

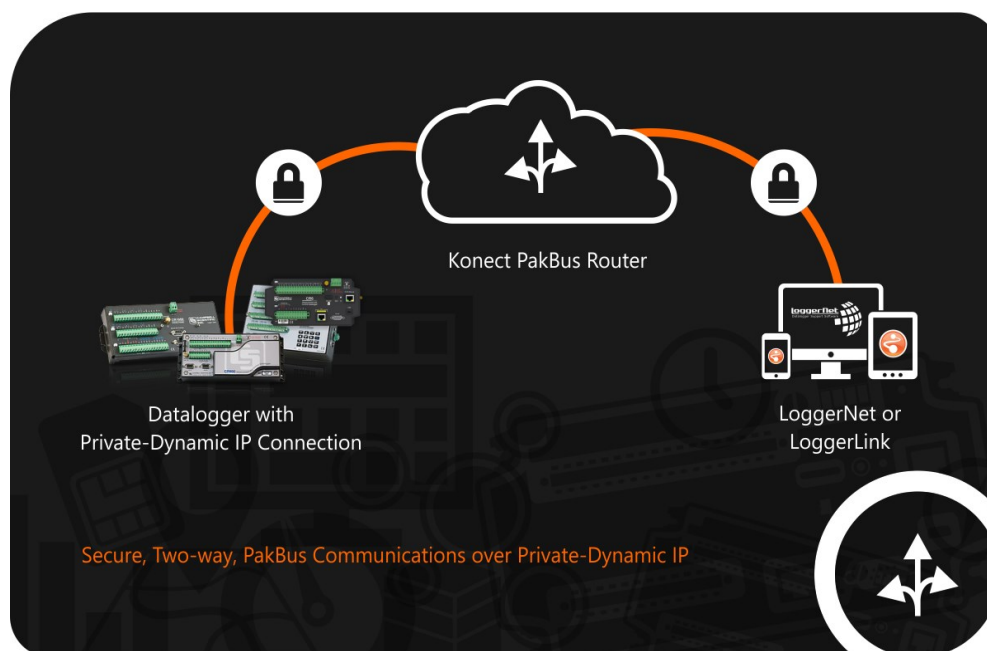
Getting Started Guide



Communications
Device

Complimentary **Konect PakBus[®] Router**

PakBus Routing Service



Guarantee

This equipment is guaranteed against defects in materials and workmanship. We will repair or replace products which prove to be defective during the guarantee period as detailed on your invoice, provided they are returned to us prepaid. The guarantee will not apply to:

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- Batteries
- Any product which has been subjected to misuse, neglect, acts of God or damage in transit.

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Please inform us before returning equipment and obtain a Repair Reference Number whether the repair is under guarantee or not. Please state the faults as clearly as possible, and if the product is out of the guarantee period it should be accompanied by a purchase order. Quotations for repairs can be given on request. It is the policy of Campbell Scientific to protect the health of its employees and provide a safe working environment, in support of this policy a "Declaration of Hazardous Material and Decontamination" form will be issued for completion.

When returning equipment, the Repair Reference Number must be clearly marked on the outside of the package. Complete the "Declaration of Hazardous Material and Decontamination" form and ensure a completed copy is returned with your goods. Please note your Repair may not be processed if you do not include a copy of this form and Campbell Scientific Ltd reserves the right to return goods at the customers' expense.

Note that goods sent air freight are subject to Customs clearance fees which Campbell Scientific will charge to customers. In many cases, these charges are greater than the cost of the repair.



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Table of contents

1. Introduction	1
2. Get started	1
3. Set up Konect PakBus Router	2
4. Configure data logger	4
4.1 Data loggers connected to CELL200-series modules	5
4.2 Data loggers with internal cellular modules (CR300-CELL200)	7
4.3 Data loggers connected to RV50 modems	8
5. Set up LoggerNet	10
6. Set up LoggerLink (optional)	14
7. Maintenance and troubleshooting	14
7.1 Review	14
7.2 Status	15

1. Introduction

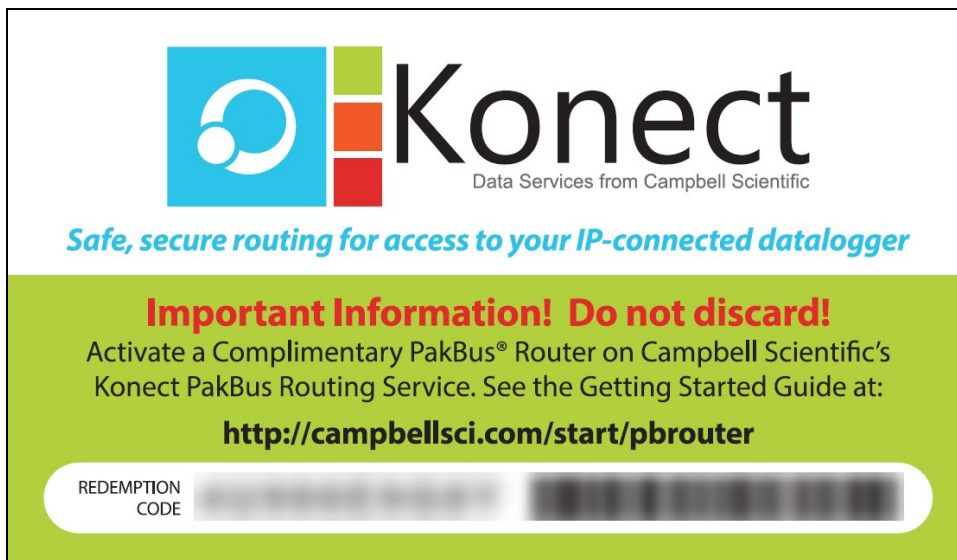
Take advantage of the secure Konect PakBus®¹ Router for on-demand two-way access to your data logger. The Konect PakBus router is a cloud-based service that acts as a bridge between an internet-enabled data logger and LoggerNet or LoggerLink data logger support software.

This guide will walk you through the steps to:

1. Set up the Konect PakBus Router.
2. Configure a data logger.
3. Set up LoggerNet.

2. Get started

You will need the Konect PakBus Router redemption code that came on a card with the CR1000X.



Open a web browser and go to www.konectgds.eu.

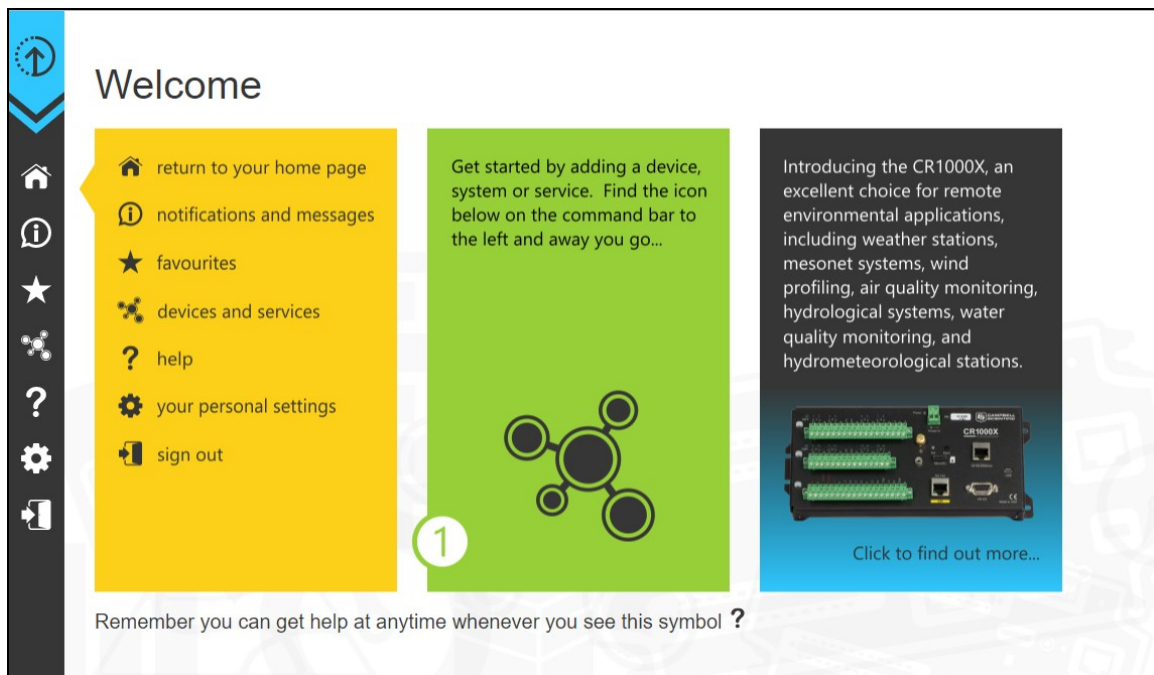
First-time users need to create a **free account**. After you submit your information, you will receive two emails up to five minutes apart. One email will contain a Passport ID and the other your Password. If emails are not received, check your email junk folder.


¹PakBus is a registered trademark of Campbell Scientific, Inc.

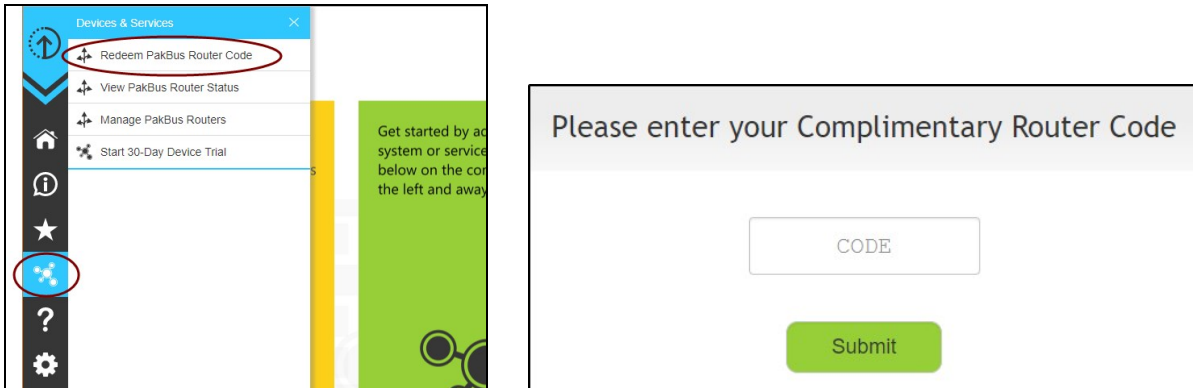


3. Set up KonecT PakBus Router

1. Sign in to www.konectgds.eu using your Passport ID and Password found in the two received emails. Once logged in, you will be at the Welcome page.



2. Click **Devices and services**  on the command bar to the left and select **Redeem PakBus Router Code**. Enter your complimentary Router Code found on the included card with your cellular-enabled device and click **Submit**.

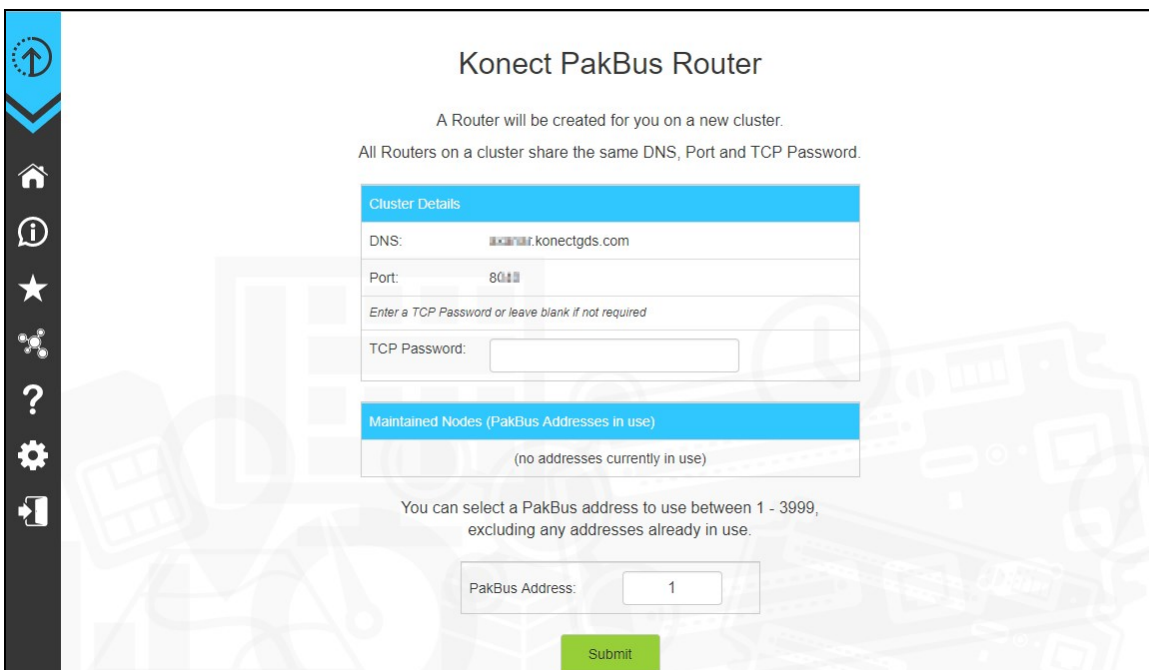


The image shows two parts of the interface. On the left is a sidebar menu titled 'Devices & Services' with a list of options: 'Redeem PakBus Router Code' (highlighted with a red circle), 'View PakBus Router Status', 'Manage PakBus Routers', and 'Start 30-Day Device Trial'. Below this list is a vertical command bar with icons for home, info, star, cross (highlighted with a red circle), question mark, and settings. On the right is a form titled 'Please enter your Complimentary Router Code'. It contains a text input field labeled 'CODE' and a green 'Submit' button.

3. The next screen shows the assigned **DNS** address and **Port** for the router. Enter a **TCP Password** and select a unique **PakBus Address** for your data logger.

TIP:

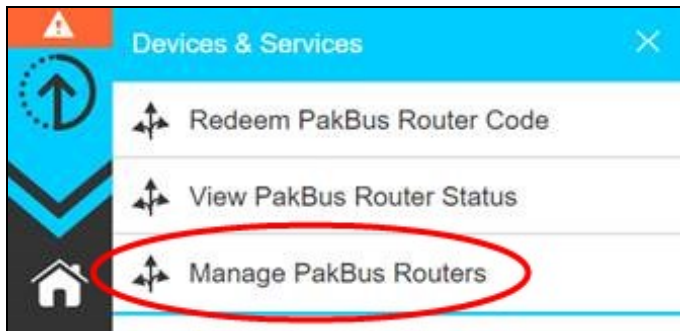
Make note of this information; it will be required for data logger configuration as well as LoggerNet setup. Please note your **DNS**, **Port**, **TCP Password** and **PakBus address**; you will need them later.



The image shows the 'Konect PakBus Router' configuration screen. At the top, it says 'A Router will be created for you on a new cluster.' and 'All Routers on a cluster share the same DNS, Port and TCP Password.' Below this is a 'Cluster Details' section with fields for 'DNS' (konectgds.com), 'Port' (8088), and 'TCP Password' (with a note 'Enter a TCP Password or leave blank if not required'). Below that is a 'Maintained Nodes (PakBus Addresses in use)' section showing '(no addresses currently in use)'. At the bottom, it says 'You can select a PakBus address to use between 1 - 3999, excluding any addresses already in use.' and has a 'PakBus Address' field with the value '1' and a green 'Submit' button.

4. Click **Submit**.

5. To edit settings at a later date, click **devices and services**  on the command bar and select **Manage PakBus Routers**.



NOTE:

The **DNS** address and **Port** number, assigned when your account was setup, cannot be edited.

4. Configure data logger

The data logger setup depends on the type of cellular hardware you are using. Follow the instructions in the section that applies to your hardware configuration.

1. Data logger connected to a CELL200-series module
2. Data logger with an internal cellular module
3. Data logger connected to an RV50 modem

4.1 Data loggers connected to CELL200-series modules

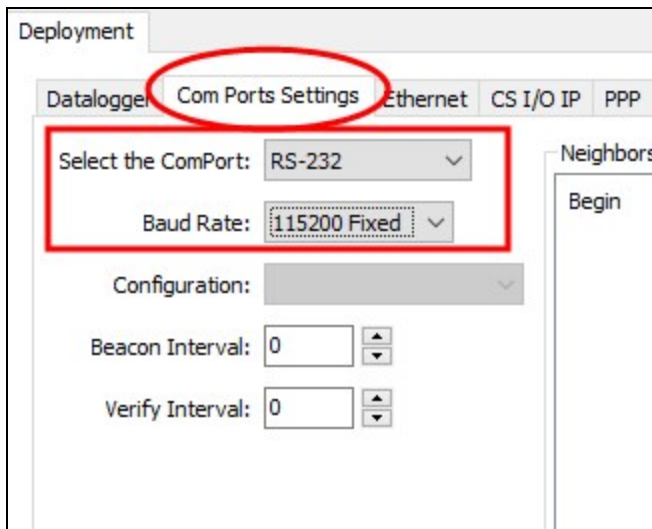
1. Launch the Device Configuration Utility . All tabs are within the **Deployment** category.

On the **Datalogger** tab, change the data logger **PakBus Address** and **PakBus/TCP Password** to match the values entered in the [Set up Konect PakBus Router](#) (p. 2) step.



The screenshot shows the 'Datalogger' tab in the Device Configuration Utility. The 'PakBus Address' is set to 101. The 'PakBus Security' section shows three security codes (1, 2, 3) all set to 0. The 'PakBus Encryption Key' and 'PakBus Encryption Key Confirm' fields are empty. The 'PakBus/TCP Password' and 'Confirm PakBus/TCP Password' fields are also empty. Red boxes highlight the 'PakBus Address' field and the 'PakBus/TCP Password' and 'Confirm PakBus/TCP Password' fields.

2. On the **Com Ports Settings** tab, select the **COMPort** where the module is connected; this is generally RS-232 or CS I/O. When connecting to the CS I/O port, the default address is SDC8. When connecting via RS-232, change the **Baud Rate** to **115200 Fixed**.



The screenshot shows the 'Com Ports Settings' tab in the Device Configuration Utility. The 'Select the ComPort' dropdown is set to 'RS-232'. The 'Baud Rate' dropdown is set to '115200 Fixed'. The 'Configuration' dropdown is set to 'Begin'. The 'Beacon Interval' and 'Verify Interval' fields are both set to 0. Red boxes highlight the 'Select the ComPort' and 'Baud Rate' dropdowns.

- On the **PPP** tab select the **Config/Port Used** where the modem is connected. This is the same as was selected on the **Com Ports Settings** tab. Leave the **Modem Dial String** blank.

The screenshot shows the 'Deployment' window with the 'PPP' tab selected. The 'Config/Port Used' dropdown menu is set to 'RS-232'. The 'Modem Dial String' field is empty. The 'Modem Dial Response' field is set to 'CONNECT'. The 'DNS Server 1' and 'DNS Server 2' fields are both set to '0.0.0.0'. The 'User Name' and 'Password' fields are empty. The 'PPP Network Status' section displays the message: 'No default network. PPP is not configured.'

- On the **Network Services** tab, in the **PakBus/TCP Clients** box, type the DNS address and Port number noted during the [Set up Konect PakBus Router](#) (p. 2) step.


The screenshot shows the 'Network Services' tab with the 'PakBus/TCP Clients' section. The 'Address' field is set to '192.168.1.1.konectgds.com' and the 'Port' field is set to '8080'. There are three additional rows below, each with an empty 'Address' field and a 'Port' field set to '6785'.

- Apply** to save your changes.

4.2 Data loggers with internal cellular modules (CR300-CELL200)

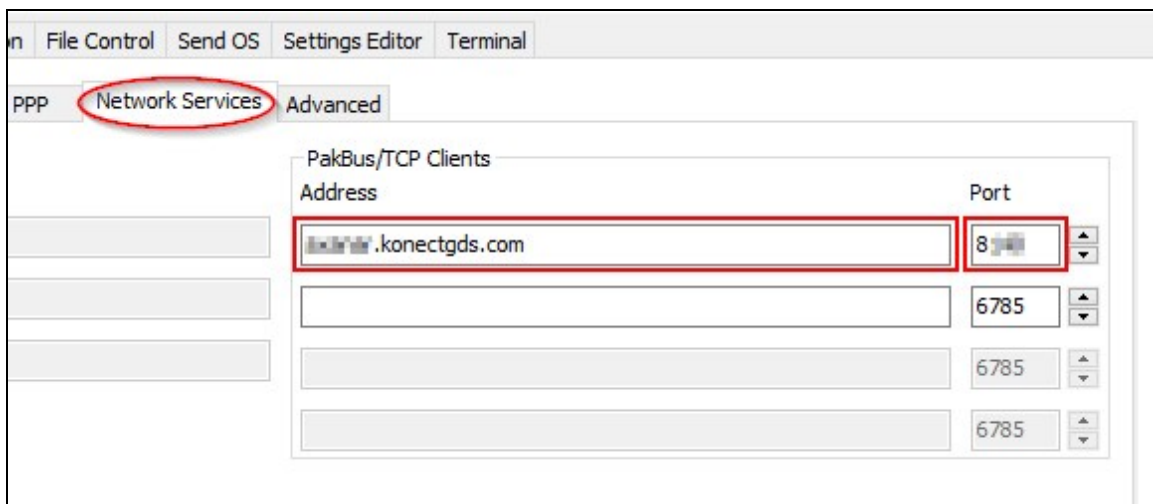
1. Launch the Device Configuration Utility . All tabs are within the **Deployment** category.

On the **Datalogger** tab, change the data logger **PakBus Address** and **PakBus/TCP Password** to match the values entered in the [Set up Konect PakBus Router](#) (p. 2) step.



The screenshot shows the 'Datalogger' tab selected in the 'Deployment' category. The 'PakBus Address' field is set to '101'. The 'PakBus Security' section is expanded, showing 'Security Code 1', 'Security Code 2', and 'Security Code 3' all set to '0'. The 'PakBus Encryption Key' and 'PakBus Encryption Key Confirm' fields are empty. The 'PakBus/TCP Password' and 'Confirm PakBus/TCP Password' fields are also empty.

2. On the **Network Services** tab, in the **PakBus/TCP Clients** box, type the DNS address and Port number noted during the [Set up Konect PakBus Router](#) (p. 2) step.



The screenshot shows the 'Network Services' tab selected in the 'Deployment' category. The 'PakBus/TCP Clients' section is expanded, showing a table with columns 'Address' and 'Port'. The first row has the address '192.168.1.1.konectgds.com' and port '8080'. The other three rows have the address '192.168.1.1.konectgds.com' and port '6785'.

3. **Apply** to save your changes.

4.3 Data loggers connected to RV50 modems

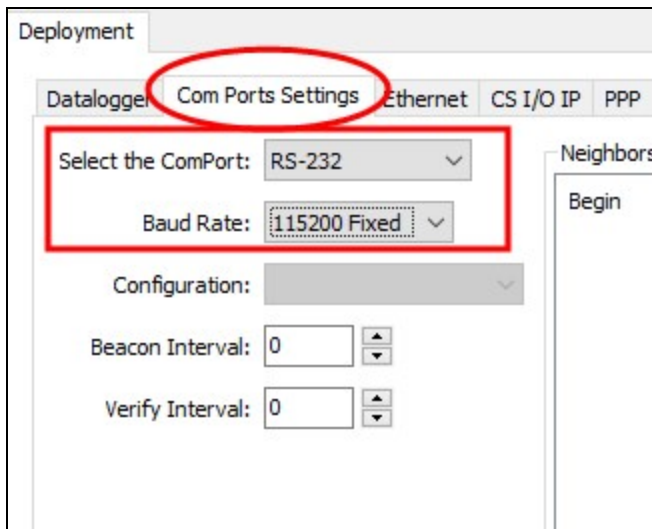
1. Launch the Device Configuration Utility . All tabs are within the **Deployment** category.

On the **Datalogger** tab, change the data logger **PakBus Address** and **PakBus/TCP Password** to match the values entered in the [Set up Konect PakBus Router](#) (p. 2) step.



The screenshot shows the Device Configuration Utility interface. The **Datalogger** tab is selected. The **PakBus Address** is set to 101. The **PakBus Security** section shows Security Codes 1, 2, and 3 all set to 0. The **PakBus Encryption Key** and **PakBus Encryption Key Confirm** fields are empty. The **PakBus/TCP Password** and **Confirm PakBus/TCP Password** fields are empty.

2. On the **Com Ports Settings** tab, select the **COMPort** where the module is connected; this is generally RS-232 or CS I/O. When connecting to the CS I/O port, the default address is SDC8. When connecting via RS-232, change the **Baud Rate** to **115200 Fixed**.



The screenshot shows the Device Configuration Utility interface. The **Com Ports Settings** tab is selected. The **Select the ComPort** is set to RS-232. The **Baud Rate** is set to 115200 Fixed. The **Configuration** field is empty. The **Beacon Interval** and **Verify Interval** are both set to 0.

- On the **PPP** tab select the **Config/Port Used** where the modem is connected. This is the same as was selected on the **Com Ports Settings** tab. Set **Modem Dial String** to AT\APPP.

The screenshot shows the 'Deployment' window with the 'PPP' tab selected. The 'Config/Port Used' dropdown is set to 'RS-232'. The 'Modem Dial String' is set to 'ATH;AT\APPP'. The 'PPP Network Status' section indicates 'No default network. PPP is not configured.'

Field	Value
Config/Port Used	RS-232
IP Address	0.0.0.0
User Name	
Password	
Modem Dial String	ATH;AT\APPP
Modem Dial Response	CONNECT


- On the **Network Services** tab, in the **PakBus/TCP Clients** box, type the DNS address and Port number noted during the [Set up Konect PakBus Router](#) (p. 2) step.

The screenshot shows the 'Network Services' tab with the 'PakBus/TCP Clients' section. The 'Address' field is set to '.konectgds.com' and the 'Port' is set to 8. The 'Advanced' tab is also visible.

Address	Port
.konectgds.com	8
	6785
	6785
	6785

- Apply** to save your changes.

5. Set up LoggerNet

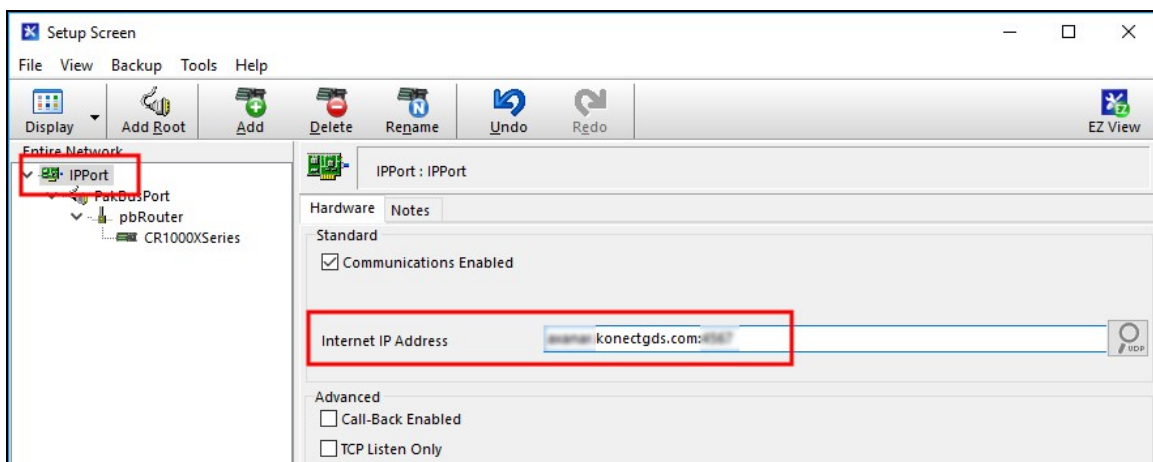
1. In the Standard View of LoggerNet Setup , add an **IPPort** > **PakBusPort** > **pbRouter**, and data logger.



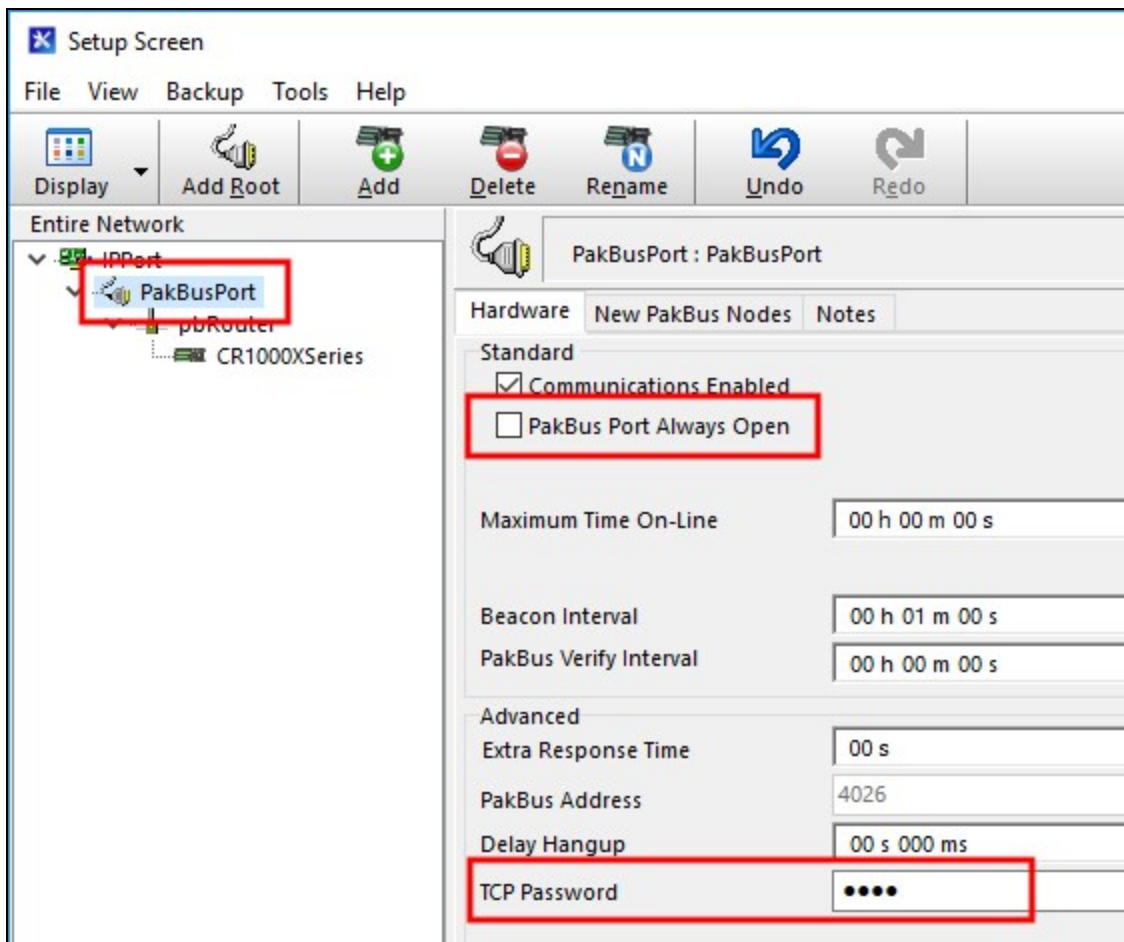
2. On the **IPPort Hardware** tab, select the **Internet IP Address** field. Enter the Konect PakBus Router DNS address and Port number separated by a colon as noted during the [Set up Konect PakBus Router](#) (p. 2).

NOTE:

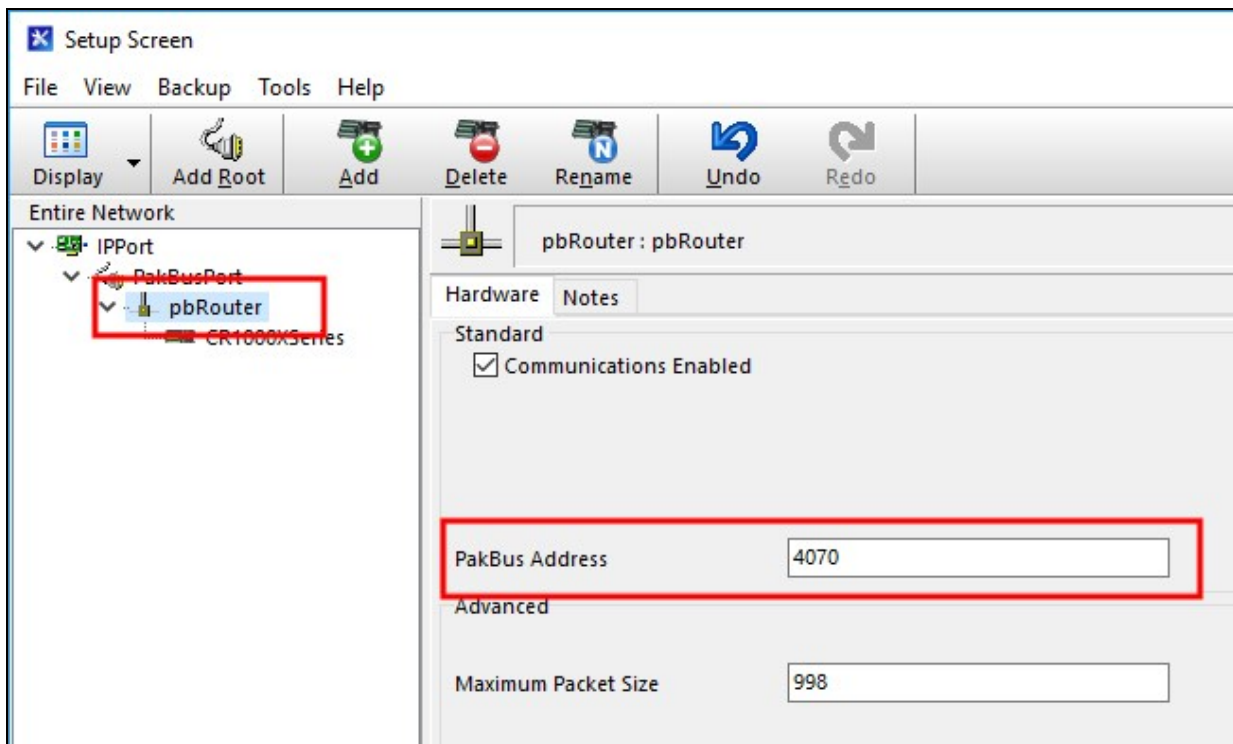
Address format: dddd.konectgds.eu:pppp



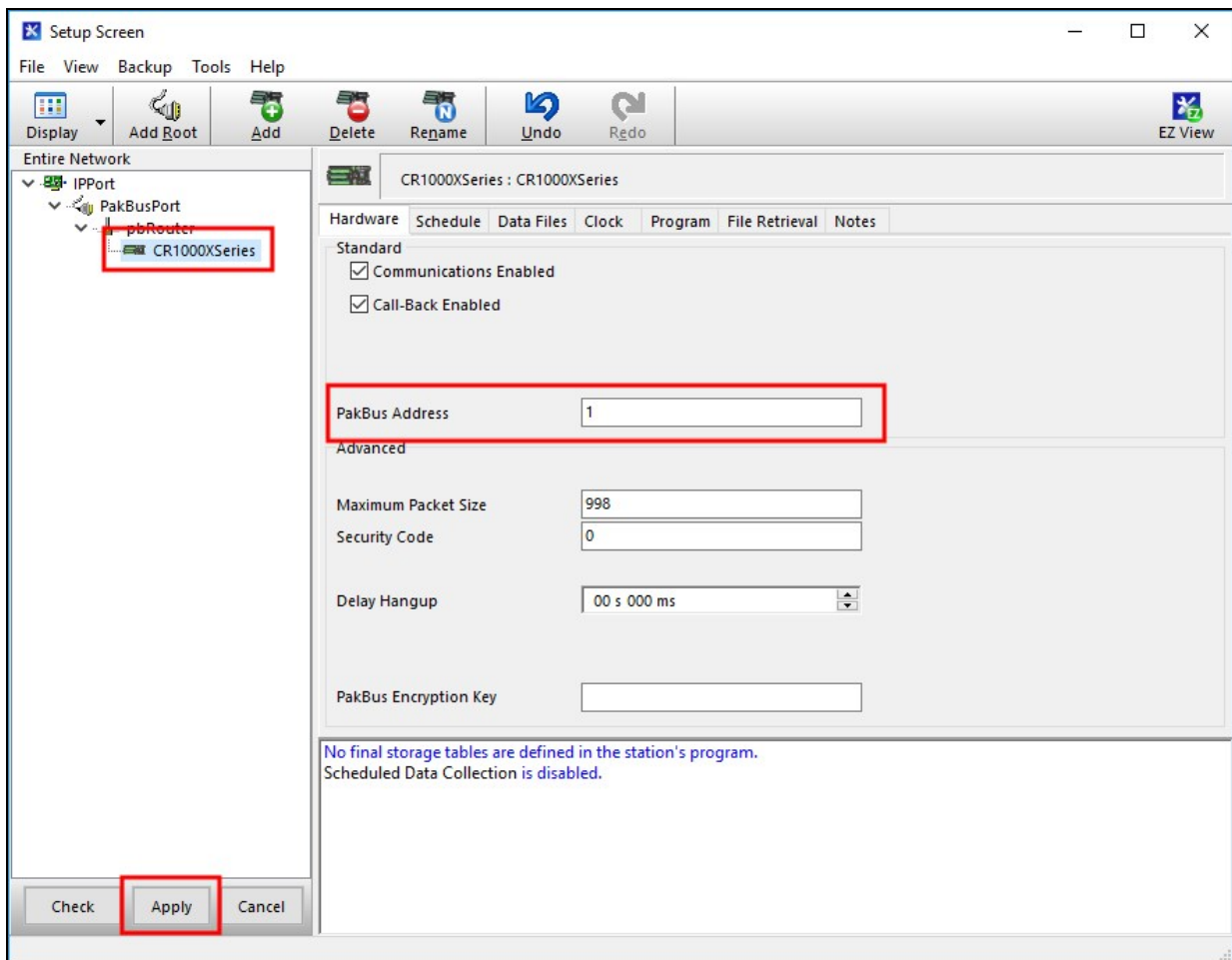
3. Leave the default settings for the **PakBusPort**. **PakBus Port Always Open**; it should not be checked. Set the **TCP Password** on the **PakBusPort Hardware** tab.



4. Select **pbRouter** from the Entire Network. On the **Hardware** tab, enter **4070** in the **PakBus Address** box.



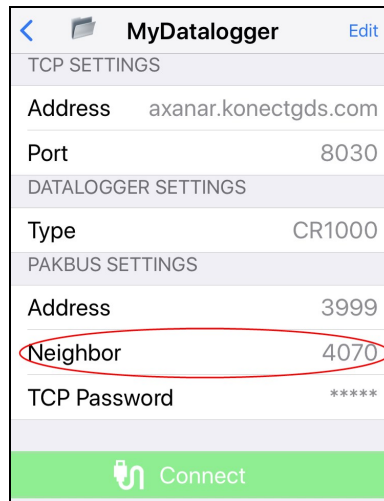
- On the data logger **Hardware** tab, enter the **PakBus Address** chosen during the [Set up Konect PakBus Router](#) (p. 2) step.



- Apply** to save your changes.
- Apply power to the data logger and cellular module. On the **Clock** tab, **Check Clocks**. When communications are successful, the **Station Date/Time** field will update.

6. Set up LoggerLink (optional)

LoggerLink mobile apps are another way to connect to your data logger through the Konect PakBus Router. When using LoggerLink the **PakBus Neighbour** setting must be set to **4070**.



MyDatalogger	
TCP SETTINGS	
Address	axanar.konectgds.com
Port	8030
DATALOGGER SETTINGS	
Type	CR1000
PAKBUS SETTINGS	
Address	3999
Neighbour	4070
TCP Password	*****
Connect	

See the help in LoggerLink or <https://www.campbellsci.eu/loggerlink> for more information. Or, watch a video about using LoggerLink  <https://www.campbellsci.eu/videos/loggerlink-software-an-introduction>.

7. Maintenance and troubleshooting

7.1 Review

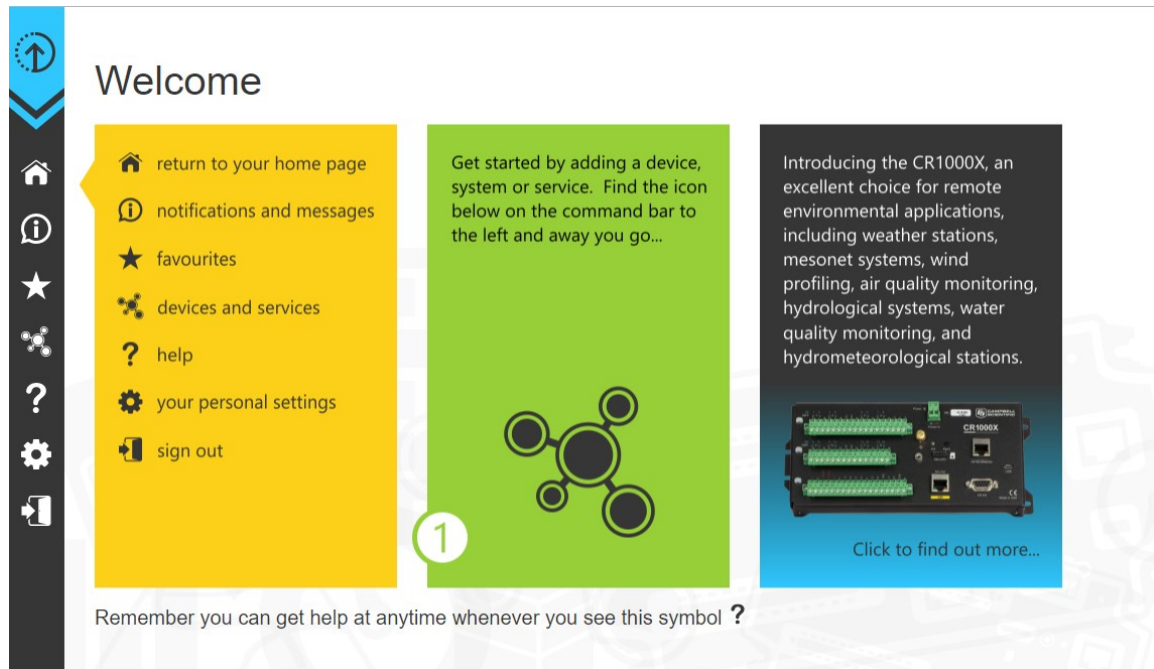
1. You have created a free KonectGDS account. In this account, a complimentary Konect PakBus Router Code was redeemed and a router set up.
2. The data logger was configured to use the information received during the Konect PakBus Router setup. The data logger now maintains a connection with the Konect PakBus Router.

3. LoggerNet has been configured with information received during the Konect PakBus Router setup. LoggerNet can now connect through the Konect PakBus Router to the data logger.

7.2 Status

Check the connection status between the data logger and Konect PakBus Router.

1. Sign in to www.konectgds.eu using your Passport ID and Password.



2. Click **devices and services**  on the command bar and select **View PakBus Router Status**.



3. The next screen shows the **DNS**, **Port**, and assigned **PakBus** addresses. Click **Show Status**.

PakBus Router Status

Click on 'Show Status' to view the status of your PakBus Router network.

Cluster					
DNS:	axanar.konectgds.com				
Port:	8060				
Maintained Nodes (PakBus Addresses in use)					
Show Status					
389	1022	1098	2183	2211	2625

The status of the PakBus Router network is shown at the point in time the data is requested.

4. A **Connected** status indicates that the data logger has successfully established a connection to the Konect PakBus Router.

NOTE:

This does not indicate the communication status with LoggerNet.

PakBus Router Network

Network status checked at 17 Dec 2018 17:17:07 utc

Address	Connection
389	● Connected
1022	● Not Connected
1098	● Not Connected
2183	● Not Connected

Close

5. To troubleshoot a **Not Connected** status:
- Verify the data logger and module have adequate power.
 - Verify the module is connected to the Internet.
 - Verify settings in the data logger are as described in [Configure data logger](#) (p. 4).



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