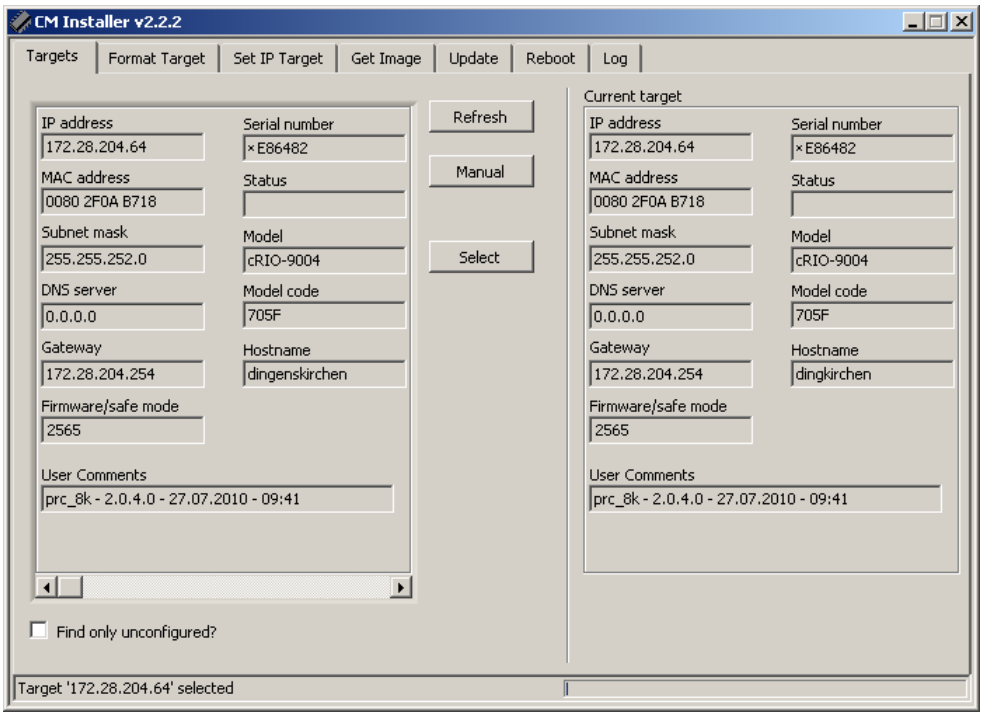
### 1.5.4.1 Setting up the device

To set up the ProCheck device it needs to be connected to a network that is accessible by your computer. Then, the device settings can be changed by means of CM Installer.

## Starting the CM Installer

- Click on **Start > All programs > CM Installer > CM Installer**.

After the start, the program searches for any ProCheck devices in the network and displays the devices found - sorted by their IP address - on the Targets tab.




The CM Installer looks for ProCheck devices on the local network by means of a UDP broadcast. If there is a router between a ProCheck device and your computer, the CM Installer usually cannot find the device as the router does not forward the broadcast. In this case, you must enter the IP address of the device manually:

- Click **Manual** and input the IP address.

## Selecting a ProCheck controller

- To select a ProCheck device, scroll through the list of all devices found using the scrollbar at the bottom of the tab until the desired device is displayed. Then click on **Select** to display the settings of the device in the **Current Target** area and to activate the remaining tabs.
- To update the list of found devices click on **Refresh**.
- If you check the **Find only unconfigured** checkbox, the window will only display ProCheck devices for which no IP settings have been allocated yet (IP address is "0.0.0.0") or whose network settings have been reset (see also "Resetting network settings" 29). In this case, the device needs to be selected based on its serial number. Adjust the IP settings as described below.

*If there is a router between the device and your computer, device with the IP address "0.0.0.0" are no longer detected (unconfigured or network settings reset). In this case you must first add the device to the local network and then configure the IP settings.*

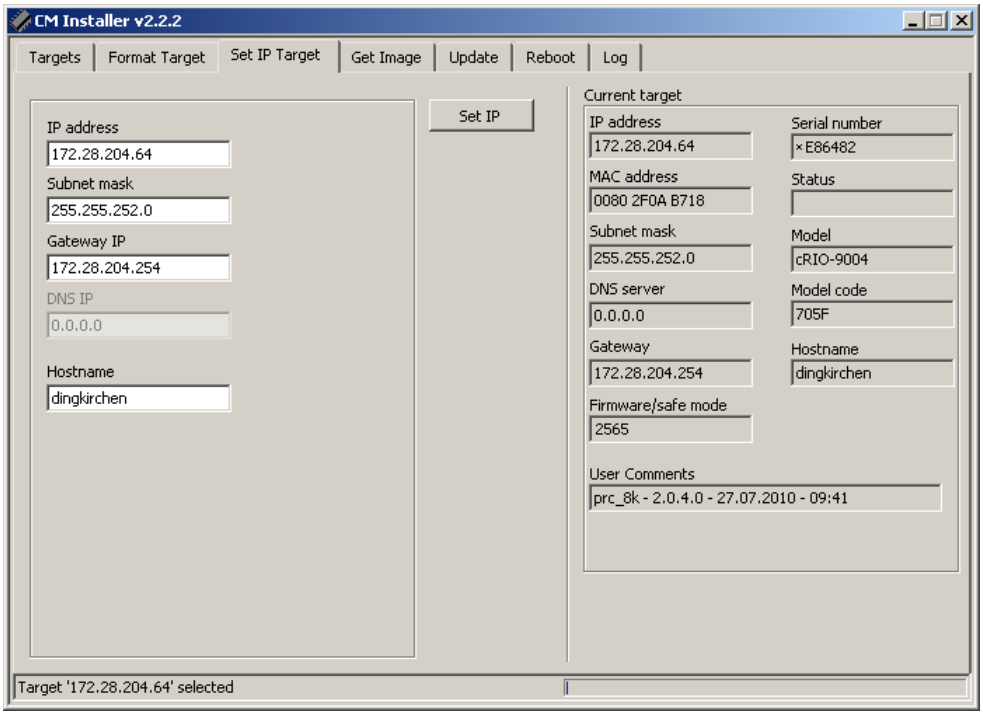
## IP settings

If no IP address was allocated to a ProCheck device or the flash disk was formatted, the IP settings need to be adjusted in accordance with the specifications of your network administrator first.

- Select the ProCheck device.
- Click on the **Set IP Target** tab.
- Enter the IP settings and a host name on the left of the tab. The **Hostname** text box only accepts the characters "a-z", "A-Z" and "0-9".
- Then click **Set IP**.

The transmission of the IP settings to the ProCheck device may take some time. After the successful allocation, the new IP address of the ProCheck device is displayed in the **Actual Target** textbox.

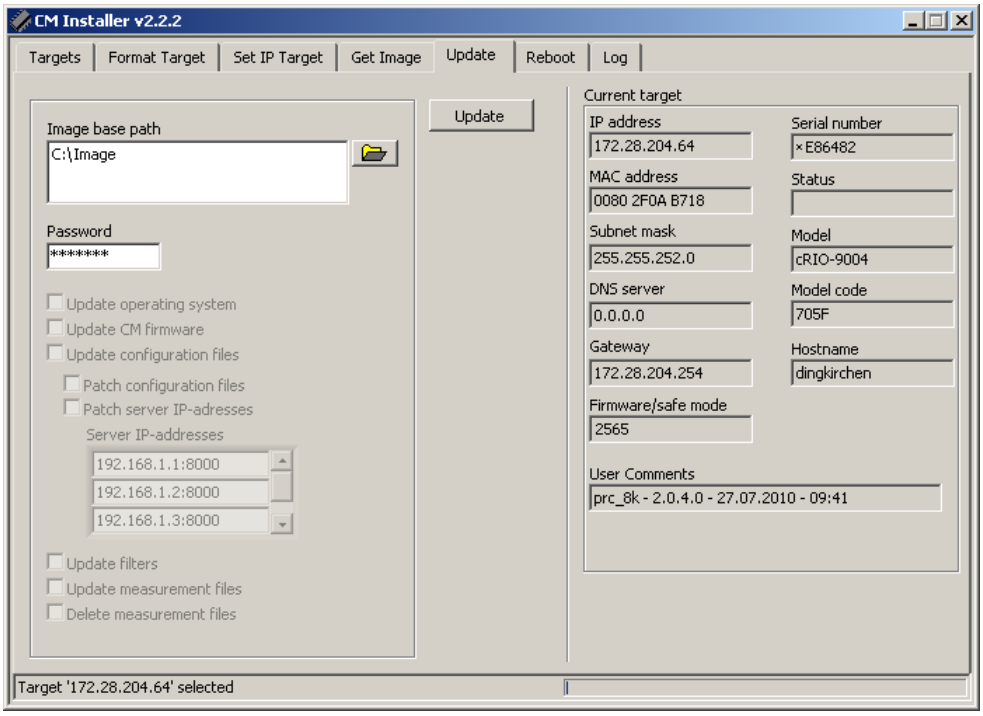
If you wish to adjust other settings, please click on the **Targets** tab and then on **Refresh**. The ProCheck device will be displayed in the list of found devices with the IP address you just entered. Click on **Select** to select the device and adjust the desired settings.




## Transfer ProCheck system software

The ProCheck system software (Firmware) is transferred as individual file (with the extension ".rtexe").

- Select the ProCheck device to which you wish to transfer the system software.
- Click on the **Firmware update** tab.
- Click on the folder icon next to **Firmware Path**. Select the folder containing the file.
- The selected path to the system software file is displayed in the **Firmware Path** text field.
- Click **Reboot** after update? to restart the ProCheck device. The system software is activated at start-up.
- If the ProCheck device is in the same subnet as your computer, check the **Local subnet?** checkbox. Otherwise uncheck this checkbox.

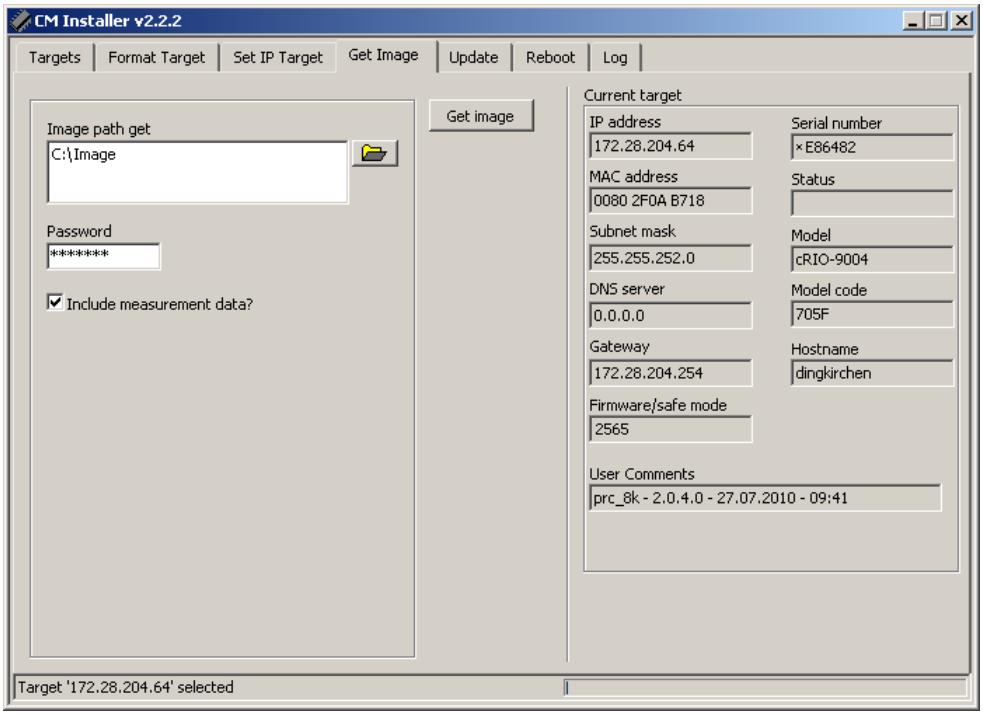



The system software is transferred to the ProCheck device. This process takes some time.

## Create image file from the flash disk of a ProCheck device

Use CM Installer to create an image file containing the contents of the flash disk (operating system, system software and all data) of a ProCheck device and transfer it to your computer.

- Select the desired ProCheck device.
- Click on the **Get Image** tab.
- Click on the folder icon next to **Image Path Get**. Select the folder in which you wish to save the image file.
- If you only want to save the operating system (without system software and measuring data) in an image file, check the **Installed Software only?** checkbox.




- Click **Get Image**.

The image file is created, transferred and saved in the selected directory of your computer. This process takes some time.

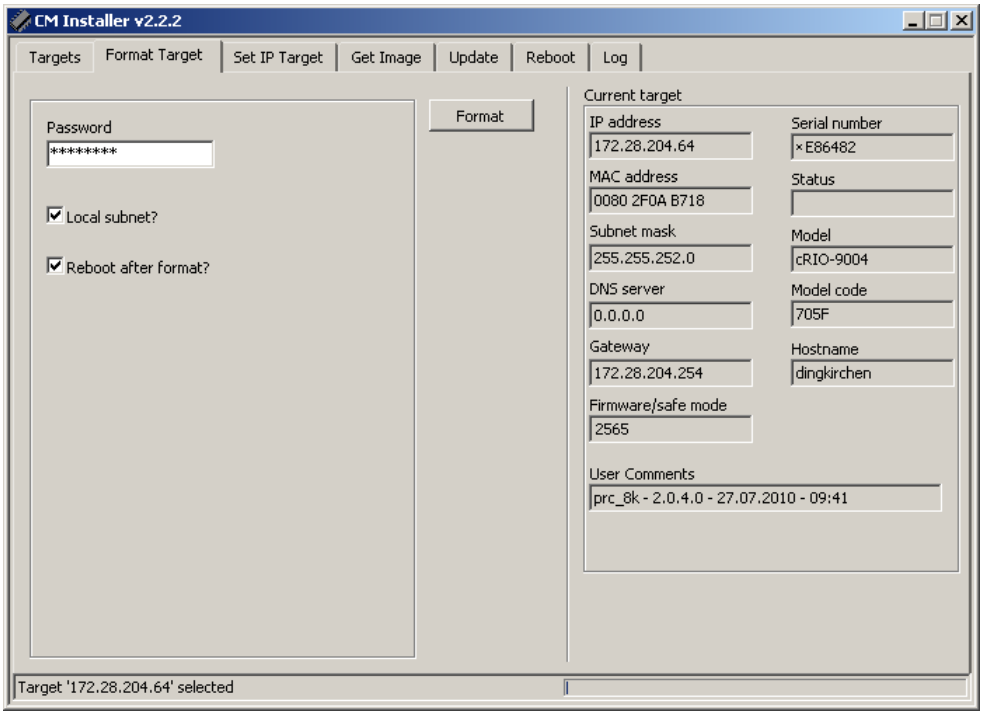
## Format flash disk

***CAUTION***

***Loss of data***

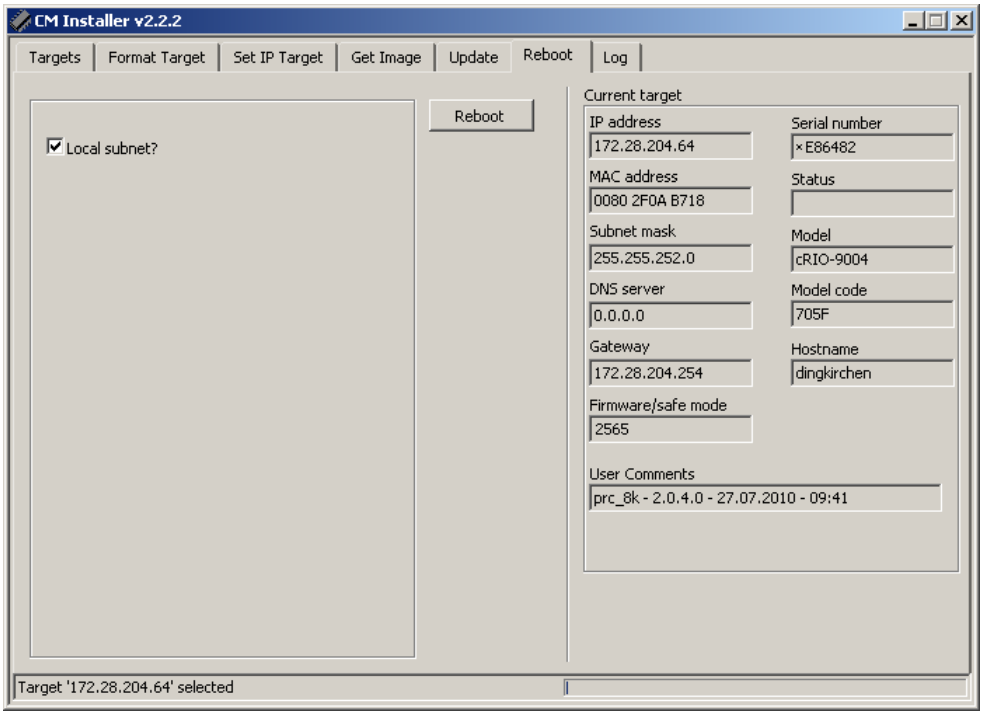
*When you format the flash disk, any measuring data, configurations and settings will be lost. Therefore, transfer all data from the ProCheck device to the computer by means of the FAG Administrator software prior to formatting. More information can be found in the FAG Administrator manual.*

- Select the ProCheck device for which you wish to delete the flash disk.
- If the ProCheck device is in the same subnet as your computer, check the **Local subnet?** checkbox. Otherwise uncheck this checkbox.
- In the **Format Target** tab, click on **Format**.
- The flash disk will be deleted completely without additional warning.
- Click **Reboot after format?** to restart the ProCheck device.
- Adjust the IP settings as described in chapter "IP settings" 31.




## Restart ProCheck device

- Select the ProCheck device.
- Click on the **Reboot** tab.
- If the ProCheck device is in the same subnet as your computer, check the **Local subnet** checkbox. Otherwise uncheck this checkbox.




- After the re-start has been completed, the display **Rebooted** will be activated.

## Display log

- Click on the **Log** tab.

All actions of the CM installer are shown in the left area. The log file is stored under the log path.

## 1.6 Intended use

*The ProCheck device as well as the associated components are not admitted for the use in residential areas!*

ProCheck systems are exclusively intended for:

- recording and analyzing oscillation measurement signals,
- evaluating the signals received by the input modules,
- outputting current / voltage signals via output modules.

ProCheck systems must only be operated within the limits specified in the Technical data 10. To the extent provided, the limits of use of the individual components must always be taken into consideration too.

Measured value analyses and changes of the settings may only be conducted with the supplied FAG Administrator software, or, to the extent possible, on the device itself.

Any other use exceeding the above is deemed unintended and the user will bear the full risk associated with it. The user is responsible for the intended use. This includes the compliance with these instructions.

## 1.7 Taking out of service and disposal

Neither the ProCheck device nor the associated components may be disposed of via domestic waste as they contain electronic components and NiMH accumulators that must be disposed of in the proper manner. Please return them to us so that we can ensure disposal in keeping with legal and environmental requirements. Returning used devices is an important contribution to environmental protection.

## 1.8 Declaration of conformity

**Declaration of conformity**

The manufacturer

**F'IS, FAG Industrial Services GmbH, Kaiserstraße 100,**
**D-52134 Herzogenrath**

declares that the product

**FAG ProCheck**

meets the requirements, which have been set by the Electromagnetic Compatibility Directive (2004/108/EC) and by the Low Voltage Directive (2006/95/EC), if the product is installed properly according to the installation guidelines listed in the manual.

For assessment of the product the following standards were used:

**EN 55022-B:2003**
**EN 61000-6-2:2005**
**EN 61010-1:2002**

Measuring device identifier: CE

Herzogenrath, 12.01.2010

Dipl.-Ing. Armin Kempkes
Managing Director

p.p. Dipl.-Ing. Götz Langer
Head of Research & Development

## 1.9 GOST certificate

**Certificate**

# ТАМОЖЕННЫЙ СОЮЗ
# ДЕКЛАРАЦИЯ О СООТВЕТСТВИИ

**Заявитель,** Общество с ограниченной ответственностью «Шэффлер Руссланд», ОГРН: 1067746587094

Адрес: 125167, Российская Федерация, г. Москва, Ленинградский проспект 47 строение 3, фактический адрес: 125167, Российская Федерация, г. Москва, Ленинградский проспект 47 строение 3, Телефон: +7(495)7377660, Факс: +7(495)7377653, E-mail: info.ru@schaeffler.com

**в лице** генерального директора Аравина Михаила Александровича

**заявляет, что** Прибор для мониторинга вибрации и температуры, торговая марка FAG, модель ProCheck.

**изготовитель** «FAG Industrial Services GmbH», Адрес: ГЕРМАНИЯ, Kaiserstr. 100, D-52134 Herzogenrath, Germany, Фактический адрес: Kaiserstr. 100, D-52134 Herzogenrath, Germany, Германия. Тел.: +49 2407 9149-32. Факс: +49 2407 9149-59. E-mail: matthias.gitzen@schaeffler.com
Код ТН ВЭД 9031803400, Серийный выпуск

**соответствует требованиям**

ТР ТС 004/2011 "О безопасности низковольтного оборудования"; ТР ТС 020/2011 "Электромагнитная совместимость технических средств"

**Декларация о соответствии принята на основании**

Протокол испытаний № ТЛ-722 от 22.07.2015 ООО "ТехЛаб" адрес Россия, Санкт-Петербург, Кожевенная линия, 39

**Дополнительная информация**

Срок годности (хранения) указан в прилагаемой к продукции товаросопроводительной документации и/или на этикетке

**Декларация о соответствии действительна с даты регистрации по 22.07.2020 включительно**

(подпись)

М.П.

Аравин Михаил Александрович

(инициалы и фамилия руководителя организации-заявителя или физического лица, зарегистрированного в качестве индивидуального предпринимателя)

**Сведения о регистрации декларации о соответствии:**

**Регистрационный номер декларации о соответствии: ТС N RU Д-DE.АУ14.В.26200**

**Дата регистрации декларации о соответствии: 23.07.2015**

# 2 Contact

**Manufacturer**

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