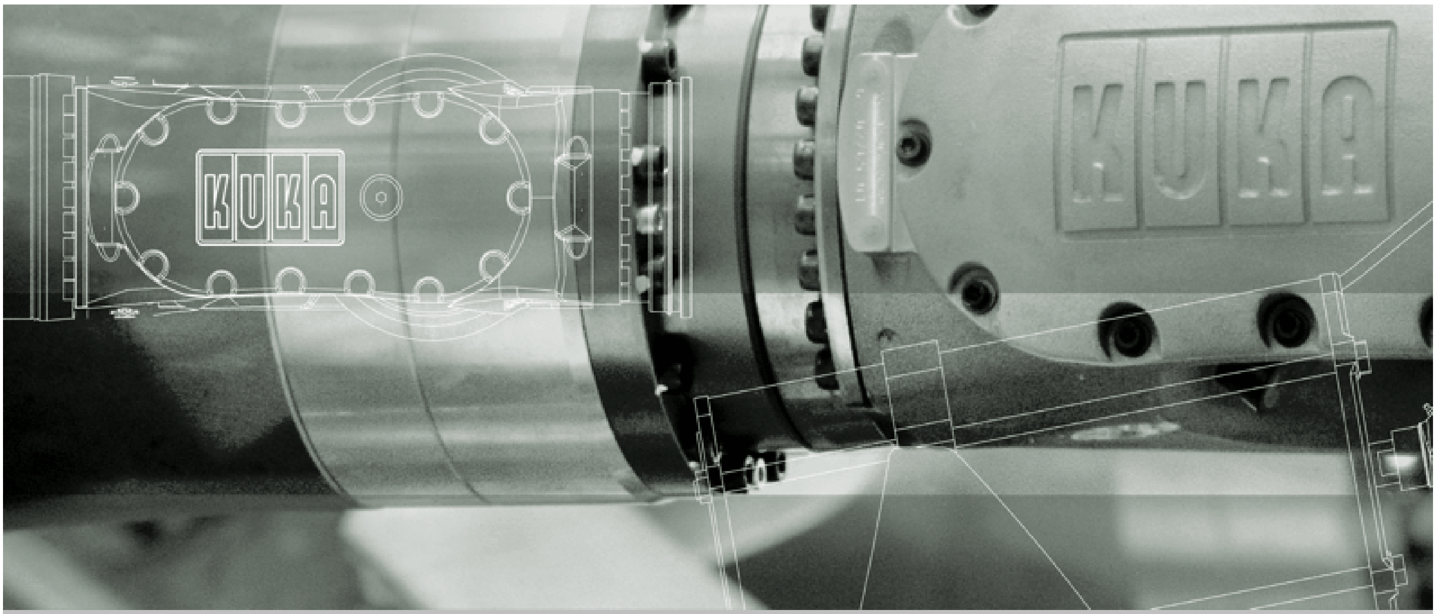

KUKA Robot Group

KUKA System Technology

KUKA Router

For KUKA System Software 5.2, 5.3, 5.4, 5.5

Issued: 25.06.2008 Version: KST Router V1 en

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Contents

1 Introduction

1.1 Target group

This documentation is aimed at users with the following knowledge and skills:

- Advanced knowledge of the robot controller
- Advanced KRL programming skills

1.2 Trademarks

Windows is a trademark of Microsoft Corporation.

2 Product description

2.1 Overview

The purpose of the Router is to forward TCP packets to a different address, depending on the port being used.

The Router is necessary, for example, if the Telnet server of VxWin is to be accessed from a computer connected to the Windows network.

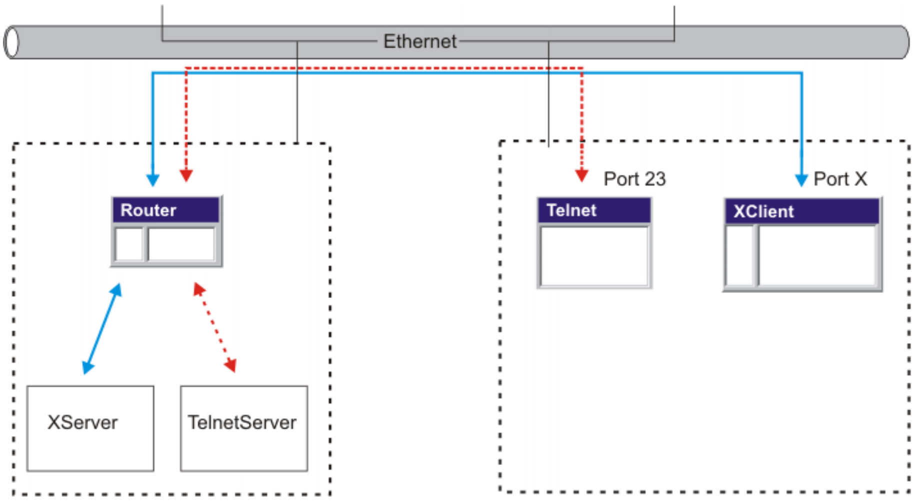


Fig. 2-1: Communication via the Router

3 Safety

3.1 Representation of warnings and notes

Safety

Warnings marked with this pictogram are relevant to safety and **must** be observed.

Danger!
This warning means that death, severe physical injury or substantial material damage **will** occur, if no precautions are taken.

Warning!
This warning means that death, severe physical injury or substantial material damage **may** occur, if no precautions are taken.

Caution!
This warning means that minor physical injuries or minor material damage **may** occur, if no precautions are taken.

Notes

Notes marked with this pictogram contain tips to make your work easier or references to further information.

Tips to make your work easier or references to further information.

3.2 Operation of the robot system

The robot system with the KUKA Router must be operated in accordance with the applicable national laws, regulations and standards.

4 Installation

4.1 Installing the Router

Procedure

1. Run Setup.exe from the CD-ROM.
2. Accept the license agreement and click on the **Next** button.

   The Router will then be installed.

LOG file

A LOG file is created under C:\KRC\ROBOTER\LOG.

4.2 Uninstalling the Router

It is advisable to archive all relevant data before uninstalling a software package.

Precondition

- Router is installed.

Procedure

1. In the Windows Start menu, select **Control Panel** > **Software** and remove KUKA Router.
2. Delete the folder **Router** in the directory C:\PROGRAM FILES.

LOG file

A LOG file is created under C:\KRC\ROBOTER\LOG.

5 Configuration

5.1 Configuration file

Description

In addition to the internal binary *.routes format, the configuration file can also be stored in XML format (*.xml). Any external modification is detected by the Router and the file is automatically reloaded.

The loading is carried out automatically without a request for confirmation. All connections are terminated. The clients must establish a new connection automatically.

6 Operation

6.1 Starting the Router

Precondition

- Router is installed.

Procedure

The Router can be started in the following ways:

- Double-click on Router icon.
- Deposit Router document (*.routes, *.xml) on the Router icon.
- Double-click on Router document (*.routes).

This procedure is not possible with *.xml files, since Internet Explorer is linked with them by default.

- Double-click on Tray icon.

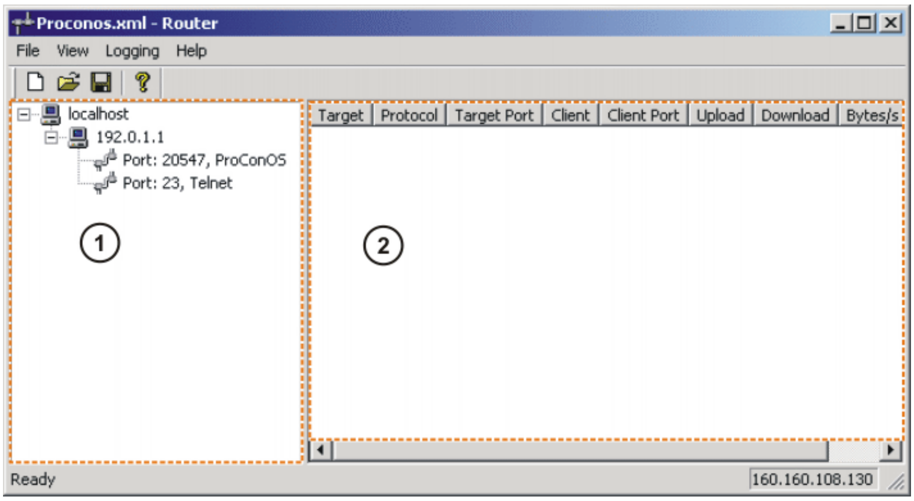


Fig. 6-1: Application window

1 Display in tree structure
2 Detailed information about the active connections of the routes.

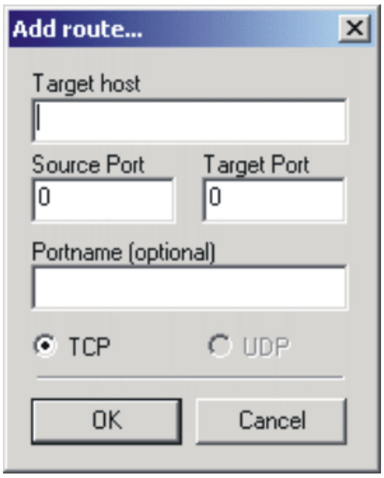
6.2 Adding a new route

Precondition

- Router has been started

Procedure

1. Right-click on **localhost**.
   A pop-up menu is opened.
2. Select **Insert a new route**.
   The **Add route** window is opened.



Source Port: 0
Target Port: 0
● TCP ○ UDP

Fig. 6-2: “Add route” window

3. Make the relevant settings and confirm with **OK**.

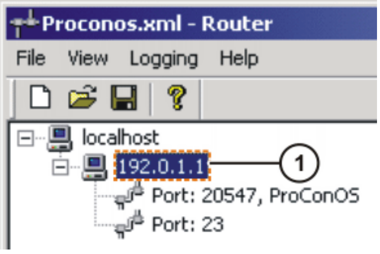
6.3 Making the kernel system of the robot controller accessible

Precondition

- Router has been opened.
- There is a connection between the robot controller and the PC.

Procedure

1. Double-click on target address.

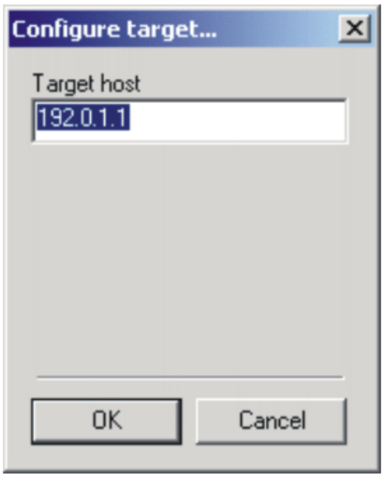


localhost
192.0.1.1
Port: 20547, ProConOS
Port: 23

Fig. 6-3: Target address

1 Target address

The **Configure target...** window is opened.
Alternatively, select and right-click on the target address.
A pop-up menu is opened. In this menu, select **Configure this target...**.



Target host: 192.0.1.1

Fig. 6-4: “Configure target” window

2. Enter the address and click on the **OK** button.

In order, for example to make the kernel system of the robot controller accessible via the network, “192.0.1.1” must be entered under “Target host”.

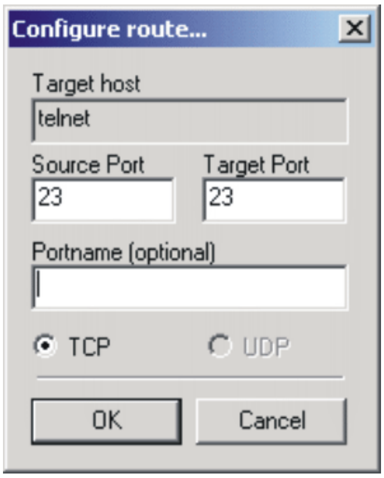
6.4 Setting the port

Precondition

- Router has been started
- Route has been created
- The connection to the kernel system is established

Procedure

1. Open the tree structure of the created route.
   A port is displayed.
2. Double-click on port.
   The **Configure route** window is opened.



Configure route...

Target host: telnet

Source Port: 23

Target Port: 23

Portname (optional):

● TCP ○ UDP

Fig. 6-5: “Configure route” window

3. Make the relevant settings and confirm with **OK**.

If a port number on the robot controller is executed on the Router and has to be available on the target PC, the problem can be solved by means of port mapping. In this case the parameters Source Port and Target Port would be different.

7 Troubleshooting

7.1 Using logging

Description

For troubleshooting or recording of events, logging can be activated via the application menu.

Files are accessed during logging. If the log level is set to Debug, the logging can have a detrimental effect on the performance of the Router.

Procedure

1. Select the menu sequence **Logging** > **Loglevel** and then select a menu item.

   The following options can be selected:

   - Nothing:

     No information is displayed in the log file.
   - Errors:

     Connection errors are displayed in the log file.
   - Warnings:

     Warnings are displayed in the log file.
   - Information:

     General information is displayed in the log file.
   - Debug:

     Debugging information is displayed in the log file.

   The log file Router.Log is created in the directory containing the Router.exe file.
2. Select the menu sequence **Logging** > **Show logfile**.

   The log file is opened.

In order for display with ShowLog to function, the file extension *.log must be assigned to an application (for example NotePad.exe).

8 KUKA Service

8.1 Requesting support

Introduction

The KUKA Robot Group documentation offers information on operation and provides assistance with troubleshooting. For further assistance, please contact your local KUKA subsidiary.

Faults leading to production downtime should be reported to the local KUKA subsidiary within one hour of their occurrence.

Information

The following information is required for processing a support request:

- Model and serial number of the robot
- Model and serial number of the controller
- Model and serial number of the linear unit (if applicable)
- Version of the KUKA System Software
- Optional software or modifications
- Archive of the software
- Application used
- Any external axes used
- Description of the problem, duration and frequency of the fault

8.2 KUKA Customer Support

Availability

KUKA Customer Support is available in many countries. Please do not hesitate to contact us if you have any questions.

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