



User Manual

IT-Infrastructure
IF1000 series



Industrial IT

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1 Remarks

1.1 Relevant Documentation for this device

The following documents are essential for setting up and operating this device:

User Manual (This Documentation):

Contains information for installation, commissioning and operating the device along with technical data of the device hardware.

Quick Start Guide:

Quick Install Guide for fast commissioning.

1.2 Used Symbol Explanation



Warning:

The "Warning" symbol refers to activities which might cause personal injury or damage to the hardware or software!



Note:

The "Note" symbol familiarises you with conditions to be observed in order to ensure flawless operation. Additionally, hints and advice are given for a more efficient use of the device and for software optimisation.

1.3 Data, Figures, Modifications

All texts, data and figures are non-binding. We reserve the right of modification in accordance with technological progress. At that point in time when the products leave our premises, they comply with all currently applicable legal requirements and regulations. The operator/operating company is independently responsible for compliance with and observance of any subsequently introduced technical innovations and new legal requirements, as well as for all usual obligations of the operator/operating company.

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1.5 Copyright

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Any party in violation of this provision shall be obliged to damage compensation.

1.6 Standards

This device complies with the requirements and protective aims of the following EC regulations:

Standards

- This device meets the test requirements for granting the CE sign according to the European test standards EN 61000-6-4 and EN 61000-6-2
- This device complies with the test requirements in accordance with EN 60950 (VDE0805, IEC950) "Safety of Information Technology Equipment"
- The device meets the EN 60068-2-6 test requirements (sinus excitation).
- This device meets the EN 60068-2-27 test requirements (shock resistance test)



Note:

A respective conformity declaration for the authority in charge is available at the manufacturer and may be viewed on request.

All connected components, as well as cable connections must also meet these requirements for compliance with the EMC legislation. For this reason, screened bus and LAN cables including screened connectors must be used and installed according to the instructions in this user manual.

2 Notes on Operation & Safety

The unit operates under electrical tension and implements supersensitive component parts. Intervention by the User is required only for power supply line connection operations. Should any further alterations be required, it is necessary to consult either with the Manufacturer directly or with authorised service personnel accordingly. During said connection operations, the unit must be completely powered down. Specific requirements need to be met concerning the prevention of electrostatic discharge on component construction parts during contact. If the unit is opened up by a non authorised individual, the User may be subject to potential hazards and, warranty conditions are terminated.

General Instructions

- This User's Guide must be read and understood by all User's and must be available for consultation at all times
- Assembly, operation start-up and unit operation must only be conducted by appropriately qualified and trained personnel
- All individuals and operators using the unit must strictly observe all safety and use instructions as provided within the User's Guide
- All regulations and prescriptions on accident prevention and safety in force c/o the unit installation site must be strictly observed at all times
- This User's Guide provides all the most important directions as required for safe and security oriented operation
- Safe and optimised unit operations are subject to appropriate storage, proper transport and handling, accurate unit setup, start-up and operation



Note:

Only the ads-tec original firmware / software is allowed for any of the adjustments and features described in this User's Guide. Deployment of any firmware / software that has not been released by ads-tec will terminate all warranty conditions.

2.1 Safety Instructions



Warning:

For the prevention of possible unit damages, all cable lines (power supply, interface cables) must be hooked up strictly with the unit in power-OFF conditions.



Warning:

All unit assembly operations must be strictly conducted only under safe, secure and zero-potential conditions.



Note:

When handling parts and components susceptible to electrical discharge, please accurately observe all the relevant safety provisions (DIN EN 61340-5-1 / DIN EN 61340-5-2)

2.2 Operation Location

This device is designed for use in industry. You must ensure compliance with the specified environmental conditions. Using the device in non-specified environments, e.g. on board ship or in areas containing explosive vapours, gases or gas mixes, as well as in extreme heights, is prohibited

**Warning:**

For the prevention of water condensate accumulation, the unit should be turned ON only when it reaches ambient temperature. This particularly applies when the unit is subject to extreme temperature fluctuations and/or variations.

Avoid overheating during unit operations; the unit must not be exposed to direct sunlight or any other direct light or heat sources.

2.3 Damage Caused By Improper Use

This device must immediately be shut down and protected from any accidental commissioning if the operating system shows any obvious damage caused by, for example, improper operating or storage conditions, or by improper use or handling.

2.4 Warranty / Repair

During the warranty period, any repair must only be carried out by the manufacturer or by a person authorised by the manufacturer.

3 Introduction

The Industrial Firewall constitutes a link between the IT world and automation, thereby meeting the requirements of IT security as well as those by the production line maintenance personnel. It enables monitoring and control of the plant setup network, and of the relative access points. Its essential security protection mechanism is constituted by the event-dependent and physical network separation. This Firewall furthermore offers, amongst others, a secure access in the event of service operations; it enables traffic shaping and is capable of implementing the available virus scanners.

**Note:**

For the efficient online configuration of your ads-tec devices, it is possible to download the current version of the free tool „IDA light“ on the company’s homepage <http://www.ads-tec.de>. The tool offers you for example the possibility of defining individual parameters or whole groups of parameters at a Server device and to transfer your settings to a limited selection and/or to all ads-tec devices of same design and version, without having to make these configurations time-consuming at each individual device. You also have the possibility of assigning sequential IP addresses for your ads-tec devices.

With IDA light you can comfortably provide own groups of parameters according to your specific requirements and modify them at any time.

3.1 Cut & Stop

During critical start-up or production phases, the Ethernet uplink can be physically disconnected i.e. via hardware, through a 24 V input. This will safely rule out both intentional and unintentional external manipulation.

The uplink is reconnected through the same input. This function makes integration into an automation concept very simple.

3.2 Alarming

In the event that a rule is violated, the alarm signal is reported to the control centre through an output. Necessary measures can be automated directly. For example, acoustic indicator lights can signal the alarm condition.

E-mails can be sent out automatically to signal a rules violation event.

3.3 Eventlog

A zero-voltage event logbook with retentive memory stores all events whenever the firewall is disconnected from the power supply (NV-RAM option).

The event logbook can be read out either locally or via a central Syslog server.

3.4 Display / Keypad

The built-in display can be used to configure the essential unit functions. It is thus possible to obtain a quick system analysis, e.g. of the network load, directly from the display.

The display and keys can be password-protected against unauthorized manipulation

3.5 Managed Switch

Network segments can be set up without any additional hardware by using the managed switch integrated into the firewall. It is possible to connect multiple systems or terminals up to one Firewall.

Each port can be switched off individually to prevent unauthorized data traffic monitoring.

3.6 Service

Service access via a secure service port.

Connecting the Firewall to an analogue, ISDN or GPRS modem for dial-in access provides for affordable remote maintenance, even without an Internet connection.

3.7 Equipment Versions

The device is available in 4 configuration versions:

Ausstattungsvariante	IF1100	IF1110	IF1200	IF1210
LAN-in	RJ45	RJ45	LWL	LWL
LAN-out	RJ45	RJ45	RJ45	RJ45
NVRAM	-	X	-	X

RJ45 (Registered Jack 45 = standardized jack) provided per an Ethernet standard as frequently implemented in telecom applications. The transmission method is equivalent to 10/100Mbps half and full DUPLEX 100 BASE-TX.

LWL (fibre optic connection) are flexible optic media for controlled conduction of light. Contrarily to the Ethernet standard, the fibre optic connection technology is insensitive to voltage interference.

The plugs required for implementation are equivalent to the MTRJ Standard Multimode with a 100Base-FX 100 Mbit/s Ethernet transmission method via fibre optics.

NVRAM (non-volatile RAM = non-volatile Random Access Memory) is an electronic memory storage technology whereby data is stored even without maintenance of power supply.



Note:

The LAN-in interface can be equipped with an RJ45 or with an LWL fibre optic connection, as the case may be.

3.8 Scope of Delivery

Please check supply package contents for integrity and completeness:

Scope of Delivery IF1000 series

- 1 x Industrial Firewall
- 2 x 2 pole Plug
- 1 x 4 pole.Plug
- Ethernetcable 1m
- Quick Guide Inbetriebnahme / Quick Guide Montage
- GNU General Public License
- Service-CD

3.9 Environmental Conditions

The unit can be put into operation and used under the following conditions. Failure to observe any one of the specified data will immediately terminate all warranty conditions. ads-tec cannot be held liable for any damages arising due to improper device or unit use and handling.

- Permissible ambient temperature

during operation	5 ... 60° C
during operation (UL)	5 ... 50° C
during storage	-20 ... 50° C

- Humidity

during operation	10 ... 85% without condensate
during storage	10 ... 85% without condensate

- Vibration

during operation	1 G, 10 ... 500 Hz (DIN EN 60068-2-6)
------------------	--

- Shock

During operation	5 G, with half-wave of 30 ms (DIN EN 60068-2-29)
------------------	---



Note:

For Use In Pollution Degree 2 Environment Only Type 1 "indoor use only".

4 Mounting

4.1 External Device Dimensions

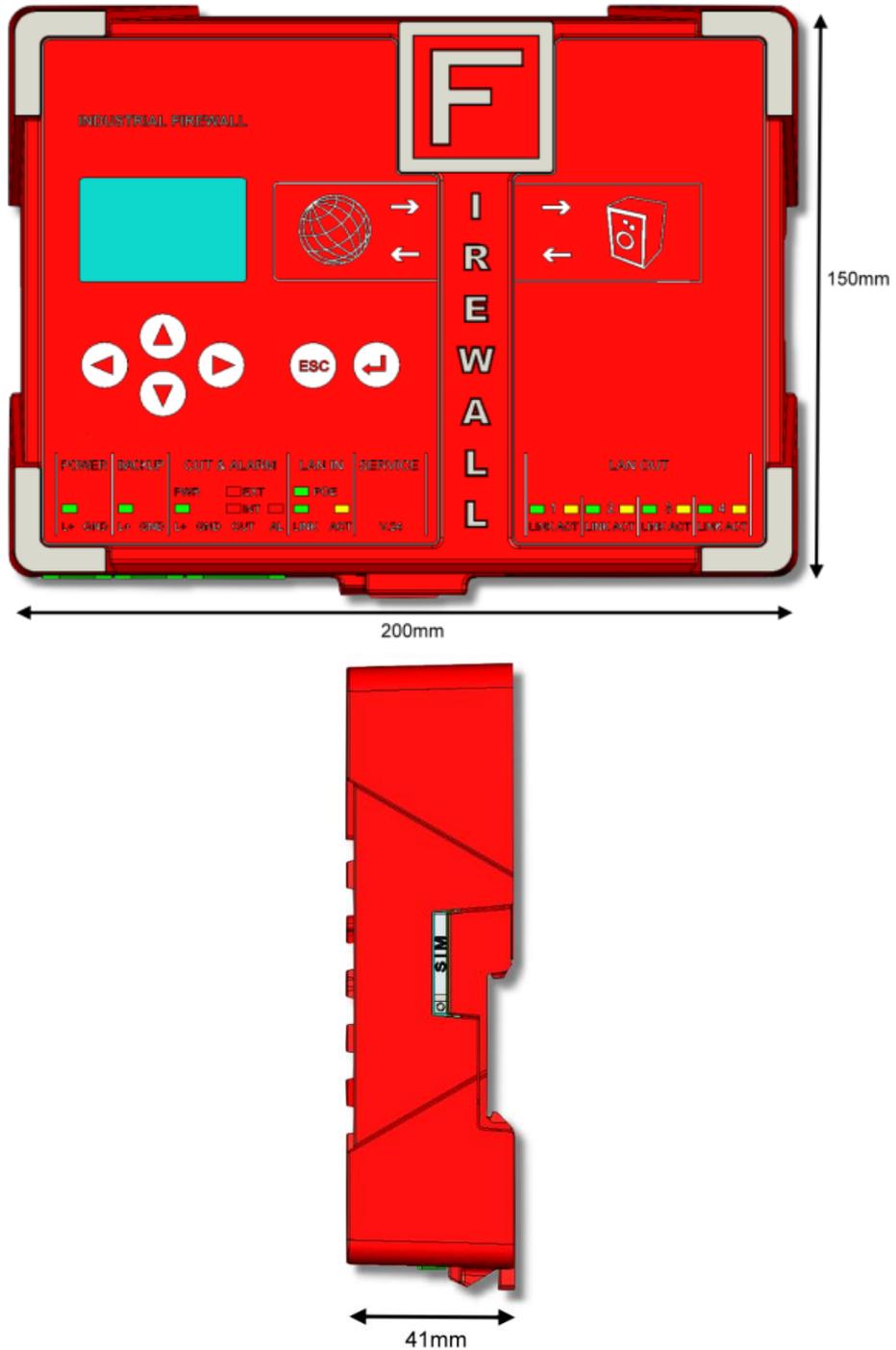


Abb. 1:

4.2 Mounting Dimensions

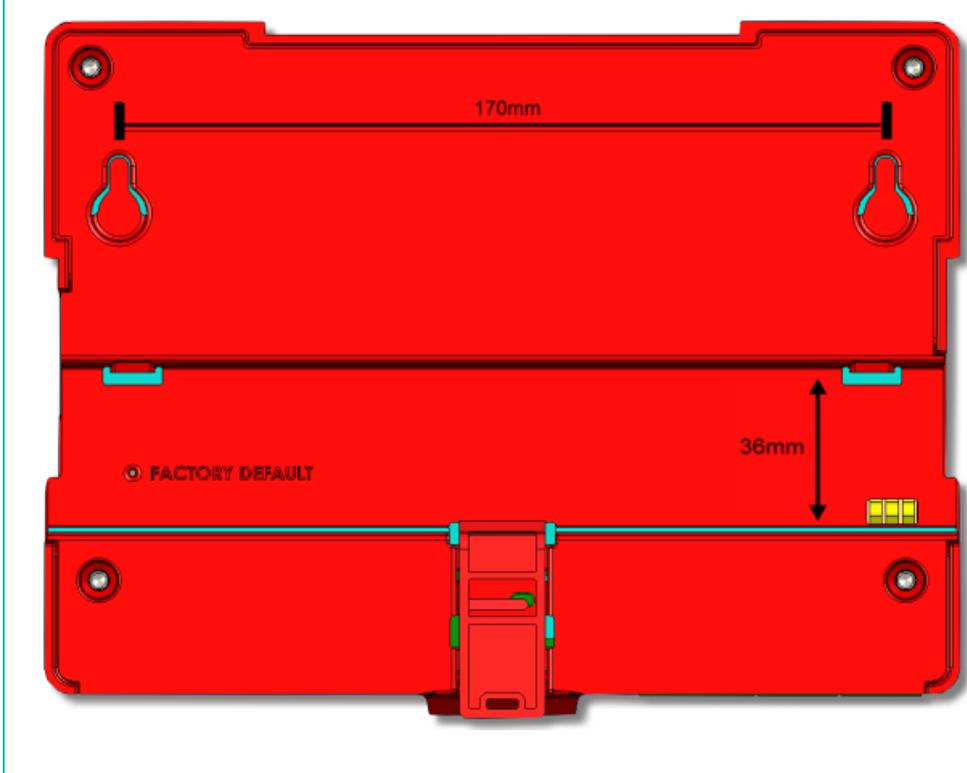


Abb. 2:

4.3 Mounting options

The device unit is designed for both top hat rail mounting as well as for wall-mounting.

4.3.1 Top Hat Rail Mounting

1. The Firewall must be placed obliquely up against the top of the top hat rail.
2. Fix it on by pressing the underside lightly up against the rail.
3. The Firewall must firmly snap into place on the top hat rail.

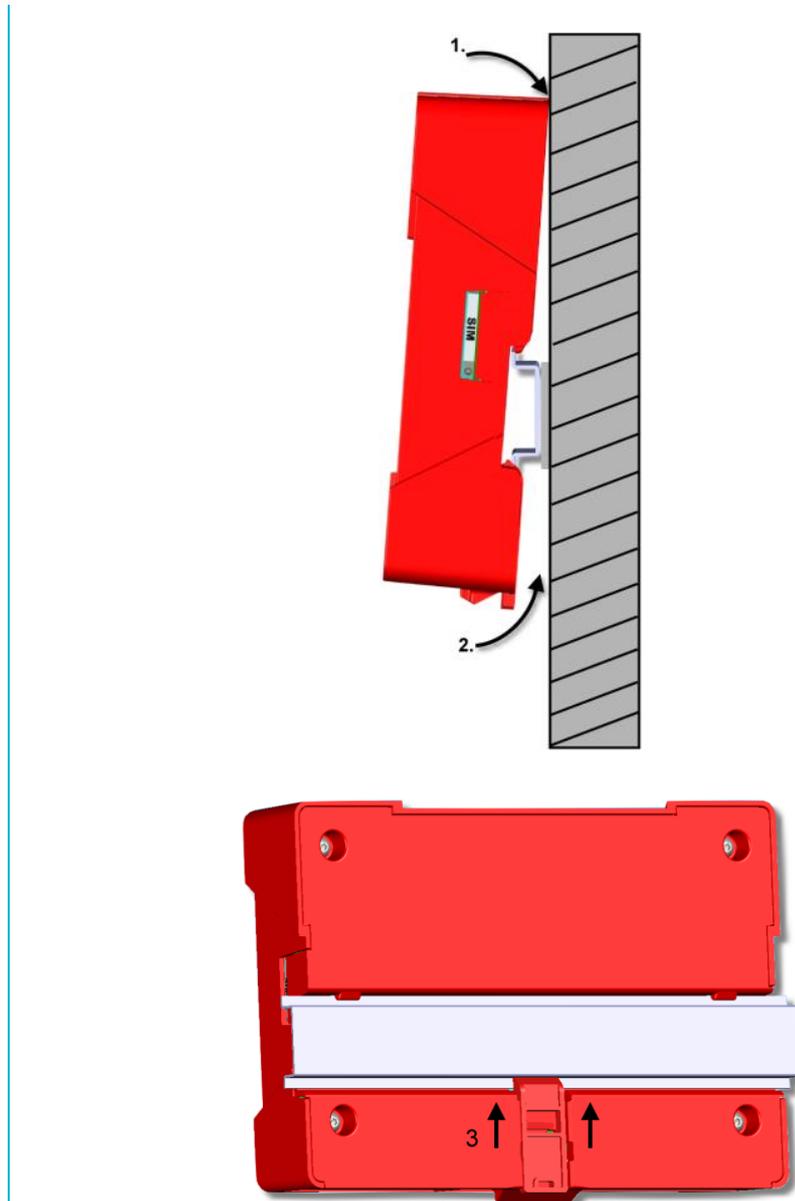


Abb. 3:



Note:

Check to make sure that the Firewall will not detach itself from the top hat rail by lightly tugging the underside forward.

4.3.2 Wall mounting

1. Provide for screws on the relative device mounting wall so that they are set horizontally level, with a distance between screws amounting to 170mm.
2. Attach on the Firewall by way of the appropriate cavities as illustrated.

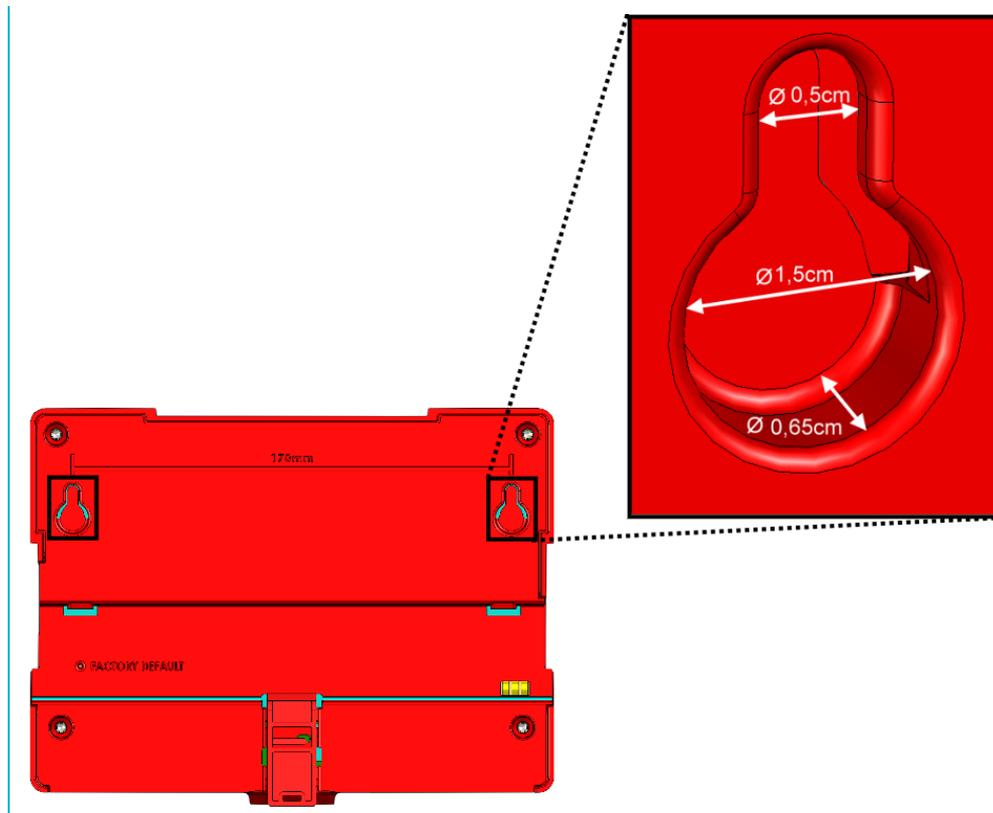


Abb. 4:

To release the unit from the DIN rail, proceed in reverse order.

5 Systemfeatures

5.1 Frontpanel Operation Keys

The device is provided with operation keys for navigation and unit configuration via the LCD menus. Said LCD menus are easily accessed via simple operation of the ESC or the ENTER keys. You will find a description of the single menu items in the following LC display section.

The front panel operation keys are provided with the following functions:

Symbol	Navigation function	Configuration function
	Press to exit the current menu level. (ESC))	If the input mode is activated, the variation can be overruled/abandoned by pressing ESC.
	Press to access a menu level or to confirm a change entry. (ENTER)	<p>To enter or to change data, the input mode must first be activated by pressing ENTER. This will have only one digit flashing.</p> <p>To adopt the change entries, the input mode must first be deactivated by pressing ENTER. This will highlight the whole line.</p> <p>For selection amongst a number of options, selection is activated via this key. selection of either German or English from the available language options).</p>
	Menu navigation direction arrow (UP)	<p>For selection amongst a number of options, the UP key will access and highlight the selection item in ascending/up order (e.g. selection of either German or English from the available language options).</p> <p>Upon entry or change of various data, the highlighted digit can be accessed and changed in ascending/up direction.</p> <p>The succession of the characters is provided in the ASCII code. However, a space character is assigned for simplification of first-time operation of the DOWN navigation direction option. If the key is pressed a second time, the system proceeds with ASCII character strings.</p>



Menu navigation direction arrow
(LEFT)

If the input mode is activated, each digit is marked and can be changed via access with the UP and DOWN arrow keys.



Menu navigation direction arrow
(DOWN)

For selection amongst a number of options, the DOWN key will access and highlight the selection item in ascending/up order (e.g. selection of either German or English from the available language options).

Upon entry or change of various data, the highlighted digit can be accessed and changed in ascending/up direction.

The succession of the characters is provided in the ASCII code. However, a space character is assigned for simplification of first-time operation of the DOWN navigation direction option. If the key is pressed a second time, the system proceeds with ASCII character strings.



Menu navigation direction arrow
(RIGHT)

If the input mode is activated, each digit is marked and can be changed via access with the UP and DOWN arrow keys.



Note:

To carry out changes in the LCD menus, the following character set is available.

```
!"#$%&'()*+,-./0
123456789:;<=>?@
ABCDEFGHIJKLMNÖP
QRSTUVWXYZ[\]^_`
abcdefghijklmnopqrstu
vwxyz{|}~
```

5.1.1 Example configuration IP-Adresss and Contactname

IP-Adress

Default IP address 192.168.0.254 needs to be changed into 192.168.1.250 whilst the subnet mask must be changed from 255.255.255.0 into 255.255.52.0.

The IP address is highlighted and the input window is deactivated. To change the IP, proceed as follows:

Menu	Action
<pre> LAN 192.168.0.254 255.255.255.0 SpanTreeProt <input type="checkbox"/> IP Address </pre>	<p>Press ENTER to activate the input mode. -> The input focus will be active on the first digit.</p>
<pre> LAN 192.168.0.254 255.255.255.0 SpanTreeProt <input type="checkbox"/> IP Address </pre>	<p>Press the RIGHT direction arrow key eight times -> The input focus will be active on the 0</p>
<pre> LAN 192.168.1.254 255.255.255.0 SpanTreeProt <input type="checkbox"/> IP Address </pre>	<p>Press the UP direction arrow key once. -> Change to 1</p>
<pre> LAN 192.168.1.254 255.255.255.0 SpanTreeProt <input type="checkbox"/> IP Address </pre>	<p>Press the RIGHT direction arrow key three times -> The input focus will be active on the 4</p>
<pre> LAN 192.168.1.250 255.255.255.0 SpanTreeProt <input type="checkbox"/> IP Address </pre>	<p>Press the DOWN direction arrow key four times -> Change to 0</p>
<pre> LAN 192.168.1.250 255.255.255.0 SpanTreeProt <input type="checkbox"/> IP Address </pre>	<p>Now press ENTER to confirm all the changes to the first line in the input mode. -> The overall IP is highlighted The text message "Please wait" will come up on display whilst the data is being stored. If the input mode is exited by pressing ESC, the changes are overruled/ abandoned.</p>
<pre> LAN 192.168.1.250 255.255.255.0 SpanTreeProt <input type="checkbox"/> Subnetmask </pre>	<p>Press the DOWN direction arrow key once -> The subnet mask is highlighted</p>
<pre> LAN 192.168.1.250 255.255.255.0 SpanTreeProt <input type="checkbox"/> Subnetmask </pre>	<p>Press ENTER to activate the input mode. -> The input focus will be active on the first digit.</p>
<pre> LAN 192.168.1.250 255.255.255.0 SpanTreeProt <input type="checkbox"/> Subnetmask </pre>	<p>Press the RIGHT direction arrow key six times -> The input focus will be active on the 2</p>

```

LAN
192.168.1.250
255.255.255.0
SpanTreeProt 
Subnetmask

```

Press the DOWN direction arrow key twice
-> Change on the space

```

LAN
192.168.1.250
255.255.55.0
SpanTreeProt 
Subnetzmaske

```

Press the RIGHT direction arrow key twice
-> The input focus will be active on the 5

```

LAN
192.168.1.250
255.255.52.0
SpanTreeProt 
Subnetmask

```

Press the DOWN direction arrow key three times
-> Change to 2

```

LAN
192.168.1.250
255.255.52.0
SpanTreeProt 
Subnetmask

```

Now press ENTER to confirm all the changes to the first line in the input mode.

-> The overall IP is highlighted

The text message "Please wait" will come up on display whilst the data is being stored. If the input mode is exited by pressing ESC, the changes are overruled/ abandoned.

```

LAN
static IP 
DHCP 
DHCP&Fallback 
Use static IP ad

```

Press the ESC key to exit this menu. All the changes entered have been duly stored.

Contact name

Contact name Mr. Miller must be changed to Ms. Miller.. The Contact Name is highlighted and the input window is deactivated. To change the Contact Name, following steps are required::

Menu	Action
<pre> Cont.-name ----- Mr. Miller ----- name of contact </pre>	<p>Press ENTER to activate the input mode. -> The input focus will be active on the first digit.</p>
<pre> Cont.-name ----- Ms. Miller ----- i. Enter nam </pre>	<p>Press the RIGHT direction arrow key once. -> The input focus will be active on the r</p>
<pre> Cont.-name ----- Ms. Miller ----- ct person. </pre>	<p>Press the UP direction arrow key once. -> Change to s</p>
<pre> Cont.-name ----- Ms. Miller ----- Enter name of co </pre>	<p>Now press ENTER to confirm all the changes to the first line in the input mode. -> The overall Contact Name is highlighted The text message "Please wait" will come up on display whilst the data is being stored. If the input mode is exited by pressing ESC, the changes are overruled/ abandoned.</p>
<pre> System ----- System name System location Contact name Contact location Name of contact </pre>	<p>Press the ESC key to exit this menu. All the changes entered have been duly stored.</p>

5.2 LC-Display

The device is fitted with an LCD which allows direct access to configuration settings. Any modifications to the firewall and web interface settings made via the LCD menu will take effect immediately. Furthermore, the display shows event messages and status information for quick on-site system analysis.

The LCD menu option Lock can be used to lock the display and all front panel keys. When these are locked, the device PIN is required to access and/or modify any device information. Hence, the Lock function protects the device against unauthorised on-site modifications.

The LCD menu can be accessed by pressing the ESC or ENTER key.

The LCD menu contains the following main menu items:

Settings

Allows configuration of basic Firewall settings, which includes locking the display and all front panel keys. Also allows setting the local IP address as well as the display language and various system information

Status

Shows all current event log entries and device information. Also allows initiating a self test of the following components: display, front panel keys, CUT and ALARM function. The connection control displays the state of the Service, Open VPN and IPsec connections..



Note:

The default language setting is English. In order to select a different language, open the main menu and select the following menu items:

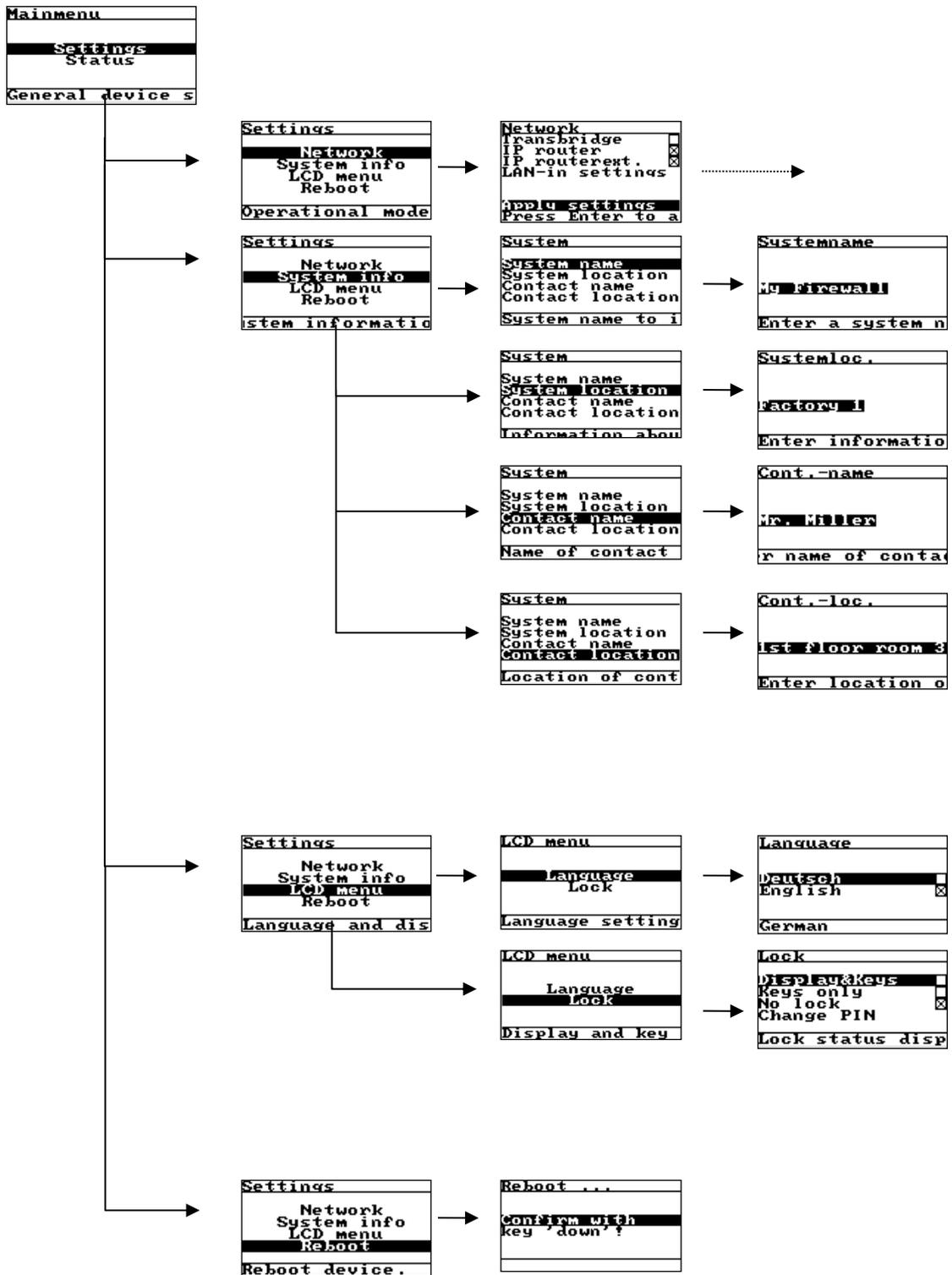
Settings/ LCD menu/ Language

Confirm your selection by pressing **ENTER**.

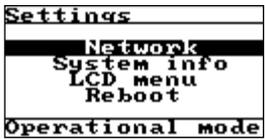
(Selection will be marked by an X.)

Then leave the menu by pressing **ESC**.

5.3 Menu-Overview Settings



5.3.1 Description of individual Menu items

Network Anzeige	Selection	Action
	<p>Transbridge</p>	<p>The network mask allows setting the operational mode. Additional options are available for each mode.</p> <p>In Transparent Bridge mode, the Firewall acts as a Layer 2 Bridge and is invisible to all participants.</p> <p>Transbridge= LAN Settings</p>
	<p>IP-Router</p>	<p>The Firewall treats the networks at the LAN-In and LAN-Out interfaces as two separate networks and filters these separately. Hence, this mode requires that two independent IP addresses be configured for LAN-In and LAN-Out.</p> <p>IP-Router = LAN-In/LAN-Out Settings..</p>
	<p>LAN-Einstellungen</p>	<p>Depending on the selected operational mode, IP address assignment can be configured under LAN Settings. Available options are: Static IP address, DHCP, DHCP fallback and PPPoE/DHCP.</p>

Systeminfo Display	Selection	Action
<pre> System System name System location Contact name Contact location System name to i Systemname ip: firewall Enter a system n </pre>	<p>System name</p>	<p>This name serves as a unique identifier of the device at its installation site.</p> <p>The Firewall system name displayed can be specified/changed here.</p> <p>You may freely choose a Firewall system name. The name entered here will be shown in the LCD menu and in the web interface.</p>
<pre> System System name System location Contact name Contact location Information about Systemloc. factory Enter informatio </pre>	<p>System location</p>	<p>This item serves as a unique identifier of the location at which the device is operated.</p> <p>The Firewall system location can be specified/changed here.</p> <p>You may freely choose a Firewall system location. Specifying the system location provides additional information on the device location. The location entered here will be shown in the LCD menu and in the web interface.</p>
<pre> System System name System location Contact name Contact location Name of contact Cont.-name ip: titles r name of conta </pre>	<p>Contact name</p>	<p>This item serves as a unique identifier of the responsible contact person.</p> <p>A contact name can be specified/changed here.</p> <p>You may specify a contact person that can be contacted in case problems occur or maintenance is required.</p>
<pre> System System name System location Contact name Contact location Location of cont Cont.-loc. 1st floor room 3 Enter location o </pre>	<p>Contact location</p>	<p>This item serves as a unique identifier of the responsible contact person and their location.</p> <p>A contact location can be specified/changed here.</p> <p>In addition to the name of the contact person, you may also specify their location.</p>

LCD-Menu	Selection	Action
<pre> LCD menu ----- Language Lock ----- Language setting ----- Language ----- Deutsch English ----- German </pre>	<p>Deutsch/Englisch</p>	<p>Two language options are available. Changing the language setting here will also affect the language of the web interface. The default setting is English.</p>
<pre> LCD menu ----- Language Lock ----- Display and key ----- Lock ----- Display&Keys Keys only No lock Change PIN Lock status disp </pre>	<p>Display & Keys</p>	<p>The display and keys can be locked to prevent unauthorised access. When locked, the display will not show any information and the keys can no longer be used to modify the device configuration. The only operation possible in locked mode is entering the required PIN for unlocking the display and keys.</p> <p>The lock will only become active once the user exits the LCD menu by pressing ESC.</p> <p>The PIN needs to be entered correctly in order for all LCD menu functions to become accessible again. When the Firewall is turned off and on again, the lock will still be active and the PIN needs to be re-entered.</p>
	<p>Keys only</p>	<p>This option allows locking the keys separately from the display. With locked keys, the LCD menu can no longer be used to modify the device configuration. The LC display will, however, still show current network load and other system information. The only operation possible in locked mode is entering the required PIN for unlocking the display and keys.</p> <p>The lock will only become active once the user exits the LCD menu by pressing ESC.</p> <p>The PIN needs to be entered correctly in order for all LCD menu functions to become accessible again. When the Firewall is turned off and on again, the lock will still be active and the PIN needs to be re-entered.</p>
	<p>Unlocked</p>	<p>By default, neither keys nor display are locked.</p>



New PIN

In order to change the PIN, the old PIN needs to be entered. The PIN may be changed independently from the web interface password. The default PIN is empty; any user-defined PIN may be up to 14 digits long.

Reboot Display

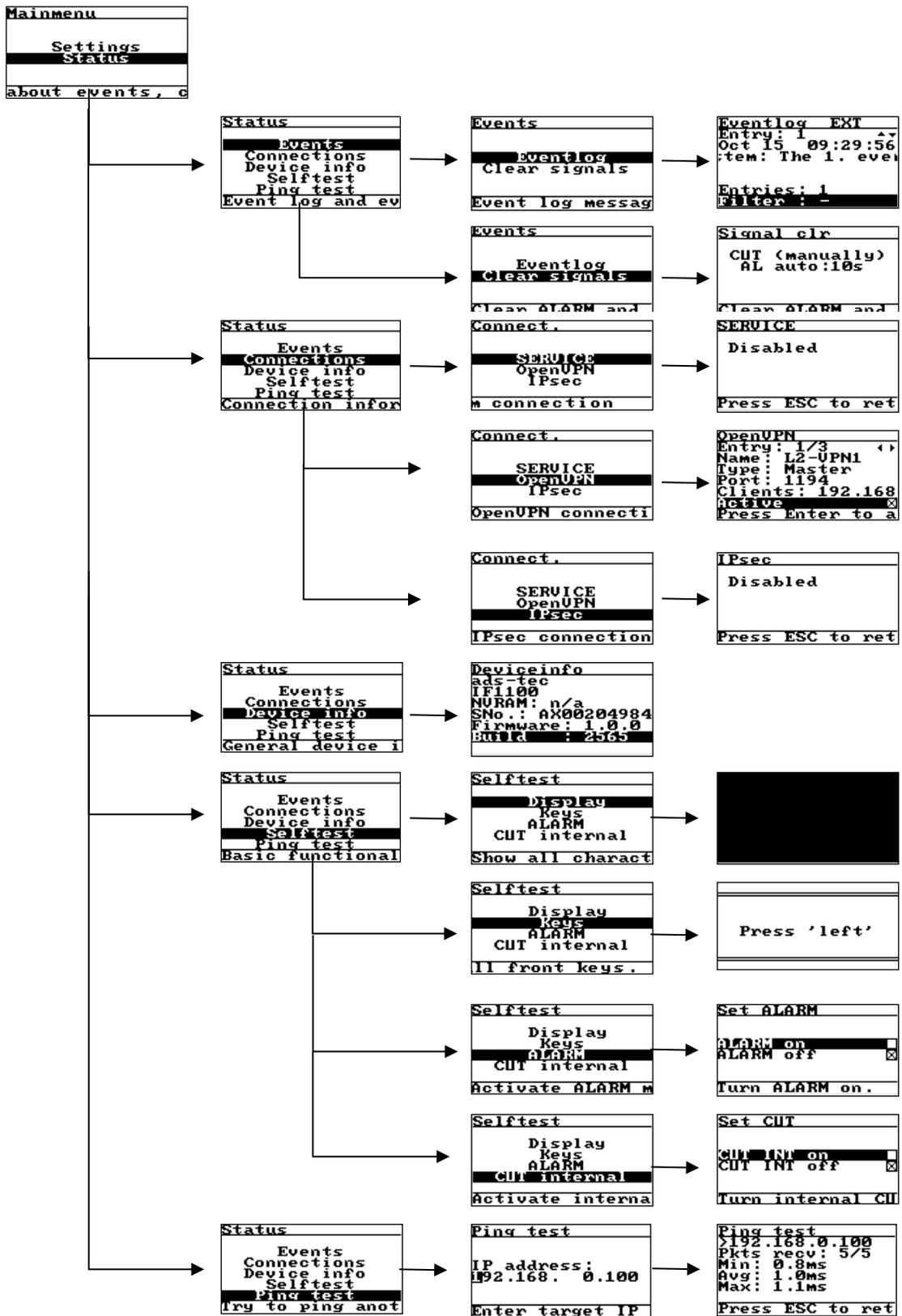
Selection

Action

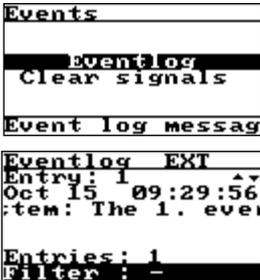
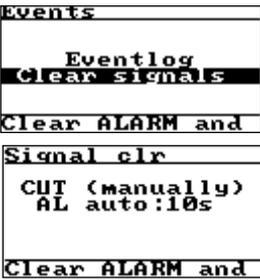


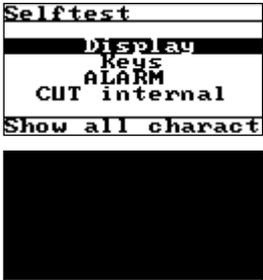
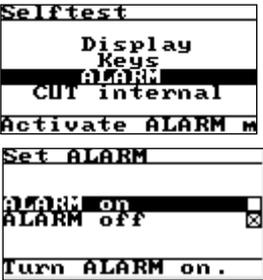
The reboot option allows re-starting the Firewall via the LCD menu. Confirm selection of this option by pressing the down key .

5.4 Menu-Overview Status



5.4.1 Description of individual menu items

Events Anzeige	Selection	Action
	Event log	<p>The event log allows retracing system messages and alarms. Select individual log entries using the UP and DOWN keys.</p> <p>The event log display is comparable to a transcript of messages.</p> <p>Use the Event log menu to view any logged events.</p>
	Melssage Ack.	<p>Use the Message Acknowledgement option to override or end, respectively, any events logged in the event log. Manually acknowledging event messages will end all active events. In automatic setting, events will be acknowledged automatically after a predefined period of time.</p>
Connections Service	Selection	Action
	Service	<p>Anhand des Service Menüpunktes kann der Status einer Service Verbindung überprüft, bzw. nachvollzogen werden. Wenn die Schnittstelleerfolgreich verbunden ist, wird der Status connected angezeigt. Bei einer inaktiven Verbindung wird disconnected angezeigt.</p>
	OpenVPN	<p>Use the menu item OpenVPN to display all active VPN connections. Settings can be changed directly via the LCD menu.</p>
	IPsec	<p>Use the menu item IPsec to display all IPsec-related information and settings. The display screen can be used to monitor the IPsec status. Settings can be changed directly via the LCD menu.</p>

Device info Anzeige	Selection	Action
	<p>Device info</p>	<p>This option displays general device information.</p> <p>The screen shows the name of the manufacturer, the device variant, whether a NVRAM card is installed, the current firmware version, and the current firmware build.</p>
<p>Device Test Anzeige</p>	<p>Selection</p>	<p>Action</p>
	<p>Screen</p>	<p>Starts the display test.</p> <p>Press Enter to start the display test.</p> <p>Perform this test to check the display for correct functioning. You can visually check whether all characters are displayed properly on the display.</p> <p>Four different test screens will appear, each of which will need to be confirmed by pressing any front panel key.</p> <p>When the test is finished, you will automatically be taken back to the menu view.</p>
	<p>Keys</p>	<p>Starts the key test.</p> <p>Press Enter to start the key test.</p> <p>Perform this test to check the keys for correct functioning.</p> <p>You will be prompted to press specific keys, whereupon you should press the respective key.</p> <p>In case one key is defective, you may exit the test using the other keys.</p> <p>When the test is finished, you will automatically be taken back to the menu view.</p>
	<p>Alarm</p>	<p>Sets the alarm output.</p> <p>Sets the alarm output and turns on the alarm LED.</p> <p>The letters AL will appear in the upper right corner of the display, indicating that an alarm was triggered. AL will continue to flash until the alarm is either switched off or acknowledged automatically.</p> <p>Perform this test to check the alarm output for correct functioning.</p>

<pre> Selftest ----- Display Keys ALARM CUI Internal ----- Activate interna Set CUT ----- CUI INT on <input type="checkbox"/> CUI INT off <input checked="" type="checkbox"/> ----- Turn internal CUI </pre>	<p>Internal Cut</p>	<p>Sets the internal CUT. Sets the CUT and turns on the CUT LED. The letters INT will appear in the upper right corner of the display, indicating that an internal CUT was triggered. INT will continue to flash until the internal CUT is either switched off or acknowledged automatically. Perform this test to check the internal CUT for correct functioning.</p>
<pre> Status ----- Events Connections Device info Selftest Ping test Try to ping anot ----- Ping test ----- IP address: 192.168. 0.100 ----- Enter target IP </pre>	<p>Ping-Test</p>	<p>With the aid of the PING-Test, the accessibility of an affiliated remote station is tested. The PING-Test sends an echo request packet to the destination address of the remote station to be tested and then proceeds with test information assessment. Enter the destination address that needs to be tested in IP address form in the appropriate entry field. It is furthermore necessary to enter the packet quantity required to be sent. Said quantity is limited to a maximum of 10 packets.</p>

5.5 Operational LED Status Display

The boot-up process starts as soon as the firewall is supplied with a voltage source. With the aid of the Lan-in LEDs it is possible to check whether the Firewall is booting up as well. The table herunder provides boot-up process LED blink frequency via which it is possible to check that the device is booting up correctly. In the example, no LAN-in cable / PoE is connected up.

The minute the traffic display comes up on the LCD, the boot up process has been successfully concluded.

State of theLED	representation
aus	<input type="checkbox"/>
grün	<input checked="" type="checkbox"/>
grün blinkend	<input type="checkbox"/>
rot	<input checked="" type="checkbox"/>
orange	<input type="checkbox"/>
orange blinkend	<input type="checkbox"/>

5.5.1 Power Supply / Cut & Alarm / LAN-IN

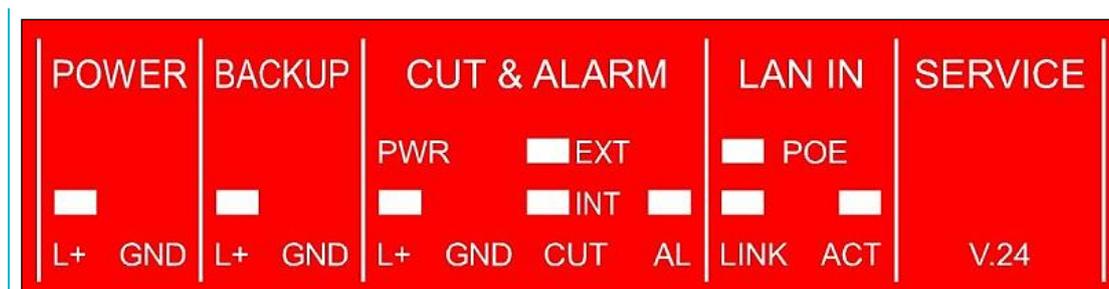


Abb. 5:

POWER	Signal	Action
L+	<input type="checkbox"/>	The device is not supplied with a power.
L+	<input checked="" type="checkbox"/>	The device is provided with voltage via POWER and is ready for operation.
BACKUP	Signal	Action
	<input type="checkbox"/>	The device is not supplied with a backup power.
	<input checked="" type="checkbox"/>	The device is provided with voltage via POWER and is ready for operation.

CUT & ALARM	Signal	Action
L+	<input type="checkbox"/>	CUT & ALARM interface is not supplied with a voltage. The CUT & Alarm functionality is not available.
L+	<input checked="" type="checkbox"/>	CUT & ALARM interface is supplied with a voltage. The CUT & Alarm functionality is given.
INT	<input checked="" type="checkbox"/>	An internal Cut is triggered
EXT	<input checked="" type="checkbox"/>	An external Cut is triggered
AL	<input checked="" type="checkbox"/>	An Alarm is triggered

LAN-IN	Signal	Action
PoE	<input type="checkbox"/>	The device is not supplied with a power.
PoE	<input checked="" type="checkbox"/>	The device is provided with voltage via PoE and is ready for operation.
LINK		The interface is connected to a remote station and is ready for operation.
ACT		Displays the traffic between the firewall and remote.

5.5.2 LAN-OUT

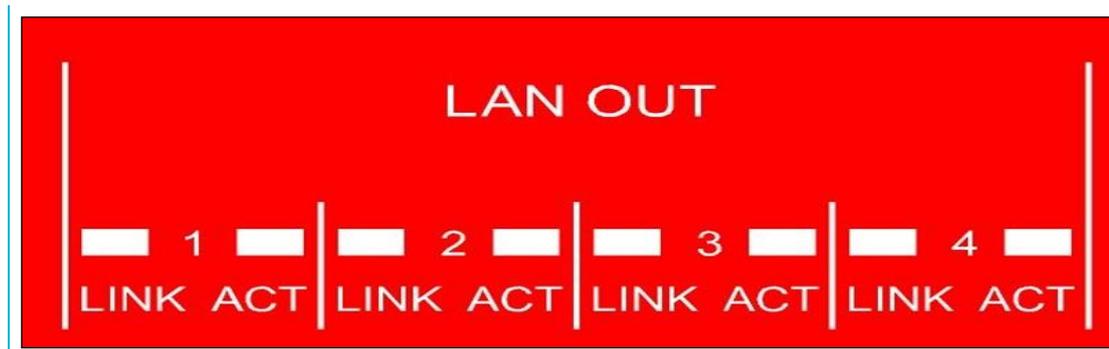


Abb. 6:

LAN-OUT	Signal	Action
LINK		The interface is connected to a remote station and is ready for operation.
ACT		Displays the traffic between the firewall and remote.

5.6 Operational LED Status Displays

5.6.1 Status Display Activities when Booting

The boot-up process starts as soon as the firewall is supplied with a voltage source. With the aid of the Lan-in LEDs it is possible to check whether the Firewall is booting up as well.

5.6.2 Status display activities when resetting to default settings

Via the Factory Default keys on the rear side of the Firewall it is possible to reset the Firewall back to its default factory settings at any time, independently of its configuration.

To set the Firewall back to its default settings, the factory default keys must be pressed during current operations. In the example, no LAN-in cable / PoE is connected up.

The factory default keys must be pressed once, briefly in order to start the set-back to default settings process

5.6.3 Status display activities with Firmware Updates

A firmware update can be made by using the web interface. The actual process of updating might take a few minutes.

5.7 Interface Overview



Abb. 7:

The device has the following interfaces (front):

1. Power 24V DC voltage supply (2 pole COMBICON plug)
2. Backup 24V DC BACKUP voltage supply (2 pole COMBICON plug)
3. CUT & ALARM plug (4 pole COMBICON plug)
4. LAN-in with RJ45 (PoE) or LWL fibre optic connection
5. 9 pole SUB-D connector / RS232
6. LAN-out with 4x RJ45 connection



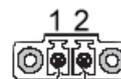
Note:

All input voltages can be hooked up redundantly (Power, Backup and PoE via LAN-in).

5.7.1 Power Supply 24 VDC / BackUp

The supply voltage implements a lead-through terminal with screw connection (the illustration shows the jack provided in the device))

Pin-Number	Signal-Name
1	24V DC
2	0 V DC

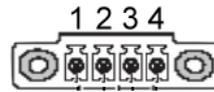


PIN 1: = L+ 24V DC Power Supply

PIN 2: = GND Ground

5.7.2 CUT & ALARM

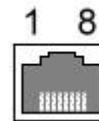
Pin-Number	Signal-Name
1	TX +
2	TX -
3	RX +
4	NC



- PIN 1: = L+ 24V DC feed-in of the alarm output voltage
 PIN 2: = GND Ground feed-in of the alarm output voltage
 PIN 3: = CUT 24V DC feed-in of an external switching signal (galvanically isolated)
 PIN 4: = AL 24V DC ALARM output (galvanically isolated) alarm out put for signalling to external users

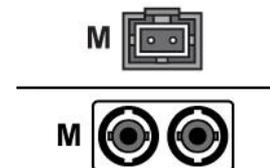
5.7.3 Power Supply LAN-in (RJ45) / PoE (IEEE 802.AF)

Pin-Number	Signal-Name
1	TX +
2	TX -
3	RX +
4	PoE/G
5	PoE/G
6	RX -
7	PoE/-48V
8	PoE/-48V



5.7.4 LWL Fibre Optic

An MTRJ fibre optic plug is implemented for the LWL fibre optic connection. 62.5/125µm multimode cable from the MTRJ plug to the Duplex plug.

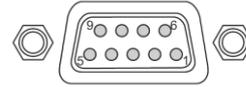


5.7.5 Serial Interface COM (RS232)

9 pole SUB-D connector

RS232 for connection of an analogue, ISDN or GPRS standard modem unit

Pin-Number	Signal-Name
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI



5.7.6 SMARTCARD READER NACH ISO 7816

The SIM card reader serves for the storage of the configuration data.

Pin-Number	Signal-Name
1	VCC 5 Volt
2	RESET
3	CLOCK
4	NC
5	GND
6	NC
7	I/O
8	NC



6 Commissioning

6.1 Initial-Commissioning

**Achtung:**

The initial installation of this device can only be performed by using the RJ45 interface labelled with HOST.

A RJ45 PATCH CABLE IS REQUIRED FOR INITIAL CONFIGURATION.

Connecting the 24 V DC power source

The power for this device can be supplied by a 24V DC (2-pin connector) power supply. The corresponding COMBICON connector is included in the scope of delivery.

Connect the device with a suitable power supply unit.

RJ45 network cable connection

For initial installation it is essential to establish a connection between this device and a PC by using a RJ45 network cable.

To connect the device with a PC:

Device HOST connector <-> PC LAN connector

6.2 Manual Network adapter configuration



Note:

The notes below have been created by using Windows XP®. Should you use a different operating system, the directory paths and properties described here might vary.

Open the Properties tab of the network adapter you are using. The directory path is:

Start> Settings> Network connections> LAN connections> Properties.

Select the following option in the pop-up dialogue: Internet protocol (TCP/IP); then click on Properties .

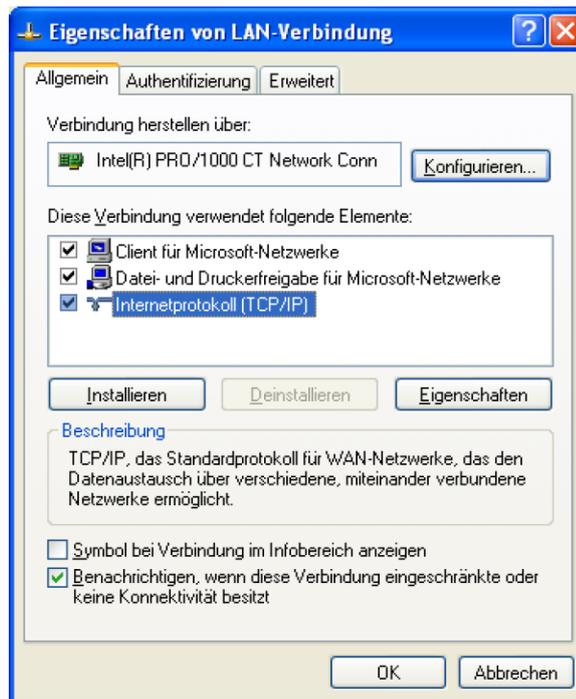


Abb. 8:

Here select the following item: Use following IP address

Access to the device will only be enabled once the following parameters have been entered as the fixed IP address, or if the computer is located in the same subnet area:

IP Address: 192.168.0.100



Note:

(The last section of digits must represent a number between 1 and 253; the value "100" was selected in the example)

Once the IP address is entered, you have to input the Subnet mask address. If you click into the Subnet mask box, the correct address is automatically entered.

Subnet Mask: 255.255.255.0

You can now close the dialogue boxes by pushing the "OK" button.

6.3 Settings for use with Internet Explorer 8



Warning:

If Internet Explorer 8 is used, issues with the web interface might occur. If you experience any problems, the IP address of the device must be entered in the Local Intranet list in order to display the web interface correctly.

Open Internet Explorer and navigate to the Security tab with the following directory path:

Tools→Internet options→Security

Switch to the Local Intranet tab and click there on Sites..

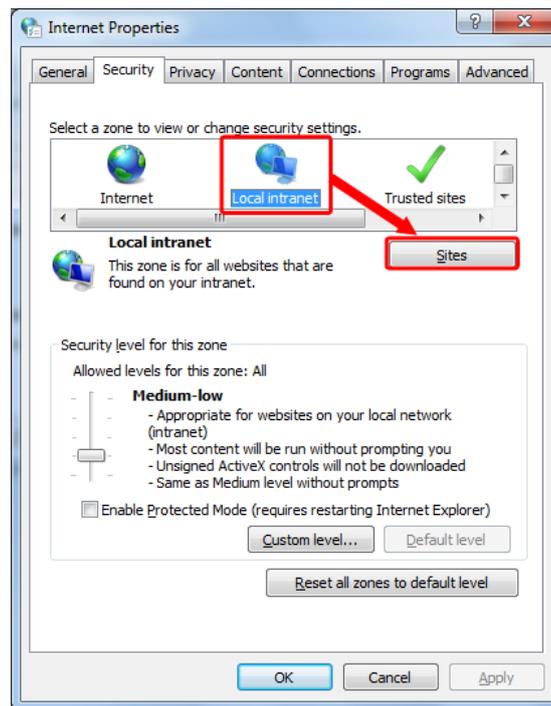


Abb. 9:

Then click on Advanced.

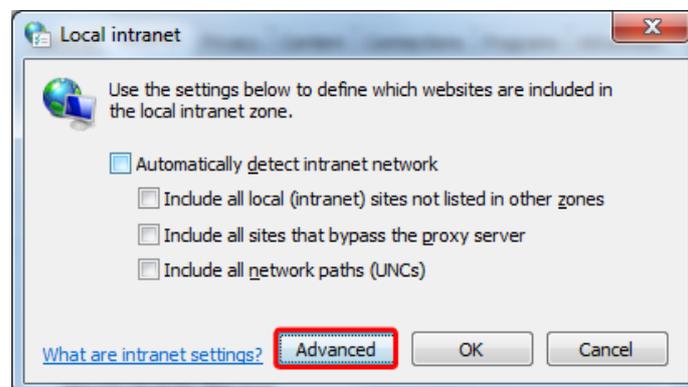


Abb. 10:

In the Add this website to the zone address line, enter the device IP address and confirm this step with Add.

Default IP address: <http://192.168.0.254>

The entered IP address should now appear in the list under Websites.

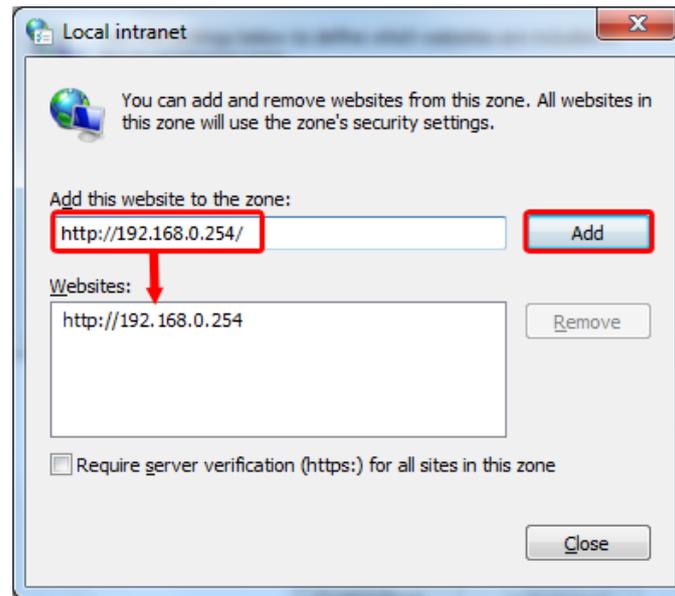


Abb. 11:

6.4 Calling up the Device Web Interface

To access and open the device web interface, start up your web browser. In the browser's address bar, enter the following IP address then confirm with Enter

http://192.168.0.254

Login

Once the IP address has been entered with success, the login prompt appears. In the login prompt, entry of the default settings is required.

The default configuration in just-delivered conditions is:

User Name : admin

Password : admin

Confirm your entries by clicking on: OK



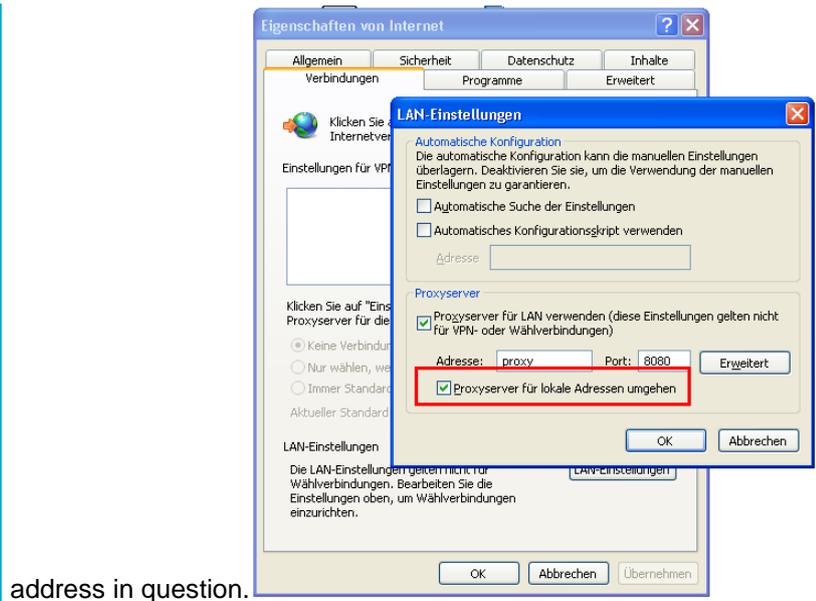
Abb. 12:



Note:

If the login prompt does not appear, check to ensure that the device has been connected via a RJ45/LWL optic fibre connection cable. Otherwise, connect the device up to a PC (Device LAN-in/LAN-out connection <> PC LAN connection).

If there still is no connection to the firewall login prompt, it is necessary to check the proxy and local firewall settings. It often occurs that also local subnet addresses (e.g. 192.168.x.x) are diverted to a proxy server. In this case it is possible to select the "Bypass proxy server for local addresses" option to enter the



address in question.

Finally, the device web interface will come up on screen.

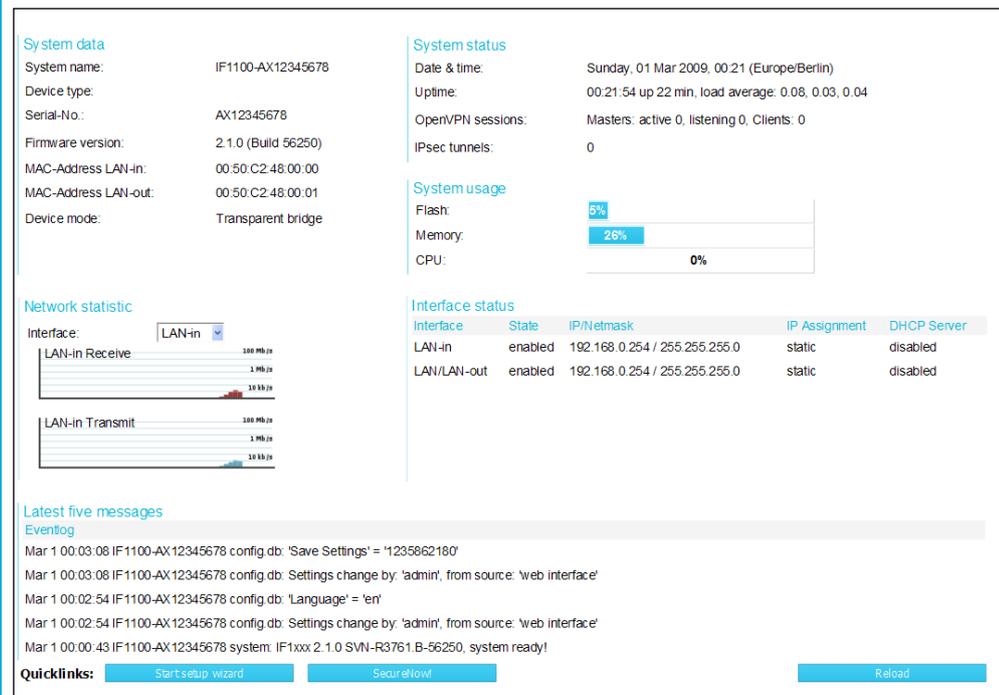


Abb. 13:

7 Technical Details

Device Data	IF1000 series
Operating System	Embedded Linux
Configuration protocol	http, https
Power Supply	24V DC +/- 20%, redundant power Supply
Interfaces	1 x CUT & ALARM 1 x LAN RJ45- Connection10/100/1000MBit/s Autocrossover 4 x LAN RJ45- Connection10/100/1000MBit/s Autocrossover 1 x SUB-D RS232
External Device Dimensions	203 mm x 156mm x 35mm
Weight	ca. 1 kg
Protection Class	IP20
Max. Power consumption	max.12 Watt (typ.)bei 24V DC
Environmental temperature	during operation -0°C ... + 60°C during storage 0°C ... + 50°C (UL)



Note:

Detailed information for the device, see our website
<http://www.ads-tec.de>.

8 Service & Support

The ads-tec company and their partner companies offer a comprehensive service and support to your customers providing a quick and professional support in case of any question with respect to ads-tec products and components.

Since the devices from ads-tec company are also used by partner companies, these devices might be configured according to specific customer requirements. Should any question or issue with respect to specific configurations and software installations arise, it can only be resolved by the system manufacturer.

For devices not directly purchased from ads-tec, we cannot be responsible for the support. In this case, the support is provided by our partner company.

8.1 ads-tec Support

Das Support Team von ads-tec steht für Direktkunden von Montag bis Freitag von 8:30 bis 17:00 unter der unten genannten Telefonnummer zur Verfügung:

Tel: +49 7022 2522-202

Fax: +49 7022 2522-2602

E-Mail: support@ads-tec.de

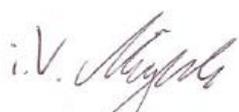
8.2 Company adress

ads-tec GmbH
Heinrich-Hertz-Str. 1
D-72622 Nürtingen
Germany

Phone: +49 (0) 7022 2522-0
Fax: +49 (0) 7022 2522-400
E-Mail: mailbox@ads-tec.de
Home: www.ads-tec.de

9 Declaration of CE-Conformity

IF1100

Declaration of Conformity / Manufacturer Statement		
● PRODUCT	NAME:	Industrial Firewall
	DESCRIPTION:	Firewall
	MODEL:	DVG-IF1100-001-BU
● MANUFACTURER	ads-tec GmbH Raiffeisenstr. 14 70771 Leinfelden-Echterdingen Germany	Tel.: +49 / 711 / 458940 Fax: +49 / 711 / 45894994
● LAWS	<p>EU Council Directive of 3 May 1989 on the approximation of the laws of the Member States relating to Electromagnetic Compatibility (EMC Directive) EU-Directive: 89/336/EEG from 5/3/1989 (ABl.EU L No. 139/19) 91/263/EEG from 4/29/1991 (ABl.EU L No. 128/1) 92/31/EEG from 4/28/1992 (ABl.EU L No. 126/11) 93/68/EEG from 7/22/1993 (ABl.EU L No. 220/1) Adopted in Germany by: EMVG from 9/18/1998 (BGBl I 1998, 2882)</p> <p>COUNCIL DIRECTIVE of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (LVD-Directive) EU-Directive: (LVD) 2006/95/EC from 12/27/2006 (OJEU, L 374, page 10-19) 93/68/EEG from 7/22/1993 (ABl.EG L Nr. 220/1) Adopted in Germany by: 1. GPSGV from 7/11/1979 (BGBl I 1979, 629)</p>	
● HARMONISED STANDARDS FOR TESTING	<p>EMC-Directive</p> <p>a) Electromagnetic emissions EN 61000-6-4:2001</p> <p>b) Electromagnetic Immunity EN 61000-6-2:2005</p> <p>LVD-Directive Safety of information technology equipment EN 60950-1:2001</p>	
● STATEMENT	<p>The manufacturer hereby declares product conformity with the fundamental requirements given by the above-described directives of the European Union. The tests applicable according to the harmonized standards mentioned above have been fulfilled. The CE labeling was assigned on July 2007.</p>	
	Leinfelden-Echterdingen 09/14/2007	
	Ads-tec GmbH	
	 Eimar Bossler - Quality Manager -	 Dipl. Ing. Thomas Mögerle - Technical Director

IF1110

Declaration of Conformity / Manufacturer Statement		
● PRODUCT	NAME:	Industrial Firewall
	DESCRIPTION:	Firewall
	MODEL:	DVG-IF1110-001-BU
● MANUFACTURER	ads-tec GmbH Raiffeisenstr. 14 70771 Leinfelden-Echterdingen Germany	Tel.: +49 / 711 / 458940 Fax: +49 / 711 / 45894994
● LAWS	<p>EU Council Directive of 3 May 1989 on the approximation of the laws of the Member States relating to Electromagnetic Compatibility (EMC Directive) EU-Directive: 89/336/EWG from 5/3/1989 (ABl. EU L No. 139/19) 91/263/EWG from 4/29/1991 (ABl. EU L No. 128/1) 92/31/EWG from 4/28/1992 (ABl. EU L No. 126/11) 93/68/EWG from 7/22/1993 (ABl. EU L No. 220/1) Adopted in Germany by: EMVG from 9/18/1998 (BGBl I 1998, 2882)</p> <p>COUNCIL DIRECTIVE of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (LVD-Directive) EU-Directive: (LVD) 2006/95/EC from 12/27/2006 (OJEU, L 374, page 10-19) 93/68/EWG from 7/22/1993 (ABl. EG L Nr. 220/1) Adopted in Germany by: 1. GPSGV from 7/11/1979 (BGBl I 1979, 629)</p>	
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	Leinfelden-Echterdingen 09/14/2007	
	Ads-tec GmbH  Elmar Bossler - Quality Manager -	 Dipl. Ing. Thomas Mögerle - Technical Director