

Reference Manual

R CT 3002

V 1.0

MiniModule USB Service Adapter and Software

Series 3000
MiniModules



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Warranty

LYNX Technik AG warrants that the product will be free from defects in materials and workmanship for a period of two (2) years from the date of shipment. If this product proves defective during the warranty period, LYNX Technik AG at its option will either repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, customer must notify LYNX Technik of the defect before expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by LYNX Technik, with shipping charges prepaid. LYNX Technik shall pay for the return of the product to the customer if the shipment is within the country which the LYNX Technik service center is located. Customer shall be responsible for payment of all shipping charges, duties, taxes and any other charges for products returned to any other locations.


This warranty shall not apply to any defect, failure, or damage caused by improper use or improper or inadequate maintenance and care. LYNX Technik shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than LYNX Technik representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of non LYNX Technik supplies; or d) to service a product which has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty servicing the product.

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Regulatory information

Europe

Declaration of Conformity

| | |
|--|---|
| We | LYNX Technik AG Brunnenweg 3 D-64331 Weiterstadt Germany |
| <i>Declare under our sole responsibility that the product</i> | |
| TYPE: R CT 3002 | |
| <i>To which this declaration relates is in conformity with the following standards (environments E1-E3):</i> | |
| EN 55103-1 /1996 | |
| EN 55103-2 /1996 | |
| EN 60950 /2001 | |
| <i>Following the provisions of 89/336/EEC and 73/23/EEC directives.</i> | |
| Winfried Deckelmann | |
| Weiterstadt, January 2006 |  |
| <i>Place and date of issue</i> | <i>Legal Signature</i> |

USA

FCC 47 Part 15

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense

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Getting Started

Packaging

The shipping carton and packaging materials provide protection for the module during transit. Please retain the shipping cartons in case subsequent shipping of the product becomes necessary.

Product Description

The R CT 3002 is a service adapter for the Series 3000 MiniModule range of products. This facilitates the set up, and adjustment of the MiniModule from a standard PC using the supplied LYNX control software. The adapter is useful for setting up and storing settings and operational parameters in the more complex modules where it is not possible to implement setting via the local dip-switch. It is also useful as a diagnostic tool to display any error conditions or configuration conflicts which may be present within the module.

The service adapter has a self contained microcontroller built into the connector housing and is designed to loop into the power connection for the MiniModule and plug directly into a PC USB port.

The service adapter must be used in conjunction with the supplied LYNX control software.

The Service adaptor option includes the following items:

- Service Adapter assembly
- USB extension cable (see next page)
- Software application CD Rom incl. USB drivers
- This Reference Manual

ATTENTION

The USB cable supplied with this device is a USB_A <-> USB_A cable intended for the connection of the PC with the R CT 3002.

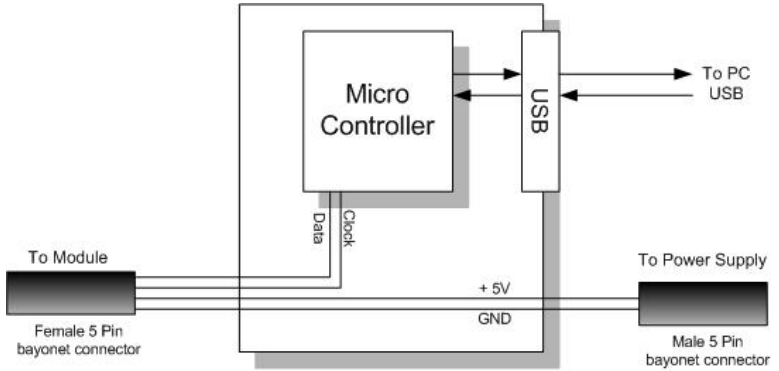
CAUTION



The cable supplied is a standard USB cable, but as always care needs to be taken when using this type of cable and it should not be used to connect one PC to another PC (i.e. two USB bus master devices) or damage to the computer hardware could occur.

Functional Diagram

Below is a functional diagram for the R CT 3002 service adapter.



The adapter housing contains a self-contained microcontroller, which serves at the interface between the module and the PC via the USB connection.

Connection Diagram

Figure 1 below shows how the Service Adapter is connected.

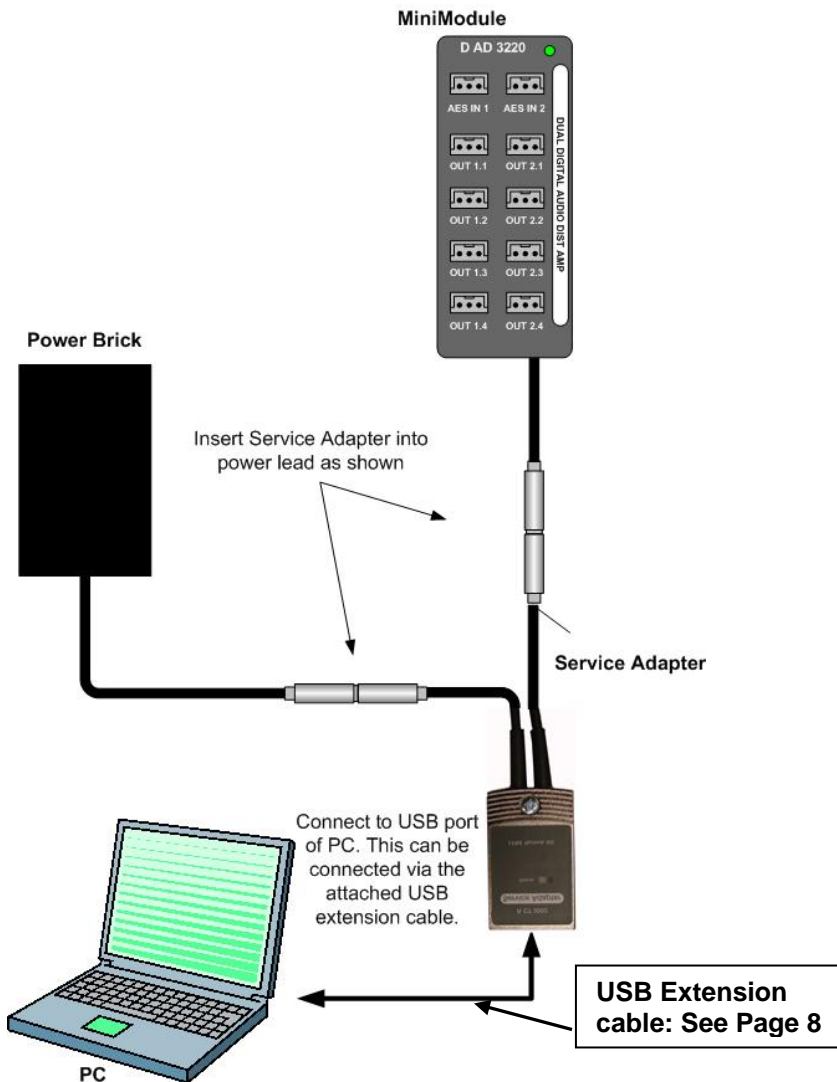
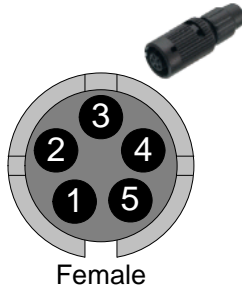


Figure 1- R CT 3002 Connection Diagram

Power Connection

The adapter is designed to loop into the power cord in-between one of the LYNX R PS power supply options. The adapter's internal microcontroller is powered from the USB connection. Power is looped through the adapter to power the module. Below the cable and connections are specified.



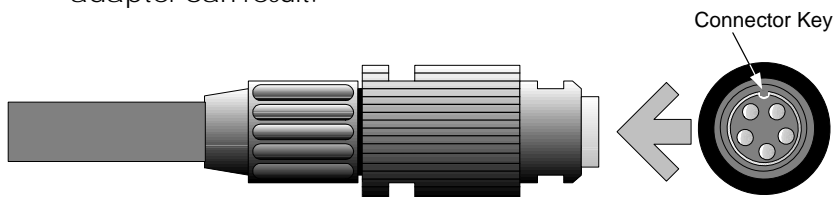
| # | Connection | Wire Color |
|---|-----------------|------------|
| 1 | VCC | White |
| 2 | VCC | Brown |
| 3 | GND | Green |
| 4 | i2C-SDA (Data) | Yellow |
| 5 | i2C-SCL (Clock) | Grey |



| # | Connection | Wire Color |
|---|------------|------------|
| 1 | VCC | White |
| 2 | VCC | Brown |
| 3 | GND | Green |
| 4 | NC | |
| 5 | NC | |

Caution

Please use caution when joining together the bayonet power connector. First bring the two connectors together gently and turn slowly until the key is correctly located and then push together and twist to lock. If the connector is forced together with the key out of place then damage to the module / adapter can result.



LED Status Indicator

The R CT 3002 module has a built in LED indicator that serves as status indication for the module. Function is described below.



| Color | Indication |
|--------|--|
| Green | communication with LYNX Desktop controller application active |
| Yellow | USB connected, no communication with LYNX Desktop controller application |
| Red | Booting, should switch to Yellow or Green after boot process |

Installation

Software Installation

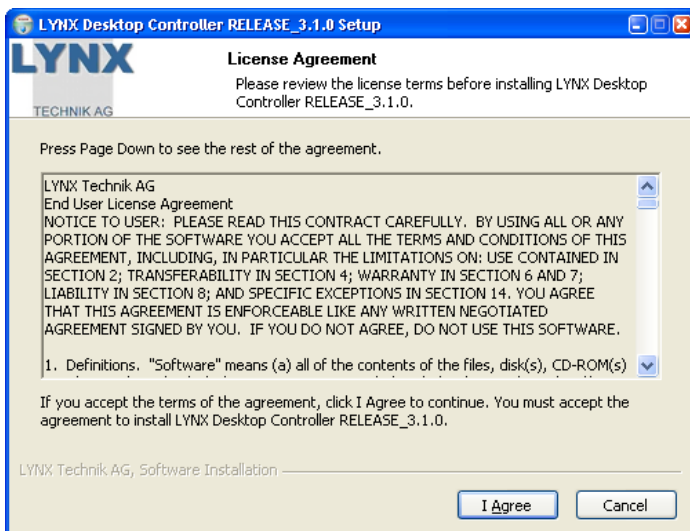
The controller software is supplied with the service adapter on a CD Rom. Please follow the installation procedure below.

Note:

Install SW before connecting the R CT 3002 to the USB port.

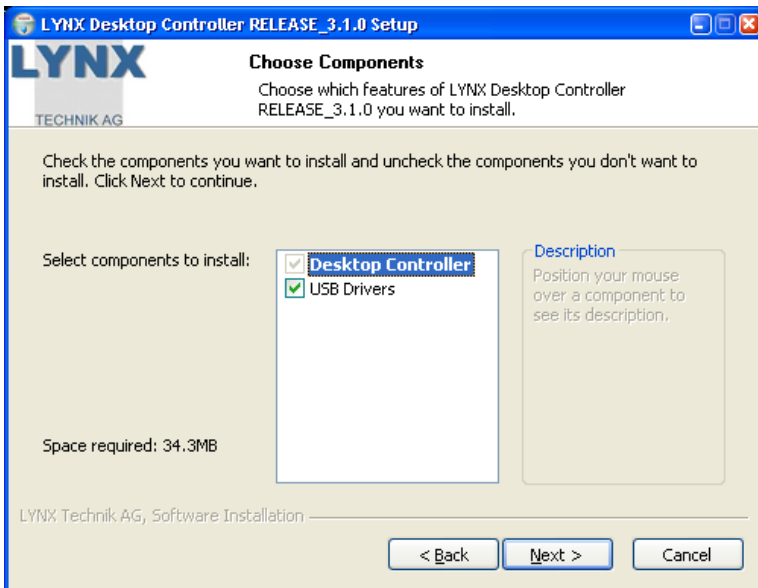
Windows Users

1. Close all other applications on the PC.
2. Insert the software CD into the CD-Rom drive. If the CD-Rom does not start automatically, start the application by clicking **Start, Run** and then type `x:\setup` (where x:\ is the drive letter of your CD-Rom drive)
3. The following screen will display, please read the license agreement carefully, when ready click **I Agree** > to continue



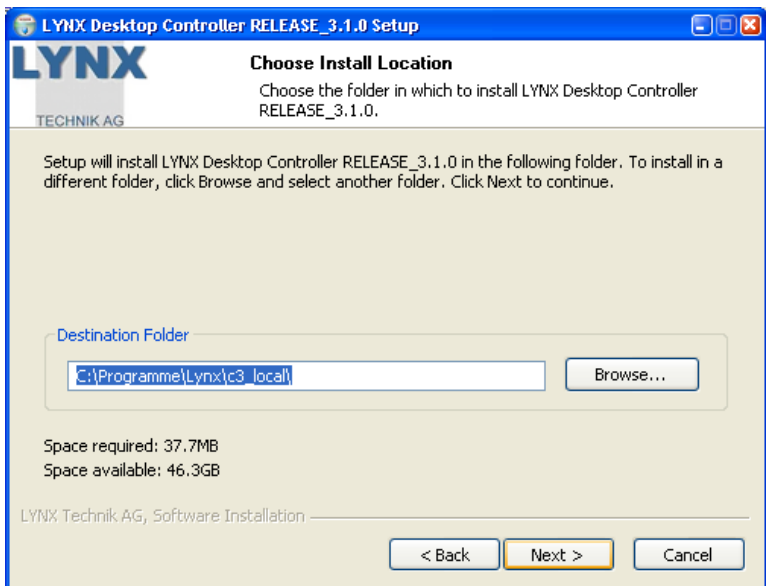
4. From the list of selectable components please check the USB drives are selected. The USB drivers are required for operation of the R CT 3002 Service Adapter and need to be installed before the R CT 3002 is first connected to the USB port of the PC.

Click **Next >** to continue



- Click **Next >** to accept the default installation folder, (*c:\Program Files\Lynx\c3_local*) or use **Browse** to select another destination.

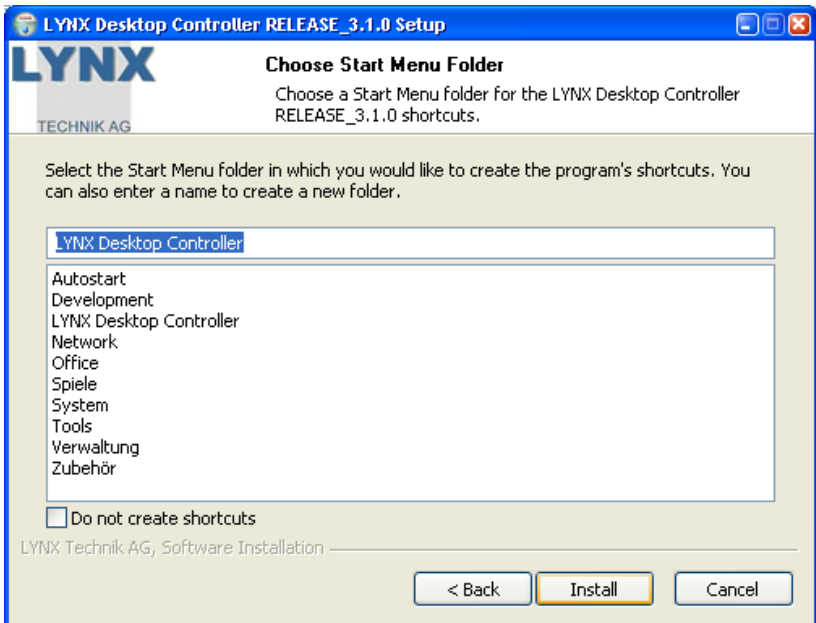
Click **Next >** to continue.



6. On the following screen select the name of the Start Menu folder that should be created for this application. The specified folder will be created and populated with a number of useful links, e.g. For starting the application, de-installing the application, version information and getting software upgrades from the Internet.

Deselecting this option will not generate a Start Menu Folder for this application and also no Desktop Icon.

Click **Next >** to start the installation.

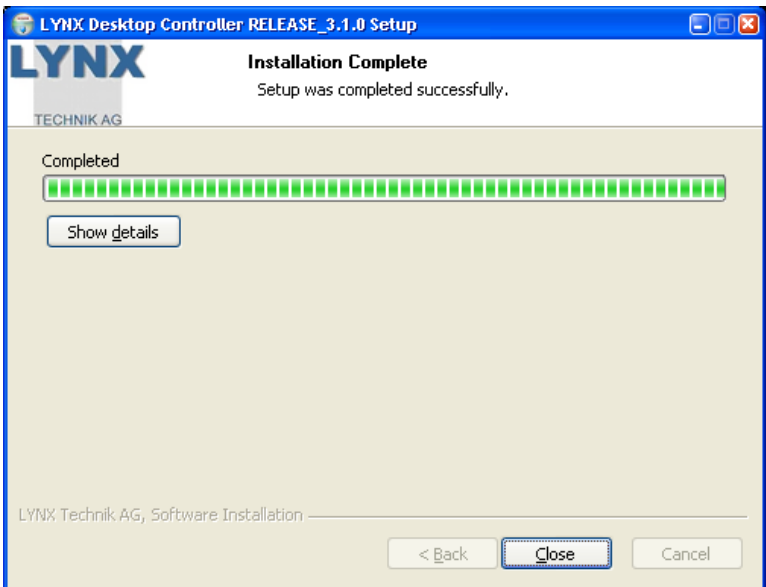


7. As part of this installation, the USB drivers for the R CT 3002 will be installed in the system. There may be a dialog generated by Windows informing you that this driver has not been certified by Microsoft.

Click **continue installation**> to continue.

8. After the installation has been completed, the following screen is displayed.

Click **Close**> to finish the installation



9. Start the application now. If you chose to install the desktop icon during installation, simply click this to start the controller application.



LYNX Controller Icon.

OR navigate to the lynx folder in "program files" and select **c3_local.exe**

10. After successful installation of the software through the above process, the R CT 3002 can be connected to the USB port of the PC. The Windows Operating System will then automatically install the drivers and activate the USB device.

Note

You may receive another Dialog indicating the driver has not been certified by Microsoft, please click **continue installation**> again to continue.

USB driver installation

Before the R CT 3002 Service Adapter can be connected to the PC, the appropriate drivers need to be installed. This is part of the software installation as explained in the previous section. Please make sure to select the component "**USB drivers**" in step 4 above.

The drivers are copied to the PC and pre-registered in the Windows System. This way they will be found by the regular automatic search for matching USB drivers when the Service Adapter is connected to the USB port. "plug and play"

NOTE

During installation of USB drivers (as part of the software installation) and also during the activation of the drivers (when the R CT 3002 is physically connected to the PC for the first time) a Windows dialog will appear to warn you that the USB drivers have not been certified by Microsoft. Please disregard these notices and click the **continue installation>** button.

Starting the Controller Application

If you chose to install the desktop icon during installation, simply click this to start the controller application.



LYNX Controller Icon.

OR navigate to the lynx folder in "program files" and select **c3_local.exe**

The GUI will start and the application will firstly look for the service adapter and then MiniModule. When found, the software will identify the module and display the appropriate control and monitoring GUI for this module. Module detection is automatic, and modules can be hot plugged with the software running. The system will detect the new module type when connected and automatically display the correct GUI.

NOTE. When started, the control software will scan for any connected LYNX USB device. When found the R CT 3002 is made available under "local Com ports" -> Serial Connections".

NOTE. Please activate the respective checkbox for the R CT 3002.

User registration

When the application is started the first time, or you are not currently registered - the dialog below will be displayed.

Please enter the requested data for notification of future SW updates.

Note

We highly recommend you register your software and subscribe to notifications. New releases of software include new features, support for new devices and all recent bug fixes. The contact information is used SOLEY for the purpose for automatic notifications of new software releases and is not used for marketing or sales activities. We also will never disclose this information to third parties.

LYNX Desktop Controller

Please take a moment to register your copy of the LYNX Desktop Controller.

We frequently update this program with support for new LYNX devices, new features and bug fixes. Select the **Subscribe** option below and you will be notified by e-mail as soon as a new release is available for download. All software updates are free.

The information submitted is used for update notification purposes only. This information will be kept confidential and will never be given third parties.

Note: A connection to the internet is required for registration. If you don't have a internet connection right now you may enter the information and the registration will automatically be done when a connection to the internet can be established.

Name

Title

Company

Phone

Email

Subscribe to email information about new versions of the LYNX Desktop Controller

Software Updates

If you choose not to subscribe to automatic notifications then there may be a newer release of the software available for download from our website

Please go to www.lynx-technik.com downloads section and locate "software downloads"

Please check back frequently for new releases

Note

This manual covers the R CT 3002 Hardware and software installation and not the operation of the module specific GUIs included in the package. These are self explanatory.

Adapter Installation

Please follow the following steps to install the service adapter.

Modules can be “hot plugged” so it is not necessary to disconnect the power supply from the main supply when changing modules.

1. Disconnect the module from DC power by uncoupling the 5-pin bayonet connector.
2. Insert the service adapter into the power lead as shown in Figure 1, ensuring the bayonet twist connectors are secure. Connect the service adapter to the host PC running the LYNX control software.
3. If the LYNX application is running on the PC, then the module will be automatically detected, if not, start the LYNX software application.

When use of the adapter is completed, disconnect the module from the adapter and re-apply power to the module.

Specifications *(R CT 3002)*

Connections

| | |
|------------------------|--|
| USB Connection | USB 2.0 |
| Power loop connections | 2 x 5 pin locking bayonet connectors. One female, one male |

Electrical Specifications

| | |
|-------------------|--------------------------------|
| Operating Voltage | Loop through + 5VDC to modules |
| Power Consumption | 100 mW |
| Safety | IEC 60950/ EN 60950/VDE 0805 |

Mechanical

| | |
|--------|---|
| Size | 57 mm x 35 mm x 17 mm w/o cables Cables: 0,5 m |
| Weight | 175 g incl. cables and USB extension cable |

Ambient

| | |
|-------------|--|
| Temperature | 0°C to +35°C Operating -20°C to +70°C Storage |
| Humidity | Max 80% non condensing |

Supplied Accessories

| | |
|----------------------|------------------------------|
| Documentation | R CT 3002 Reference Manual |
| USB extension cable | See page 8 |
| Application Software | Controller Software (CD-Rom) |

Service

Parts List

There are no user serviceable assemblies within the service adapter. The parts list below shows items which can be ordered for maintenance purposes.

R CT 3002 Service Adapter (complete)

| | |
|--------------|-----------------------|
| Description | Service Adapter (USB) |
| Model Number | R CT 3002 |
| Part Number | 5.155.001.280 |

Technical Support

If you are experiencing problems, or have questions concerning Testor please contact your local distributor for further assistance.

Technical support is also available from our website. www.lynx-technik.com

Please do not return products directly to LYNX Technik without an RMA. Please contact your authorized dealer or reseller for more details.

More detailed product information and product updates may be available on our web site:

www.lynx-technik.com

Contact Information

Please contact your local distributor; this is your local and fastest method for obtaining support and sales information.

LYNX Technik can be contacted directly using the information below.

| | |
|----------------|--|
| Address | LYNX Technik AG Brunnenweg 3 64331 Weiterstadt Germany |
| Website | www.lynx-technik.com |
| E-Mail | info@lynx-technik.com |

LYNX Technik manufactures a complete range of high quality modular products for broadcast and Professional markets, please contact your local representative or visit our web site for more product information.



