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|   | Service info | NetTerminal/KalbManagerWIN |  |
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NetTerminal/KalbManagerWIN and Förster-Gateway

1 Scope of delivery and functions

1.1 Scope of delivery

- Förster-gateway
- Plug-in power supply
- Network cable (1x Patch / 1x Cross-over)

2 Preliminaries

- > Check whether the PC onto which you intend to install NetTerminal/KalbManagerWIN is equipped with a network card.
- > A network cable is required. If your PC supports the Auto-Link-Function you can use an ordinary as well as a crossover-network cable.
- > Download the program NetTerminal from the website <http://www.foerster-technik.de>. You will find the software under **Information > Downloads > Software**.



Note: To ensure troublefree functioning, Förster-Technik recommends the operating systems Windows XP, NT and Windows 2000.



Note: To install and configure NetTerminal and KalbManagerWIN you need **administrator rights**.

Service info NetTerminal/KalbManagerWIN

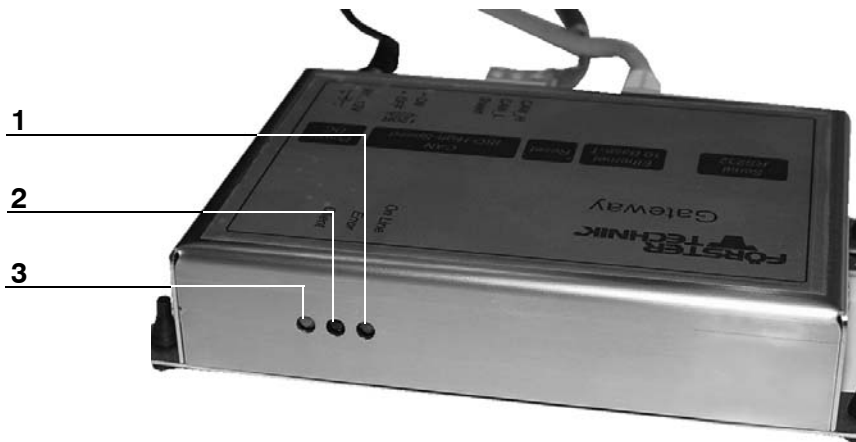
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3 The Förster-gateway



| | |
|-----------------------|----------------------------|
| 1 Green LED (Online) | 5 Connection network cable |
| 2 Red LED (Error) | 6 Connection CAN-bus cable |
| 3 Yellow LED (Client) | 7 Terminating resistor |
| 4 Serial connection | 8 Network cable |

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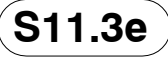

4 Connecting the Förster-Gateway to PC and automatic feeder

To operate NetTerminal you have to

- connect the gateway to the PC and initialize it,
- install the software NetTerminal/KalbManagerWIN onto your PC,
- connect the gateway to the automatic feeder.

4.1 Connecting the gateway to the PC and initializing it



1. Connect the gateway to the mains.
2. Connect the PC to the gateway via the network cable. If a connection between PC and gateway has been established - this may last some seconds - the green LED will start flashing.
3. If your PC is not operational yet, switch it on. To carry out the following settings, **administrator rights** are required.
4. In the Windows-menu select **Start > Settings > Network connections**. An overview of your network connections will be displayed.
5. Right-click **Local Area Connections** and select **Properties**. A list with elements used by this connection will be displayed.
6. Left-click **Internet protocol (TCP/IP)** and then **Properties**.

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The display may vary depending on the operating system. Hereafter the three most common variants will be explained:

- Variant 1 - PC is not networked (see **4.1.1** Variant 1 - PC is not networked, page **5**).
- Variant 2 - PC is networked with the DHCP-server (see **4.1.2** Variant 2 - PC is networked with DHCP-server, page **11**).
- Variant 3 - PC is networked (see **4.1.3** Variant 3 - The PC is networked, page **16**).

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4.1.1 Variant 1 - PC is not networked

Your PC is not networked. The field **Obtain an IP address automatically** is activated as a standard.

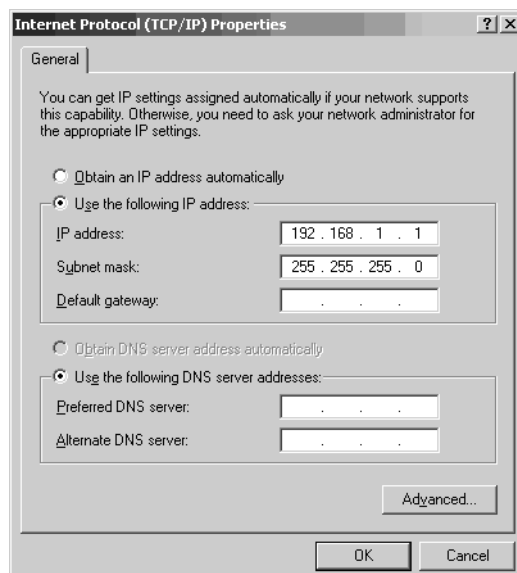
1. Activate **Use the following IP address** and select an IP-address from the address range of the gateway:
192.168.1.2 to 192.168.1.254.



Note: The first three numeric blocks define the fix address range of the gateway. The last figure can be between 2 and 254.



Example: In **IP address** enter 192.168.1.10. **Subnet mask** must contain 255.255.255.0.



2. Press **OK** to confirm the input and close all windows.
3. Install the software NetTerminal/KalbManagerWIN. Start the setup and follow the instructions on the screen.

Service info NetTerminal/KalbManagerWIN

Re: Gateway

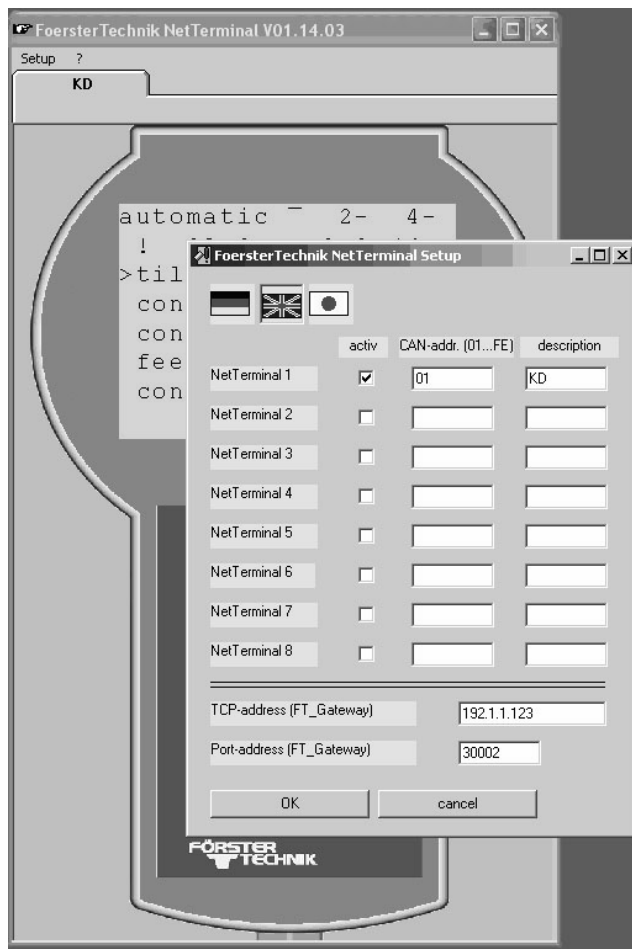
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4.1.1.1 NetTerminal



1. Start the program.
2. Click **Setup**. Enter the CAN-bus-address of the handheld terminal. The default value in the setup of the automatic feeder is 1. In **NetTerminal 1** select the figure **1** and press **OK** to confirm the input.



3. Close the program.

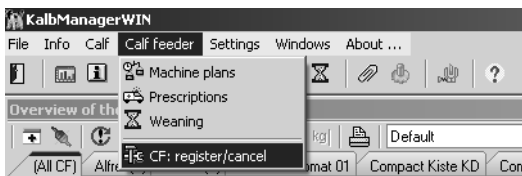


Now the gateway is duly installed and registered.

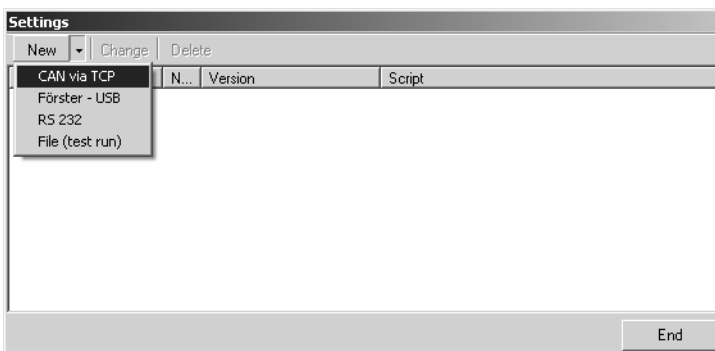
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4.1.1.2 KalbManagerWIN




1. Start the program.
2. Click **Calf feeder** in the menu bar and select **CF: register/cancel**.



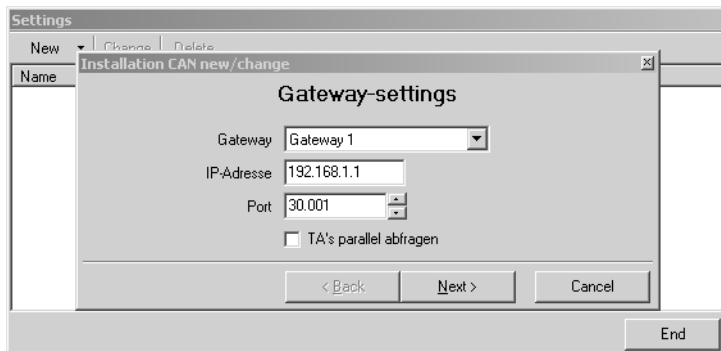
3. Click **New** and select **CAN via TCP**.



4. Select a gateway.
5. Take over the default **IP-address** or enter a new one. The new address must correspond to the one used by the automatic feeder for communication with the gateway (see

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4.1.2 Variant 2 - PC is networked with DHCP-server, page 11).





6. Select a port for data exchange between KalbManagerWIN and gateway resp. automatic feeder.



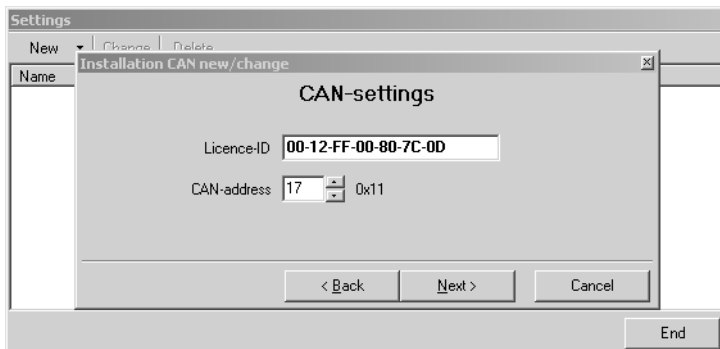
Note: If also the software NetTerminal has been installed and connected to the gateway, you may possibly need to select another **port**.




Example: If port 30001 is assigned to NetTerminal, KalbManagerWIN must communicate with the gateway via e.g. port 30000.

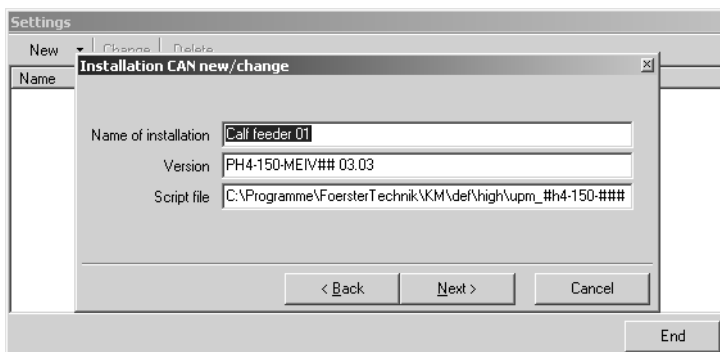
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7. The **license-ID** consists of the 12-character (figure-letter-combination) MAC-address of the gateway plus a supplement.



-  **Note:** The license-ID is required if there are any questions about licensing. If necessary, contact your service partner.

8. In **CAN-address** select the CAN-bus-address of the automatic feeder. The default CAN-bus-address of the automatic feeder is 11 (hexadecimal 11 = decimal 17).
9. Give the connection to the automatic feeder a name and click **Next**.



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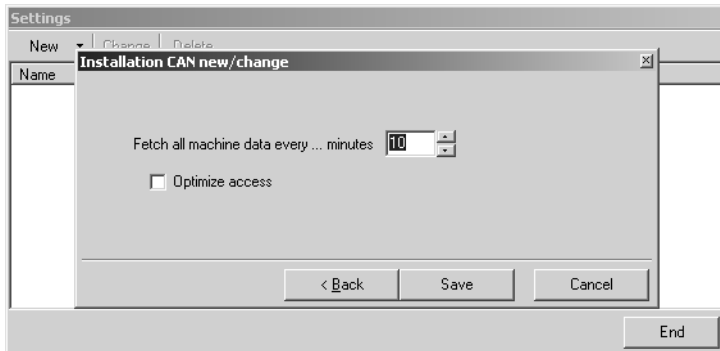
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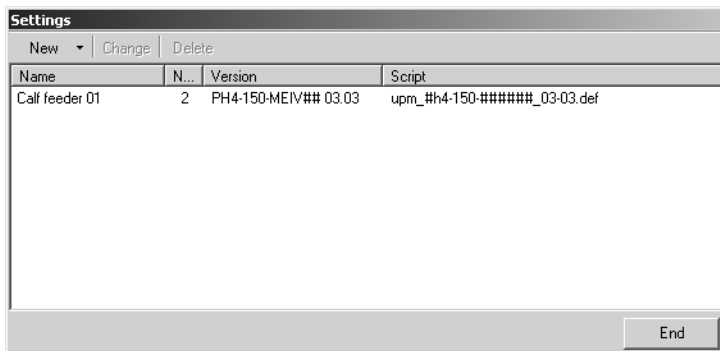
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10. Enter the time intervals for **machine data** transfer in Kalb-ManagerWIN and click **Save**.



11. The following window shows the data of the automatic feeder.



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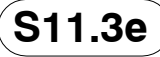

4.1.2 Variant 2 - PC is networked with DHCP-server

Your PC is networked with a DHCP-server (e.g. a DSL-router).

The field **Obtain the IP address automatically** is active.

Your PC automatically obtains an IP address from your DHCP-server. To establish communication between PC, DHCP-server and gateway, all three must have the same address range. The IP of the gateway can be aligned with the address range of your DHCP-server.

1. If your PC is not operational yet, switch it on. To carry out the following settings, **administrator rights** are required.
2. In the Windows-menu select **Start > Settings > Network connections**. An overview of your network connections will be displayed.
3. Right-click **Local Area Connections** and select **Properties**. A list containing the elements used by this connection will open.
4. Left-click **Internet protocol (TCP/IP)** and then **Properties**.

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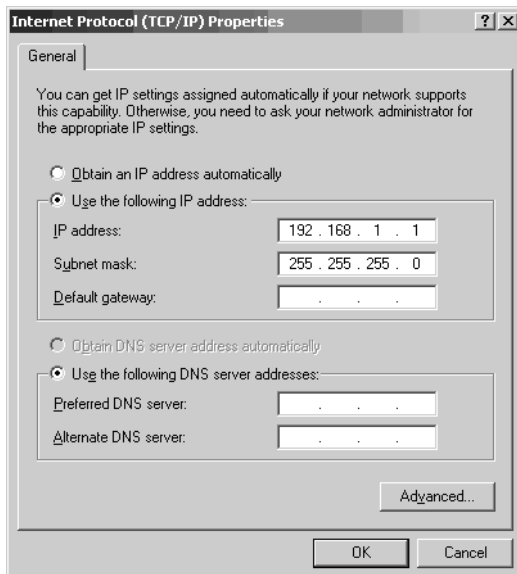
5. Activate **Use the following IP address** and select an IP address from the address range of the gateway:
192.168.1.2 to 192.168.1.254.



Note: The first three numeric blocks define the fix address range of the gateway. The last figure can be between 2 and 254.





Example: Enter the **IP address** 192.168.1.10. **Subnet mask** must contain 255.255.255.0.



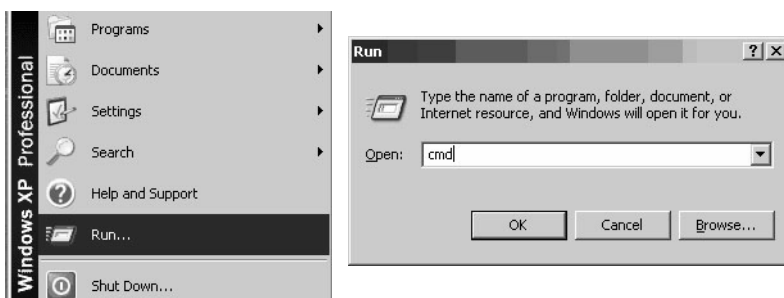
6. Press **OK** to confirm all inputs and **close all windows.**



Note: The connection between PC and gateway is established. The connection to the network is cut off as the IP of the PC is not within the address range of your DHCP-server anymore.

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7. Click **Start > Run**. The system commutes to the DOS-mode (prompt). A little window opens.
8. Enter **cmd** and click **OK**.



9. A window opens in the DOS-mode. Enter **ping 192.168.1.1** and press **Enter** to confirm the input.



10. The data are transferred from the PC to the gateway. The display shows once again: **Reply from IP 192.168.1.1**

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```

C:\WINDOWS\system32\cmd.exe
C:\>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=1ms TTL=128
Reply from 192.168.1.1: bytes=32 time=8ms TTL=128
Reply from 192.168.1.1: bytes=32 time<1ms TTL=128
Reply from 192.168.1.1: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 8ms, Average = 2ms
C:\>_

```

11. Enter **telnet 192.168.1.1**. Press **Enter** to confirm the input.



```

C:\WINDOWS\system32\cmd.exe
C:\>telnet 192.168.1.1

```

12. You can change gateway's default IP address to align it with the address range of your DHCP-server. Enter **ipset** and then an **IP address** from this range (here 222.45.67.99). A **space** is followed by a **subnet mask** (here 255.255.255.0). Press **Enter** to confirm the input.

13. To store the change enter **commit** and press **Enter** to confirm the input. Power to the gateway **should be temporarily shut off (at least five seconds!)**.

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```


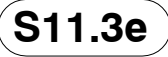

C:\WINDOWS\system32\cmd.exe
(c) 2005 Foerster Technik GmbH
configuration terminal
Gateway U02.04
configurator> ipset 222.45.67.99 255.255.255.0
configurator> commit
222.45.67.99
Renew the connection to the new IP address.
If necessary restart your ethernet card.
Ongoing configuration-session is going to be left...
Verbindung zu Host verloren.

```



Note: The first three numeric blocks define the fix address range of the server. The address range of the DHCP-server as well as its subnet mask are stored in the program of your router/server.

14. Note down the IP address you assigned to the gateway on the label located at the rear of the gateway (**chosen IP address**).
15. Keep the DOS-window open and select **Start > Settings > Network connections in the Windows-menu**. An overview of your network connections will be displayed.
16. Right-click **Local Area Connections** and select **Properties**. A list containing the elements used by this connection will be displayed.
17. Left-click **Internet protocol (TCP/IP)** and then **Properties**.
18. Click **Obtain the IP address automatically** and press **OK** to confirm the input.

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19. Check the new gateway-IP. In the DOS-window enter **ping** and the **new IP address**. The display shows once again:
Reply from IP xxx.xxx.xxx.xxx.

20. Enter **Exit** and press **Enter** to quit the **DOS-mode**.

21. Install the software NetTerminal/KalbManagerWIN (see **4.1.1 Variant 1 - PC is not networked, page 5**).

22. Close the program.





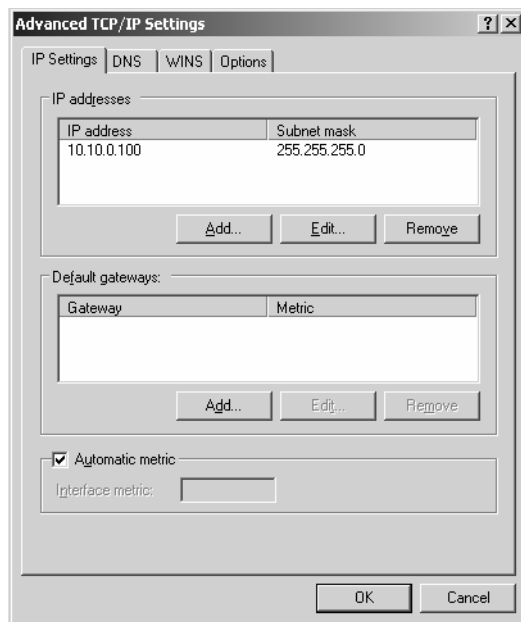
Now the gateway is duly installed and registered.

4.1.3 Variant 3 - The PC is networked

Your PC is networked. The field **Use the following IP address** is active.

1. If you do not wish to change this **fix IP address**, click **Advanced**. The window **Advanced TCP/IP settings** will open. Here the IP addresses of the computer will be displayed.

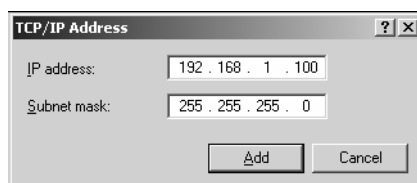
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2. Click **Add** in the window detail **IP addresses**.
3. Select an IP address from the address range of the gateway: **192.168.1.2 to 192.168.1.254**.



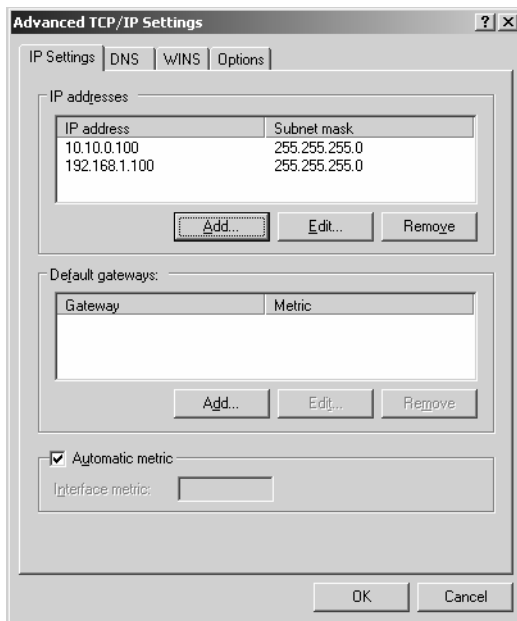
Example: Enter 192.168.1.10 in **IP address**. **Subnet mask** must contain 255.255.255.0



Note: To establish communication between PC and gateway, the IP addresses must have the same address range.

| | | | |
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- Press **Add** to confirm the input. The window detail **IP addresses** shows the new IP address (see figure on the next page).



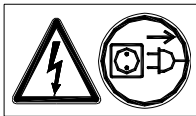
- Click **OK** and close the window.
- Install the software Net Terminal/KalbManagerWIN (see **4.1.1 Variant 1 - PC is not networked, page 5**).
- Close the program.



Now the gateway is duly installed and registered.

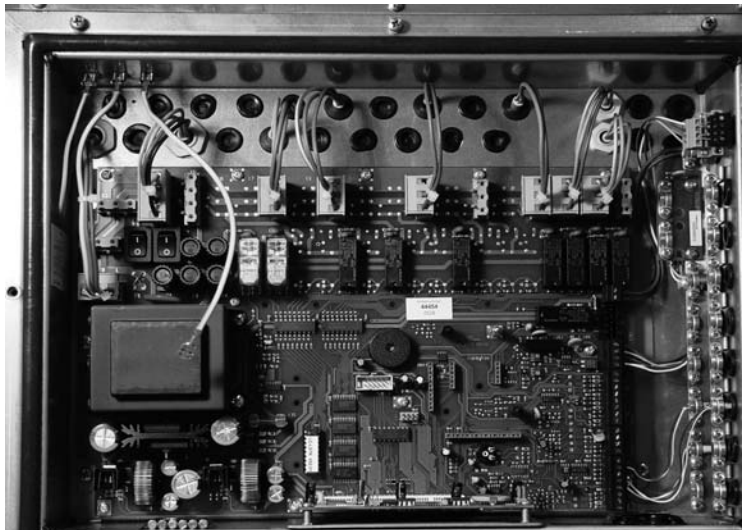
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4.2 Connecting the gateway to the automatic feeder



Before connecting the automatic feeder to the gateway, shut the power to the gateway off.

1. Turn the main switch to switch the automatic feeder off (main switch: only with TAKP5-V1/TAKP5-FE2) and pull the mains plug.
2. Open the control box at the rear of the automatic feeder.



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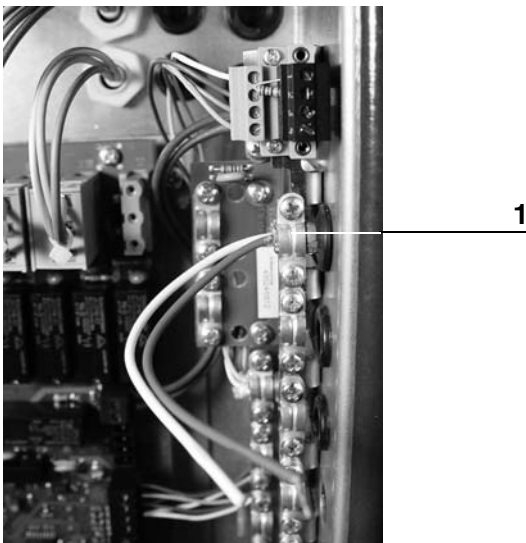
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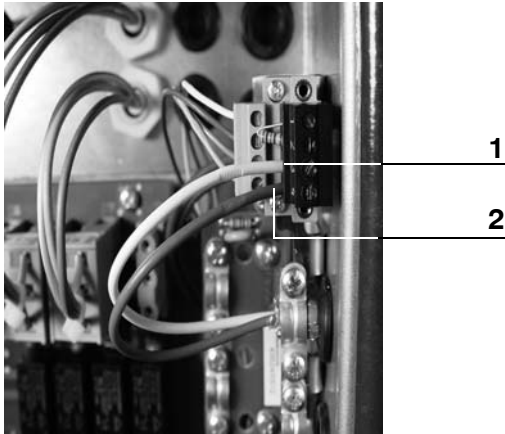
3. Pass the CAN-bus cable through the rubber guide rings into the control box. Put the end of the shield on the insulated cable and secure it to the upper cable clamp (1).



1 Cable clamp for shield connection and pull relief

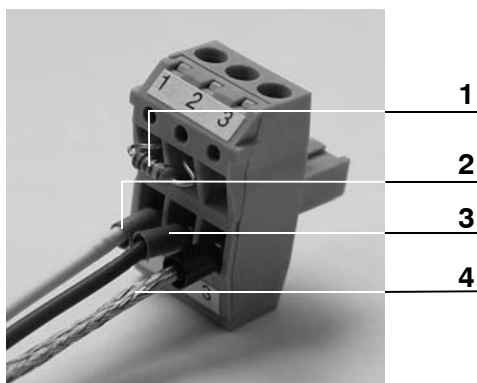
4. Above the connecting terminals is located a four-pole connector with threaded terminal end which is equipped with Bus-terminating-resistors (R120). Carefully remove the lower resistor (PIN 3 and 4).
5. Secure the bared end of the white cable in PIN 3 (= CAN High) and the one of the brown cable in PIN 4 (= CAN Low).

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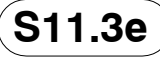



| | |
|---|-------|
| 1 | PIN 3 |
| 2 | PIN 4 |

6. On the other end of the CAN-bus-cable is located a plug-in screw terminal with double screw terminal used to establish connection to the gateway. Insert the connecting wires of the resistor into the available pins above the white and the brown cable and screw them tight.



| | |
|---|--------------------------------|
| 1 | Resistor |
| 2 | PIN 1/white cable (= CAN High) |
| 3 | PIN 2/brown cable (= CAN Low) |
| 4 | PIN 3/shield |

| | | | |
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7. Plug in the plug into the gateway.

4.3 Connecting further automatic feeders

- NetTerminal can control up to eight automatic feeders via the gateway.
- KalbManagerWIN can communicate with up to eight gateways thus being able to control almost any number of automatic feeders.

To do so, the automatic feeders must be interlinked via the CAN-bus (see the wiring diagram of the automatic feeder).

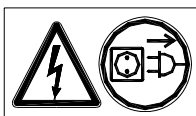
4.3.1 Connecting feeder 1 to feeder 2

The following pages are intended to explain how to connect feeder 1, which is already linked with the gateway via the CAN-bus, to feeder 2 and feeder 2 to further automatic feeders.




The following two variants are available:

Variant 1: Feeder 2 terminates the CAN-bus (last link). This variant is representative for all those automatic feeders terminating the CAN-bus.

Variant 2: Feeder 2 is interlinked with further feeders/nodes (interlink). This variant is representative for all those automatic feeders which are interlinked with further feeders/nodes.

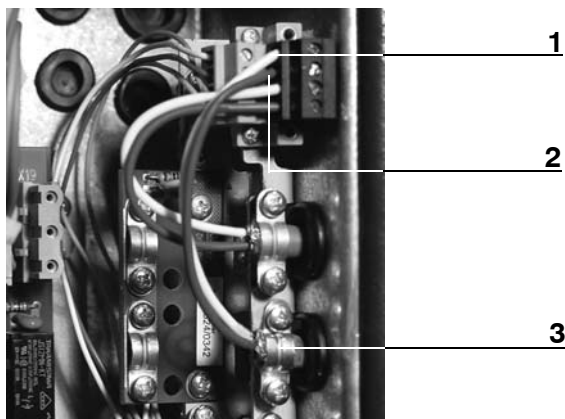


Before connecting the automatic feeders via the CAN-bus, shut the power to the automatic feeders off. To do so, pull the mains plug.

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4.3.1.1 Variant 1: Feeder 2 terminates the CAN-bus

1. Pass the CAN-bus cable through the rubber guide rings into the control box of the first automatic feeder. Put the end of the shield on the insulated cable and secure it to the second cable clamp from the top.
2. Carefully remove the resistor from PIN 1 and 2 and secure the bared end of the white cable to PIN 1 (= CAN High), the one of the brown cable to PIN 2 (= CAN Low).



| | |
|---|---|
| 1 | PIN 1/white cable (= CAN High) |
| 2 | PIN 2/brown cable (= CAN Low) |
| 3 | Cable clamp for shield connection and pull relief |

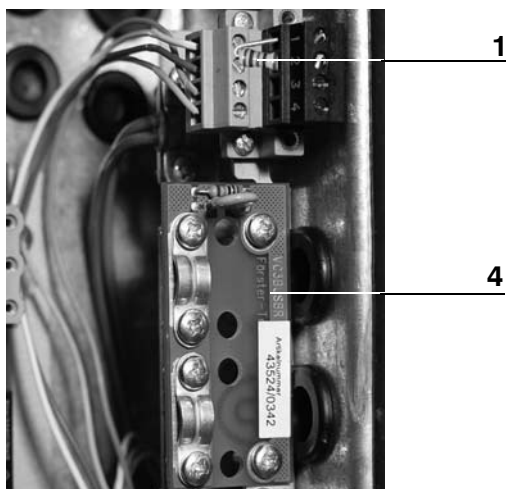
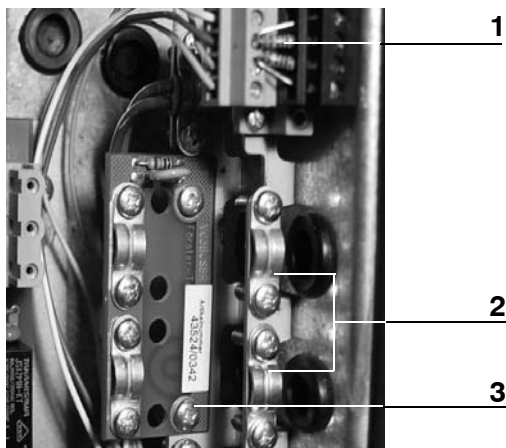
3. In the control box of **feeder 2** carefully remove the resistor (R120) from PIN 3 and PIN 4.
4. Remove both cable clamps underneath the plug-in screw terminal and secure the filter board at this spot.

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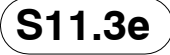

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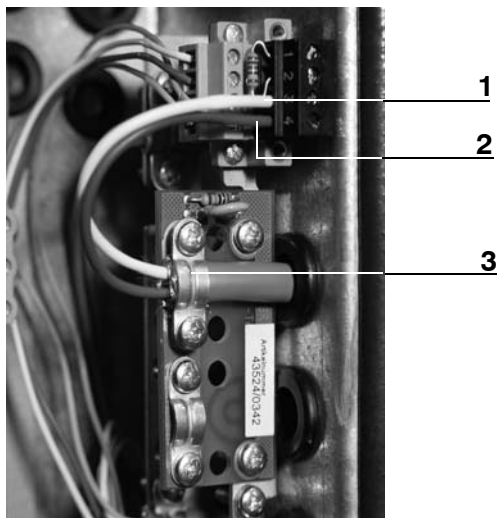


| | |
|---|---------------------------------|
| 1 | Bus-terminating resistor (R120) |
| 2 | Cable clamps |
| 3 | Filter board (parked) |
| 4 | Filter board (mounted) |

5. Pass the CAN-bus cable connecting feeder 1 to feeder 2 through the rubber guide rings into the control box. Put the shield end onto the insulated cable and secure it underneath the top cable clamp of the filter board.

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6. Secure the bared end of the white cable to PIN 3 (= CAN High) and the one of the brown cable to PIN 4 (= CAN Low).



| | |
|---|--------------------------------|
| 1 | PIN 3/white cable (= CAN High) |
| 2 | PIN 4/brown cable (= CAN Low) |
| 3 | Cable clamp on filter board |

4.3.1.2 Variant 2: Feeder 2 is interlinked with further feeders

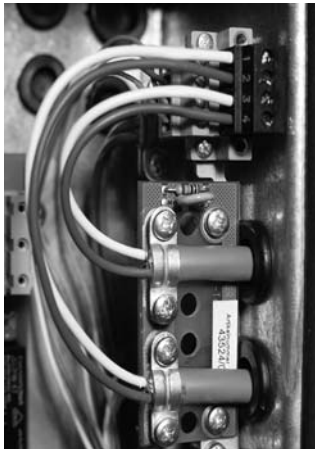
If you wish to connect further feeders, proceed as described in the previous chapters. The only difference is that basically as of the second feeder the shield of the CAN-bus-cables must be secured to the filter board.




Service info NetTerminal/KalbManagerWIN

Re: Gateway

Date October 16, 2007

New installation



| | | | |
|--|-------------------------|----------------------------|---|
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5 Rectifying faults

| Fault | Reason | Remedy |
|---|---|--|
| NetTerminal/KalbManager-WIN have no access to the data of the automatic feeder. | <ul style="list-style-type: none"> Network cable, mains cable or USB-cable are not or not duly inserted. | <ul style="list-style-type: none"> Insert the cable |
| | <ul style="list-style-type: none"> At present, the electronics does not work properly. | <ul style="list-style-type: none"> Pull the mains plug and reinsert it immediately afterwards. Carry out Reset (the default IP-address is automatically set). Proceed as follows: <ol style="list-style-type: none"> Pull the mains plug from the gateway. Keep the Reset-button pressed by means of a pointed object and reinsert the mains plug. Wait until the green LED at the front of the gateway continuously glows. Release the Reset-button. The default IP-address is reset. |
| | | <ol style="list-style-type: none"> For the variants 2 and 3: Reinitialize the gateway. Proceed as described above. |

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The **three LEDs** on the gateway **are glowing** although the gateway and the PC are connected via the network cable.

Wrong network cable; network card not installed

Replace the network cable; install the network card

Variante 2: the DOS-mode shows **Reply timed out**.

No connection could be established between the gateway and the network card.

Repeat all steps once again and check them for defects. If necessary, shut the power to the gateway off for a short time.