



## **EtherCAN / EtherCANopen Gateway**

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*Art\_No.: 0540/31 (EtherCANopen)*

*(english version)*

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# History

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1.0	2015-08-03	Marcus Tangermann	2015-08-04	Sten Mückenheim	2015-08-04	Marcus Tangermann
Initial version						

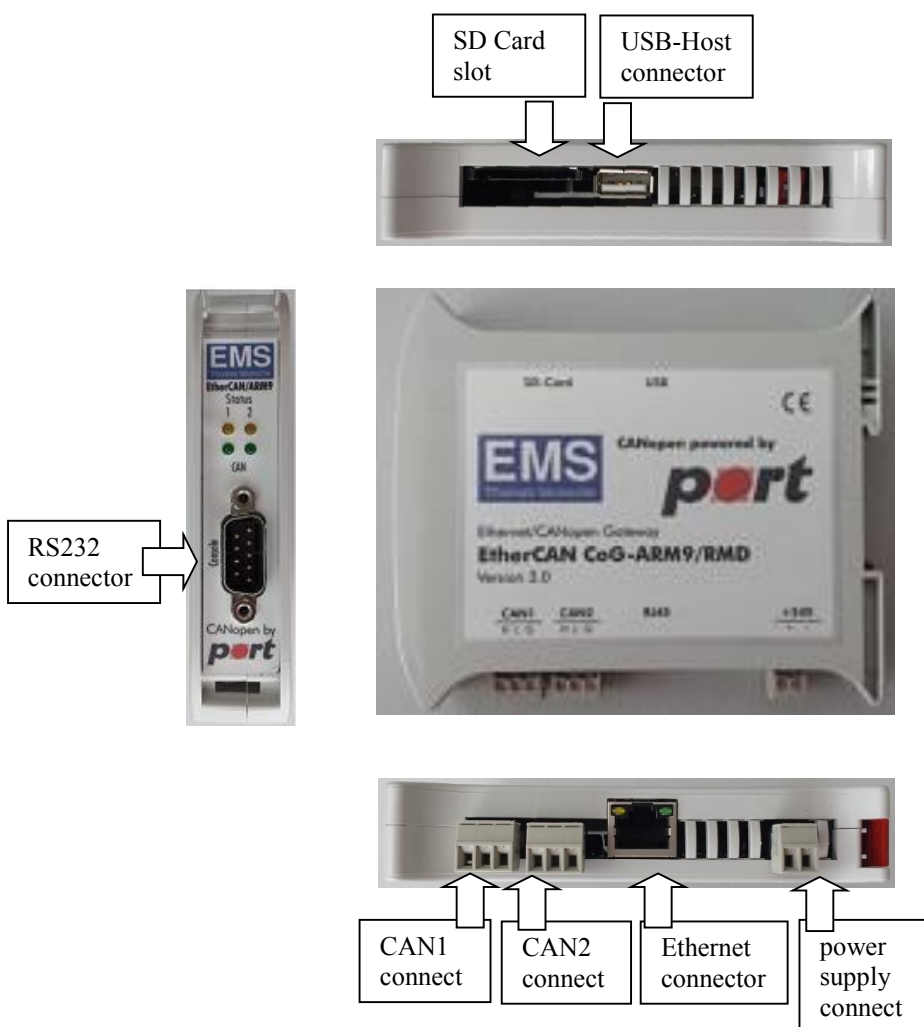
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## 1 Introduction

The EtherCAN ARM9 Gateway provides two CAN interfaces and connects decentralized CAN or CANopen networks with the classic Ethernet network. The TCP / IP protocol is used for Ethernet communications, while the CAN bus supports both, the "traditional" CAN (CAN Layer 2) or CANopen.

## 2 Device Scheme



### 3 Initial Setup

For the setup of the gateway, the following requirements must be fulfilled:

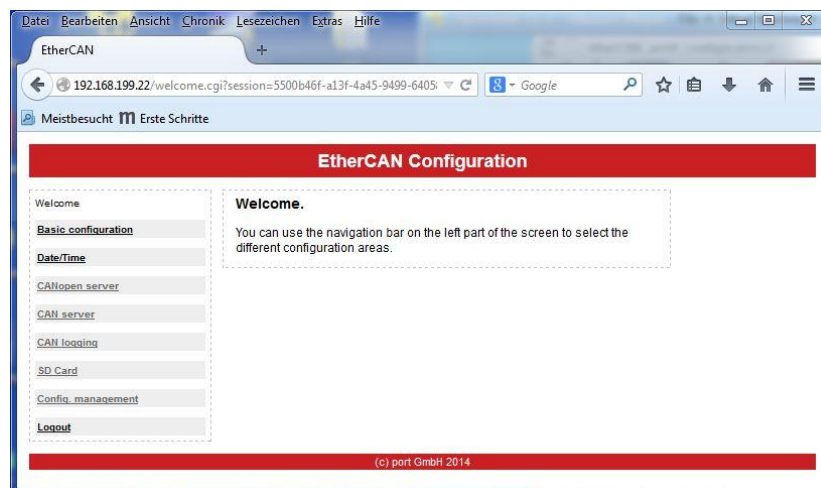
- ✓ PC with a recent web browser (tested with Firefox and Chrome)
- ✓ connection to an Ethernet network
- ✓ Power supply 24V

For initial commissioning of EtherCAN ARM9 gateways, connect the device to an Ethernet network and provide power to the device.

### 4 Configuration via Webinterface

The EtherCAN ARM9 device can be configured via a recent web browser. When using factory defaults, the device has the IP address **192.168.199.22**.

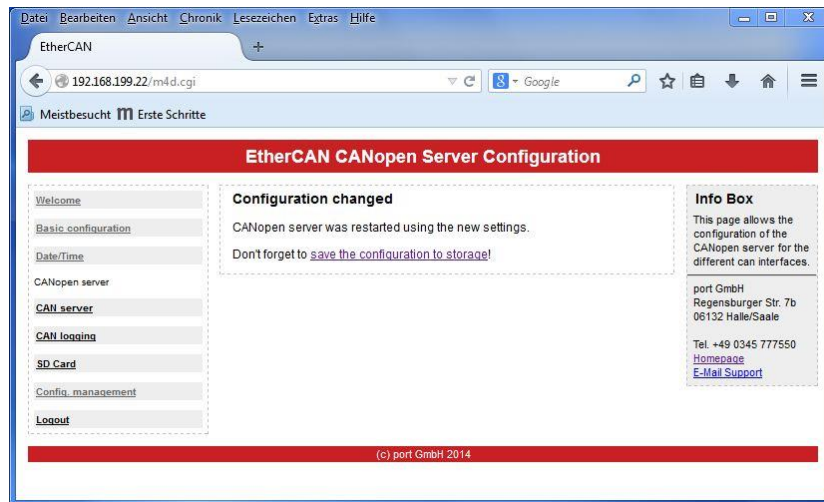
The following section provides an overview of the configuration of the EtherCAN ARM9 device via a web browser.



#### 4.1 Basic Settings

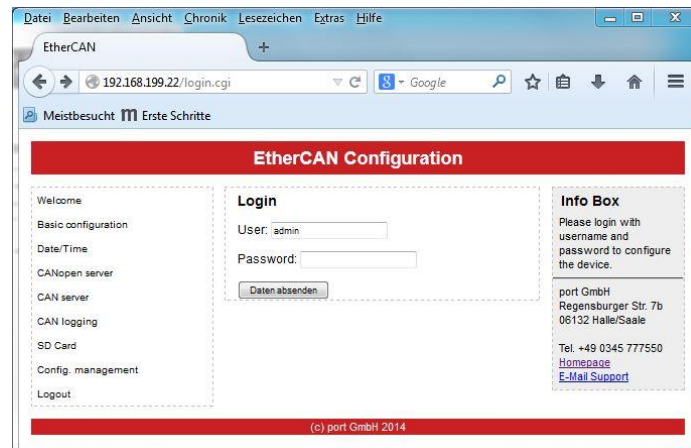
##### 4.1.1 General concepts

When making changes to the settings via the web interface, most of the changes will be active immediately. Nevertheless, the changes are not saved to persistent memory unless explicitly requested via “Config. Management” menu entry. This twostep process allows testing of new settings without touching a well-known configuration until all required settings are tested. The user will get a hint that additional saving is required in every configuration menu where this general concept applies:



### 4.1.2 Login to the web interface

To access the web interface of the device, enter <http://192.168.199.22> into a browser and the following login page will be shown:



*Please ensure, that the setup of the PC allows the connection to 192.168.199.0 network via setting the correct IP address/subnet of you PC Ethernet interface.*

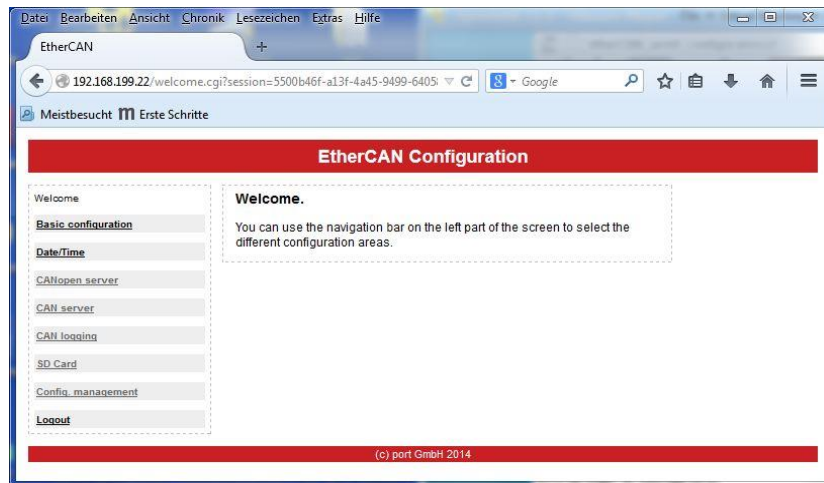
By entering the login information for "User" and "Password", the user has the possibility to configure the gateway in accordance with its requirements. When using factory defaults, the following settings apply:

**User:** admin  
**Password:** admin

The password can be changed using the “Basic configuration” page.

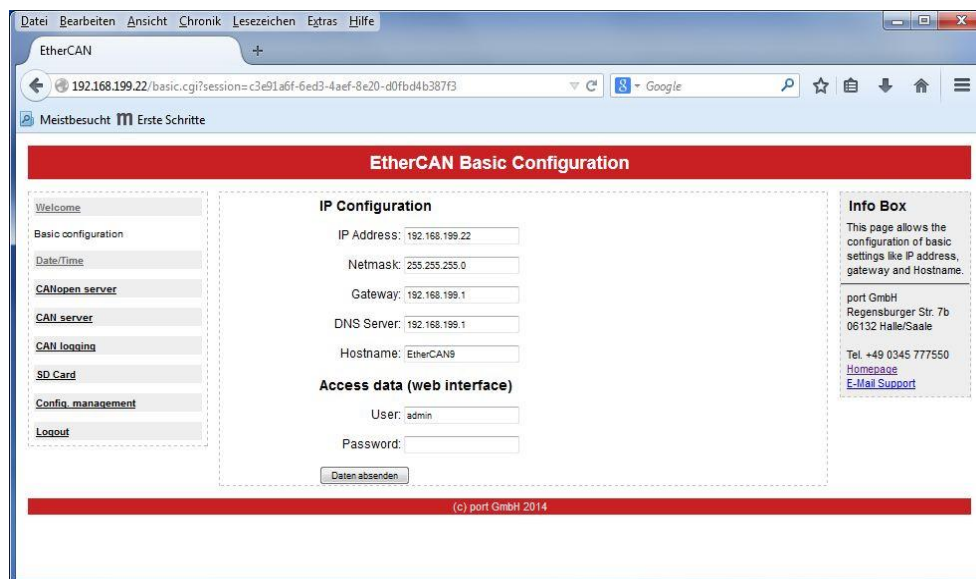
*Only one concurrent web session can be active at any time. When a user logs in into a device where a session is already active, the first session will be deleted. A warning is shown on the credentials page when there is already an active session.*

After login, the following browser interface is shown to the user:



### 4.1.3 Basic configuration

The basic configuration allows to enter basic settings of the device:



The basic configuration page allows the setting of

- **IP address:** The IP address where the device is reachable. This address applies to the web interface and to CAN(open) server as well

Source: [https://portgmbh-my.sharepoint.com/personal/mt\\_port\\_de/Documents/manuals/ecan9\\_manual.docx](https://portgmbh-my.sharepoint.com/personal/mt_port_de/Documents/manuals/ecan9_manual.docx)

Version: 1.0

**Confidential**

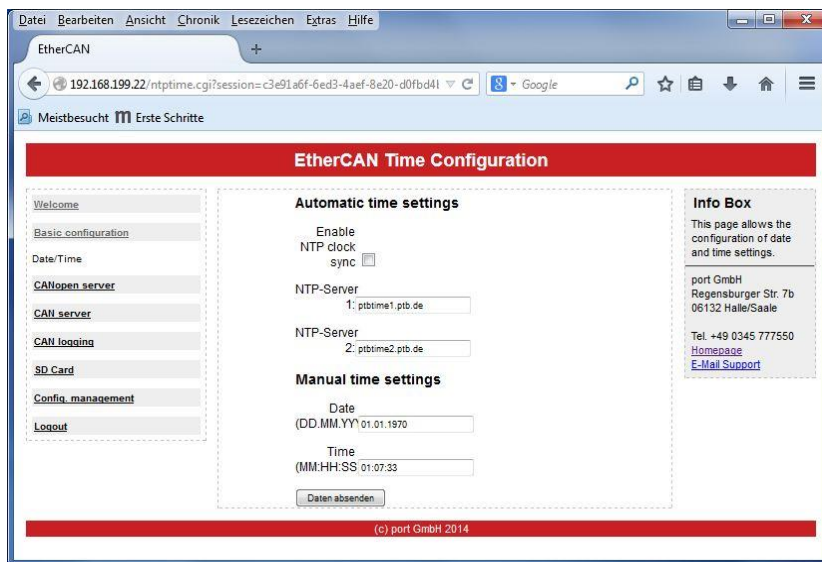
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- **Netmask:** The netmask for the IP settings. Based on the netmask the device can decide where an IP address is located outside of its own local subnet.
- **Gateway:** IP address of the gateway to be used for contacting IP addresses outside of its own subnet
- **DNS server:** The IP address of the DNS server which can resolve logical addresses.
- **Hostname:** The hostname of the device.
- **User/Password:** Username and password of the web interface.

#### 4.1.4 Date/Time

The internal clock of the device can be set either manually or via central time servers using the NTP protocol. Two public NTP servers are setup by default but not activated.

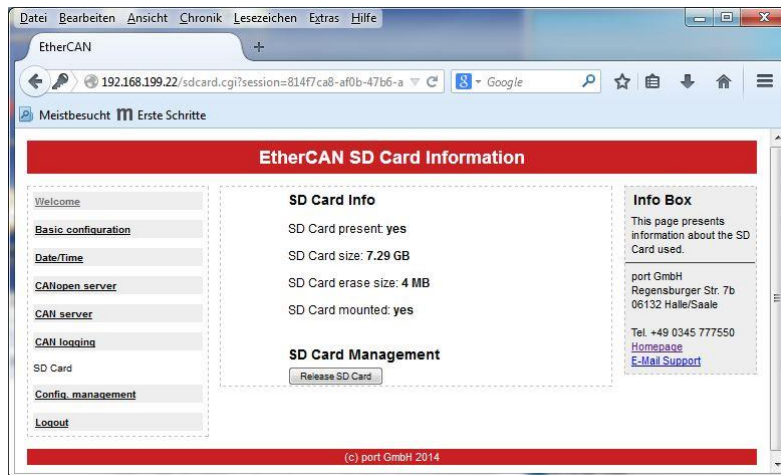
*When NTP servers are used, please ensure to set a proper DNS server and default gateway in the "Basic configuration" menu for internet access, otherwise public servers are not reachable. Also ensure that a possible firewall allows access to UDP port 123.*



#### 4.1.5 SD Card

The SD Card menu shows the current state of the SD Card that can be used for logging CAN data. It also allows the release of the SD Card from the system.

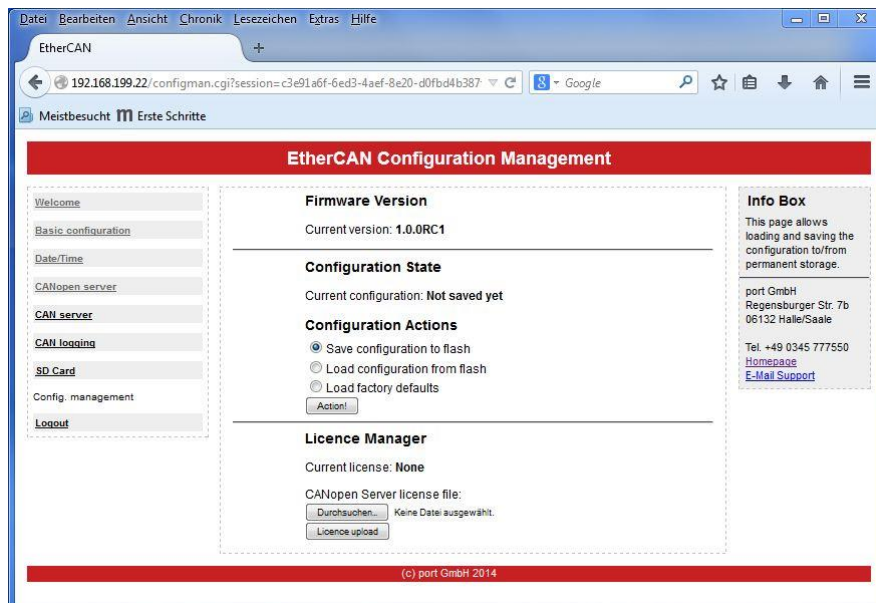




*Before removing an SD Card from a running device, always release the card first via the “SD Card” menu. Otherwise the file system of the card may be damaged.*

#### 4.1.6 Configuration Management

The “Configuration Management” menu allows the loading and saving of configurations to/from the flash memory. It also allows the installation of the license data for the CANopen Server if not already delivered via the factory defaults.



A configuration can be stored or loaded via the “Configuration Actions” section. There is also the possibility to load the factory defaults. The “Configuration State” entry shows whether the current configuration was already saved to the persistent storage.

In the “Licence Manager” section, the current installed licence information is shown if a licence is already installed.

When uploading a new licence please ensure that the licence file name is set as provided. Some browser add additional information to a file for example if downloaded twice (licence\_0644\_V53.dat becomes licence\_0644\_V53 (1).data when downloading a second time) which leads to an invalid license file.

## 4.2 CANopen Server

### 4.2.1 Introduction

The CANopen Server implements the protocol CiA 309-3 that allows the access of CANopen networks via TCP.

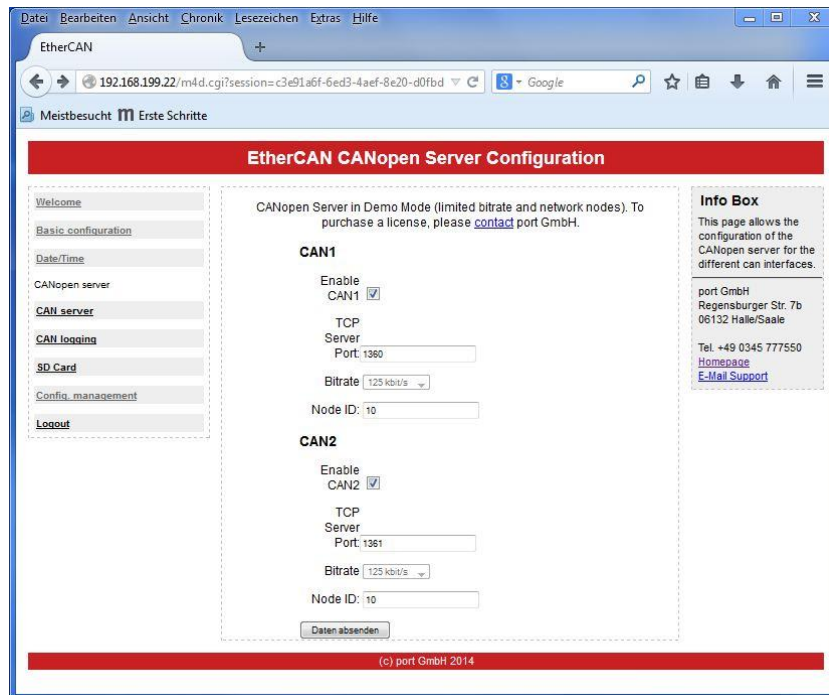
In addition to the CANopen server contained in this device, port provides a graphical user interface (CANopen Device Monitor) to communicate with CANopen devices using the CANopen server. Please see [CANopen Device Monitor](#) for further details.

The following section only describes the setup of the CANopen Server via the web interface. For a detailed description of functionality and the communication protocol, please consult the document “CANopen Gateway Server DS309-3 User Manual”.

*Depending on the type of ordered device, there may be no license installed on the device. In that case the CANopen server runs in demo mode with limited bitrate and restricted node id. To check whether a license is installed, please consult the “Config. Management” menu or the “CANopen server” page. A license can be purchased via [service@port.de](mailto:service@port.de)*

### 4.2.2 Configuration

The CANopen server can be simply configured via a web interface.



Node ID, bitrate and TCP Server port can be set individually for each CAN interface. Bitrate settings for all services running on the same CAN interface must be equal. So the settings for CANopen Server, CAN Server and CAN logging must be the same on a CAN interface.

### 4.3 CAN Server

#### 4.3.1 Introduction

The CAN Server implements a CAN-to-TCP gateway which allows monitoring of CAN-based communication via TCP connection.

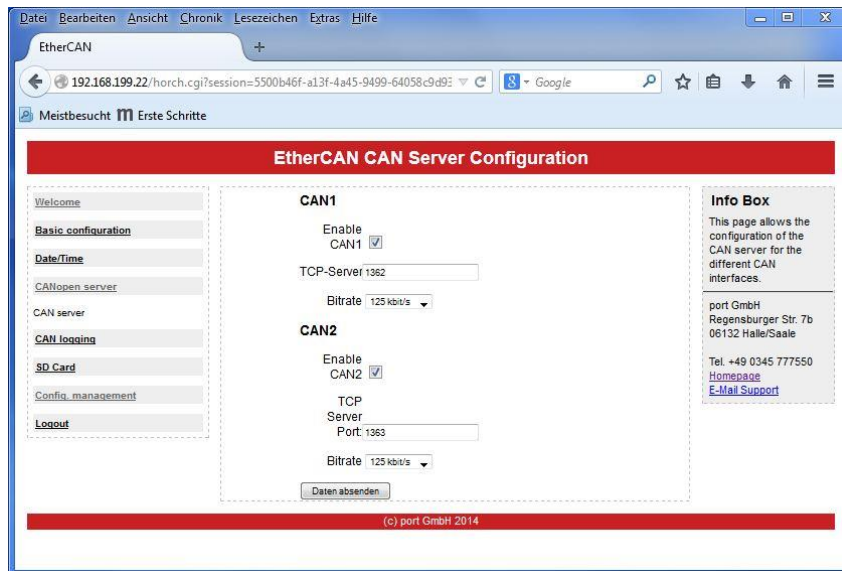
In addition to the CAN Server contained in this device, port provides a graphical user interface (CANReport) to communicate with CAN devices using the CAN server.

Please see [CAN-report](#) for further details.

The following section only describes the setup of the CAN Server via the web interface. For a detailed description of functionality and the communication protocol, please consult the document “CANserver Horch Reference Manual”.

#### 4.3.2 Configuration

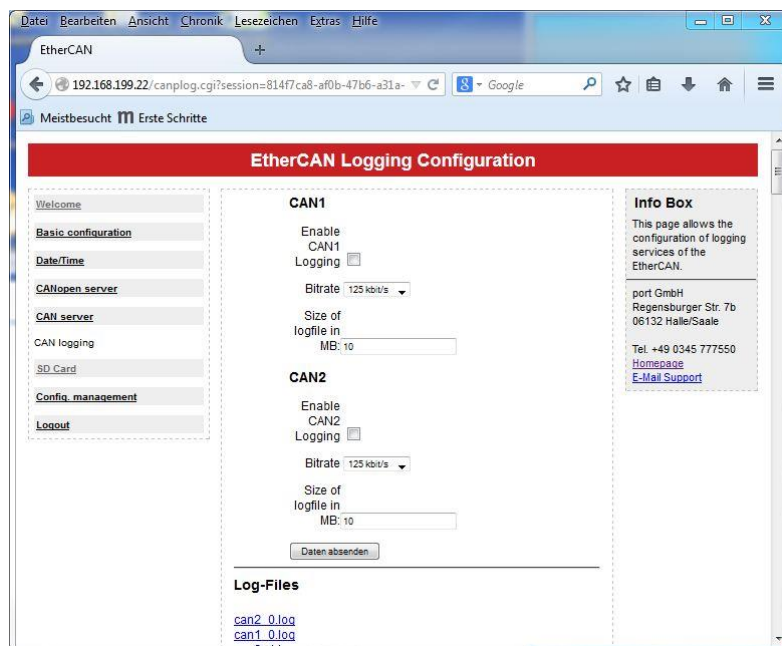
The CAN Server can be simply configured via the “CAN server” menu.



For each CAN interface the TCP server port and the bitrate can be set individually. Bitrate settings for all services running on the same CAN interface must be equal. So the settings for CANopen Server, CAN Server and CAN logging must be the same on a CAN interface.

#### 4.4 CAN logging

The device offers the logging of CAN message to a SD Card. The configuration of the logging can be set up via the “CAN logging” page.



For each CAN interface, bitrate and logfile size can set individually. Bitrate settings for all services running on the same CAN interface must be equal. So the settings for CANopen Server, CAN

Server and CAN logging must be the same on a CAN interface.

The logfile size determines the size of each individual log file. After reaching this size threshold, a new logfile is created on the SD Card. When there is no more space available on the SD Card. The oldest logfile is deleted and replaced by a new file.

The filenames use the following pattern:

can<1|2>\_<NUM>.log

So logfiles for CAN1 interface start with can1 followed by the number of log file e.g. can1\_0.log for the first logfile aso.

Logfiles can be downloaded individually or as a zip archive containing all logfiles via the web interface. The data is stored on the SD Card as text files in the root directory and thus can be read by other devices such as a PC. Before removing a SD Card from a running system, please release the card via the SD Card menu otherwise the file system may be damaged.

## 5 Firmware update

The firmware of the device can be updated via a SD Card. For a detailed description of a firmware update, please consult the document “EtherCAN ARM9 Firmware Upgrade”.

## 6 Service and Support

In case of technical question please contact our support via [support@port.de](mailto:support@port.de) .