BEYOND SECURITY

KABA®

TT1100

Manual

04044239 - 08/2013

EN

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1 About this manual

Validity This manual describes the Kaba **TT1100** terminal as of

Serial number:	079800-000001
Manufacturing date:	March 2013
Mainboard revision	1.5 or higher
Linux Version:	Version 0.2.41 or higher

Addressees This manual is written exclusively for specialists.

The descriptions in this manual are intended for personnel trained by the manufacturer. The information in this manual cannot substitute the product training.

The contents of this manual is intended for use by the following groups of people:

- **Project manager**

  Project manager who is responsible for the system and entrusted with project planning and realization.

- **Fitter**

  Person specialized in mounting and installation.

  Person who has an adequate technical training and sufficient experience and who has been authorized by the manufacturer after completing the training on the product.

- **Service technician**

  Specialist for initial set-up and maintenance of the installation.

  Person who has an adequate technical training and sufficient experience and who has been authorized by the manufacturer after completing the training on the product.

- **Network administrator**

  Realizes the set-up of the device within the network and makes sure that the devices are accessible within the network.

- **Software partner**

  Specialists for connecting the system to the user software by defining operating and booking sequences, programming the customer applications and setting the parameters of the devices.

Important!

For reasons of device safety, some of the activities might only be carried out by the SERVICE PERSON.

Only persons of the groups "Fitter" and "Service technician" have the status of a SERVICE PERSON according to DIN EN 60950-1:2006.

Additional documentation

In addition to this document you will find a TT1100 OEM Manual, a TT1100 XML Configuration manual, and a manual for terminals that also contain the TimeKey Time and Attendance System.

The current product documentations can be found on the Internet in our Kaba Portal at the following address: **https://www.kaba.biz/de**.

Customer no. (leave blank)

Username: **docu2010en@kbs.kaba.com**

Password: **r+pj8c0v**

Orientation in the manual

This manual contains the following orientation aids to facilitate finding of specific topics:

- The table of contents at the beginning of the manual gives an overview of all topics.
- The header always contains the respective main chapter.
- An index in the alphabetical order is given at the end of the manual.

Danger categories

Remarks with specifications or rules and restrictions to prevent injuries and property damage are particularly marked.

Please read the danger warnings and user tips carefully. This information will help prevent accidents and damage to your equipment.

Danger warnings are divided into the following categories.

DANGER

Describes an imminent danger that can lead to substantial bodily harm or to death.

WARNING

Describes a possibly dangerous situation that can lead to substantial bodily harm or that can lead to death.

CAUTION

Describes a possibly dangerous situation that can lead to minor injuries.

NOTICE!

Important information for proper handling of the product.

Ignoring this information can cause device malfunction and the device or something near it can get damaged.

Symbols

Depending on the source of danger, warnings are marked with symbols of the following meaning.

	General hazard warning symbol		Hazardous voltage
	Explosion hazard		Danger for electronic components due to electrostatic discharge

Remarks

Please pay special attention to the remarks that are marked with symbols.

Tips and useful information.

This information will help you to best use the product and its functionality.

2 Grouped safety messages

The device has been built in accordance with state-of-the-art standards and the recognized safety rules. Nevertheless, its use may constitute a risk to persons and cause damage to material property.

Read and observe the following safety instructions, before using the product.

2.1 Use as directed

The device or system is only intended for usage as described in chapter "Product description."

Any use beyond the designated use is not according to rules. The manufacturer is not responsible for damages resulting from improper use. The user/operator is responsible for any risks associated with non-duly use.

2.2 Mounting and Installation

Mounting and installation may only be carried out by the SERVICE PERSON (see chapter 1 / Addressees).

Installation may only be carried out in places that fulfill climatic and technical conditions stated by the manufacturer.

Kaba GmbH is not liable for damages resulting from improper handling or incorrect installation.

2.3 First-time operation

Check the device for visible damage during transportation or improper storage. Do not commission a damaged device!

2.4 Service and Maintenance

Maintenance work / troubleshooting

Only the SERVICE PERSON (see chapter 1 / Addressees) is entitled to remove faults and carry out the maintenance work.

Reconstruction and modification

Any reconstruction and modification of the device may only be realized by the SERVICE PERSON (see chapter 1 / Addressees). All reconstructions and modifications carried out by unauthorized personnel shall render void any liability.

2.5 Environmental protection

Please do not dispose of the device in your domestic waste.

Used devices contain valuable materials that should be recycled. Properly dispose of used devices.

2.6 Electrical dangers

Mains voltage installations may only be carried out by a certified specialized company or authorized electricians.

2.7 ESD (electrostatic discharge) protective measures

NOTICE!

Danger for electronic components due to electrostatic discharge.

Improper handling of printed circuit boards or components can cause damages that lead to complete failures or sporadic errors.

- During installation and repair of the device, the ESD protective measures must be considered.

The following rules must be considered:

- Wear an ESD wristband when handling electronic components.

  Connect the end of the wristband to a discharge socket or an unvarnished grounded metal component. This way, static charges are discharged from your body securely and effectively.
- Touch only the edges of circuit boards. Do not touch the circuit board nor the connector.
- Place all dismantled components on an antistatic surface or in an antistatic container.
- Avoid contact between circuit boards and clothing. The wristband only protects the printed circuit boards against electrostatic discharge from your body, but there is still a risk of damage through electrostatic discharge from your clothing.
- Transport and dispatch dismantled modules only in electrostatically shielded protective bags.

3 Product description

3.1 TT1100

The TT1100 is a time and attendance terminal with state-of-the-art technology.

The terminal software can be updated any time.

To display time data and information, the terminal has a graphic display with a resolution of 320 x 240 pixels (QVGA).

The device has 24 capacitive key fields including a numeric keypad. Time data is entered with a RFID reader or a biometric CBM reader (depending on the version). An external reader (e.g. USB barcode scanner) can optionally be connected.

Communication is generally established via the Ethernet network (10BASE-T/100BASE-TX).

Optionally, the terminal has 1 output (relay).

3.2 Technical data

3.2.1 System

Gumstix overo board with an OMAP 3503 processor.

Memory

- 256 MB RAM / microSD up to 8 GB.

Graphic Display

- Resolution: 320 x 240 Pixel (QVGA), 24 colors.
- Background illumination.

Capacitive Keypad

- 24 keys for time and attendance and working data collection including numeric keypad.

3.2.2 Interfaces

Ethernet

- IEEE802.3 compatible 10BASE-T/100BASE-TX Auto sensing (optional PoE, see Power Supply).

USB

- USB 2.0 (down compatible to USB 1.1) supporting HID (human interface device) USB devices.

The following interfaces are optional and possible as alternative!

RS-485 Host

3.2.3 Inputs/Outputs

1 Relay output (optional)

The relay output option is only available in combination with the RS-485 option.

- Potential-free contact
- Contact rating (max.): 1 A at 30 V AC / DC

The power source should meet applicable performance requirements for a limited power source (LPS) according to EN 60950-1.

3.2.4 Power supply

DC In

In the default configuration the device is supplied with a 24 W wall adapter:

- Input: 100–240 V AC / 50-60 Hz / 1 A max.
- Output: 12 V DC / 2 A

As an alternative a flush mount power supply can be used.

The power source should meet applicable performance requirements for a limited power source (LPS) according to EN 60950-1.

PoE (Power over Ethernet)

Power supply of the terminal via the Ethernet cable,
according to IEEE 802.3af (max .12,95 W).

- Supported powering processes:
  - Spare pair powering
    over (Fast Ethernet free) wire pairs 4/5 and 7/8
  - Phantom powering
    over RX wires (1/2) and TX wires (3/6)
    Power supply is superimposed to the data signal

3.2.5 Reader

The device supports the following reader types:

- RFID reader
  - LEGIC prime/advant
  - MIFARE Classic / DESfire
  - HID Prox
  - HID iCLASS
- Reader for biometric identification
  - Fingerprint reader
    Memory sizes for 500, 3,000, or 5,000 people.
- USB connection for external reader (option)

3.2.6 Environmental conditions

- Relative humidity: 10% to 85%, non-condensing
- Temperature range: 0–45 °C (32–113 Fahrenheit)

3.2.7 Weight

Without biometric reader: 848 g

With biometric reader: 1000 g

3.2.8 Dimensions

Without biometric reader: 190 x 131.2 x 54 (mm)

With biometric reader: 240 x 131.2 x 95 (mm)

3.3 Conformity

CE

This device complies with the following standards:

EN 60950-1:2011

Devices with RFID reader	Devices without RFID reader
EN 302291-1 V1.1.1 (2005-07)	
EN 301489-1 V1.9.2 (2011-09)	**DIN EN 55022:2011**
EN 301489-3 V1.5.1 (2012-07)	**DIN EN 55024:2011**

according to the regulations of the EU Directives

2006/95/EG Low voltage directive

1999/5/EG R&TTE Directive

2004/108/EG EMC Directive

NOTICE!

If an external barcode scanner is required, please observe the following:

EMC conformity is only guaranteed when using the Motorola LS2208.

This equipment complies with Part 15 of the FCC rules. Any changes or modifications not expressly approved by the Manufacturer could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC rules subject to the following two conditions:

1. This device may not cause harmful interference
2. This device must accept all interference received, including interference that may cause undesired operation.

FCC Interference Statement for **Class B** EVM devices

This equipment has been tested and found to comply with the limits for a **Class B** digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada (IC) Compliance Notice:

CAN ICES-3 (B)/NMB-3(B)

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause interference, and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

This device complies with Health Canada's Safety Code 6 / IC RSS-210. The installer of this device should ensure that RF radiation is not emitted in excess of the Health Canada's requirement.

Cet appareil est conforme avec Industrie Canada RSS standard exempts de licence (s). Son utilisation est soumise à Les deux conditions suivantes:

(1) cet appareil ne peut pas provoquer d'interférences et

(2) cet appareil doit accepter Toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

Cet appareil est conforme avec Santé Canada Code de sécurité 6 / IC RSS-210. Le programme d'installation de cet appareil doit s'assurer que les rayonnements RF n'est pas émis au-delà de l'exigence de Santé Canada.

3.4 Labeling

The identification plate is located on the bottom of the right hand side of the device.

Specified on the identification plate:

- Device name
- Product number
- Serial number
- Power data
- CE identification
- WEEE labeling acc. to DIN EN 50419

4 Installation

4.1 Installation conditions

4.1.1 General

An accurate installation of all components is a basic requirement for a properly functioning device. The following installation instructions must be adhered to.

4.1.2 Installation site

Clearances

Keep a distance of 20 cm on all sides between two devices with RFID readers.

Mounting height

The recommended mounting height is 140 cm to the top edge of the terminal.

Electromagnetic fields

The terminal must not be installed in the area of strong electromagnetic fields caused by switching power supply, power lines, phase controllers, etc.!

Electromagnetic fields can affect the reading power or cause failures, in particular with contactless readers (RFID).

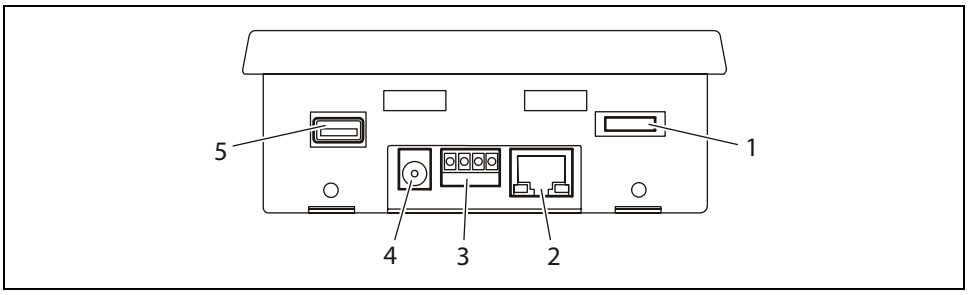
Sun exposure

Direct sun exposure leads to reflections within the display area and a poor readability of the display.

Please avoid installation at places with direct sunlight.

4.2 Connections

All connection cables for the terminal are plugged in at the bottom side of the terminal.



1 Connector for the add-on module

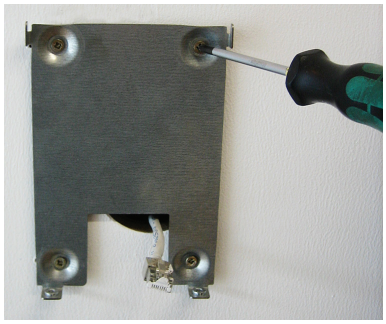
2 RJ45 jack Ethernet 10/100 and PoE (optional)

3 Screw terminal for RS485 and Relay (optional)

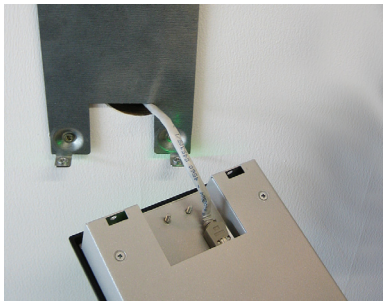
4 DC Socket 6.5 mm for Power Supply 12 .. 24 V DC

5 Type-A USB 2.0 Host

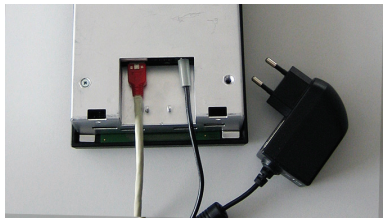
4.3 Mounting



Attach the wall mounting kit with four countersunk screws to the wall.



For PoE devices just plug in the Ethernet cable. Note that the device will be started immediately if you have already connected the other end into the switch.



For all other devices plug in the Ethernet and the power cables.

Insert the terminal back plate slots into the wall mounting kit top hooks and lower.

In case of a PoE the device will be started.

If you have a fingerprint device you now have to assemble the fingerprint module.

You can not assamble the fingerprint module prior to this step, because the screws are attached to the bottom of the wall mounting kit.

It is recommended to fix the right screw first.

5 Configuration

Although the terminal will be delivered preconfigured it might be necessary to change some settings once it is installed.

In general you have to differentiate between two areas of settings:

- The so called framework settings: All settings associated with the network, host, reader, date/time etc.
- The so called application settings: All settings associated with the display content, the functions to be performed if a key is pressed, the sound and the LED behaviour. These settings are defined in a configuration file, named application.xml.

For changing the framework settings the terminal provides a wide parameter collection in a so-called web interface.

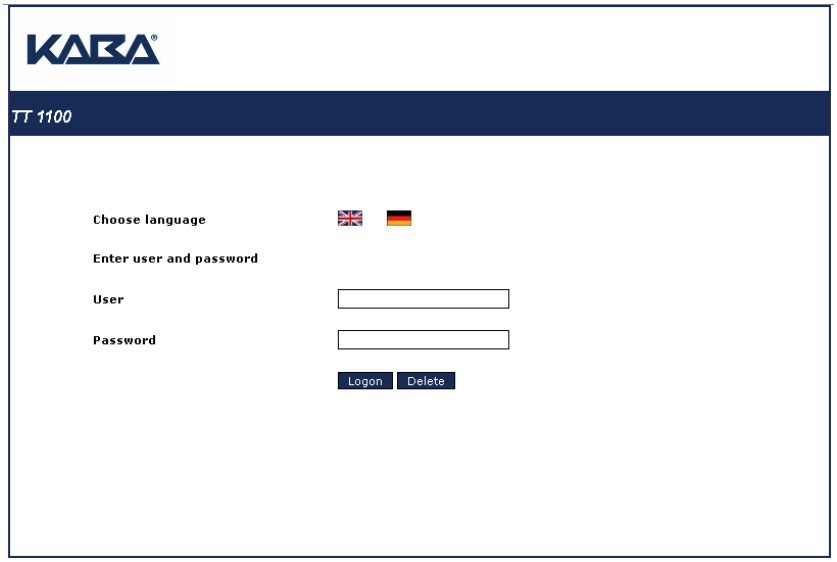
The application settings can only be changed by editing the configuration file.

5.1 Web interface parameter description

5.1.1 How to display the web interface

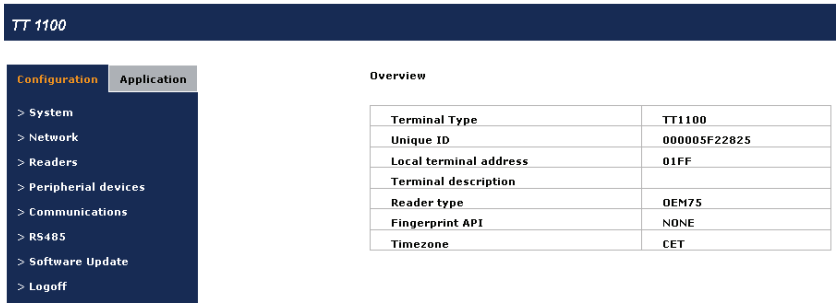
To connect to the web interface on an TT1100 terminal you must enter the terminal URL in a standard web browser:

Example: http://terminal_ip_address where the “terminal ip address” is that of your TT1100 terminal.



Login with the default user *admin* and password *admin* and click on **Logon**.

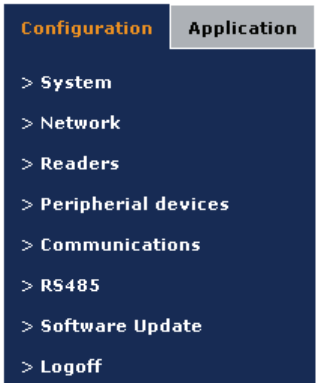
The Overview page is opened.



With a click on **1100** next to TLT in the upper left corner you can return to the Overview page any time.

5.1.2 Configuration parameters

To open the configuration parameter group list, click on **Configuration** in the left frame.



5.1.2.1 Configuration parameter groups – overview

System	Terminal, Date/Time, Trace, Status, Java Statistics (for developers), Users, Linux, Database Backup. (See chapter 5.1.2.3)
Network	TCP/IP, DHCP, Proxy, and FTP parameters (See chapter 5.1.2.4)
Readers	Parameters for the available readers, barcode scanner and fingerprint reader. (See chapter 5.1.2.5)
Peripheral devices	Display, Keyboard, LEDs and Sound. (See chapter 5.1.2.6)
Communications	Parameters for the communication with the host system. (See chapter 5.1.2.7)
RS485	See chapter 5.1.2.8
Software Update	See chapter 5.1.2.9
Logoff	No matter what parameter page is opened in the right frame you can always log off by clicking on **Logoff** in the left frame.

5.1.2.2 Detailed parameter description

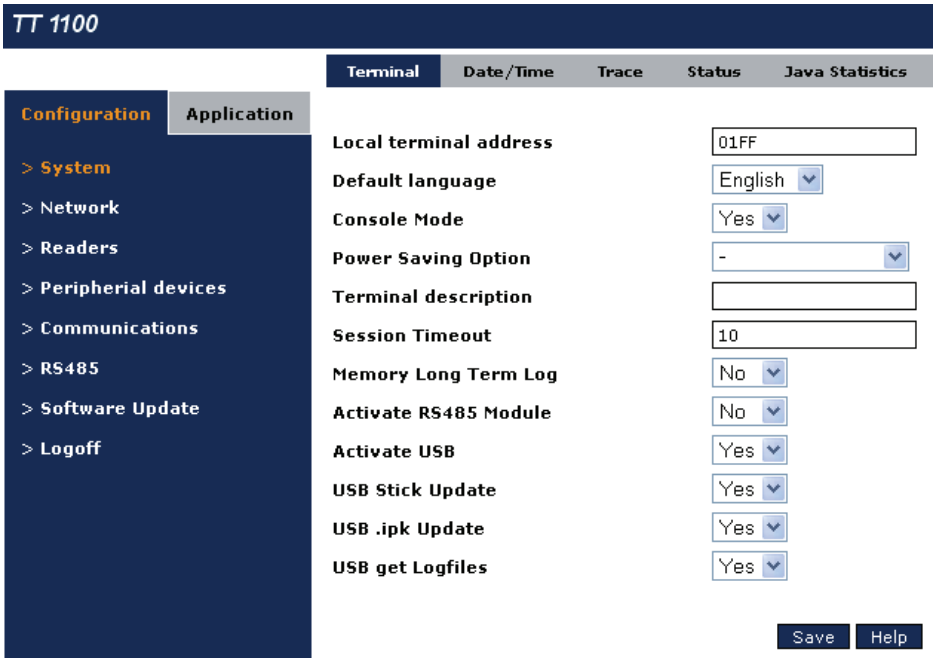
To display the individual parameter group pages click on the text link in the menu bar in the upper part of the right frame.

On all the parameter pages you will find the buttons **Save** and **Help**.

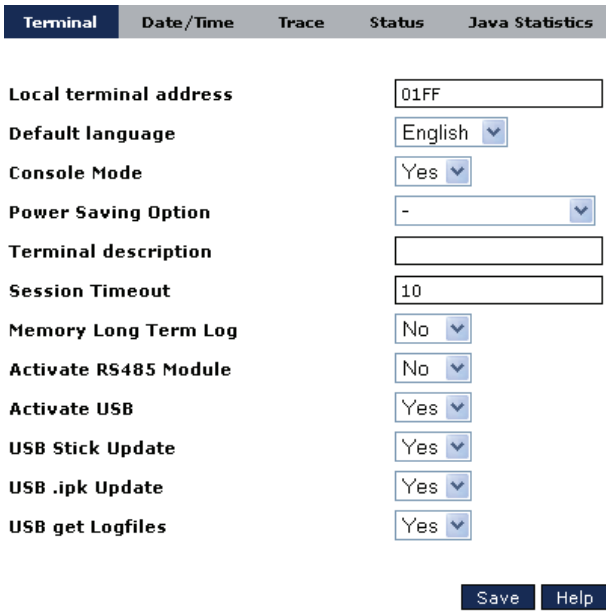
Save	This button will store your changes on the terminal.
Help	This button will display basic help text displayed in the right column. The button text changes to **Help off** when selected.

5.1.2.3 System configuration

To open the System configuration pages click on **System** in the Configuration menu in the left frame.



Terminal parameters The terminal parameter page is the default page in the system parameter group.



Local terminal address

The terminal address (logical ID) that is sent to the host system. (Default **01FF**).

Default language

The preferred language for the web interface. English and German are available, default English.

Console Mode

It is possible to activate or deactivate console at COM3, default **YES,** activated. The Serial Port supports a Linux Console that can be useful for debugging. Please refer to the chapter Serial Connection in the TT1100 OEM Manual.

Power Saving Option

Activate or deactivate a power saving option. Available options: Display Switch off: if no motion is detected by the motion sensor, the display is turned off automatically. As soon as a motion is detected it is turned on again. Default **No**.

Terminal description

Input field for a description for the terminal, e. g. the location.

Session Timeout

Timeout for a logged-in web interface user. Valid values from 10 to 99 minutes, default 10.

Memory Long Term Log

If activated, memory resource information data is written into a log file for long term monitoring. Default **No**.

Activate RS485 Module

If the optional RS485 module is installed, it has to be activated here. Default **No**.

Activate USB

The USB port can be completely deactivated by selecting **NO**. Default **YES**.

USB Stick Update

If this mode is active, updates can be performed via USB stick, e. g. a new application.xml file, or a systemParameters.xml file to change parameters settings (without opening the webinterface). Default **YES**.

USB .ipk Update

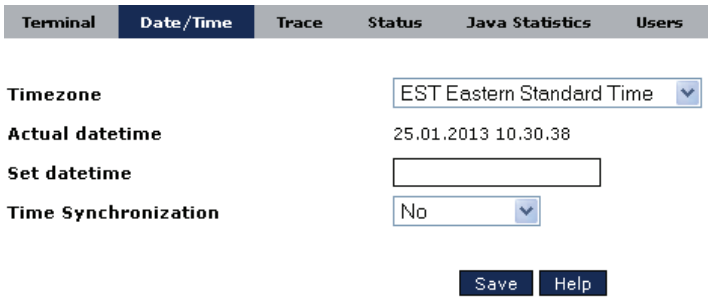
If this mode is active, whole update packages can be installed via USB stick. The package must be provided as .ipk file. Default **YES**.

USB get Log files

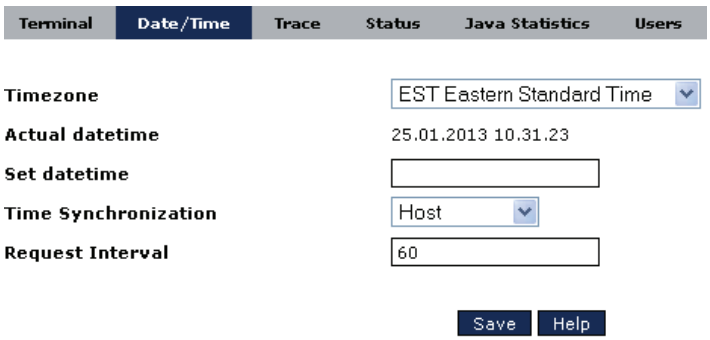
If this mode is active, all log files on the terminal will be transfered onto the USB stick. Default **YES**.

Date/Time parameters

To open the Date/Time parameter page click on Date/Time in the menu bar in the upper part of the right frame.



or



Timezone

The time zone definition of the terminal. Available choices are the standard time zones of America and Europe plus several explicit towns in America and Europe.

Actual datetime

Read-only field of the actual date and time of the terminal in the time zone defined on the terminal.

Set datetime

Here you can set the new date and time for the terminal. Follow the syntax shown in the Actual datetime field.

Time synchronization

Time synchronization mode. Choices are **No**, **Host, NTP, NTP Server**. (Default **No**.) Host mode uses the data connection server. NTP mode uses an NTP Server for the time synchronization, and NTP Server mode also provides an NTP Server for a subnet.

Request Interval

Interval of time requests in minutes, minimum 10 minutes, default 60.

If the time synchronization mode NTP is selected, an additional field is opened: NTP Timeserver Address

NTP Timeserver Address

The TCP/IP address of the NTP server.

If the time synchronization mode NTP Server is selected, an additional field is opened: NTP Timeserver Subnet

NTP Timeserver Subnet

In the NTP Server mode the terminal not only synchronizes its time with the NTP Server specified in the field NTP Timeserver Address, but also works a an NTP Server itself, providing Date/Time data to the subnet specified in this field.

Trace parameters

To open the Trace parameter page click on **Trace** in the menu bar in the upper part of the right frame.

Trace levels

For each component in the list different trace levels can be defined: Severe, Warning, Info, Fine, Finer, and Finest.

The default is **Warning**. If you experience problems with a component you can set the level to **Fine.** It is recommended to use the trace levels Finer and Finest only if asked to by the support team.

Logging to a file

If this value is set to Yes, trace messages are written into a file named **terminal.log** on the terminal. Default **No**.

There is a size monitoring active for the file **terminal.log**. If a limit of 5 MB is reached, a second terminal log file is created. If the limit for this second log is reached, the first log will be re-written.

Apart from a log that can be written into a file, the terminal provides an online log with a limited size that can be read by opening the web interface page Application -> Warnings.

The following parameters refer to this online log.

Logging to a file

If this value is set to Yes, trace messages are written into a file named **terminal.log** on the terminal. Default **No**.

Internal Buffer Online Trace

The internal buffer holds the traces between 2 requests in memory. It can hold between 50 and 1000 elements, default 100.

Online Trace Refresh Time

For the content of the Warnings page the automated refresh time in seconds between 60 an 600, default 120.

Max Rows Online Trace Page

For the content of the Warnings page the maximum number of visible rows, default 1000.

Trace Selection for Online Log

For the content of the Warnings page the maximum trace level, default Warning.

Status page To display the Status page of the terminal click on **Status** in the menu bar in the upper part of the right frame

Common

Linux version	0.2.43
Unique ID	000005F22825
Reader type	OEM75
Application Startup Time	Fri, 1 Feb 2013 14:30:11 +0000
CPU Supply Voltage	3.23 V
PoE Voltage	0.14 V
Goldcap Voltage	4.99 V
Power Supply Voltage	11.62 V
Up time	0 days 1 hours
USB1 State	ON
USB2 State	OFF
Reader Power State	ON
Reader Access State	Started
Reader Work Cycles	0
Fingerprint State	Not connected
Host Connection State	OFFLINE

Condition Based Maintenance

CBM Data	Info		Value	Unit	LimitValue
Disk		47%	96585	MB	204495
CPULoad		0%	2		100
Memory		25%	62672	MB	242704
Display		0%	27	hours	25000

Jar Files

webinterface-0-2-13.jar
startupDialogTT1100-0-2-13.jar
readerSerial-0-2-13.jar

For the different voltage values the following ranges are valid:

- CPU Supply Voltage: 3,3 V +/- 5% (3,135 V … 3,465 V)
- PoE Voltage: 12 V +/- 10% (10,8 V … 13,2 V) if in use. If not in use, ignore the value even if it is higher than 0 V.
- Goldcap Voltage: 5 V +/- 5% (4,75 V … 5,25 V)

Power Supply Voltage (DC In): 12 V +/- 10% (10,8 V … 13,2 V) if the terminal is not running with PoE. Otherwise ignore the value even if it is higher than 0 V.

General information

In the upper part of the page you will find general information about the terminal, like Linux version, unique ID, power states, reader states and host connection state.

Common

Linux version	0.2.43
Unique ID	0000067D4549
Reader type	OEM75
Application Startup Time	Mon, 28 Jan 2013 09:35:21 +0000
CPU Supply Voltage	3.23 V
PoE Voltage	0.14 V
Goldcap Voltage	4.99 V
Power Supply Voltage	11.56 V
Up time	0 days 3 hours
USB1 State	ON
USB2 State	ON
Reader Power State	ON
Reader Access State	Started
Reader Work Cycles	0
Fingerprint State	Not connected
Host Connection State	OFFLINE

Condition based Maintenance

The terminal provides Condition Based Maintenance Services, i. e. different subsystem components are being monitored and if a state is reached where the intervention of a service technician is required, this is shown in the Info column.

Condition Based Maintenance

CBM Data	Info	Value	Unit	LimitValue
Disk	47%	96585	MB	204495
CPULoad	0%	2		100
Memory	25%	62672	MB	242704
Display	0%	27	hours	25000

Jar Files

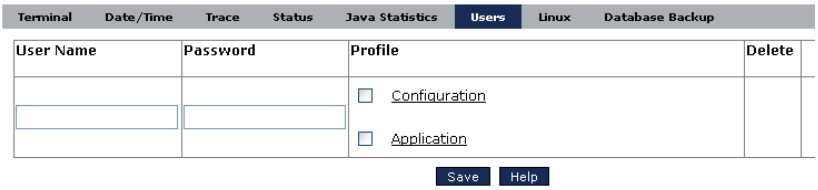
On the Status page you also find a summary of the software installed, with all the jar files and their version numbers. This is useful information if you need support.

Jar Files

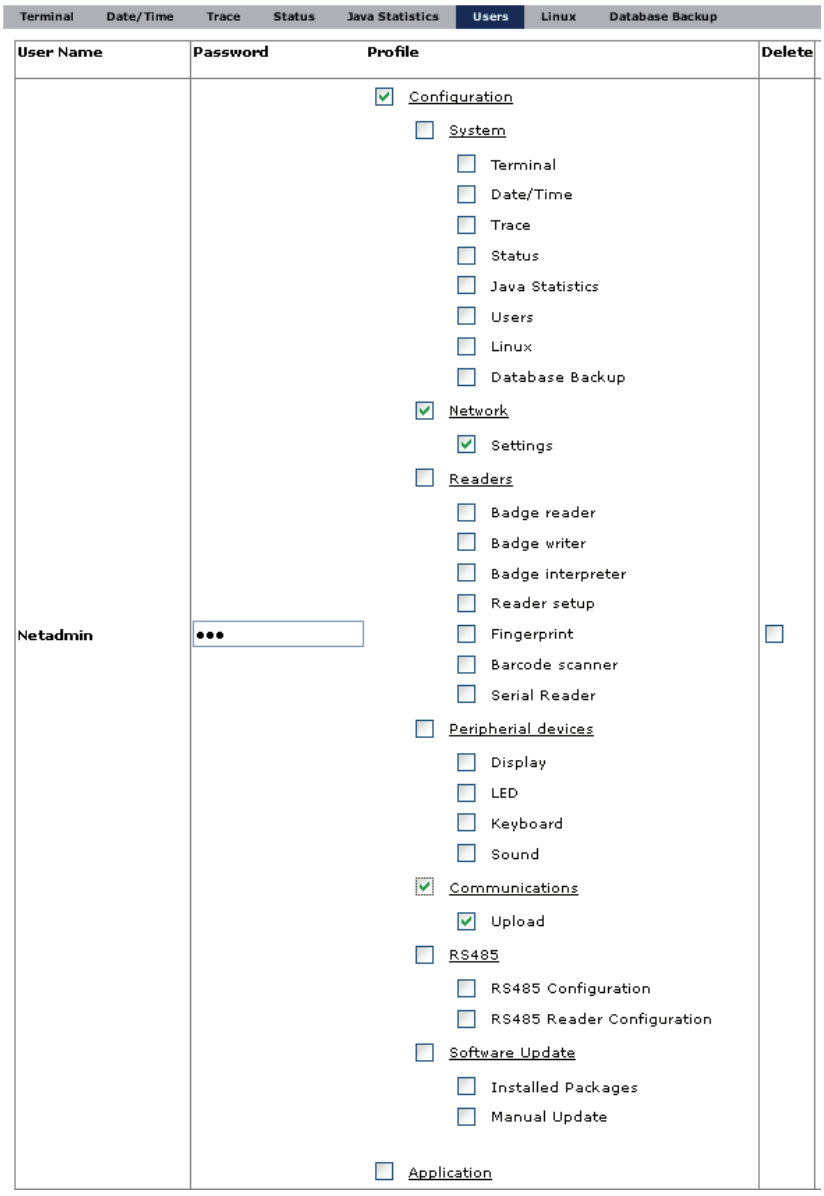
webinterface-0-2-13.jar
startupDialogTT1100-0-2-13.jar
readerSerial-0-2-13.jar
usbscanner-0-2-13.jar
badgeTypeMifare-0-2-13.jar
keyboardTT1100-0-2-13.jar
connection-0-2-13.jar
rs485device-0-2-13.jar
websrv-0-2-13.jar

User parameters

To open the Users parameter page click on **Users** in the menu bar in the upper part of the right frame.



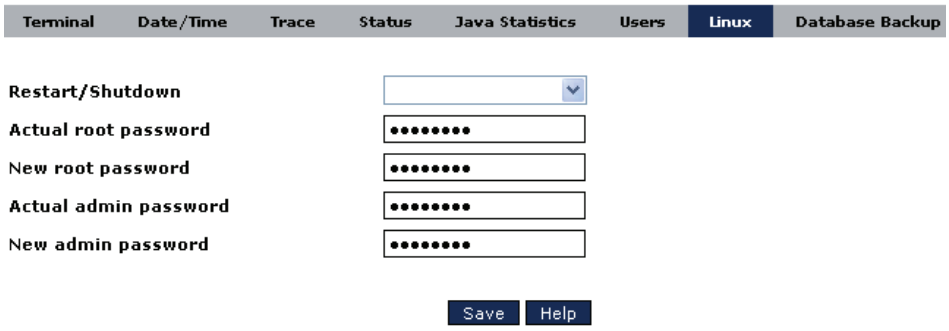
Apart from the default user **admin** with full access to the whole web interface you can define other users with restricted access to certain pages and menus. For example a network admin user who has only access to network-relevant pages.



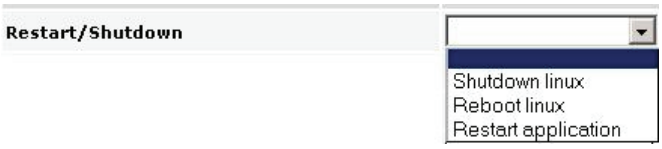
If the new user Netadmin logs on with his password, he can only open certain pages:

Linux parameters

To open the Users parameter page click on **Linux** in the menu bar in the upper part of the right frame.



Restart/Shutdown



By selecting **Shutdown linux**, **Reboot linux** or **Restart application,** the operating system or the application is restarted or stopped.

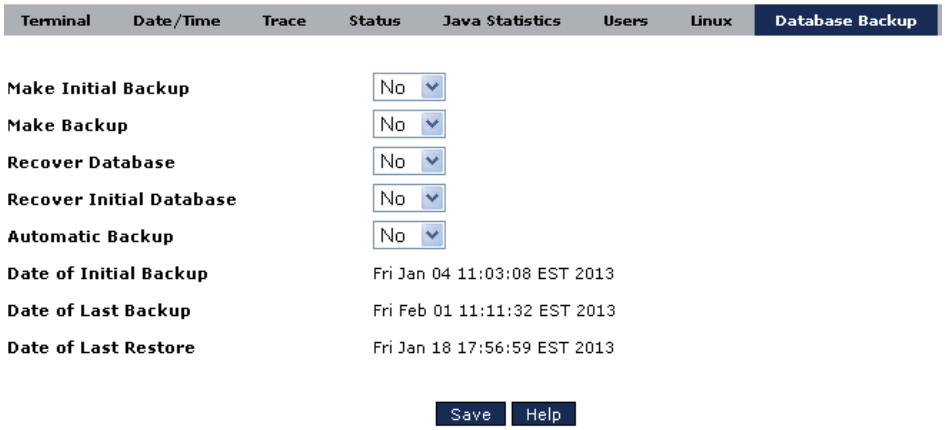
Actual root password + New root password

To change the password of the user 'root', enter the current root password (default: root) and the new root password.

Actual admin password + New admin password

To change the password of the user 'admin, enter the current admin password (default: admin) and the new admin password.

Database Backup To open the Database Backup parameter page click on **Database Backup** in the menu bar in the upper part of the right frame.



Make Initial Backup

By selecting **YES** a first backup of all web interface parameter settings is made. Typically this is done after delivery when the terminal has been installed and set at the customer site. An initial backup can only be performed once. It can be seen as “factory setting”.

Make Backup

By selecting **YES** a backup of all current web interface parameter settings is made. This kind of backup can be repeated any time. The previous backup will be overwritten.

Recover Initial Database

By selecting **YES** the terminal will be set back to “factory setting”.

Recover Database

By selecting **YES** the terminal will be set back to the last backup of parameter settings.

Automatic Backup

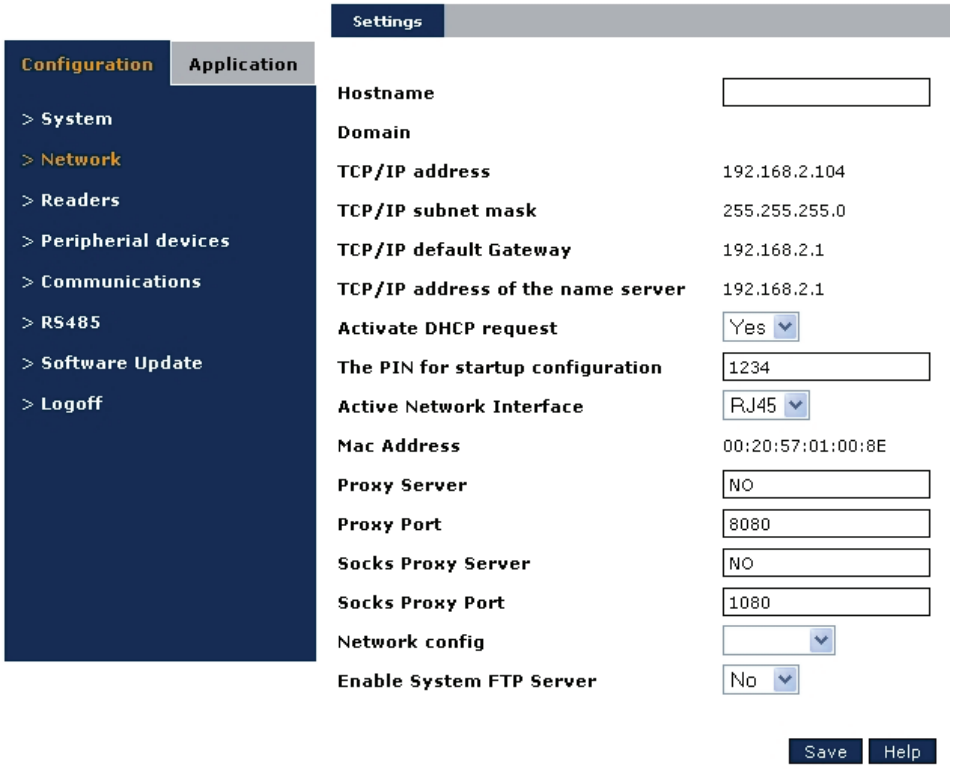
If set to **YES** backup will be performed each time a parameter setting is changed.

Date of Initial Backup, Last Backup, Last Restore

Read-only field of the backup / recover history.

5.1.2.4 Network parameters

To open the Network configuration page click on **Network** in the Configuration menu in the left frame. The settings page appears.



Hostname

The host name of the terminal.

Domain

The name of the network domain to which the terminal belongs to.

TCP/IP address

The TCP/IP address of the terminal.

TCP/IP subnet mask

The TCP/IP subnet mask of the terminal (default is 255.255.255.0).

TCP/IP default Gateway

The TCP/IP address of the default gateway. With the value set to NO, the default route to eth0 is used.

TCP/IP address of the name server

The TCP/IP address of the name server, if used.

Activate DHCP request

Allow or disallow the use of a DHCP Server for IP configuration. If this parameter is set to **Yes**, the five parameters above are read-only.

The PIN for startup configuration

The PIN to be entered at terminal startup to change the IP configuration for the terminal, default 1234. Leave blank to disable the start-up dialog.

Activate Network Interface

The network interface to be used, currently RJ45 only.

Mac Address

Read-only field showing the MAC address.

Proxy Server

The IP address or name of the Proxy Server.

Proxy Port

The port number of the Proxy Server.

Socks Proxy Server

(For Webservice) The IP address or name of the Socks Proxy Server.

Socks Proxy Port

(For Webservice) The port number of the Socks Proxy Server.

Network config

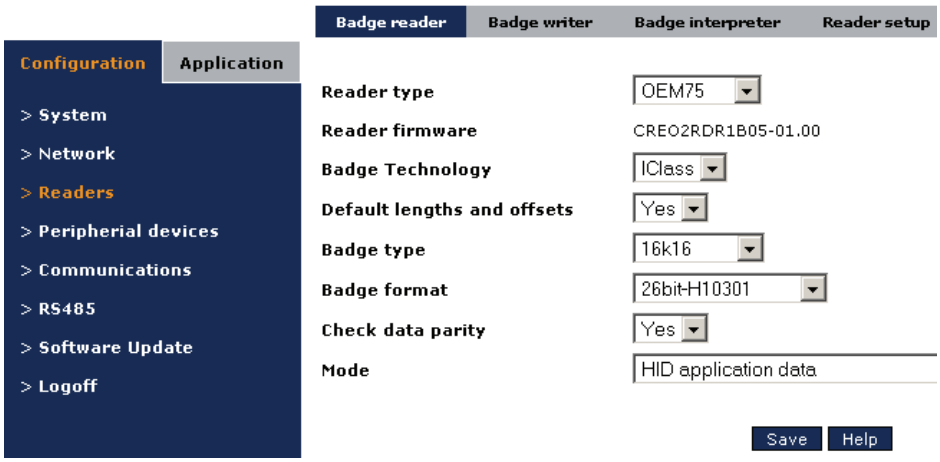
By selecting **Activate,** the network configuration of the operating system is activated. This is required after changing a network parameter.

Enable System FTP Server

By default no FTP Server is running on the terminal. If it is necessary for a host system to connect to the terminal via FTP, set this parameter to **YES**.

5.1.2.5 Readers

To open the Reader configuration pages click on **Readers** in the Configuration menu in the left frame.



Badge reader The Badge reader parameter page is the default page in the reader's parameter group.

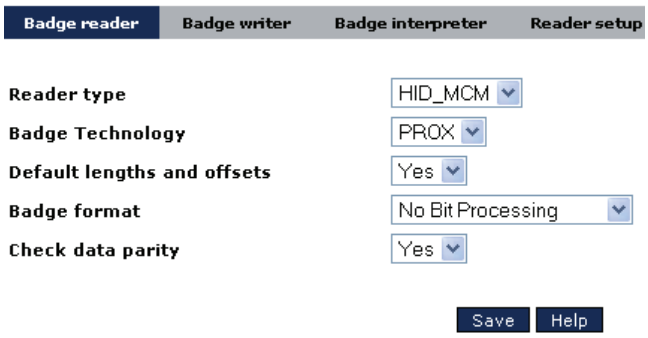
Reader type

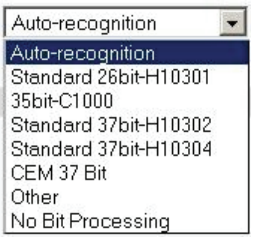
Type of badge reader installed in the terminal. Choices for the reader type:

The reader type is set to the correct reader type at delivery. If the customer badge type is known at the time of production also all other reader parameters are set accordingly.

In the following only the main parameters are explained. If you need help with special badge reader settings, please contact our support. Prior to that you might find the help texts useful.

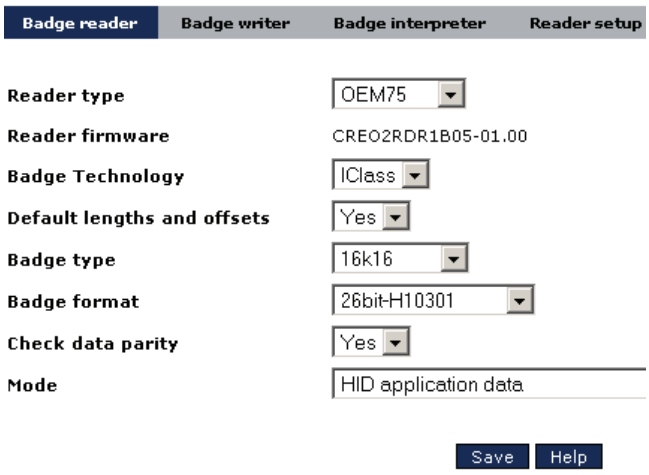
Reader type HID_MCM

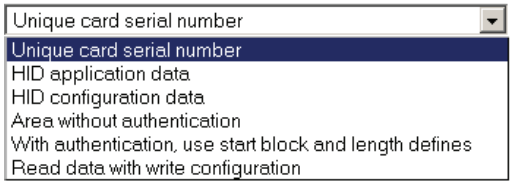


Badge Technology	The only valid badge technology here is PROX.
Default lengths and offsets	For the common badge format predefined settings for badge and company code lengths and offset can be used by selecting YES for this parameter. If these parameters are to be customized first choose NO and save, so that the length and offset parameters are set visible.
Badge format	Possible badge formats: 
Check data parity	Should the terminal perform a parity check on the data received from the reader?

Reader type OEM75

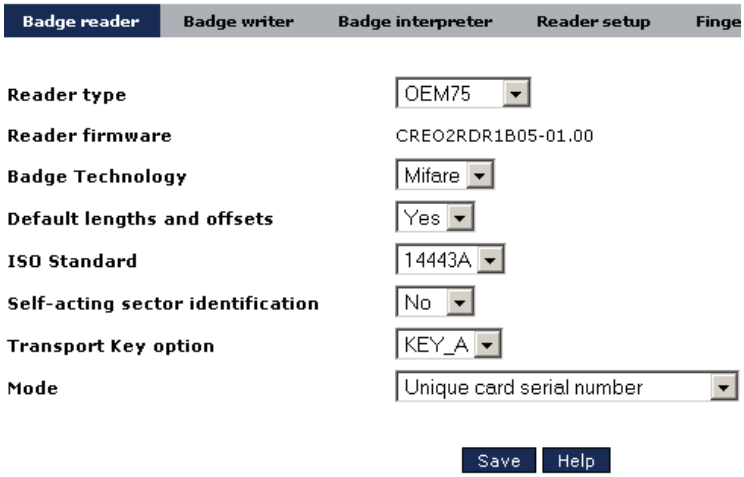
For ICLASS badges:



Reader firmware	The OEM75 module has ist own firmware. CREO2RDR**1B05**-01.00 is a firmware version that supports both badge technologies, iCLASS and MIFARE.
Badge Technology	For the reader type OEM75 the badge technologies iCLASS and MIFARE are valid selections.
Badge type	(not relevant)
Badge format	The card data format. Possible badge formats:  26-bit, 35-bit (Corporate 1000) and 37-bit are the established formats. If the user has a different card format he has to provide the coding details.
Mode	 Usually the HID application area contains the relevant data. Unique card serial number can be chosen to read only the unique ID of the badge. This might also be a MIFARE badge. If the user has a different card format and needs a different mode, he has to provide the coding details.

Reader type OEM75

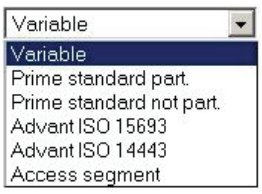
For MIFARE badges:



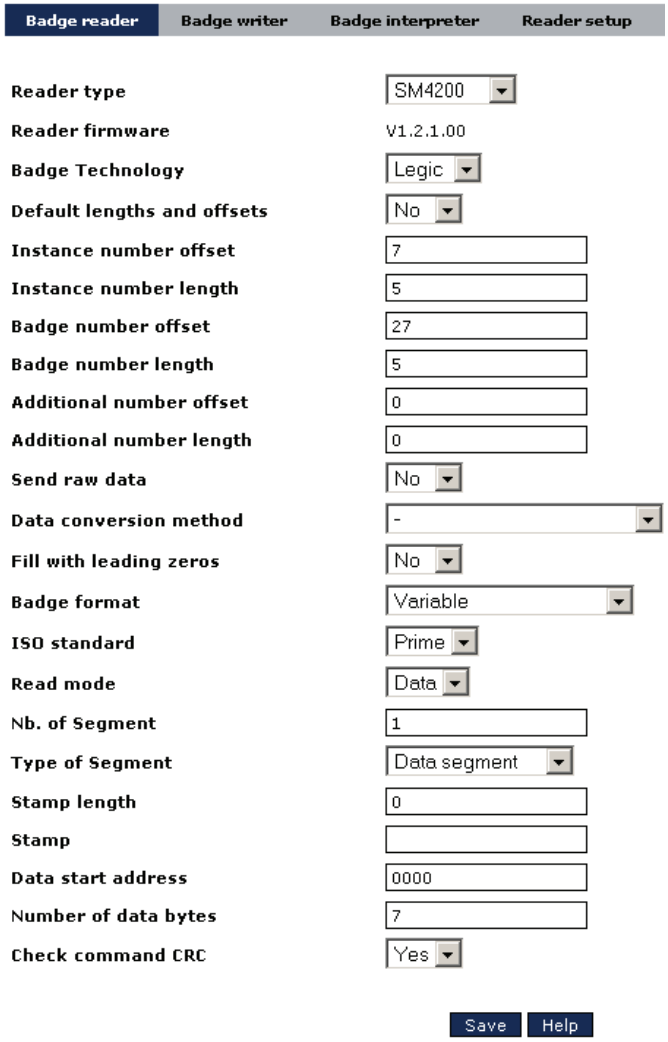
Further parameters

For all the other reader parameters please refer to the Help, i. e. press the button **Help**.

Reader type SM4200

Badge format	Possible badge formats: 

For badge format Variable



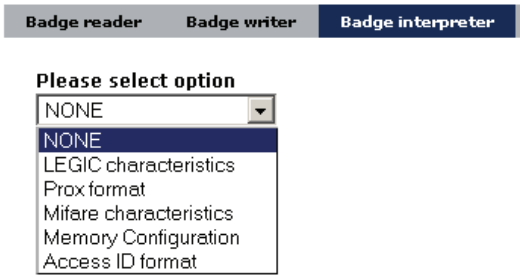
Further parameters

For all the other reader parameters please refer to the Help, i. e. press the button **Help**.

Badge writer

Currently writing data on a badge is not implemented.

Badge interpreter To open the Badge interpreter page click on **Badge interpreter** in the menu bar in the upper part of the right frame.



For Legic

Result

Name	Value	Description
Interpreter start	Search for badges in the readers RF field!	Search one after another all RF standards - this can take time...
Interpreter Success	Badge found in the reader RF field!	Try to select it, to get it's type.
Interpreter success	Badge selected, type identified!	Value data.
TXP type response	05020001C947	Response code identifies the 13,56 MHz tag type.
Badge type	LEGIC prime MIM256	The most type names include the badge memory value, f. e. 'LEGIC advant ATC512-MP110' has 512 byte memory size.
Badge UID	1615C795	Unique serial number
Badge HF norm	Legic RF standard	RF standard communication protocol

For HID Prox

Result

Name	Value	Description
Reader data	0523080C9C89E0	Raw data
35bit standard conversion	0515 0160295	Site/facility code length is 4, badge length 7
37bit H10302 conversion	04121 116894	Site/facility code length is 0, badge length 6
26bit standard conversion	016 06457	Site/facility code length is 3, badge length 5
Open 34bit conversion	30995 038920	Site/facility code length is 5, badge length 6
37bit CEM_37_BIT conversion	04121 3306023	Site/facility code length is 5, badge length 6
37bit H10304 conversion	04121 116894	Site/facility code length is 5, badge length 6
Open 36bit conversion	04121 14611	Site/facility code length is 5, badge length 5
BADGE NUMBER	Identify and parity check successful!	

For iCLASS

Results

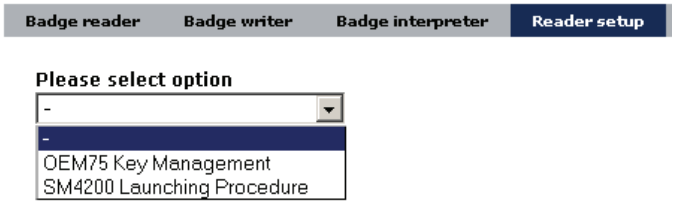
00000000000000000000000002012600266	Raw data
01470000307	Site/facility code length is 4, badge length 7
04800307	Site/facility code length is 3, badge length 5
00294000307	Site/facility code length is 5, badge length 6
Identify successful - parity failure detected:	26bit

For MIFARE

Result

Name	Value	Description
ATQA and SAK bytes	040008	ATQA 'Answer to request' and SAK 'Select acknoledge' response codes identify the manufacturer, tag type and application
Badge type	NXP 1K	Characteristics: 16 sectors with 4 blocks each, 16bytes per block, sector 0 block 0 manufacturing information, block 3 of each sector with keys and access conditions.

Reader setup To open the Reader setup page click on **Reader setup** in the menu bar in the upper part of the right frame.



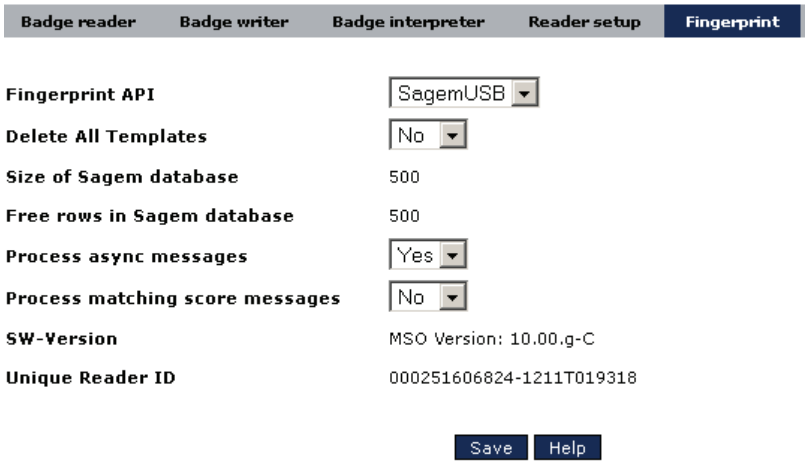
Please select option

For an OEM 75 iCLASS reader select OEM75 Key Management, if you want to load and store a key for accessing a particular area of the badge data.

For an Legic reader SM4200 select SM4200 Launching Procedure if you want to launch the reader module with special stamp data,

Once you selected an option you are guided through the process.

Fingerprint To open the Fingerprint parameter page click on **Fingerprint** in the menu bar in the upper part of the right frame.



Fingerprint API

The only possible Fingerprint API at the moment is SagemUSB, i. e. connecting a Sagem fingerprint module via (internal) USB. Note: This module will work even if USB in general is turned off (Parameter Activate USB with value NO).

Delete all Templates

With this parameter you can delete all existing templates in the Sagem internal database.

Size of Sagem database

The current size of the internal database on the Sagem module. Available sizes for ordering: 500, 3000, and 5000.

Free rows in Sagem database

Shows the number of free datasets in the Sagem internal database.

Process async messages

If this parameter is set to NO, the dialog messages from the Sagem module such as “Press harder”, “Finger up” etc. are suppressed. The default is Yes.

Process matching score messages

If you need the matching score for the finger as a return value for your application, you can set this parameter to Yes. The default is No.

SW Version

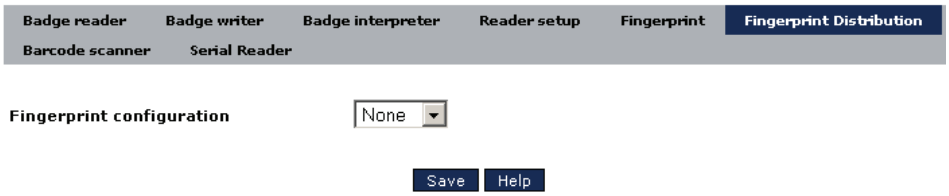
The fingerprint module has its own firmware, which is shown in this field.

Unique Reader ID

Each fingerprint module has its own unique ID, which is shown in this field.

Fingerprint distribution

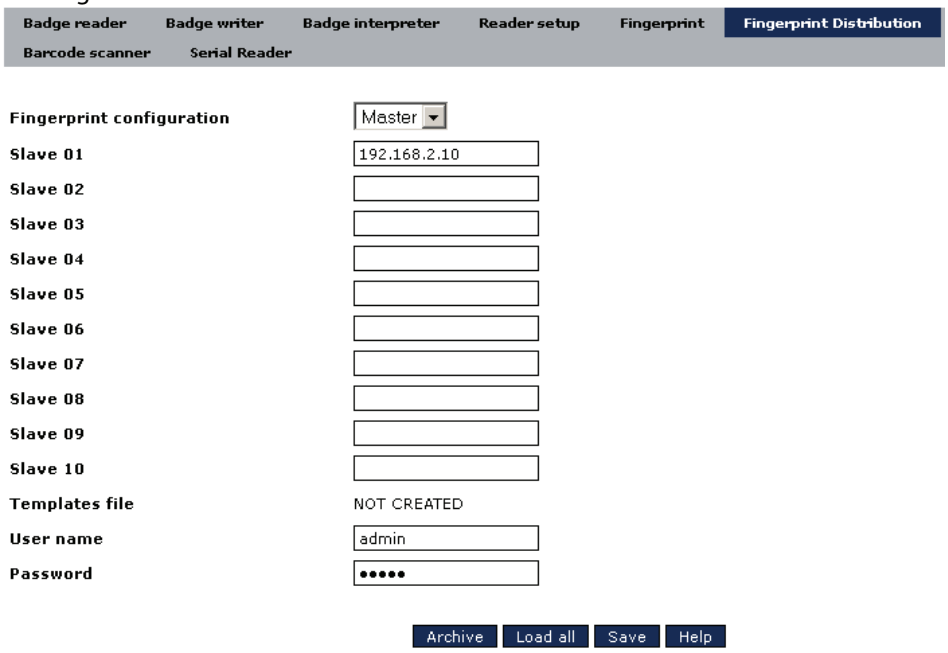
To open the Fingerprint distribution parameter page click on **Fingerprint distribution** in the menu bar in the upper part of the right frame.



Fingerprint configuration

If the user templates should be collected on one terminal only and should be distributed from there to other terminals, select here if the terminal is to be used for enrollment – **Master** – or for receiving the templates – **Slave**.

If configured as Master:



Slave 01 to 10

The TCP/IP address of the slave terminal(s).

Templates file

Before starting the transfer, the archive file with the templates has to be created. Therefore click on **Archive**. The text changes from NOT CREATED to CREATING and if finished to CREATED.

User name

The name of the user to be used for the transfer of the template file to the slave terminal, typically the user **admin**

Password

The password of the user to be used fort he transfer of the template file to the slave terminal.

If configured as Slave:

Last download

Read-only field that shows the date and time of the last successful download (or „Not downloaded“, if so far no archive file was downloaded).

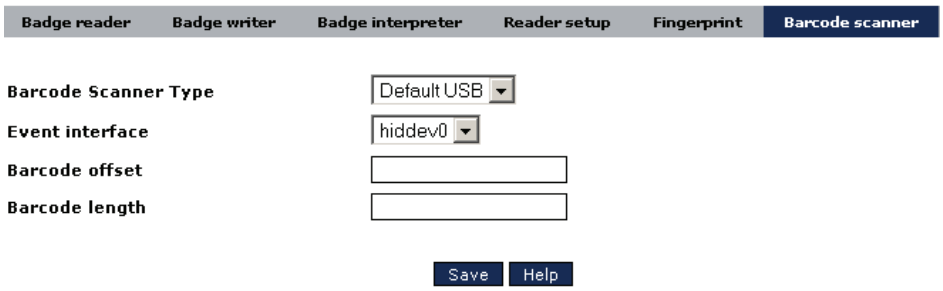
Templates folder

Folder for unpacking the archive file for later loading the templates into the fingerprint module. Do not change this value.

Barcode Scanner

To open the Barcode scanner parameter page click on **Barcode scanner** in the menu bar in the upper part of the right frame.

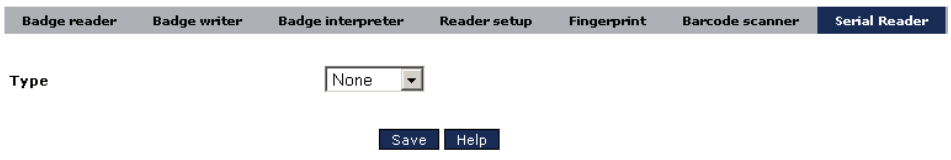
The only choice for a barcode scanner type is Default USB.



If you define this scanner type the event interface is automatically set to hiddev0. It is recommended not to change this setting.

It is important that the barcode scanner in configured to IBM Hand-Held USB

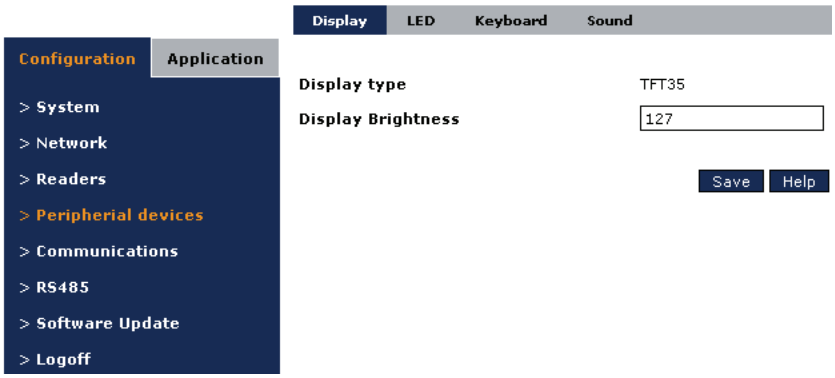
Serial Reader



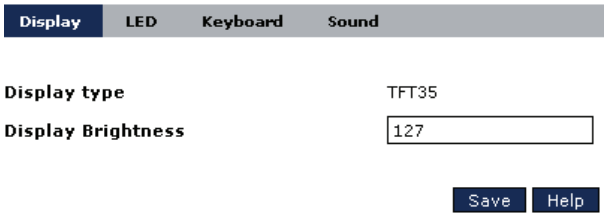
Currently no serial reader type is implemented.

5.1.2.6 Peripheral devices

To open the configuration pages for peripheral devices click on **Peripheral devices** in the Configuration menu in the left frame.



Display The Display parameter page is the default page in the parameter group for peripheral devices.



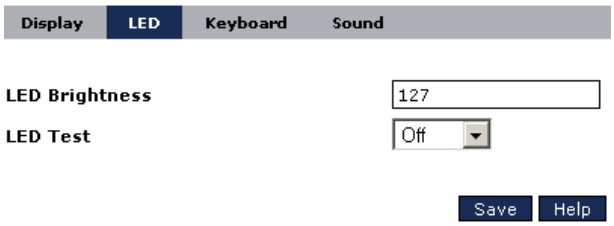
Display type

So fare the only available display type is TFT35

Display Brightness

You can change the brightness of the display where 127 is the maximum value.

LED To open the LED parameter page click on **LED** in the menu bar in the upper part of the right frame.



LED Brightness

You can change the brightness of the two LEDs where 127 is the maximum value.

LED Test

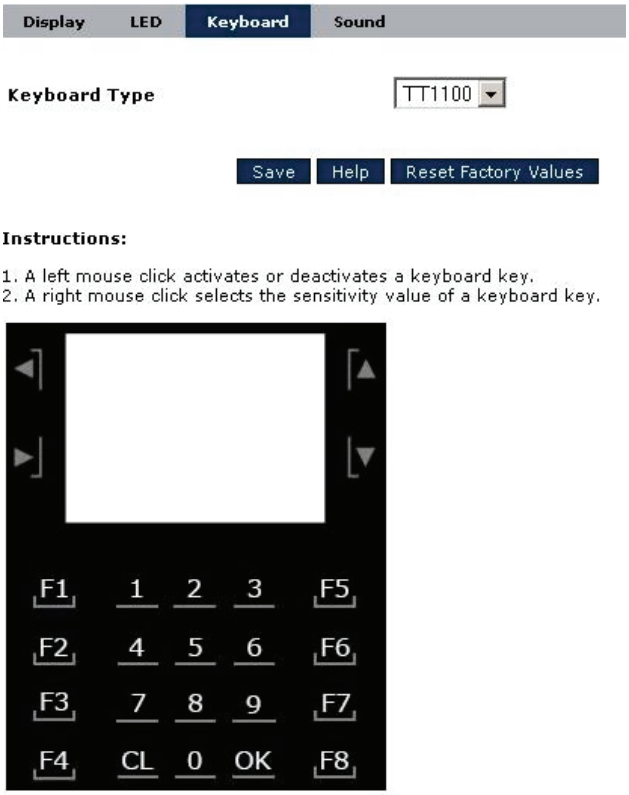
You can test the LEDs e. g. after changing the brightness. Choose a color in the list – the value All results in white LEDs – and click on Save.

The LEDs will be turned on for 3 seconds in the selected color.

Apart from the general brightness parameter in the web interface here, the LED brightness can be varied each time the LEDs are called in the configuration application xml file. So you can e. g. accompany a user warning with much brighter LEDs than a punch confirmation.

Keyboard parameters

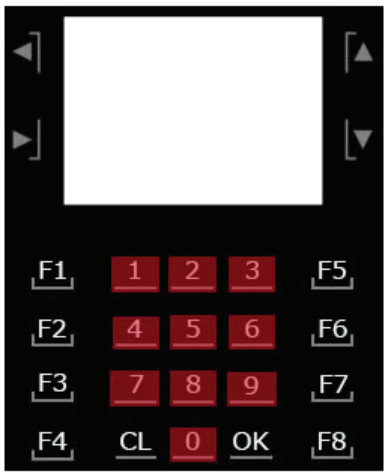
To open the Keyboard parameter page click on **Keyboard** in the menu bar in the upper part of the right frame.



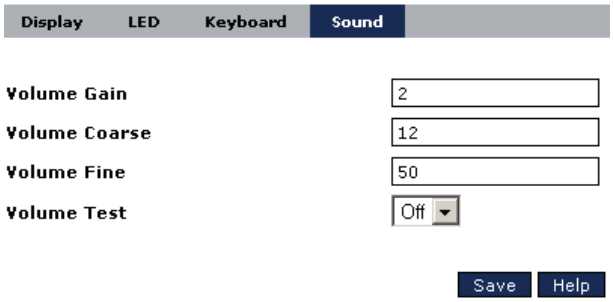
Keyboard Type

The only available choice is the keyboard type TT1100.

The use of this page is that a user can deactivate keys that are not in use and / or not even printed on the front cover. For example the user can deactivate the numeric keypad by clicking with the left mouse button on the corresponding keys and then save. The result looks like this:



Sound To open the Sound parameter page click on Sound in the menu bar in the upper part of the right frame.



With these parameters you can change the volume of the terminal speaker. Note that the maximum volume is equivalent to 87 dB.

Volume Gain

Changes the gain value (amplification factor) of the volume, valid values 0 – 2.

Volume Coarse

Changes the coarse adjustment of the volume, valid values 0 – 17.

Volume Fine

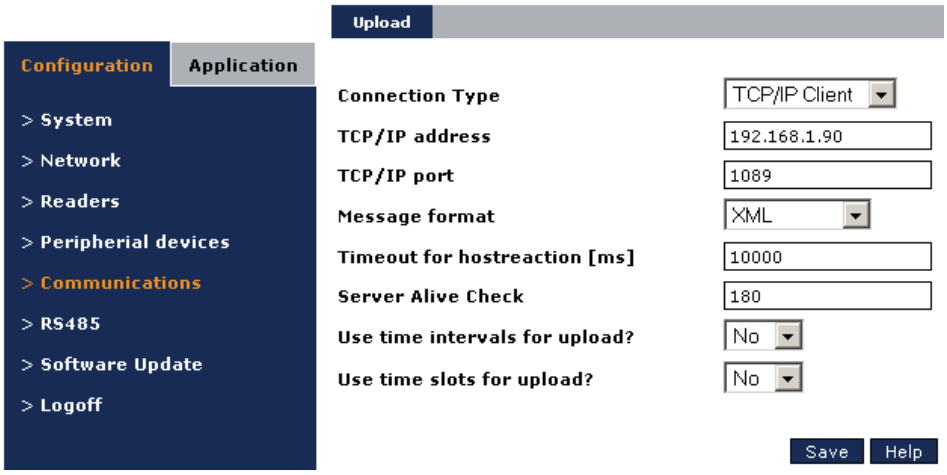
Changes the fine adjustment of the volume, valid values 0 – 63.

Volume Test

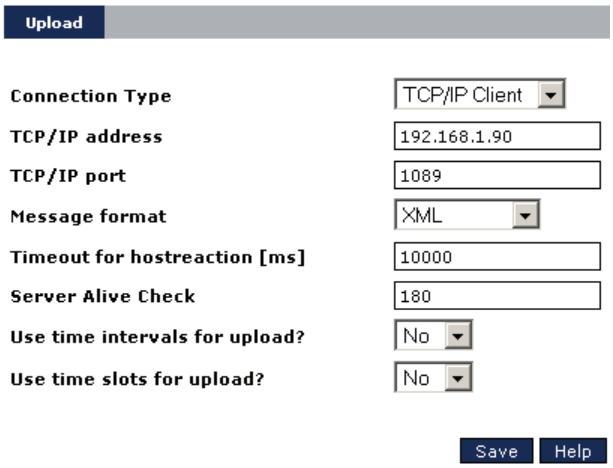
To test the volume changes, select Volume Test On and Save. A sample sound file is played.

5.1.2.7 Communications parameters

To open the Communications configuration pages click on **Communications** in the Configuration menu in the left frame. With the Communications parameters you configure your host connection.



Upload The Upload parameter page is the only page in the Communications parameter group. It describes the communication from the terminal to the host.



Connection type

The protocol to be used for sending messages to the host. Choices are **TCP-Client**, **TCP-Server, Web Service, and FTP**. (A TCP-Server is waiting for a connection request and a TCP-Client is trying to open the connection.) Default **TCP-Client**.

TCP/IP address

The TCP/IP address used for the host data connection.

TCP/IP port

The TCP/IP port used for the host data connection, default 1089.

Message format

Defines the format in which the messages are to be sent to the host. Default **XML**.

Time-out for host reaction [ms]

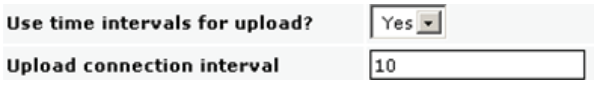
Time-out interval for a confirmation message from the host (ms). Default **10000**.

Server alive check

The interval in seconds between the server alive checks, default 180. If during this interval no alive check exchange happens, the terminal is offline.

Use time intervals for upload?

Currently only for the connection type FTP. If this option is set to **Yes**, the connection to the FTP server will be established every *n* minutes, where *n* is the connection interval you specify in the next field. Default **No**.

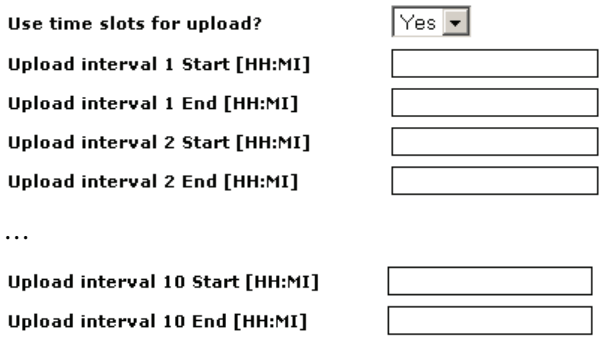


Upload connection interval

The time interval in minutes you want the connection to the FTP server to be established. Choose an interval not less than 10.

Use time slots for upload?

By using online time slots you can restrict the permanent host connection to the specified periods of time. If you set this parameter to Yes you have to at least define one start-end-pair, during which the connection to the host is to be established. You can define up to 10 time slots. Default **No**.



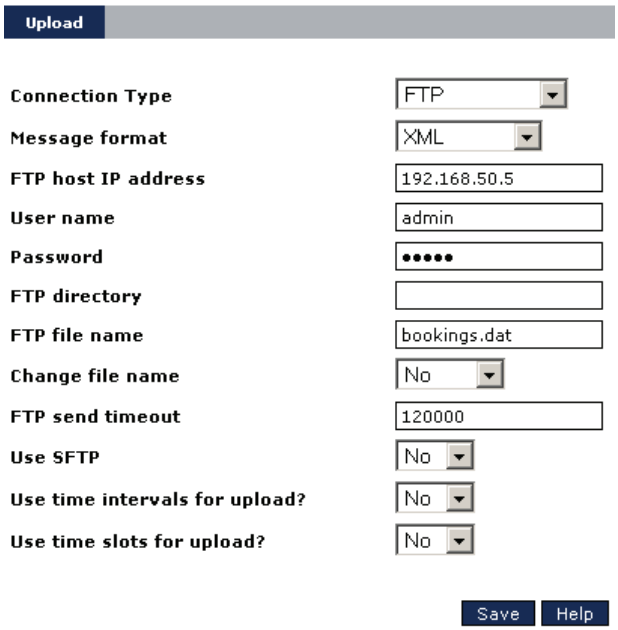
Interval *n* Start [HH:MI]

The time to go online in the format hh:mi.

Interval *n* End [HH:MI]

The time to go offline in the format hh:mi. If lower than the start time, the next day is assumed. Note that for the connection type FTP only the start time applies.

After choosing and saving the Connection Type option **FTP**, the following parameters are added to the page:



FTP host IP address

The IP address of the FTP server.

FTP user name

The name of the authorized user on the FTP server. Default **admin**.

FTP password

The password for the FTP user. Default **admin**.

FTP directory

The directory on the FTP server to which the file transfer should take place. If this parameter is left empty, the connection will be established to the default directory set up for the user.

FTP file name

The name of the FTP file. Default **bookings.dat**.

Change file name

The rule for changing the file name on the FTP server. Either no change or change by adding a timestamp to the file name. Default **No**.

FTP send timeout

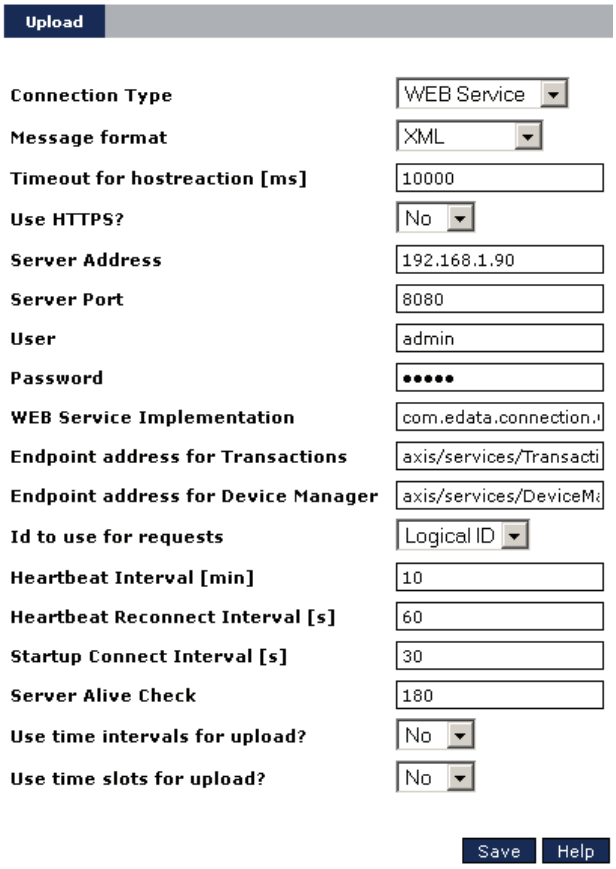
The waiting time in case the previous version of the specified file has not been removed from the server. During this time the file will be resent. Default **120000** (ms).

Use SFTP

If you set this parameter to **Yes**, all transfers are executed with Secure FTP. Default **No**.

In order to activate the FTP connection either the parameter **Use time intervals?** or **Use time slots?** has to be set to **Yes**. When using time slots only the start time is considered, not the end time.

After choosing and saving the Connection Type option **Web Service**, the page content changes to the following:



Special web service parameters:

Use HTTPS?

If this mode is active, a secure communication is used. The terminal first has to request a certificate from the web server though. Default **No**.

Server Address

The IP address or the hostname of the server.

Server Port

The port of the server to connect to. Default **8080** for http.

User

The authenticated user for the web service.

Password

The password of the web service user.

Web Service Implementation

The class name of the web service implementation, default com.edata.connection.webservice.WSServerConnectionTL

(For USA more often used: …WSServerConnectionTLUS)

Endpoint address for Transactions

The servlet (complete path) for receiving the transactions.

Endpoint address for Device Manager

The servlet (complete path) for processing other device messages such as the heart beat.

Id to use for requests

The ID used for server requests. This can be either the logical ID (the field **Local terminal address** on the terminal parameter page) or the name (the field **Hostname** on the network parameter page, by default the MAC address).

Heartbeat Interval [min]

The interval between heart beat messages in minutes, minimum 5 minutes, default 10 minutes.

Heartbeat Reconnect Interval [s]

For the offline case: the interval between reconnection tries in seconds, minimum 10 seconds, default 60 seconds.

Startup Connect Interval [s]

For the offline case at startup: the interval between reconnection tries in seconds, minimum 10 seconds, default 30 seconds.

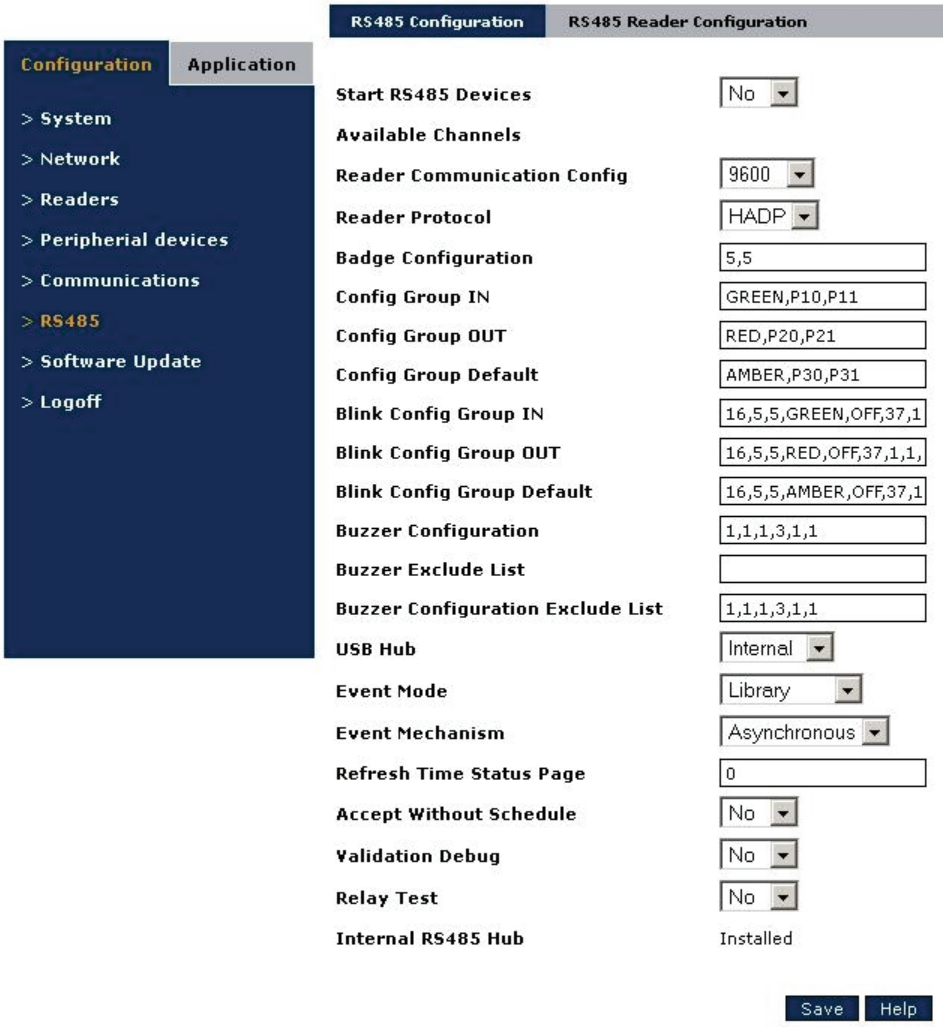
It is recommended to set the parameter **Timeout for host reaction** to 45 seconds (value 45000).

Also it is recommended to set the parameter **Server alive check** to 0, because the alive check with Web service is done by heartbeats.

5.1.2.8 RS-485 parameters

RS-485 Configuration

To open the RS-485 parameter pages click on RS485 in the Configuration menu in the left frame. With the RS-485 parameters you configure the optional RS-485 module.



Start RS485 Devices

This parameter defines if the RS-485 Manager is to be started or not.

The RS-485 Manager can only be started if the parameter **Activate RS485 module** on the Terminal parameter page is set to YES.

The terminal examines whether the RS-485 module hardware is in fact installed. It only makes sense to configure the RS-485 device, if the read-only parameter at the bottom of the page shows **Installed**.

Available Channels

This is an information list of USB Serial Converters recognized by the USB-Serial driver.

Typically the TT1100 RS485 module resides on channel ttyUSB12

Reader Communication Config

The baud rate configuration for the serial communication protocol. Default 9600.

Reader Protocol

The reader communication protocol. Fix value HADP (HID HADP Protocol).

Badge Configuration

The length of the company code and badge number.

Specify the values coma separated.

If you need a company code length of 5 and a badge length of 10, then set this value to 5,10.

HID iCLASS cards are recognized automatically, Supported are iCLASS 26 Bit H10301 or 37 Bit Cards H10304.

Note that the records stored in the booking storage files contain the badge number with a certain length definition. Make sure that the length defined here is the same or longer than defined for a record (in the application.xml file in the storage section).

Config Group

You can configure the connected readers, e. g. one reader collects IN punches and the other one OUT punches. To differentiate the two types you can use configuration groups.

For each group the following values can be configured:

– LED color when online: RED, GREEN, AMBER

– Transaction type when valid OK

– Transaction type when invalid

To which group a reader belongs is defined in the validation group.xml file (in the syntax format <data trmid="1201" group="OUT" /> where trmid is the channel and reader ID).

Blink Config Group

For each of the 3 groups you can configure a separate LED blink behavior. The field value consists of 10 comma-separated parts, the first 5 for valid transactions, the second 5 for invalid transactions, each in the format Time, TimeOn, TimeOFF, ColorON, ColorOFF

– Time: total blink time in 1/10 seconds, maximum 49

– TimeOn: time for LED on

– TimeOff: time for LED off

– ColorON: Color LED on

– ColorOff: Color LED off

Example: 10,5,5,GREEN,OFF,25,1,1,RED,OFF

Buzzer Configuration

Configure the buzzer (the acoustic signal) for valid and invalid transactions. The field value consists of 6 comma-separated parts, the first 3 for valid transactions the second 3 for invalid transactions, each in the format Retries,TimeOn (1/10 sec), TimeOFF(1/10 sec).

Example: 1,3,1,3,1,1 means 1 buzzer retry for 300ms on and 100ms off for valid punches, 3 buzzer retries for 100ms on and 100ms off.

Buzzer Exclude List

Reader list for a special buzzer configuration. The field value consists of the channel ID with reader ID for the designated reader(s), like 00000101 for channel 0 reader 0 and channel 1 reader 1.

Buzzer Configuration Exclude List

Buzzer configuration for the reader(s) in the exclude list.

For the field value see Buzzer Configuration above.

USB Hub

Default Internal. The internal Hub supports one channel and two Readers on that channel.

Event Mode

The Reader Events can be worked from a native Library Functionality. This is necessary if you have a lot of readers because of performance issues.

If you have at most 2 readers connected the Reader Events can be worked by the application.xml procedure.

Event Mechanism

The Library Mode supports two mechanisms:

Asynchronous work of Reader events and Synchronous work of reader Events.

The asynchronous mode is to support best performance. Recommended is Synchronous mode!

Accept Without Schedule

For users that are found in the access.xml (validation file for punch permission check) but not in the schedules.xml file (validation file for punch permission per date and time), this parameter decides whether punches are valid (setting YES) or invalid (setting NO).

Validation Debug

To see more details during the validation of tables leading to valid or invalid punches, set this parameter to YES. It is recommended to set it back to NO as soon as possible.

Relay Test

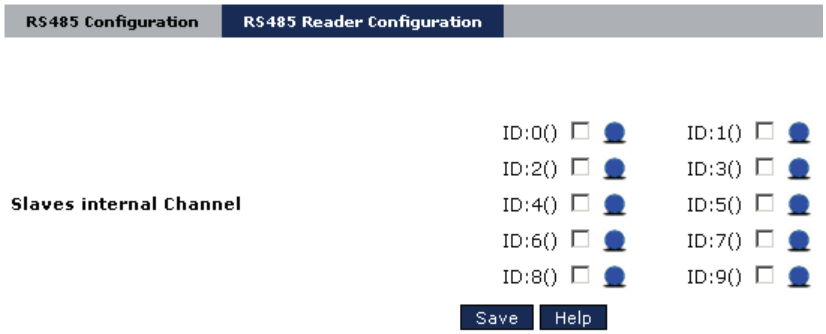
The optional RS485 module for the internal USB hub also provides a relay which can be tested here. By choosing Yes and pressing Save the relay contacts are opened for three seconds.

Internal RS485 Hub

(Read-only) Shows if the hardware for the internal RS-485 hub is installed.

RS485 Reader Configuration

To open the RS485 Reader Configuration Update page click on this entry in the menu bar in the upper part of the right frame.

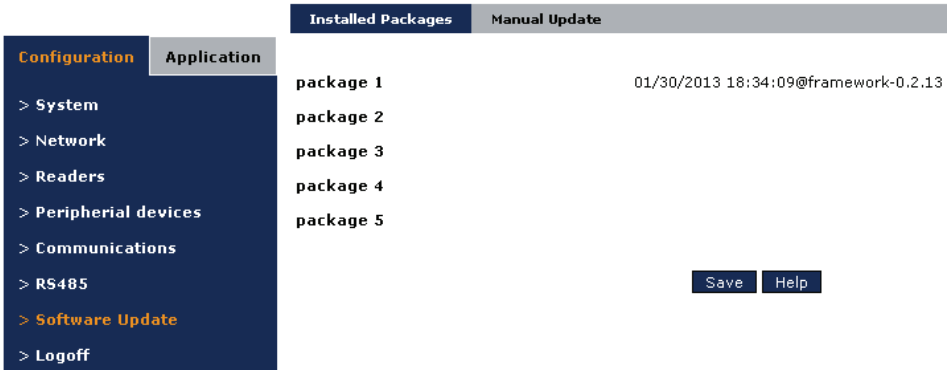


Slaves – internal channel

Choose the ID(s) of the readers you connect to the channel. If the reader is online, the blue symbol changes to green. On the other hand the symbol is red, as long as the reader is offline.

5.1.2.9 Software Update

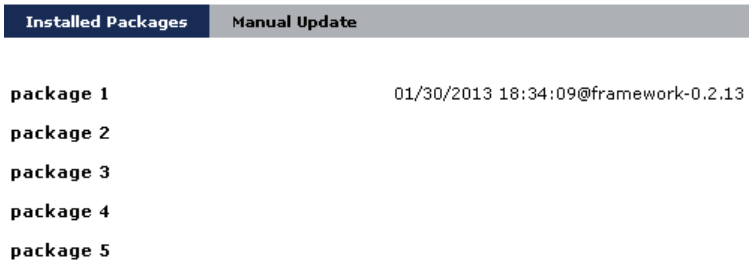
To open the Software update pages click on **Software Update** in the Configuration menu in the left frame.



With the software update whole packages can be installed automatically.

Installed Packages

This page provides an overview of all packages that have been successfully installed on the terminal. Each row shows one type of package with the latest installed version of this package.



Manual Update

To open the Manual Update page click on **Manual Update** in the menu bar in the upper part of the right frame.

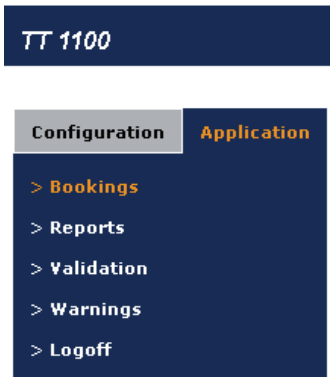
Click on **Add** and browse on your local or remote disk drive for the desired ipk file. After you selected a file, the package will be examined, e. g. if it contains an older version than already installed. If the package is OK, it is display in the following list:

You can now delete the previously selected package, add further packages or click on Install. If you confirm the message “Press OK to start the Software Update. The Terminal will restart after Installation”, the terminal will restart and install the package(s) during startup.

There is an alternative for updating software: you can use an USB stick with the appropriate ipk file(s). Please refer to chapter 5.3.

5.1.3 Application parameters

To open the application parameter group list, click on **Application** in the left frame.



5.1.3.1 Application parameter groups – overview

Bookings	For resending bookings to the host system, that have already been transferred before.
Reports	To show certain transaction according to your selection criteria.
Validation	To show the content of validation tables or search for certain keys.
Warnings	Online monitoring.

5.1.3.2 Resend bookings parameters

If the transactions that are stored in the transaction booking file on the terminal are to be sent again to the host system, the desired period of time and/or the badge number can be specified. According to this value the transactions are extracted from the bookings files and resent to the host.

Transfer Punches From

The start date/time for the retransmission of bookings. The format is DDMMYYYYHHMISS, e. g. 15052005120000.

Transfer Punches Until

The end date/time for the retransmission of bookings. The format is DDMMYYYYHHMISS, e. g. 15052005235959.

Source file

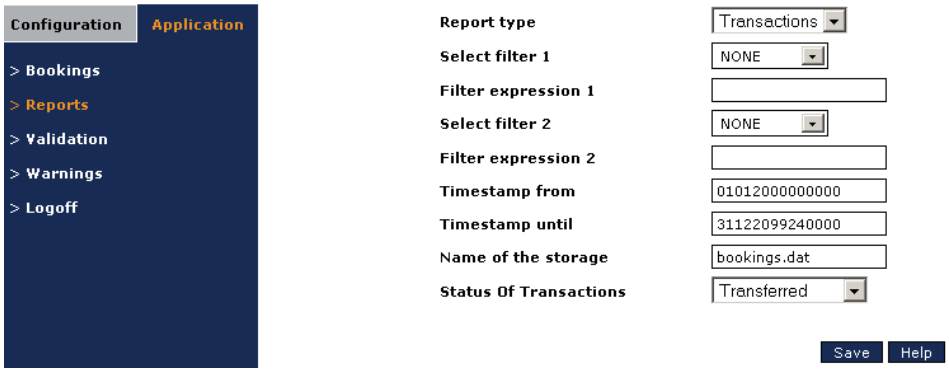
The name of the file, from which the punches should be selected and sent again (as defined in the application.xml file, e.g. bookings.dat). Default **bookings.dat**.

Badge Number

The badge number for which the bookings should be resent. If no badge number is entered, the transactions for all badge numbers are resent.

5.1.3.3 Reports parameters

To open the Reports parameter page click on **Reports** in the Application menu in the left frame.

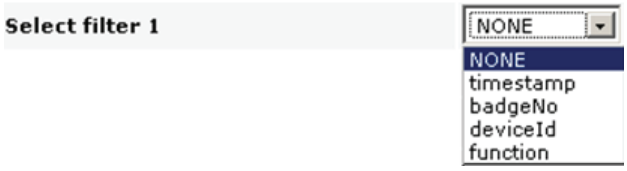


Report type

Currently Transactions only.

Select filter 1 | 2

The field in the transaction record by which the records will be filtered. The fields depend on the definition in the application.xml file. By default the fields timestamp (format DDMMYYYYHHSS), badgeNo (badge number), deviceId (local terminal address), function (booking type) are defined.



Filter expression 1 | 2

The value for the filter 1 | 2.

Timestamp from

The start date for the list of transactions (format DDMMYYYYHHMISS).

Timestamp until

The end date for the list of transactions (format DDMMYYYYHHMISS).

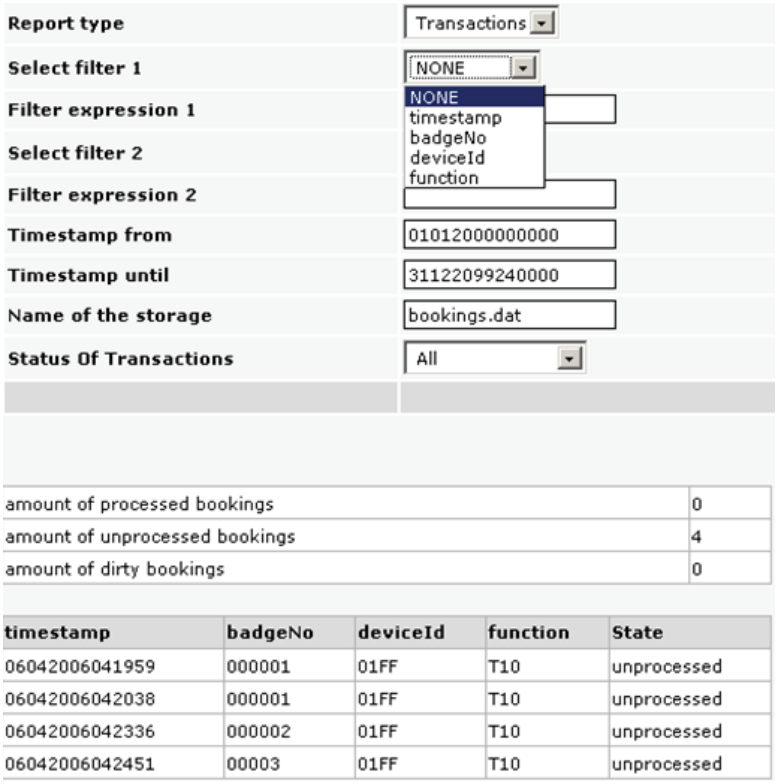
Name of storage

The name of the transaction storage file (as defined in the application.xml file, e.g. bookings.dat). Default **bookings.dat**.

Status of Transactions

The status of the transactions to be selected.

After clicking on **Save** the report will be shown in the bottom part of the page:

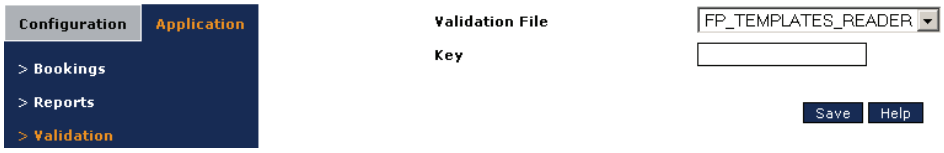


In the general part of the report the total amounts of processed, unprocessed and dirty bookings is listed, no matter what status of transaction has been chosen.

In the lower part the transactions meeting the selection criteria are shown.

5.1.3.4 Validation

To open the Validation parameter page click on **Validation** in the Application menu in the left frame.



Validation File

The name of the validation table to be searched.

Even if no fingerprint module is installed you will always see the fingerprint table names in the list.

Key

The key you are looking for in the selected table, e. g. a certain badge number. If you leave this field empty, all keys in the selected table are listed.

5.1.3.5 Warnings

To open the Warnings page click on **Warnings** in the Application menu in the left frame.

This page allows you to monitor your terminal online, i.e. without having to log traces into a file, connect to the terminal and look into the log file.

5.2 Configuration file description

The configuration file named application.xml consists of elements (xml tags), which then can contain further information, the so called attributes.

For a complete description of all elements and attributes please refer to the TT1100 XML Configuration Description manual.

One of the outstanding features is the ability to play videos (in mp4 format) and to play user-specific sound files (in wav format). With these means it is quite easy to e. g. implement a help function.

5.3 Software update via USB stick

You can update the terminal (software and also Linux) by copying the corresponding .ipk files to an USB stick (root directory).

Then insert the stick in the USB port. A warning in the display appears that you should not remove the stick. The terminal will restart, unpacking and installing the ipk files and tell you in another display message when you can remove the stick.

In order to be able to use the update via USB stick function the following parameters in the web interface have to be set to YES:

For more information see chapter 5.1.2.3.

6 Operation

6.1 Fingerprint operation

In order to use a terminal with biometric reader for collecting bookings, templates (fingerprints) for all users have to be enrolled (registered) first.

By default these templates are stored inside the biometric reader module. If the internal database of the reader module is still empty and the user wants to perform a booking, the reader will not be activated, but an error message will be displayed „Sagem database empty“.

6.1.1 Enrollment

The exact enrollment procedure is defined in the application.xml configuration file. In any case two fingers have to be scanned three times each, and the best template for each finger is stored. Also it is required to enter an enrollment ID for storing the templates which is later used like a badge number for a booking record.

Typically the enrollment dialog must be released first by an administrator, who has to enter the appropriate PIN. The administrator key  leads to this PIN protected dialog.

Sequence:

After pressing the administrator key a PIN prompt is displayed. The PIN corresponds to the PIN used for the startup dialog, by default 1234. After successful login the main menu is displayed, similar to the following:

Please select option:

1 Enroll person

2 Delete person

3 Delete All

Option 1 is used to enroll new users, option 2 to delete the templates of one user according to an ID, and option 3 is used to delete the whole database of the Sagem module, i. e. all enrolled templates.

6.1.1.1 Enroll a person

After pressing key 1 (for option 1) the administrator is prompted to enter the enrollment ID, typically the personnel number. Then the biometric module (its red light) is activated. The two fingers (e. g. the right and left forefinger) are read 3 times each to guarantee high quality templates. For better user guidance an image of the scanned finger is shown in a white field. As soon as a green frame appears around this field, the scan has been successful.

If the finger is not placed correctly the user is prompted to move the finger up, down, left, right, press harder etc.

The red light turns off and on again after each successful read operation. A message is shown if the enrollment of the two templates has been successful. In case of an error the user has to repeat the enrollment steps.

6.1.1.2 Delete a person

By selecting option 2 – Delete person – the administrator can delete the templates for a certain user on the basis of his ID.

After pressing key 2 the administrator is prompted to enter the ID. After that he has to answer a confirmation prompt. Only if he confirms with the OK key, the templates for this ID are deleted from the Sagem module.

6.1.1.3 Delete all

By selecting option 3 – Delete All – the administrator can delete all templates stored in the Sagem module. This option corresponds to the web interface parameter „Delete all templates" on the page „Fingerprint“ of the reader parameter group. It is recommended to act with caution when using this option, because there is no way to recover the content of the Sagem module and all users have to re-enroll after the delete. Therefore the administrator is prompted twice to confirm the deletion of all templates in the module.

6.1.2 Punching

As soon as two templates for a user are enrolled, it is possible to perform bookings. After pressing the Clock In or Out key the red light of the reader is turned on. Now the user has to put one of his enrolled finger on the module, until the red light is turned off. Depending on the configuration there might be a green frame around the white image field. If the finger is not placed correctly, the user is prompted to move the finger up, down, press harder, etc. Then the scanned template is compared with the content of the Sagem module database. If a match is found, the corresponding ID is processed for the booking record. Otherwise a message is displayed like "Identification failed" or "No authorization".

Displaying finger images during enroll and identify is only meant to support the user in increasing the template quality. These images are not stored anywhere at any time. Since displaying images is defined in the configuration file application.xml, this setting can be changed any time, e. g. displaying only the quality value and not the image.

But to improve enroll results it is recommended to keep displaying images during the enroll process and to withdraw from showing them when punching.

7 Maintenance

7.1 Cleaning the housing

To clean the housing, use a soft, lint-free cloth and a soft window cleaning agent!

Observe the following instructions in order to avoid producing damage to the housing and the reader window of the biometric reader (if any) during the cleaning process:

- Do not use alcohol, such as ethyl alcohol or isopropyl
- Do not use aggressive solvents
- Do not use cleaning agents with added powder
- Avoid scratching and abrasive movements

8 Packaging / returns

Not properly packaged components and devices can cause costs due to damages during shipping.

Please observe the following information when sending products to Kaba.

Kaba GmbH is not liable for products that have been damaged due to negligent packaging.

8.1 Complete devices

The original packaging has been specifically designed to fit the device. It offers maximum protection against damage in transit.

Always use the original packaging for returning the products!

If this is not possible, packaging which ensures that the device is not damaged during shipping and handling must be provided.

- Use a robust and thick-walled transport box or cardboard box. Approximately 8 to 10 cm of space needs to be allowed on either side of the device.
- Wrap the device with a suitable foil or put it into a bag.
- Generously stuff foam pads or air cushions, for example, all around device. Movements of the device inside the packaging must be excluded.
- Use only dustless and environmentally friendly padding material.

8.2 Electronic assemblies

ESD sensitive electronic assemblies such as printed circuit boards, readers, etc. must be stored, transported, and shipped in appropriate ESD protective bags.

Electronic assemblies may only be packed at ESD secure workplaces and by persons familiar with general ESD safety standards and who apply them on a regular basis.

Returning electronic assemblies in packaging with sufficient ESD protection is a prerequisite for

- the submission of warranty claims after functional failures of any type.
- replacement of printed circuit boards and electronic components in exchange.

Electronic components delivered in packaging without sufficient ESD protection are --in order to maintain a high quality standard-- neither analyzed nor repaired but directly disposed of.

8.3 Labeling

Complete return documents and a correct labeling allow for fast processing.

Please make sure that each package includes a delivery note. The delivery note should contain the following information:

- Number of devices or components per package.
- Product numbers, serial numbers, specifications.
- Name and address of your company / contact person.
- Reason for return, e.g. repair exchange.
- Meaningful and detailed error description.

Returns from countries outside the European Union require a customs invoice stating the real customs value.

Some countries (e.g. Switzerland) require a preference.

9 Disposal

This product complies with the WEEE directive and is, according to DIN EN standard 50419, marked with the “Crossed out garbage can” symbol. See chapter 3.4 Labeling.

The symbol refers to separated disposal of electric and electronic devices in EU countries.

Please do not dispose of device in your regular garbage.

Used devices contain valuable materials that should be recycled. Used devices should therefore be disposed of via your country’s take back system.

At the end of use of the goods supplied, Kaba GmbH will take them back for a proper disposal in accordance with the legal regulations (German law on the disposal of electrical equipment (ElektroG)). Charges incurred for transport to the manufacturer will be at the expense of the owner of the waste electrical equipment.

In the EU and Switzerland, electronic devices have to be disposed of according to national disposal and environmental legislation.

Please dispose of in an environmentally responsible way.

The packaging materials are recyclable. Please do not throw packaging material into your regular garbage can. Always take it to a recycling center or have it picked up by your local waste recycler.

10 Index

U

V

W