

ROTRONIC MANUAL

RMS-CONVERTER



RMS-Converter	rotronic
E-M-RMS-Converter-V1_4.docx	Instruction Manual

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Scope:

This manual is valid for the RMS-Converter Firmware Version V1.3. The small digit represents small changes, bug fixes etc. that do not influence main functions of the device.

1 Overview

1.1 RMS System Overview

The Rotronic Monitoring System RMS is a network of various devices and RMS server software. The software represents the core piece of the whole RMS. It collects measuring and system data of the devices and stores it into the database. The single devices work as input modules (datalogger) and output modules (displays, analog outputs, switching outputs). The user can monitor this measuring- and system data by PC, laptop or smart mobiles everywhere and every time.

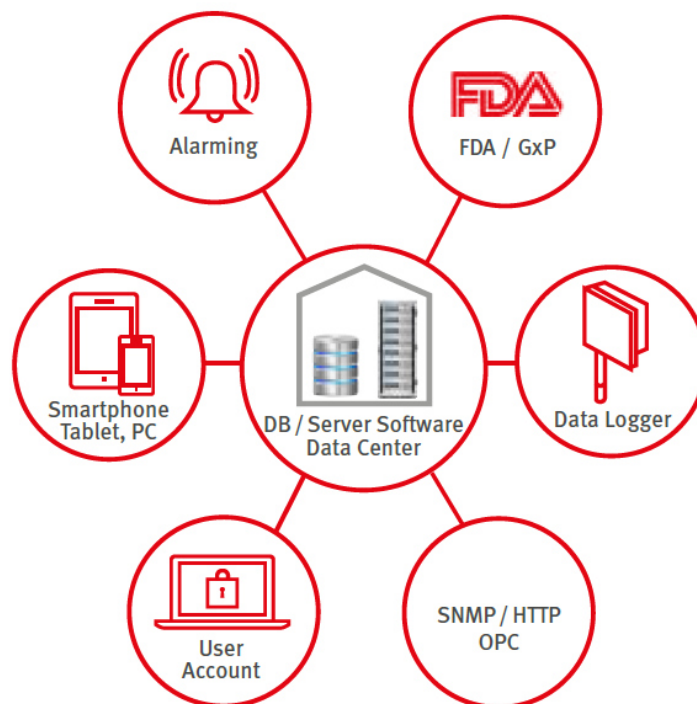


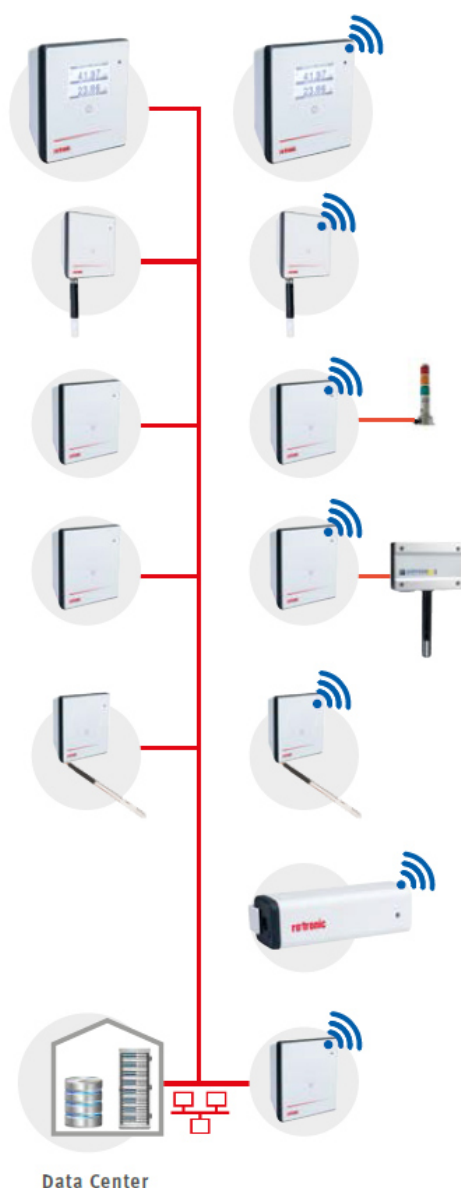
Figure 1: Schematic diagram of the RMS with the server software and database at the heart

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1.2 Device Overview

All devices can be configured as wanted as modules of the system. The following table shows all basic types of the RMS devices. Almost all modules¹ have the following options:

- Interface: Ethernet / Wireless
- Housing: Wall housing / DIN top hat rail housing



Display Module

The display module can show any values from the RMS network. Humidity, temperature and switch states can be configured per software.

Standard Logger

Records the measured data of the digital HygroClip HCD or other RMS probes. Stored in the ring memory, the data are then sent to the server software.

Output Module

Provides two analog voltage or current outputs or is also available as variant with two solid-state relays in order, for example, to switch alarm lamps.

Input Module

Records voltage or current signals from analog devices such as particle counters, flow transmitters or CO2 probes. For example:

- HF5 transmitter (humidity & temperature)
- AF1 transmitter (air flow)
- CO2 transmitter (CO2)
- PF4 transmitter (differential pressure)

Temperature Logger

The loggers can be equipped with various temperature sensors (NTC, Pt100, Pt1000 or K-element). This offers highest flexibility in use.

Mini Logger

A temperature logger with integrated or remote NTC sensor. Instead of a temperature sensor, it is also available with a switch input in order, for example, to monitor door contacts.

Gateway

The gateway is the connecting element between Ethernet and wireless network and forwards the data flow from the loggers to the data centre.

¹ Except for the Mini Logger

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2 RMS-CONVERTER

2.1 General

The RMS-CONVERTER provides simple integration of digital devices into the Rotronic Monitoring System. Whereas standard RMS devices send data directly to the RMS server software and database, other devices cannot. The RMS-CONVERTER does this for non-RMS digital devices: the RMS-CONVERTER collects the measurement values and system data of a digital device, buffers this data on the integrated SQL database and sends them to the server software. As such, the RMS-CONVERTER acts as a communication interface translating a standard or proprietary protocol for RMS.

2.2 Power Supply

The digital input module has the following power supply:

- 5 VDC (a 230AC/5VDC converter is included).

2.3 Interface

The communication interface of the RMS-CONVERTER is TCP/IP.

2.4 Limit of measurement points

The RMS-CONVERTER can integrate a limited number of measurement points into RMS.

The limit is defined within the order code: RMS-CONVERTER-xxx, where the xxx is the number of measurement points.

- RMS-CONVERTER-100: integration of 100 measurement points.

IMPORTANT: Each device has a certain number of measurement points. Do not confound the number of measuring points with the number of devices.

2.5 MS SQL database

2.5.1 Data logging

The values of every measurement are saved in the memory with the time stamp. The RMS-CONVERTER logs data within the onboard MS SQL database. In case of a communication interruption between the RMS server software and the RMS-CONVERTER, the data will be stored for a maximum of 7 days.

IMPORTANT: The RMS-CONVERTER has no backup battery or integrated power supply, meaning that the log function is only active when power is supplied to the device!

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2.5.2 Data gaps

In order to avoid data gaps within RMS due to power or communication interrupts:

- The RMS-CONVERTER and the digital device must be powered via an uninterrupted power supply.
- The switch must be powered via an uninterrupted power supply.
- The RMS-CONVERTER and the digital device must be configured with a fix IP address of the same subnet (only the last numbers of the IP addresses of the devices differ between each other), so that a point to point connection can remain open. The device within the red frame below can communicate with the RMS-CONVERTER should there be a power or communication (higher on the network) interrupt.

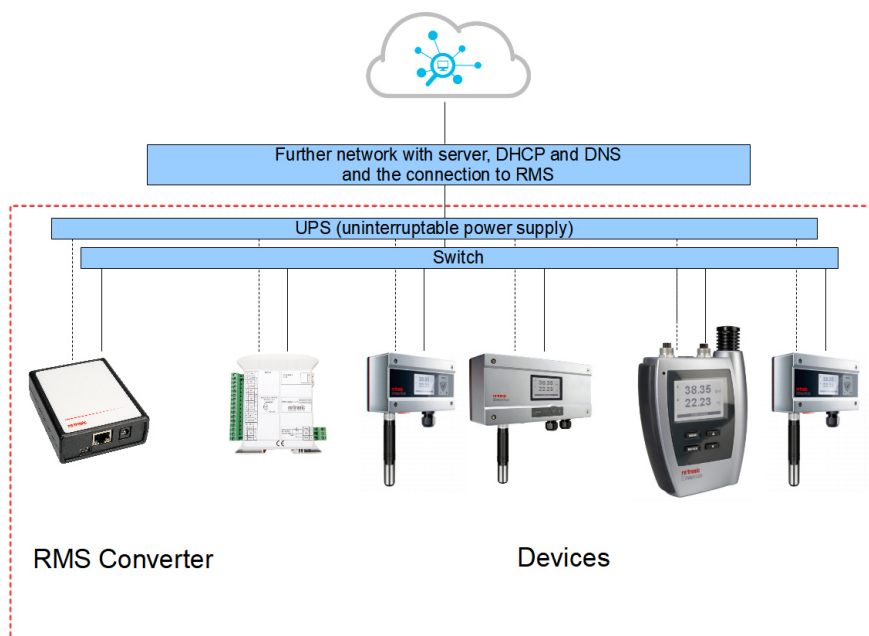


Figure 2: Recommendations for setting up the RMS-CONVERTER on a network.

2.6 RTC (Real Time Clock)

The RMS-CONVERTER can only log with the correct time stamp synchronized to UTC. In case of a power interruption on the RMS-CONVERTER, during the restart, it will first synchronize its time with the RMS server UTC. Before that, the RMS-CONVERTER will not start to log.

Recommendation: Install an uninterrupted power supply for the RMS-CONVERTER.

2.7 Data encryption

The communication between the RMS-CONVERTER and the RMS Server software/MS SQL database is encrypted. The communication between the RMS-CONVERTER and the digital devices is not encrypted.

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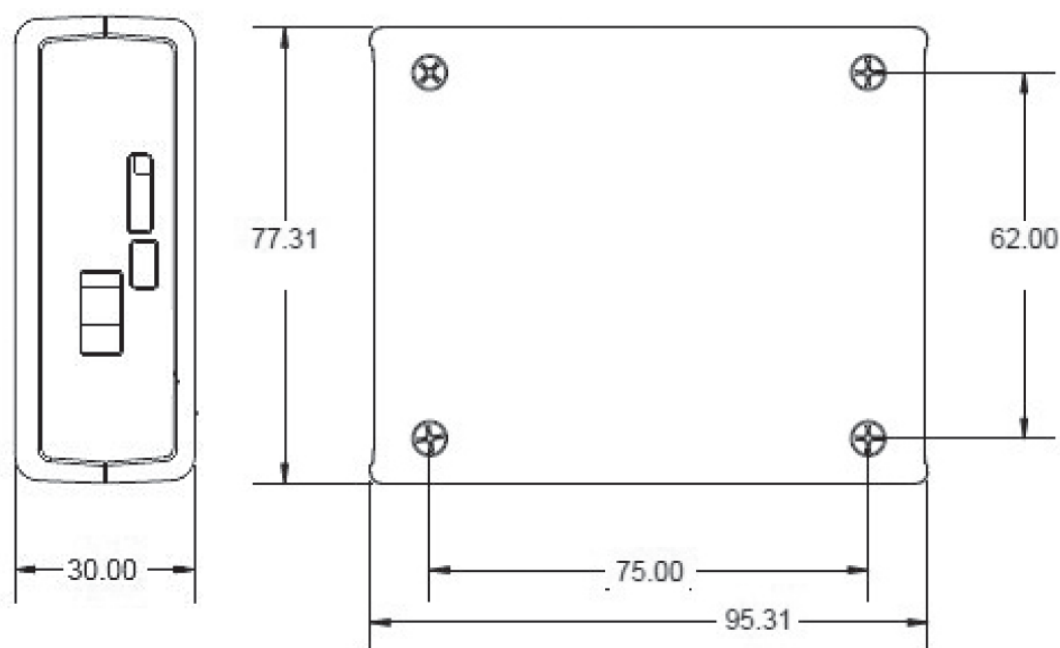
2.8 Measurement interval

The minimum measurement interval of the RMS-CONVERTER is every 60 seconds. The measurement interval can only be set when the device is added to RMS.

Note: If an interval change is required, the RMS-CONVERTER and all devices added via the RMS-CONVERTER should be deleted and added again. When the RMS-CONVERTER is deleted from RMS, all of the measurement and device data are also deleted. When adding the RMS-CONVERTER again to RMS, the measurement interval can be selected.

The minimum measurement interval of any device added via the RMS-CONVERTER is every 60 seconds. The measurement interval can at any time under: tools>setup>devices.

2.9 Dimensions



2.10 Function Overview

Overview of the main software functions of the device

► Add non RMS devices to RMS	The RMS-CONVERTER allows for the integration of non RMS devices into RMS.
------------------------------	---

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► IP configuration	The devices can have static or dynamic IP configurations. It is recommended that you use a fix IP configuration whenever possible.
► RMS Web Server settings	<p>The RMS-CONVERTER has the server address and software path of the RMS server software stored in it in order to build up communication with the RMS server software.</p> <p>The two parameters can be set with the RMS configuration software:</p> <ul style="list-style-type: none"> • Host: Address of the server with the RMS software. • Server path: Server path where the server software is installed.
► Audit Trail	Only changes of the device made within the RMS software will appear in the audit trail.
► Save measured data	The measured values of every measurement are saved in the MS SQL database (7 days). If the data cannot be sent to the server software directly, they are kept in the device and then sent later as soon as the connection to the server software has been restored.
► Firmware update	The firmware of the device can be directly updated via the RMS server software.

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3 Installation and configuration

To install the RMS-CONVERTER, it is necessary to connect it to the Ethernet network and supply power.

Note: If the RMS-CONVERTER is already installed within an RMS system, the device is then write protected and no changes can be made to the device. In order to carry out changes within the device, the device must be removed from RMS.

3.1 Default configuration

The RMS-CONVERTER is by default configured with DHCP active. That means that the RMS-CONVERTER receives the IP-address automatically from the DHCP-server.

IMPORTANT: Rotronic recommends using a fix IP address for the RMS-CONVERTER as well as for the digital devices. The reason being the support of the log function within the RMS-CONVERTER in case of any interruption to the RMS server.

A fix IP-address can be set by a manual configuration via the web browser or via the RMS CONFIG Software.

The host name of the device is "rms-convXXXXXXXX" where XXXXXXXX is a space holder for the serial number without the first two digits "00" (see the bottom side of the RMS Converter).

3.2 Configuration via web browser

To configure the RMS-CONVERTER please type in the host name of the device <http://rms-convXXXXXXXX> into the address bar of the web browser.

If the RMS-CONVERTER is configured with a fixed IP address, the device can be accessed by typing the IP address into the web browser (example: <http://192.168.0.1>).

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Login RMS-Converter

User	<input type="text"/>
Password	<input type="password"/>

Login

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Figure 3: Login to the RMS-CONVERTER via web browser.

There is a default user and password specified for the RMS-Converter:

- Default user: *rotronic*
- Default password: *rmsconv*

Recommendation: change the password for security reasons.

Note: should the password be forgotten, simply unplug the device and replug it in: the default login is valid for 10 minutes.

rotronic

Network

Modus	DHCP
IP	10.75.22.28
Subnet Mask	255.255.255.0
Gateway	10.75.22.1
DNS	10.65.0.5
Hostname	rms-conv61575400

Save

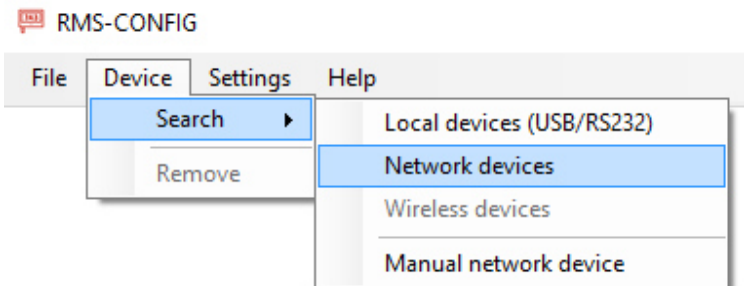
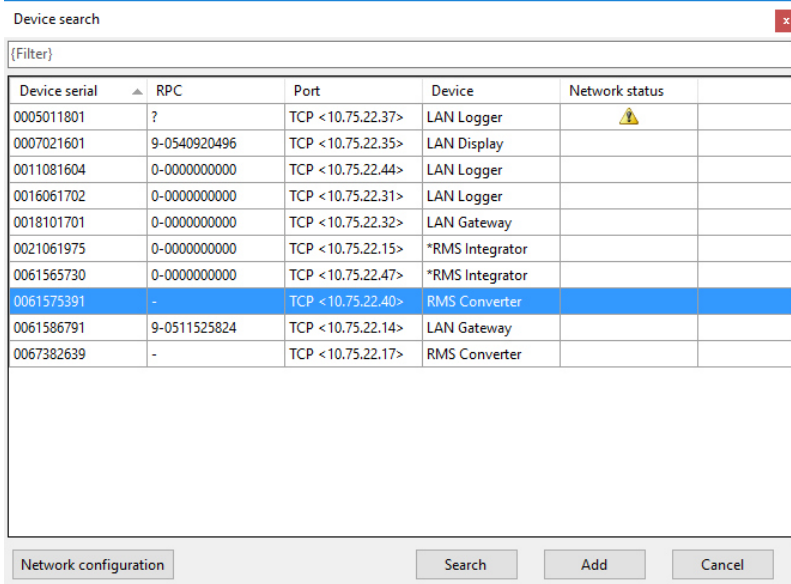
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Figure 4: Configuration of the RMS-CONVERTER via web browser.

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3.3 Configuration via RMS CONFIG software

The RMS-CONVERTER can also be configured with the RMS CONFIG software, a configuration software tool that can be downloaded from www.rotronic.com.

Step 1	<div>Search for network devices:</div> <div></div>																																																							
Step 2	<div>Select the RMS-CONVERTER via the Add button</div> <div><table><thead><tr><th>Device serial</th><th>RPC</th><th>Port</th><th>Device</th><th>Network status</th></tr></thead><tbody><tr><td>0005011801</td><td>?</td><td>TCP <10.75.22.37></td><td>LAN Logger</td><td></td></tr><tr><td>0007021601</td><td>9-0540920496</td><td>TCP <10.75.22.35></td><td>LAN Display</td><td></td></tr><tr><td>0011081604</td><td>0-0000000000</td><td>TCP <10.75.22.44></td><td>LAN Logger</td><td></td></tr><tr><td>0016061702</td><td>0-0000000000</td><td>TCP <10.75.22.31></td><td>LAN Logger</td><td></td></tr><tr><td>0018101701</td><td>0-0000000000</td><td>TCP <10.75.22.32></td><td>LAN Gateway</td><td></td></tr><tr><td>0021061975</td><td>0-0000000000</td><td>TCP <10.75.22.15></td><td>*RMS Integrator</td><td></td></tr><tr><td>0061565730</td><td>0-0000000000</td><td>TCP <10.75.22.47></td><td>*RMS Integrator</td><td></td></tr><tr><td>0061575391</td><td>-</td><td>TCP <10.75.22.40></td><td>RMS Converter</td><td></td></tr><tr><td>0061586791</td><td>9-0511525824</td><td>TCP <10.75.22.14></td><td>LAN Gateway</td><td></td></tr><tr><td>0067382639</td><td>-</td><td>TCP <10.75.22.17></td><td>RMS Converter</td><td></td></tr></tbody></table></div>	Device serial	RPC	Port	Device	Network status	0005011801	?	TCP <10.75.22.37>	LAN Logger		0007021601	9-0540920496	TCP <10.75.22.35>	LAN Display		0011081604	0-0000000000	TCP <10.75.22.44>	LAN Logger		0016061702	0-0000000000	TCP <10.75.22.31>	LAN Logger		0018101701	0-0000000000	TCP <10.75.22.32>	LAN Gateway		0021061975	0-0000000000	TCP <10.75.22.15>	*RMS Integrator		0061565730	0-0000000000	TCP <10.75.22.47>	*RMS Integrator		0061575391	-	TCP <10.75.22.40>	RMS Converter		0061586791	9-0511525824	TCP <10.75.22.14>	LAN Gateway		0067382639	-	TCP <10.75.22.17>	RMS Converter	
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0067382639	-	TCP <10.75.22.17>	RMS Converter																																																					
Step 3	<div>Login to the device:</div> <div>Default user: <i>rotronic</i></div> <div>Default password: <i>rmsconv</i></div>																																																							

The screenshot displays the RMS-CONFIG web interface. The top menu bar includes 'File', 'Device', 'Settings', and 'Help'. The main content area is titled 'Web interface' and features the 'rotronic' logo on the left. A sidebar on the left contains navigation links: 'Network' (highlighted), 'Pairing', 'Settings', and 'New Password'. The main panel shows the 'Network' configuration page with a title bar 'Network' and a refresh icon. The configuration table is as follows:

Modus	DHCP
IP	10.75.22.28
Subnet Mask	255.255.255.0
Gateway	10.75.22.1
DNS	10.65.0.5
Hostname	rms-conv61575400

A 'Save' button is located at the bottom of the configuration area. The footer of the interface reads '© Rotronic AG 2018'.

3.4 Pairing of the RMS-CONVERTER

The RMS-CONVERTER will be paired either with an on premise server or with the Rotronic cloud server, this is to be selecting in the pairing page. In the case of an on premise server, the IP address of the server is required.

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Network
Pairing
Settings

Pairing

Connected	<input checked="" type="checkbox"/>
Paired	<input type="checkbox"/>
Modus	Rotronic Cloud Server ▾

Connect

Token

Pair

Figure 5: Select Modus before connecting the RMS-CONVERTER to the Rotronic cloud server.

rotronic

Network
Pairing
Settings
New Password

Pairing

Connected	<input checked="" type="checkbox"/>
Paired	<input type="checkbox"/>
Modus	Local Server ▾
IP	<input type="text"/>

Connect

Token

Pair

Figure 6: Select Modus before connecting RMS-CONVERTER to an on premise server.

Once paired, the paired box will be ticked. From this moment on, no changes are possible on the RMS-CONVERTER as it is integrated into RMS.

Pairing

Connected	<input checked="" type="checkbox"/>
Paired	<input checked="" type="checkbox"/>
Modus	Rotronic Cloud Server ▾

Connect

Figure 7: Paired box is ticked.

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3.5 Settings of the RMS-CONVERTER

In the case of an on premise server, the Webservice path must be adapted to the local settings of the local server. After correct configuration, the RMS-CONVERTER can be integrated into RMS.

rotronic

Settings	
Software version	1.3.0.18229
WebService path	<input type="text" value="rmsService13/wService3.DeviceService.svc"/>

Save

Update Firmware

Figure 8: Update of the Webservice path for any on premise servers.

In case of local server, the **Webservice path** must be adapted to the local settings of the local server. See user manual **E-IM-RMS-WEB**

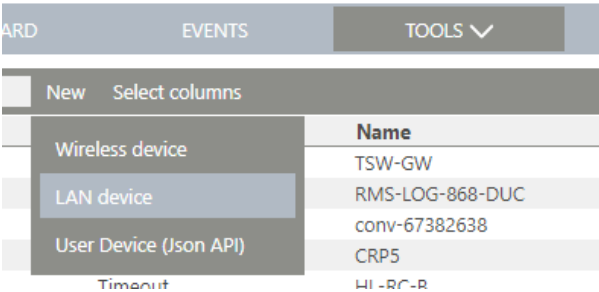

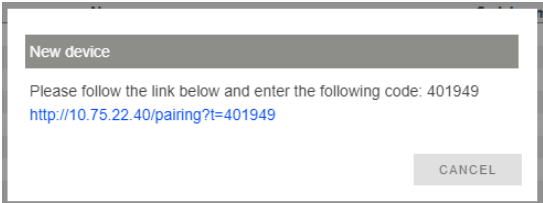
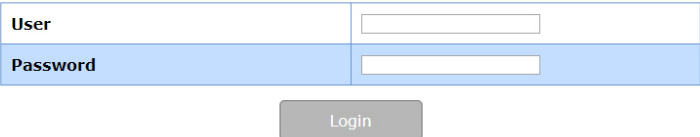
IMPORTANT: For a successful integration of the RMS-CONVERTER into RMS, the network port 80 must be opened. The RMS-CONVERTER must be able to send data to the RMS server (on premise or cloud):

- In case of an active DHCP: A DHCP server must supply an IP address automatically.
- In case of fix IP: the network administrator can manually set a fixed IP address for the RMS-CONVERTER.

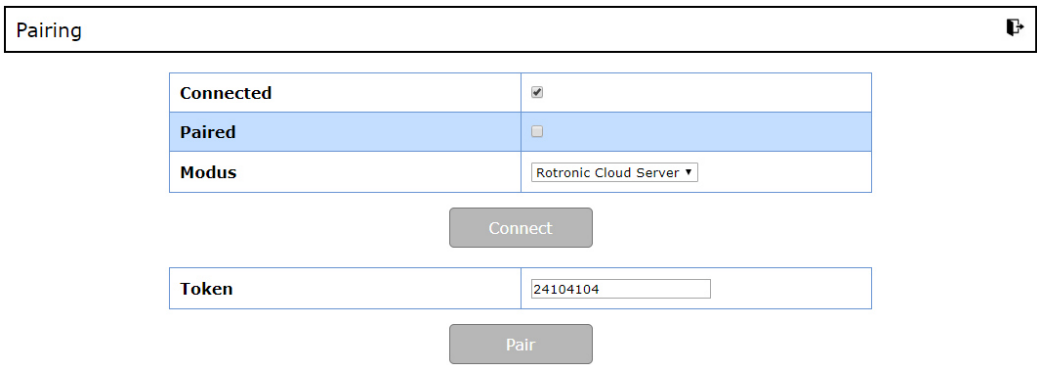
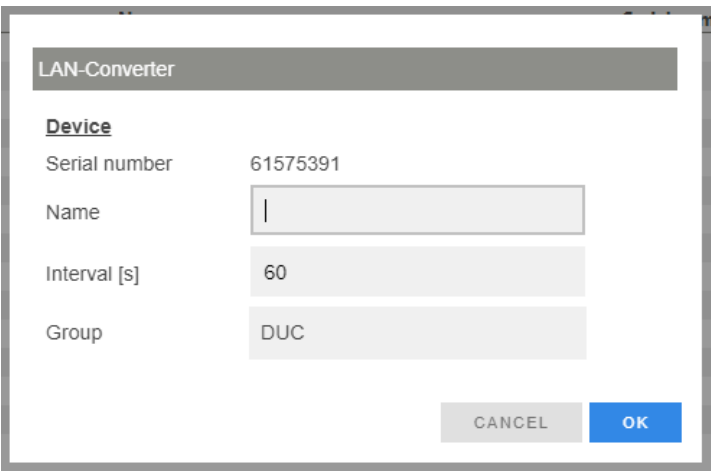
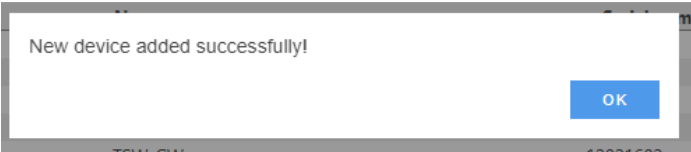
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4 Integration of the RMS-CONVERTER into RMS

The RMS-CONVERTER is integrated into RMS with the following 6 steps.

Step 1	<p>Login into the RMS Software > <i>Tools</i> > <i>Setup</i> > <i>Devices</i> > <i>New</i> > <i>LAN device</i>.</p> 
Step 2	<p>Type the serial number of the RMS Converter and click <OK>.</p> 
Step 3	<p>Click the link.</p> 
Step 4	<p>Login to the device:</p> <p>Default user: <i>rotronic</i></p> <p>Default password: <i>rmsconv</i></p> <p>Login RMS-Converter</p> 

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Step 4	<p>A token will be given to the RMS-CONVERTER. Click <Pair> and change back to the browser tab <i>Devices – RMS Setup</i>.</p> 
Step 5	<p>Configure the device further (device name, interval, group)</p> 
Step 6	<p>The configuration / integration of the RMS Converter is finished.</p> 

For details of the RMS server software please see the user manual **E-SM-RMS-WEB**

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5 Firmware update

The RMS-CONVERTER firmware update can be done either via RMS or with the RMS CONFIG software. The actual version of the firmware can be found at www.rotronic.com.

IMPORTANT: In order to carry out a firmware update the RMS-CONVERTER must be disabled within RMS.

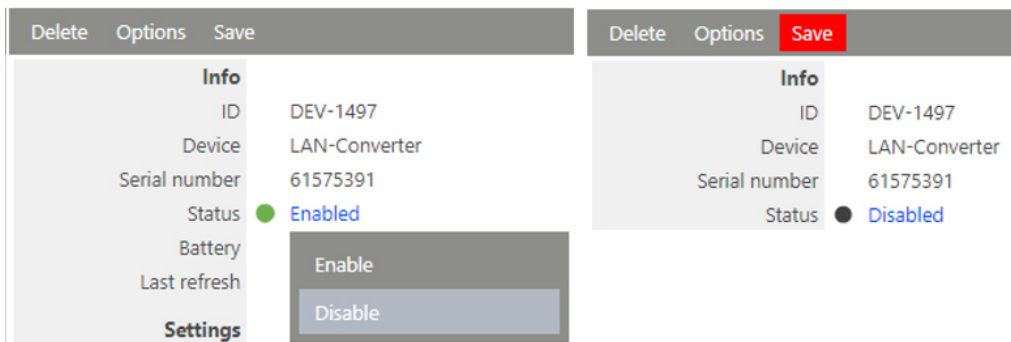


Figure 9: Disable the device in RMS.

5.1 Firmware update via RMS

- Step 1: Login to the RMS software>Tools>Setup>Device and select the RMS-CONVERTER for the firmware update.
- Step 2: Select options and click on <Firmware update>.

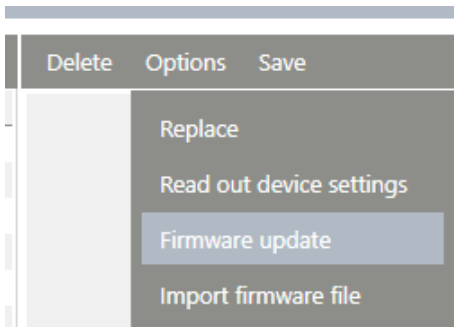


Figure 10: Firmware update in RMS.

- Step 3: The RMS software compares the actual firmware version with the latest firmware version and devices if a firmware update is required or not. Click on <OK>.



Figure 11: Firmware update in RMS.

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- Step 4: Firmware will update:



Figure 12: Firmware update running in RMS.

- Step 5: Firmware updated successfully:



Figure 13: Firmware update successful in RMS.

5.2 Firmware update with RMS CONFIG

- Step 1: Add the RMS-CONVERTER to RMS CONFIG: Device>Search>Network devices.
- Step 2: Choose the device and select <Add>.
- Step 3: The login window of RMS CONFIG appears, default User: rotronic; default password: rmsconv.

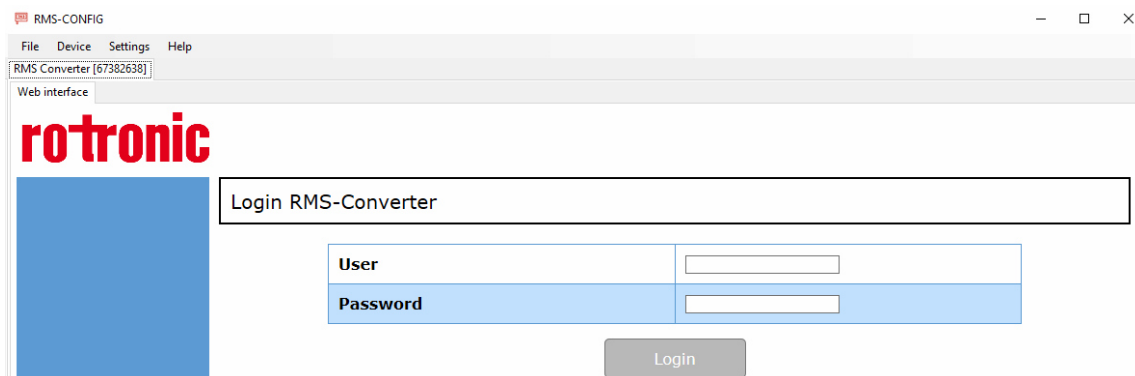


Figure 14: Firmware update in RMS Config.

- Step 4: Select settings and click on <Update Firmware>.



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Figure 15: Firmware update in RMS Config.

- Step 5: A dialog window open, select the .bin firmware and open.
- Step 6: Firmware update complete.

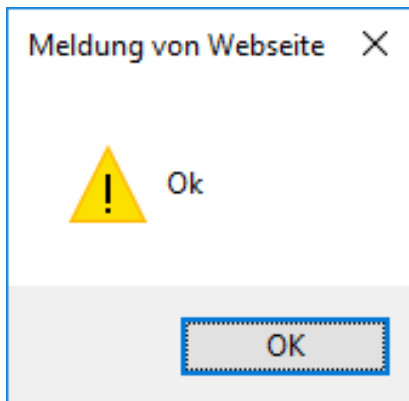


Figure 16: Successful firmware update.

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6 Integration of Rotronic conventional products into RMS

6.1 General

Rotronic offers an extensive range of measurement devices. Please see www.rotronic.com for more details. Some of these devices can be integrated into RMS via the RMS-CONVERTER.

IMPORTANT: Conventional products from Rotronic are configured via the HW4 software. It is crucial that the device manual and HW4 manual is read before integration of the devices into RMS. RMS will overwrite settings on the conventional products when added into RMS with the RMS-CONVERTER.

6.1.1 Standard functions

If accessible, the RMS-CONVERTER can provide, amongst others, the following information to RMS:

- Device identification (product name and serial number)
- Measurement values (read)
- Relay values (read)
- Triggering of a relay (write)
- Adjustment possibility (write)
- Scaling of analog outputs (write)
- Scaling of analog inputs (write)
- Access to logged data (read)
- ...

6.1.2 RMS and HW4

IMPORTANT: Rotronic recommends NOT to run HW4 and RMS in parallel (where devices are connected to both HW4 and RMS). Running both systems at the same time will result in timeouts, data gaps and other errors due to communication failure. As soon as HW4 is launched on a PC, it will automatically start the integrated search function for all devices that are on the network.

For the initial installation and setup of a conventional product, HW4 can be required.

Rotronic recommends the following procedures:

- Use of a communication cable AC3001/3006/3009 directly from an isolated laptop with HW4 to the device.
- Deactivate the automatic search function (ADDP) with the Rotronic device via the web browser menu.
- Deactivate the devices within RMS (please see the RMS Software user manual for more details).

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6.1.3 Limitations

RMS is designed for IoT devices as well as networks where each device has an integrated memory and power supply to bridge power and/or communication interrupts. This postulates a strict architecture in terms of communication, timing and other various points to ensure an uninterrupted monitoring.

The RMS-CONVERTER enables digital devices to be integrated into RMS, these digital devices may be stand alone, but also part of another network or system with another design. As such limitations exist in terms of device features and functions for communication stability and overall performance.

IMPORTANT: Time outs and data gaps can occur due to mismatching systems and limited compatibility!

6.1.4 Compatible devices with an Ethernet connection

Device name	Order code	Function	Parameter measured
HF5	HF5xx-xxxxxLxx	Transmitter with 1 interchangeable probe input.	Temperature and relative humidity.
HF8	HF8xx--x9xxx/9	Transmitter with 2 interchangeable probe inputs and data logger function and 4 relays.	Temperature and relative humidity.
PF4	PF4xx-Lxxxxxx	Transmitter with 1 interchangeable probe input and 1 relay.	Differential pressure, temperature and relative humidity.
PF4/PF5 (new generation)	N/A	Transmitter with 1 interchangeable probe input and relay.	Differential pressure, temperature and relative humidity.
CRP5	CRP5xx-xxxxxxx	Clean room panel with 1 interchangeable probe input, 2 analog and 2 digital inputs and 6 relays.	Differential pressure, temperature, relative humidity, pressure, digital and analog inputs.
HL-NT	HL-NT3	Data logger with 3 interchangeable probe inputs.	Temperature and relative humidity.
HL-NT docking stations	HL-DS-NT4 HL-DS-PT4 HL-DS-U4 HL-DS-U4-420	Docking stations with up to 4 interchangeable probe inputs and 2 digital inputs.	Temperature, relative humidity, digital and analog inputs.

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6.1.5 Compatible devices within an RS485 network

The RMS software and RMS-CONVERTER hardware are not compatible with RS485 networks.

6.2 Integration of the HF5 transmitter into RMS

6.2.1 Device description



The HF5 is a transmitter with a HC2 probe input.

Important: Please consult the HF5 user manual as well as the HW4 manual for HF5 devices for further details.

6.2.2 Network configuration of the device

To add the HF5 into the RMS, it is necessary to setup the individual network configuration of the device as:

- DHCP active or fixed IP address
- Host name

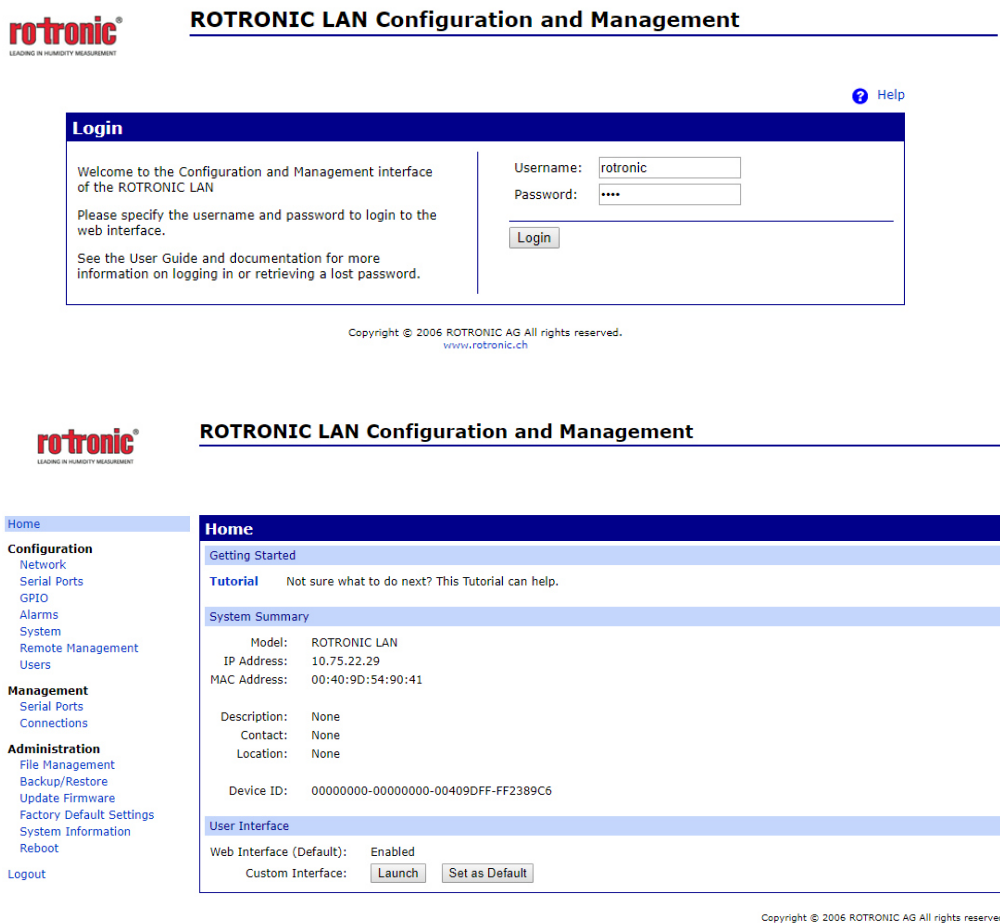
The HF5 default settings are:

- Fix IP address 192.168.1.1
- Host name not defined



To find and configure the network settings of the device, please connect the device into the LAN and use the Digi Device Discovery Tool. (<https://www.rotronic.com/en/productattachments/index/download?id=1531>)

Step 1	Discover the IP address-	If the IP address or the host name device is known, please type into the address bar of the web browser: http://ipaddress (e.g.
--------	--------------------------	---

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	<p>Open and execute DigiDeviceDiscovery.exe. The device search starts automatically. Double click on the device: a web browser opens.</p> <p>http://192.178.1.1) or http://hostname (e.g. http://SN12345678).</p>
Step 2	<p>Log in for further network configuration: (default username: rotronic / default password: wlan).</p>  <p>The screenshot displays the 'ROTRONIC LAN Configuration and Management' web interface. It features a 'Login' section with a welcome message and a login form. The form has fields for 'Username' (pre-filled with 'rotronic') and 'Password' (masked with '****'), and a 'Login' button. Below the login form is a 'System Summary' section with the following details: Model: ROTRONIC LAN, IP Address: 10.75.22.29, MAC Address: 00:40:9D:54:90:41, Description: None, Contact: None, Location: None, and Device ID: 00000000-00000000-00409DFF-FF2389C6. At the bottom, the 'User Interface' section shows 'Web Interface (Default): Enabled' and 'Custom Interface: Launch' and 'Set as Default' buttons. The page includes the rotronic logo and copyright information: Copyright © 2006 ROTRONIC AG All rights reserved. www.rotronic.ch.</p>
Step 3	<p>Check or change the network settings:</p>

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	<div data-bbox="368 394 489 439">  </div> <div data-bbox="552 383 1121 412"> ROTRONIC LAN Configuration and Management </div> <div data-bbox="335 492 379 510"> Home </div> <div data-bbox="335 519 440 537"> Configuration </div> <div data-bbox="335 539 491 669"> Network Serial Ports GPIO Alarms System Remote Management Users </div> <div data-bbox="335 678 435 696"> Management </div> <div data-bbox="335 698 435 734"> Serial Ports Connections </div> <div data-bbox="335 743 448 761"> Administration </div> <div data-bbox="335 763 509 873"> File Management Backup/Restore Update Firmware Factory Default Settings System Information Reboot </div> <div data-bbox="335 884 387 902"> Logout </div> <div data-bbox="558 492 782 517"> Network Configuration </div> <div data-bbox="558 524 667 544"> IP Settings </div> <div data-bbox="579 562 925 607"> <input checked="" type="radio"/> Obtain an IP address automatically using DHCP * <input type="radio"/> Use the following IP address: </div> <div data-bbox="639 616 901 638"> * IP Address: <input type="text" value="10.65.100.51"/> </div> <div data-bbox="628 642 901 667"> * Subnet Mask: <input type="text" value="255.255.0.0"/> </div> <div data-bbox="616 672 901 694"> Default Gateway: <input type="text" value="10.65.10.34"/> </div> <div data-bbox="568 723 1088 743"> * Changes to DHCP, IP address and Subnet Mask require a reboot to take effect. </div> <div data-bbox="568 759 625 781"> <input type="button" value="Apply"/> </div> <div data-bbox="568 797 754 817"> Network Services Settings </div> <div data-bbox="568 824 762 844"> Advanced Network Settings </div> <p>IMPORTANT: Rotronic recommends using a fix IP address for the RMS-CONVERTER as well as for the digital devices. The reason being the support of the log function within the RMS-CONVERTER in case of any interruption to the RMS server.</p>
Step 4	<p>Check or change the hostname and set the check mark for "Enable AutoIP address assignment:</p> <div data-bbox="368 1097 489 1140">  </div> <div data-bbox="544 1088 978 1115"> ROTRONIC LAN Configuration and Man </div> <div data-bbox="341 1191 384 1209"> Home </div> <div data-bbox="341 1218 440 1236"> Configuration </div> <div data-bbox="341 1238 489 1357"> Network Serial Ports GPIO Alarms System Remote Management Users </div> <div data-bbox="341 1366 435 1384"> Management </div> <div data-bbox="341 1386 435 1420"> Serial Ports Connections </div> <div data-bbox="341 1429 448 1447"> Administration </div> <div data-bbox="341 1447 504 1552"> File Management Backup/Restore Update Firmware Factory Default Settings System Information Reboot </div> <div data-bbox="341 1559 391 1576"> Logout </div> <div data-bbox="549 1191 761 1216"> Network Configuration </div> <div data-bbox="549 1223 643 1243"> IP Settings </div> <div data-bbox="549 1247 734 1267"> Network Services Settings </div> <div data-bbox="549 1272 762 1292"> Advanced Network Settings </div> <div data-bbox="560 1301 978 1321"> The following settings are advanced settings used to fine tune the ne </div> <div data-bbox="560 1330 639 1350"> IP Settings </div> <div data-bbox="560 1359 914 1382"> Host name: <input type="text" value="SN12345678"/> </div> <div data-bbox="568 1386 807 1408"> <input checked="" type="checkbox"/> Enable AutoIP address assignment </div> <div data-bbox="560 1424 683 1444"> Ethernet Interface </div> <div data-bbox="560 1451 892 1473"> Speed: <input type="text" value="Auto"/> Mode: <input type="text" value="Half-Duplex"/> </div> <div data-bbox="560 1491 716 1512"> TCP Keep-Alive Settings </div> <div data-bbox="560 1520 978 1541"> The following TCP keep-alive settings are currently set by the DHCP </div> <div data-bbox="568 1543 855 1565"> <input type="checkbox"/> Ignore TCP Keep-Alive settings from DHCP </div> <div data-bbox="584 1565 954 1588"> Idle Timeout: <input type="text" value="2"/> hrs <input type="text" value="0"/> mins <input type="text" value="0"/> secs </div> <div data-bbox="584 1592 938 1615"> Probe Interval: <input type="text" value="75"/> secs Probe Count: <input type="text" value="9"/> </div> <div data-bbox="584 1619 880 1639"> <input type="checkbox"/> Store extra byte in TCP Keep-Alive packets </div> <div data-bbox="568 1671 614 1693"> <input type="button" value="Apply"/> </div> <p>If a DNS is active within the network, the RMS / RMS Converter can communicate based on the host name instead of the IP address.</p>
Step 5	<p>Disable the discovery mode:</p> <p>The device search function of HW4 and the Discovery tool uses a Device Discovery function (ADDP). At the end of the configuration, it is meaningful to disable this feature.</p>

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	<ul style="list-style-type: none"> • Network>Network Services Settings>remove the checkmark of “Enable Device Discovery (ADDP)”. <p>IMPORTANT: Parallel and unwished communication due to the opening of HW4 will be avoided. A side effect is, that this device will not automatically be found by HW4 or the Discovery tool anymore. To access the device via HW4, the IP address must be added manually.</p>
Step 6	<p>Close connection after the following number of idle seconds:</p> <p>Unwished parallel communication/requests to the Ethernet address of the Rotronic device can cause an unwished blocking of the devices internal access to the Ethernet port. For that reason the following setting can be done:</p> <ul style="list-style-type: none"> • Serial Ports>Advanced serial settings>TCP Settings>Set a checkmark to “Close connection after the following number of idle seconds”. • >Serial Ports> Advanced serial settings> TCP Settings> Timeout: xx seconds. <p>If the port is blocked then the device will renew/unblock the port by itself after the chosen timeout. This way a permanent timeout of the device will be avoided. The loss of data will be reduced significantly. For an RMS-CONVERTER interval of 60 seconds, a timeout of 10 to 30 seconds would be meaningful.</p>

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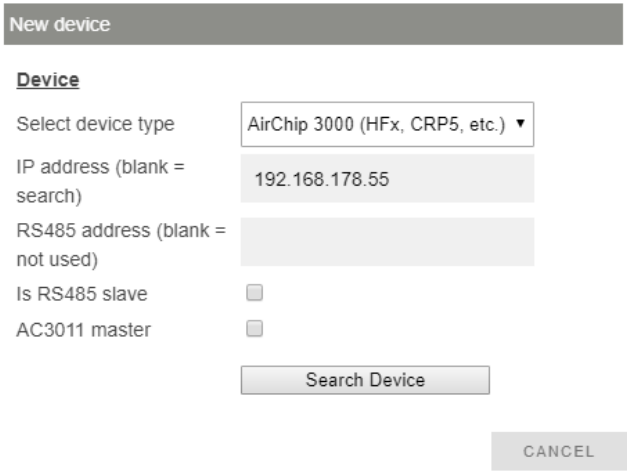
<ul style="list-style-type: none"> Serial Ports GPIO Alarms System Remote Management Users Management Serial Ports Connections Administration File Management Backup/Restore Update Firmware Factory Default Settings System Information Reboot Logout 	<div style="background-color: #e6f2ff; padding: 2px 5px; margin-bottom: 5px;">Basic Serial Settings</div> <div style="background-color: #e6f2ff; padding: 2px 5px; margin-bottom: 5px;">Advanced Serial Settings</div> <p>The following settings are advanced settings used to fine tune the serial port and access</p> <div style="background-color: #e6f2ff; padding: 2px 5px; margin-bottom: 5px;">Serial Settings</div> <div style="margin-bottom: 10px;"> <input type="checkbox"/> Enable Port Logging Log Size: <input type="text" value="32 KB"/> </div> <div style="margin-bottom: 10px;"> <input type="checkbox"/> Enable RTS Toggle Pre-Delay: <input type="text" value="0"/> ms Post-Delay: <input type="text" value="0"/> ms </div> <div style="margin-bottom: 10px;"> <input type="checkbox"/> Enable RCI over Serial (DSR) </div> <div style="background-color: #e6f2ff; padding: 2px 5px; margin-bottom: 5px;">TCP Settings</div> <div style="margin-bottom: 10px;"> <input type="checkbox"/> Send Socket ID Socket ID: <input style="width: 150px;" type="text"/> </div> <div style="margin-bottom: 10px;"> <input type="checkbox"/> Send data only under any of the following conditions: <div style="margin-left: 20px;"> <input type="checkbox"/> Send when data is present on the serial line Match string: <input style="width: 150px;" type="text"/> <input type="checkbox"/> Strip match string before sending </div> <div style="margin-left: 20px;"> <input type="checkbox"/> Send after the following number of idle milliseconds <input type="text" value="1000"/> ms </div> <div style="margin-left: 20px;"> Send after the following number of bytes <input type="text" value="1024"/> bytes </div> </div> <div style="margin-bottom: 10px;"> <input checked="" type="checkbox"/> Close connection after the following number of idle seconds Timeout: <input type="text" value="30"/> secs </div> <div style="margin-bottom: 10px;"> <input type="checkbox"/> Close connection when DCD goes low </div> <div style="margin-bottom: 10px;"> <input type="checkbox"/> Close connection when DSR goes low </div> <div style="text-align: right;"> <input type="button" value="Apply"/> </div>
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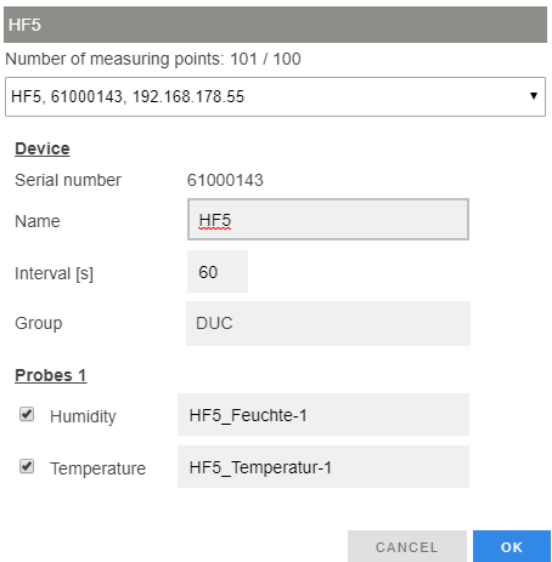

6.2.3 Integration into RMS via the RMS-CONVERTER

Step 1	<p>Log into the RMS software. Select Tools > Setup > Devices. Select the RMS-CONVERTER and click on <Add/Search> devices:</p> <div> <div> Info ID DEV-1922 Device LAN-Converter Serial number 61575399 Status  Enabled Battery --- Last refresh 2 Seconds Encryption Yes </div> <div> Settings Name RMS-Converter #399 Position Technical Area Timeout [s] 240 Owner James Pickering Group RMS Wall Properties Show </div> <div> Devices Add/Search </div> </div>
--------	---

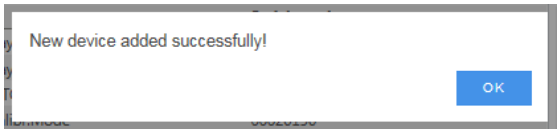
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Step 2	<p>Select the device type in the drop down menu.</p> <p>It is possible to type the IP address or host name into the field <i>IP address</i>.</p> <p>IMPORTANT: If the field stays empty, RMS searches automatically. If the automatic search function is disabled, an IP address or a host name has to be typed into the field.</p> 
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Step 3	<p>The device appears: configure accordingly.</p>  <p>Note: The interval cannot be shorter than the interval of the RMS Converter.</p> <p>IMPORTANT: If not all checkmarks for measurement points are set and it is wished to expand it later then the same device needs to be added again with the same identification and IP address (there is no need to delete the device before adding it). The desired check marks can be set. And afterwards, the added or updated measurement points will appear.</p>
Step 4	<p>The device is added.</p> <p>New device added successfully!</p> 

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Step 5	<p>IMPORTANT: Overwritten settings.</p> <p>By adding the device to RMS via the RMS-CONVERTER, the following configuration will be overwritten on the device:</p> <ul style="list-style-type: none"> • Fix value humidity: disabled • Fix value temperature: disabled • Fix value if no probe is connected: disabled • Default relative humidity unit: %rh • Default temperature unit: °C <p>Note: if one of the settings above is changed with HW4 further to the initial installation into RMS, then RMS will not note the change. However, such a change would cause RMS to not work correctly. The changes will however be overwritten should the RMS-CONVERTER reboot (due to a short power interrupt).</p>
Step 6	<p>Finish configuration.</p> 

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6.2.4 Functionality within RMS

Device settings: log into the RMS software. Select Tools > Setup > Devices. Select the device.

ID	Status	Name	Serial number
DEV-155	OK	LAN-Converter_67382638	67382638
DEV-441	OK	CRP5	1234567890
DEV-442	OK	HF4	596874521
DEV-443	OK	HF5	61000143
DEV-444	OK	HF8re	110970380
DEV-445	OK	HF8li	10101
DEV-446	OK	PF4alt	3
DEV-447	OK	PF4neu	71713630
DEV-450	OK	HL-NT_unten	61693554
DEV-453	OK	4RTD	0
DEV-454	OK	AperR5	1804100021
DEV-456	OK	PF5neu	71713631
DEV-470	OK	HL-RC-B	12653048
DEV-471	OK	HL-RC-T	12779757
DEV-472	OK	SADC-V	0
DEV-473	OK	RedLion E3-16ISOTC	0
DEV-483	OK	HL-NT-PT100	61255128
DEV-486	OK	HL-NT_oben	60422161
DEV-487	OK	8015	0

Info

ID: DEV-443

Device: Third Party Device

Serial number: 61000143

Status: Enabled

Battery: ---

Last refresh: 9 Seconds

Encryption: No

Settings

Name: HF5

Position:

Interval [s]: 60

Timeout [s]: 120

Address: 192.168.178.55

RS485 address: 2

Is RS485 slave: ☒

Auto restore: ☒

Owner: Unknown

Group: DUC

Properties: Show

Gateway: DEV-155, LAN-Converter_67382638

Measuring points

Input 1: IMPT-1672, HF5_Feuchte-1, Humidity

Input 2: IMPT-1673, HF5_Temperatur-1, Temperature

Status: the device can be disabled/enabled. When disabled, the RMS-CONVERTER will not send any requests.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Properties: Show. The settings can be shown and configured.

Step 1

Device properties

Settings

Output range: 0..1V

Analog output 1

Source: Humi

Measurement range low: 0

Measurement range high: 100

Analog output 2

Source: Temp

Measurement range low: -40

Measurement range high: 60

Status info

Version: V2.0-1

[RPC]: 4-164972460

CANCEL

APPLY

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IMPORTANT: Under options, the firmware update, import firmware file, import device definition and device inventory are not supported for this device.

IMPORTANT: The output range, the sources and the measurement ranges of the analog outputs 1 and 2, can be scaled and stored within the device clicking <Apply>.

Measurement point settings: log into the RMS software. Select Tools > Setup > Measuring point. Select the measuring point.

Status: the measuring point can be disabled/enabled.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

FiltersNewSelect columns

ID	Status	Name	Unit	Serial number	Regulation status	Comment
MPT-1656	OK	CRP5_Differenzdruck-1	Differential pressure	0		
MPT-1657	OK	CRP5_Feuchte-2	Humidity	20073369		
MPT-1658	OK	CRP5_Temperatur-2	Temperature	20073369		
MPT-1659	OK	CRP5_Analog-3	Analog	0		
MPT-1660	OK	CRP5_Analog-4	Analog	0		
MPT-1661	OK	CRP5_Druck-5	Pressure	0		
MPT-1662	OK	CRP5_Schalteingang-6	Switch input	0		
MPT-1664	OK	CRP5_Schaltausgang-8	Switch output	0		
MPT-1670	OK	HF4_Humidity	Humidity	596874521		
MPT-1671	OK	HF4_Temperature	Temperature	596874521		
MPT-1672	OK	HF5_Feuchte-1	Humidity	20049983		
MPT-1673	OK	HF5_Temperatur-1	Temperature	20049983		
MPT-1674	OK	HF8re_Feuchte-1	Humidity	60816820		
MPT-1675	OK	HF8re_Temperatur-1	Temperature	60816820		
MPT-1676	OK	HF8re_Feuchte-2	Humidity	247169827		
MPT-1677	OK	HF8re_Temperatur-2	Temperature	247169827		
MPT-1678	OK	HF8re_Schaltausgang-3	Switch output	0		
MPT-1682	OK	HF8li_Feuchte-1	Humidity	60816788		
MPT-1683	OK	HF8li_Temperatur-1	Temperature	60816788		
MPT-1684	OK	HF8li_Feuchte-2	Humidity	247195221		
MPT-1685	OK	HF8li_Temperatur-2	Temperature	247195221		

ArchiveDeleteSave

Info

IDMPT-1672

TypeHumidity

StatusEnabled

Serial number20049983

DeviceHF5 [DEV-443]

Last refresh49 Seconds

Settings

NameHF5_Feuchte-1

Regulation status

Comment

Display category

Display digitsAutomatic

Group(s)DUC

Display "Aw" unit

Alarm

Mode

Off

Measuring point

Alarm scheme

Step 2

Adjustment: log into the RMS software. Select Tools > Adjustment. Select the measuring point. Click on <Refresh now>.

General procedure:

- Type the humidity reference value and click <Acquire>
- Repeat until the desired number of adjustment points are acquired.
Note: The user of this feature must take care about sufficient stable circumstances for a data acquisition. Please take the interval into account. One value after every 60 seconds does not detect short term changes of the value.
- Click <Adjust> to finish.
- Use the button <Acquire + Adjust> for one point adjustment.
- Click <Delete user adjustment> to delete the last customer adjustment.

Step 3

Filters	Select columns	Refresh now									
^ID Name MPT-1656 CRP5_Differenzdruck-1 MPT-1657 CRP5_Feuchte-2 MPT-1658 CRP5_Temperatur-2 MPT-1659 CRP5_Analog-3 MPT-1660 CRP5_Analog-4 MPT-1661 CRP5_Druck-5 MPT-1670 HF4_Humidity MPT-1671 HF4_Temperatur MPT-1672 HF5_Feuchte-1 MPT-1673 HF5_Temperatur-1 MPT-1674 HF8re_Feuchte-1 MPT-1675 HF8re_Temperatur-1 MPT-1676 HF8re_Feuchte-2 MPT-1677 HF8re_Temperatur-2 MPT-1682 HF8li_Feuchte-1 MPT-1683 HF8li_Temperatur-1 MPT-1684 HF8li_Feuchte-2 MPT-1685 HF8li_Temperatur-2 MPT-1690 PF4alt_Differenzdruck-1 MPT-1691 PF4alt_Feuchte-2 MPT-1692 PF4alt_Temperatur-2 MPT-1722 HL-NT_unten_Feuchte-1 MPT-1723 HL-NT_unten_Temperatur-1 MPT-1724 HL-NT_unten_Feuchte-2 MPT-1725 HL-NT_unten_Temperatur-2 MPT-1726 HL-NT_unten_Feuchte-3	Measuring point ID MPT-1672 Name HF5_Feuchte-1 Unit Humidity Status OK Adjustment info Last refresh 0 Days Factory default Date 7/15/2015 Reference 10.93; 34.18; 77.75 User adjustment Date 6/7/2018 Reference Adjustment deleted Acquired values <table border="1"> <thead> <tr> <th>No.</th> <th>Date</th> <th>Reference</th> <th>Measured value</th> <th>Difference</th> </tr> </thead> <tbody> <tr> <td colspan="5">No data acquired yet</td> </tr> </tbody> </table> Measurement Current measured value 35.21%rh Reference value <input type="text" value="Manual input"/> Temperature <input type="text" value="HF5_Temperatur-1"/> <input type="button" value="Acquire"/> <input type="button" value="Adjust"/> <input type="button" value="Acquire + Adjust"/> <input type="button" value="Delete user adjustment"/>	No.	Date	Reference	Measured value	Difference	No data acquired yet				
No.	Date	Reference	Measured value	Difference							
No data acquired yet											

Humidity 2 points acquired

Measuring point ID MPT-1672 Name Feuchte-1 Unit Humidity Status OK Adjustment info Last refresh 0 Days Factory default Date 7/15/2015 Reference 10.93; 34.18; 77.75 User adjustment Date 6/7/2018 Reference Adjustment deleted Acquired values <table border="1"> <thead> <tr> <th>No.</th> <th>Date</th> <th>Reference</th> <th>Measured value</th> <th>Difference</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>---</td> <td>40.00</td> <td>35.20</td> <td>-4.80</td> </tr> <tr> <td>2</td> <td>---</td> <td>50.00</td> <td>35.15</td> <td>-14.85</td> </tr> </tbody> </table> Measurement Current measured value 35.21%rh Reference value <input type="text" value="Manual input"/> Temperature <input type="text" value="HF5_Temperatur-1"/> <input type="button" value="Acquire"/> <input type="button" value="Adjust"/> <input type="button" value="Acquire + Adjust"/> <input type="button" value="Delete user adjustment"/>	No.	Date	Reference	Measured value	Difference	1	---	40.00	35.20	-4.80	2	---	50.00	35.15	-14.85	Measuring point ID MPT-1672 Name Feuchte-1 Unit Humidity Status OK Adjustment info Last refresh 0 Days Factory default Date 7/15/2015 Reference 10.93; 34.18; 77.75 User adjustment Date 10/19/2018 Reference 40.00; 50.00 Acquired values <table border="1"> <thead> <tr> <th>No.</th> <th>Date</th> <th>Reference</th> <th>Measured value</th> <th>Difference</th> </tr> </thead> <tbody> <tr> <td colspan="5">No data acquired yet</td> </tr> </tbody> </table> Measurement Current measured value 35.18%rh Reference value <input type="text" value="Manual input"/> Temperature <input type="text" value="HF5_Temperatur-1"/> <input type="button" value="Acquire"/> <input type="button" value="Adjust"/> <input type="button" value="Acquire + Adjust"/> <input type="button" value="Delete user adjustment"/>	No.	Date	Reference	Measured value	Difference	No data acquired yet				
No.	Date	Reference	Measured value	Difference																						
1	---	40.00	35.20	-4.80																						
2	---	50.00	35.15	-14.85																						
No.	Date	Reference	Measured value	Difference																						
No data acquired yet																										

Humidity 2 points adjusted

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	Note: For humidity multiple points can be acquired and adjusted. For temperature only 1 or 2 points.								
Step 4	<p>Data logging: the HF5 has no internal memory, the HF5 is not battery powered. So the HF5 cannot log during a power interruption.</p> <p>In case of a communication interruption to the RMS Server, the RMS Converter logs the data of the HF5. After the interruption, RMS requests the data from the RMS Converter.</p> <p>In case of a communication interruption between the RMS Converter and the HF5, a data gap would be created.</p>								
Step 5	<p>Sensor error: In case of one sensor error out of the two, RMS displays a sensor error for both measurement values.</p> <table><tr><td>MPT-1672</td><td>Sensor error</td><td>HF5_Feuchte-1</td><td>Humidity</td></tr><tr><td>MPT-1673</td><td>Sensor error</td><td>HF5_Temperatur-1</td><td>Temperature</td></tr></table> <div><div>MPT-1672 HF5_Feuchte-1</div><div>0,00 %rh</div></div>	MPT-1672	Sensor error	HF5_Feuchte-1	Humidity	MPT-1673	Sensor error	HF5_Temperatur-1	Temperature
MPT-1672	Sensor error	HF5_Feuchte-1	Humidity						
MPT-1673	Sensor error	HF5_Temperatur-1	Temperature						
Step 6	<p>Measurement alarm: Alarms linked to the measurement limits and programmed within the HC2 will not be transmitted to RMS. However if the device has a display and the display is configured correctly, the alarm will show on the display.</p>								
Step 7	<p>Fix values on the HC2: fixed measurement values programmed within the HC2 are displayed as simulators within RMS.</p> <table><tr><td>MPT-1672</td><td>Simulator connected</td><td>HF5_Feuchte-1</td><td>Humidity</td></tr><tr><td>MPT-1673</td><td>Simulator connected</td><td>HF5_Temperatur-1</td><td>Temperature</td></tr></table> <div><div>MPT-1673 HF5_Temperatur-1</div><div>23,67 °C</div><div>Simulator</div></div> <div><div>MPT-1672 HF5_Feuchte-1</div><div>55,00 %rh</div><div>Simulator</div></div> <p>IMPORTANT: In case of an active fix value of one measurement value of a HC2, RMS will show “simulator connected” for both measurement values of the probe.</p>	MPT-1672	Simulator connected	HF5_Feuchte-1	Humidity	MPT-1673	Simulator connected	HF5_Temperatur-1	Temperature
MPT-1672	Simulator connected	HF5_Feuchte-1	Humidity						
MPT-1673	Simulator connected	HF5_Temperatur-1	Temperature						

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6.3 Integration of the HF8 transmitter into RMS

6.3.1 Device description



The HF8 is a transmitter with 2 HC2 or 2 analog inputs and 4 relays.

Important: Please consult the HF8 user manual as well as the HW4 manual for HF8 devices for further details.

6.3.2 Network configuration of the device

To add the HF8 into the RMS, it is necessary to setup the individual network configuration of the device as:


- DHCP active or fixed IP address
- Host name

The HF8 default settings are:

- Fix IP address 192.168.1.1
- Host name not defined

To find and configure the network settings of the device, please connect the device into the LAN and use the Digi Device Discovery Tool. (<https://www.rotronic.com/en/productattachments/index/download?id=1531>)

Step 1	Discover the IP address- Open and execute DigiDeviceDiscovery.exe. The device search starts automatically. Double click on the device: a web browser opens-	If the IP address or the host name device is known, please type into the address bar of the web browser: http://ipaddress (e. g. http://192.178.1.1) or http://hostname (e. g. http://SN12345678).
Step 2	Log in for further network configuration: (default username: rotronic / default password: wlan)	



ROTRONIC LAN Configuration and Management

[? Help](#)

Login


Welcome to the Configuration and Management interface of the ROTRONIC LAN

Please specify the username and password to login to the web interface.

See the User Guide and documentation for more information on logging in or retrieving a lost password.

Username:
Password:

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Tutorial Not sure what to do next? This Tutorial can help.

[System Summary](#)

Model: ROTRONIC LAN
IP Address: 10.75.22.29
MAC Address: 00:40:9D:54:90:41

Description: None
Contact: None
Location: None


Device ID: 00000000-00000000-00409DFF-FF2389C6

[User Interface](#)

Web Interface (Default): ☒ Enabled
Custom Interface:

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Step 3 Check or change the network settings:



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Network Configuration

IP Settings

☒ Obtain an IP address automatically using DHCP *

☐ Use the following IP address:

* IP Address:
* Subnet Mask:
Default Gateway:

* Changes to DHCP, IP address and Subnet Mask require a reboot to take effect.

[Network Services Settings](#)
[Advanced Network Settings](#)

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	<p>IMPORTANT: Rotronic recommends using a fix IP address for the RMS-CONVERTER as well as for the digital devices. The reason being the support of the log function within the RMS-CONVERTER in case of any interruption to the RMS server.</p>
Step 4	<p>Check or change the hostname and set the check mark for "Enable AutoIP address assignment:</p> <div data-bbox="338 544 976 1160" data-label="Form"> </div> <p>If a DNS is active within the network, the RMS / RMS Converter can communicate based on the host name instead of the IP address.</p>
Step 5	<p>Disable the discovery mode:</p> <p>The device search function of HW4 and the Discovery tool uses a Device Discovery function (ADDP). At the end of the configuration, it is meaningful to disable this feature.</p> <ul style="list-style-type: none"> • Network>Network Services Settings>remove the checkmark of "Enable Device Discovery (ADDP)". <p>IMPORTANT: Parallel and unwished communication due to the opening of HW4 will be avoided. A side effect is, that this device will not automatically be found by HW4 or the Discovery tool anymore. To access the device via HW4, the IP address must be added manually.</p>
Step 6	<p>Close connection after the following number of idle seconds:</p> <p>Unwished parallel communication/requests to the Ethernet address of the Rotronic device can cause an unwished blocking of the devices internal access to the Ethernet port. For that reason the following setting can be done:</p> <ul style="list-style-type: none"> • Serial Ports>Advanced serial settings>TCP Settings>Set a checkmark to "Close connection after the following number of idle seconds". • >Serial Ports> Advanced serial settings> TCP Settings> Timeout: xx seconds. <p>If the port is blocked then the device will renew/unblock the port by itself after the chosen timeout.</p>

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This way a permanent timeout of the device will be avoided. The loss of data will be reduced significantly. For an RMS-CONVERTER interval of 60 seconds, a timeout of 10 to 30 seconds would be meaningful.

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Basic Serial Settings

Advanced Serial Settings

The following settings are advanced settings used to fine tune the serial port and access

Serial Settings

☐ Enable Port Logging
Log Size: 32 KB

☐ Enable RTS Toggle
Pre-Delay: 0 ms
Post-Delay: 0 ms

☐ Enable RCI over Serial (DSR)

TCP Settings

☐ Send Socket ID
Socket ID:

☐ Send data only under any of the following conditions:

☐ Send when data is present on the serial line
Match string:
☐ Strip match string before sending

☐ Send after the following number of idle milliseconds
1000 ms

Send after the following number of bytes
1024 bytes

☒ Close connection after the following number of idle seconds
Timeout: 30 secs

☐ Close connection when DCD goes low

☐ Close connection when DSR goes low

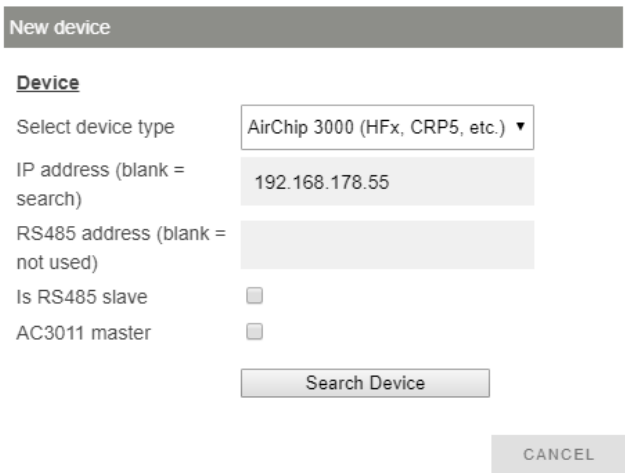
Apply

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6.3.3 Integration into RMS via the RMS-CONVERTER

Step 1	<p>Log into the RMS software. Select Tools > Setup > Devices. Select the RMS-CONVERTER and click on <Add/Search> devices:</p> <div data-bbox="360 524 1037 1274"> <div> Info </div> <div> IDDEV-1922 DeviceLAN-Converter Serial number61575399 Status● Enabled Battery--- Last refresh2 Seconds EncryptionYes </div> <div> Settings </div> <div> NameRMS-Converter #399 PositionTechnical Area Timeout [s]240 OwnerJames Pickering GroupRMS Wall PropertiesShow </div> <div> Devices </div> <div> Add/Search </div> </div>
--------	--

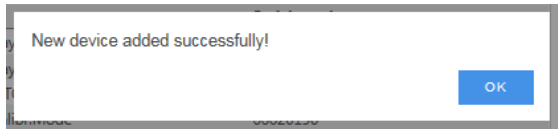
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Step 2	<p>Select the device type in the drop down menu.</p> <p>It is possible to type the IP address or host name into the field <i>IP address</i>.</p> <p>IMPORTANT: If the field stays empty, RMS searches automatically. If the automatic search function is disabled, an IP address or a host name has to be typed into the field.</p> 
--------	--

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Step 3	<p>The device appears: configure accordingly.</p> <div data-bbox="375 443 1257 1070"> </div> <p>Note: The interval cannot be shorter than the interval of the RMS Converter.</p> <p>IMPORTANT: If not all checkmarks for measurement points are set and it is wished to expand it later then the same device needs to be added again with the same identification and IP address (there is no need to delete the device before adding it). The desired check marks can be set. And afterwards, the added or updated measurement points will appear.</p>
Step 4	<p>The device is added.</p> <p>New device added successfully!</p> <p>OK</p>

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Step 5	<p>IMPORTANT: Overwritten settings.</p> <p>By adding the device to RMS via the RMS-CONVERTER, the following configuration will be overwritten on the device:</p> <ul style="list-style-type: none"> • Fix value humidity: disabled • Fix value temperature: disabled • Fix value if no probe is connected: disabled • Default relative humidity unit: %rh • Default temperature unit: °C • Link alarm on humidity to relay: disabled • Link alarm on temperature to relay: disabled • Link alarm on calculated value to relay: disabled <p>Note: if one of the settings above is changed with HW4 further to the initial installation into RMS, then RMS will not note the change. However, such a change would cause RMS to not work correctly. The changes will however be overwritten should the RMS-CONVERTER reboot (due to a short power interrupt).</p>
Step 6	<p>Finish configuration.</p> 

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6.3.4 Functionality within RMS

Step 1

Device settings: log into the RMS software. Select Tools > Setup > Devices. Select the device.

Filters	New	Select columns	Delete	Options	Save
ID	Status	Name	Serial number	Info	
DEV-155	OK	LAN-Converter_67382638	67382638	ID	DEV-444
DEV-441	OK	CRP5	1234567890	Device	Third Party Device
DEV-442	OK	HF4	596874521	Serial number	110970390
DEV-443	OK	HF5	61000143	Status	● Enabled
DEV-444	OK	HF8re	110970380	Battery	---
DEV-445	OK	HF8li	10101	Last refresh	21 Seconds
DEV-446	OK	PF4alt	3	Encryption	No
DEV-447	OK	PF4neu	71713630	Settings	
DEV-450	Timeout	HL-NT_unten	61693554	Name	HF8re
DEV-453	OK	4RTO	0	Position	
DEV-454	OK	ApexR5	1804100021	Interval [s]	60
DEV-456	OK	PF5neu	71713631	Timeout [s]	120
DEV-470	OK	HL-RC-B	12653048	Address	192.168.178.57
DEV-471	OK	HL-RC-T	12779757	RS485 address	3
DEV-472	OK	8ADC-V	0	Is RS485 slave	<input type="checkbox"/>
DEV-473	OK	RedLion E3-16ISOTC	0	Auto restore	<input checked="" type="checkbox"/>
DEV-483	OK	HL-NT-PT100	61255128	Owner	Unknown
DEV-486	Timeout	HL-NT_oben	60422161	Group	DUC
DEV-487	OK	8015	0	Properties	Show
				Gateway	DEV-155, LAN-Converter_67382638
				Measuring points	
				Input 1	● MPT-1674, HF8re_Feuchte-1, Humidity
				Input 2	● MPT-1675, HF8re_Temperatur-1, Temperature
				Input 3	● MPT-1676, HF8re_Feuchte-2, Humidity
				Input 4	● MPT-1677, HF8re_Temperatur-2, Temperature
				Input 5	● MPT-1678, HF8re_Schaltausgang-3, Switch output

Status: the device can be disabled/enabled. When disabled, the RMS-CONVERTER will not send any requests.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Properties: Show. The settings can be shown and configured.

Device properties

Settings

Output range

4. 20mA

Analog output 1

Source

Humi1

Measurement range low

0

Measurement range high

100

Analog output 2

Source

Temp1

Measurement range low

0

Measurement range high

100

Analog output 3

Source

Humi2

CANCEL

APPLY

Device properties

Analog output 3

Source

Humi2

Measurement range low

0

Measurement range high

100

Analog output 4

Source

Temp2

Measurement range low

0

Measurement range high

100

Input 1

Input type

HygroClip

Input low [mV]

0

Input high [mV]

17096

CANCEL

APPLY

Device properties

Input high [mV]

17096

Measurement range low

0.5

Measurement range high

0

Input 2

Input type

HygroClip

Input low [mV]

0

Input high [mV]

0

Measurement range low

0

Measurement range high

0

Status info

Version

V2.1a

[RPC]

70-83886080

CANCEL

APPLY

IMPORTANT: Under options, the firmware update, import firmware file, import device definition and device inventory are not supported for this device.

IMPORTANT: The output range, the sources and the measurement ranges of the analog outputs 1 and 2, can be scaled and stored within the device clicking <Apply>.

Step 2

Measurement point settings: log into the RMS software. Select Tools > Setup > Measuring point.

Select the measuring point.

Status: the measuring point can be disabled/enabled.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Filters New Select columns							Archive Delete Save		
ID	Status	Name	Unit	Serial number	Regulation status	Comment			
MPT-1656	OK	CRP5_Differenzdruck-1	Differential pressure	0					
MPT-1657	OK	CRP5_Feuchte-2	Humidity	20073369					
MPT-1658	OK	CRP5_Temperatur-2	Temperature	20073369					
MPT-1659	OK	CRP5_Analog-3	Analog	0					
MPT-1660	OK	CRP5_Analog-4	Analog	0					
MPT-1661	OK	CRP5_Druck-5	Pressure	0					
MPT-1662	OK	CRP5_Schalteingang-6	Switch input	0					
MPT-1664	OK	CRP5_Schaltausgang-8	Switch output	0					
MPT-1670	OK	HF4_Humidity	Humidity	596874521					
MPT-1671	OK	HF4_Temperatur	Temperature	596874521					
MPT-1672	OK	HF5_Feuchte-1	Humidity	20049983					
MPT-1673	OK	HF5_Temperatur-1	Temperature	20049983					
MPT-1674	OK	HF8re_Feuchte-1	Humidity	60816820					
MPT-1675	OK	HF8re_Temperatur-1	Temperature	60816820					
MPT-1676	OK	HF8re_Feuchte-2	Humidity	247169827					
MPT-1677	OK	HF8re_Temperatur-2	Temperature	247169827					
MPT-1678	OK	HF8re_Schaltausgang-3	Switch output	0					
MPT-1682	OK	HF8li_Feuchte-1	Humidity	60816788					
MPT-1683	OK	HF8li_Temperatur-1	Temperature	60816788					
MPT-1684	OK	HF8li_Feuchte-2	Humidity	247195221					
MPT-1685	OK	HF8li_Temperatur-2	Temperature	247195221					

Info

ID: MPT-1674

Type: Humidity

Status: ● Enabled

Serial number: 60816820

Device: HF8re [DEV-444] [↗](#)

Last refresh: 41 Seconds

Settings

Name: HF8re_Feuchte-1

Regulation status: ☐

Comment:

Display category:

Display digits: Automatic ▾

Group(s): DUC

Display "Aw" unit: ☐

Alarm

Mode: ☒ Off
☐ Measuring point
☐ Alarm scheme

Step 3

Adjustment: log into the RMS software. Select Tools > Adjustment. Select the measuring point. Click on <Refresh now>.

General procedure:

- Type the humidity reference value and click <Acquire>
- Repeat until the desired number of adjustment points are acquired.
Note: The user of this feature must take care about sufficient stable circumstances for a data acquisition. Please take the interval into account. One value after every 60 seconds does not detect short term changes of the value.
- Click <Adjust> to finish.
- Use the button <Acquire + Adjust> for one point adjustment.
- Click <Delete user adjustment> to delete the last customer adjustment.

Filters	Select columns	Refresh now																																																																																											
<table border="1"> <thead> <tr> <th>ID</th> <th>Name</th> </tr> </thead> <tbody> <tr><td>MPT-1656</td><td>CRP5_Differenzdruck-1</td></tr> <tr><td>MPT-1657</td><td>CRP5_Feuchte-2</td></tr> <tr><td>MPT-1658</td><td>CRP5_Temperatur-2</td></tr> <tr><td>MPT-1659</td><td>CRP5_Analog-3</td></tr> <tr><td>MPT-1660</td><td>CRP5_Analog-4</td></tr> <tr><td>MPT-1661</td><td>CRP5_Druck-5</td></tr> <tr><td>MPT-1670</td><td>HF4_Humidity</td></tr> <tr><td>MPT-1671</td><td>HF4_Temperature</td></tr> <tr><td>MPT-1672</td><td>HF5_Feuchte-1</td></tr> <tr><td>MPT-1673</td><td>HF5_Temperatur-1</td></tr> <tr><td>MPT-1674</td><td>HF8re_Feuchte-1</td></tr> <tr><td>MPT-1675</td><td>HF8re_Temperatur-1</td></tr> <tr><td>MPT-1676</td><td>HF8re_Feuchte-2</td></tr> <tr><td>MPT-1677</td><td>HF8re_Temperatur-2</td></tr> <tr><td>MPT-1682</td><td>HF8li_Feuchte-1</td></tr> <tr><td>MPT-1683</td><td>HF8li_Temperatur-1</td></tr> <tr><td>MPT-1684</td><td>HF8li_Feuchte-2</td></tr> <tr><td>MPT-1685</td><td>HF8li_Temperatur-2</td></tr> <tr><td>MPT-1690</td><td>PF4alt_Differenzdruck-1</td></tr> <tr><td>MPT-1691</td><td>PF4alt_Feuchte-2</td></tr> <tr><td>MPT-1692</td><td>PF4alt_Temperatur-2</td></tr> <tr><td>MPT-1722</td><td>HL-NT_unten_Feuchte-1</td></tr> <tr><td>MPT-1723</td><td>HL-NT_unten_Temperatur-1</td></tr> <tr><td>MPT-1724</td><td>HL-NT_unten_Feuchte-2</td></tr> <tr><td>MPT-1725</td><td>HL-NT_unten_Temperatur-2</td></tr> <tr><td>MPT-1726</td><td>HL-NT_unten_Feuchte-3</td></tr> </tbody> </table>	ID	Name	MPT-1656	CRP5_Differenzdruck-1	MPT-1657	CRP5_Feuchte-2	MPT-1658	CRP5_Temperatur-2	MPT-1659	CRP5_Analog-3	MPT-1660	CRP5_Analog-4	MPT-1661	CRP5_Druck-5	MPT-1670	HF4_Humidity	MPT-1671	HF4_Temperature	MPT-1672	HF5_Feuchte-1	MPT-1673	HF5_Temperatur-1	MPT-1674	HF8re_Feuchte-1	MPT-1675	HF8re_Temperatur-1	MPT-1676	HF8re_Feuchte-2	MPT-1677	HF8re_Temperatur-2	MPT-1682	HF8li_Feuchte-1	MPT-1683	HF8li_Temperatur-1	MPT-1684	HF8li_Feuchte-2	MPT-1685	HF8li_Temperatur-2	MPT-1690	PF4alt_Differenzdruck-1	MPT-1691	PF4alt_Feuchte-2	MPT-1692	PF4alt_Temperatur-2	MPT-1722	HL-NT_unten_Feuchte-1	MPT-1723	HL-NT_unten_Temperatur-1	MPT-1724	HL-NT_unten_Feuchte-2	MPT-1725	HL-NT_unten_Temperatur-2	MPT-1726	HL-NT_unten_Feuchte-3	<table border="1"> <thead> <tr> <th colspan="2">Measuring point</th> </tr> <tr> <td>ID</td> <td>MPT-1674</td> </tr> <tr> <td>Name</td> <td>HF8re_Feuchte-1</td> </tr> <tr> <td>Unit</td> <td>Humidity</td> </tr> <tr> <td>Status</td> <td>OK</td> </tr> </thead> <tbody> <tr> <td colspan="2">Adjustment info</td> </tr> <tr> <td>Last refresh</td> <td>0 Days</td> </tr> <tr> <td>Factory default Date</td> <td>8/20/2011</td> </tr> <tr> <td>Reference</td> <td>12.47; 35.20; 79.02</td> </tr> <tr> <td>User adjustment Date</td> <td>6/29/2018</td> </tr> <tr> <td>Reference</td> <td>Adjustment deleted</td> </tr> <tr> <td colspan="2">Acquired values</td> </tr> <tr> <td>No.</td> <td>Date</td> </tr> <tr> <td>Reference</td> <td>Measured value</td> </tr> <tr> <td>Difference</td> <td></td> </tr> <tr> <td colspan="2">Measurement</td> </tr> <tr> <td>Current measured value</td> <td>27,80%rh</td> </tr> <tr> <td>Reference value</td> <td>Manual input</td> </tr> <tr> <td>Temperature</td> <td>25.07 HF8re_Temperatur-1</td> </tr> </tbody> </table>	Measuring point		ID	MPT-1674	Name	HF8re_Feuchte-1	Unit	Humidity	Status	OK	Adjustment info		Last refresh	0 Days	Factory default Date	8/20/2011	Reference	12.47; 35.20; 79.02	User adjustment Date	6/29/2018	Reference	Adjustment deleted	Acquired values		No.	Date	Reference	Measured value	Difference		Measurement		Current measured value	27,80%rh	Reference value	Manual input	Temperature	25.07 HF8re_Temperatur-1
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MPT-1692	PF4alt_Temperatur-2																																																																																												
MPT-1722	HL-NT_unten_Feuchte-1																																																																																												
MPT-1723	HL-NT_unten_Temperatur-1																																																																																												
MPT-1724	HL-NT_unten_Feuchte-2																																																																																												
MPT-1725	HL-NT_unten_Temperatur-2																																																																																												
MPT-1726	HL-NT_unten_Feuchte-3																																																																																												
Measuring point																																																																																													
ID	MPT-1674																																																																																												
Name	HF8re_Feuchte-1																																																																																												
Unit	Humidity																																																																																												
Status	OK																																																																																												
Adjustment info																																																																																													
Last refresh	0 Days																																																																																												
Factory default Date	8/20/2011																																																																																												
Reference	12.47; 35.20; 79.02																																																																																												
User adjustment Date	6/29/2018																																																																																												
Reference	Adjustment deleted																																																																																												
Acquired values																																																																																													
No.	Date																																																																																												
Reference	Measured value																																																																																												
Difference																																																																																													
Measurement																																																																																													
Current measured value	27,80%rh																																																																																												
Reference value	Manual input																																																																																												
Temperature	25.07 HF8re_Temperatur-1																																																																																												

Humidity 2 points acquired

Humidity 2 points adjusted

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	<div><div><div><div><div>Measuring point</div><div>IDMPT-1672</div><div>NameFeuchte-1</div><div>UnitHumidity</div><div>StatusOK</div></div><div><div>Adjustment info</div><div>Last refresh0 Days</div><div>Factory default Date7/15/2015</div><div>Reference10.93; 34.18; 77.75</div><div>User adjustment Date6/7/2018</div><div>ReferenceAdjustment deleted</div></div><div><div>Acquired values</div><table><thead><tr><th>No.</th><th>Date</th><th>Reference</th><th>Measured value</th><th>Difference</th><th></th></tr></thead><tbody><tr><td>1</td><td>---</td><td>40.00</td><td>35.20</td><td>-4.80</td><td>Remove</td></tr><tr><td>2</td><td>---</td><td>50.00</td><td>35.15</td><td>-14.85</td><td>Remove</td></tr></tbody></table></div><div><div>Measurement</div><div>Current measured value35.21%rh</div><div>Reference valueManual input</div><div>TemperatureHF5_Temperatur-1</div><div><div>Acquire</div><div>Adjust</div><div>Acquire + Adjust</div><div>Delete user adjustment</div></div></div></div></div><div><div><div>Measuring point</div><div>IDMPT-1672</div><div>NameFeuchte-1</div><div>UnitHumidity</div><div>StatusOK</div></div><div><div>Adjustment info</div><div>Last refresh0 Days</div><div>Factory default Date7/15/2015</div><div>Reference10.93; 34.18; 77.75</div><div>User adjustment Date10/19/2018</div><div>Reference40.00; 50.00</div></div><div><div>Acquired values</div><table><thead><tr><th>No.</th><th>Date</th><th>Reference</th><th>Measured value</th><th>Difference</th><th></th></tr></thead><tbody></tbody></table></div><div><div>Measurement</div><div>Current measured value35.18%rh</div><div>Reference valueManual input</div><div>TemperatureHF5_Temperatur-1</div><div><div>Acquire</div><div>Adjust</div><div>Acquire + Adjust</div><div>Delete user adjustment</div></div></div></div></div> <div>Note: For humidity multiple points can be acquired and adjusted. For temperature only 1 or 2 points.</div>	No.	Date	Reference	Measured value	Difference		1	---	40.00	35.20	-4.80	Remove	2	---	50.00	35.15	-14.85	Remove	No.	Date	Reference	Measured value	Difference	
No.	Date	Reference	Measured value	Difference																					
1	---	40.00	35.20	-4.80	Remove																				
2	---	50.00	35.15	-14.85	Remove																				
No.	Date	Reference	Measured value	Difference																					
Step 4	<p>Data logging: the HF8 has an internal memory, the HF8 is not battery powered. So the HF8 cannot log during a power interruption.</p> <p>In case of a communication interruption to the RMS Server, the RMS Converter logs the data of the HF8. After the interruption, RMS requests the data from the RMS Converter.</p> <p>In case of a communication interruption between the RMS Converter and the HF8, the HF8 would log the data. After the interruption, RMS requests the data from the RMS Converter.</p> <p>The HF8 can log up to 10,000 relative humidity and temperature values provided by a single HygroClip 2 probe or up to 20,000 data values provided by a single 1-channel analog probe. Both probe inputs can be logged at the same time and in that case the recording capacity per probe is cut in half. The calculated parameter cannot be recorded.</p> <p>With an interval of 60s, the HF8 is able to bridge a communication interruption of maximum</p> <p>10'000min ≈ 167h ≈ 7d → 1 Hygroclip connected or</p> <p>5'000min ≈ 83h ≈ 3.5d → 2 Hygroclip connected or</p> <p>20'000min ≈ 333h ≈ 14d → 1 Analog input used</p> <p>This time can be increased by using a higher log interval.</p>																								

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Step 5	Sensor error: In case of one sensor error out of the two, RMS displays a sensor error for both measurement values.			
	MPT-1672	Sensor error	HF5_Feuchte-1	Humidity
	MPT-1673	Sensor error	HF5_Temperatur-1	Temperature
<div>MPT-1672 HF5_Feuchte-1</div> <div>0,00 %rh</div>				
Step 6	Measurement alarm: Alarms linked to the measurement limits and programmed within the HC2 will not be transmitted to RMS. However if the device has a display and the display is configured correctly, the alarm will show on the display.			
Step 7	Fix values on the HC2: fixed measurement values programmed within the HC2 are displayed as simulators within RMS.			
	MPT-1672	Simulator connected	HF5_Feuchte-1	Humidity
	MPT-1673	Simulator connected	HF5_Temperatur-1	Temperature
<div>MPT-1673 HF5_Temperatur-1</div> <div>23,67 °C</div> <div>Simulator</div> <div>MPT-1672 HF5_Feuchte-1</div> <div>55,00 %rh</div> <div>Simulator</div>				
IMPORTANT: In case of an active fix value of one measurement value of a HC2, RMS will show “simulator connected” for both measurement values of the probe.				

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6.4 Integration of the PF4 transmitter into RMS

6.4.1 Device description



The PF4 is a transmitter with an integrated differential pressure sensor and 1 Pt100 or HC2 probe/analog input and 1 relay.

Important: Please consult the PF4 user manual as well as the HW4 manual for PF4 devices for further details.

6.4.2 Network configuration of the device

To add the HF8 into the RMS, it is necessary to setup the individual network configuration of the device as:


- DHCP active or fixed IP address
- Host name

The HF8 default settings are:

- Fix IP address 192.168.1.1
- Host name not defined

To find and configure the network settings of the device, please connect the device into the LAN and use the Digi Device Discovery Tool. (<https://www.rotronic.com/en/productattachments/index/download?id=1531>).

Step 1	Discover the IP address- Open and execute DigiDeviceDiscovery.exe. The device search starts automatically. Double click on the device: a web browser opens-	If the IP address or the host name device is known, please type into the address bar of the web browser: http://ipaddress (e. g. http://192.178.1.1) or http://hostname (e. g. http://SN12345678)-
Step 2	Log in for further network configuration: (default username: rotronic / default password: wlan)	



ROTRONIC LAN Configuration and Management

[? Help](#)

Login


Welcome to the Configuration and Management interface of the ROTRONIC LAN

Please specify the username and password to login to the web interface.

See the User Guide and documentation for more information on logging in or retrieving a lost password.

Username:
Password:

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[Connections](#)
Administration
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[Update Firmware](#)
[Factory Default Settings](#)
[System Information](#)
[Reboot](#)
[Logout](#)

Home

[Getting Started](#)

Tutorial Not sure what to do next? This Tutorial can help.

[System Summary](#)

Model: ROTRONIC LAN
IP Address: 10.75.22.29
MAC Address: 00:40:9D:54:90:41

Description: None
Contact: None
Location: None


Device ID: 00000000-00000000-00409DFF-FF2389C6

[User Interface](#)

Web Interface (Default): ☒ Enabled
Custom Interface:

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Step 3 Check or change the network settings:



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Network Configuration

IP Settings

☒ Obtain an IP address automatically using DHCP *

☐ Use the following IP address:

* IP Address:
* Subnet Mask:
Default Gateway:

* Changes to DHCP, IP address and Subnet Mask require a reboot to take effect.

[Network Services Settings](#)
[Advanced Network Settings](#)

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	<p>IMPORTANT: Rotronic recommends using a fix IP address for the RMS-CONVERTER as well as for the digital devices. The reason being the support of the log function within the RMS-CONVERTER in case of any interruption to the RMS server.</p>
Step 4	<p>Check or change the hostname and set the check mark for "Enable AutoIP address assignment:</p> <div data-bbox="338 544 975 1160" data-label="Form"> </div> <p>If a DNS is active within the network, the RMS / RMS Converter can communicate based on the host name instead of the IP address.</p>
Step 5	<p>Disable the discovery mode:</p> <p>The device search function of HW4 and the Discovery tool uses a Device Discovery function (ADDP). At the end of the configuration, it is meaningful to disable this feature.</p> <ul style="list-style-type: none"> • Network>Network Services Settings>remove the checkmark of "Enable Device Discovery (ADDP)". <p>IMPORTANT: Parallel and unwished communication due to the opening of HW4 will be avoided. A side effect is, that this device will not automatically be found by HW4 or the Discovery tool anymore. To access the device via HW4, the IP address must be added manually.</p>
Step 6	<p>Close connection after the following number of idle seconds:</p> <p>Unwished parallel communication/requests to the Ethernet address of the Rotronic device can cause an unwished blocking of the devices internal access to the Ethernet port. For that reason the following setting can be done:</p> <ul style="list-style-type: none"> • Serial Ports>Advanced serial settings>TCP Settings>Set a checkmark to "Close connection after the following number of idle seconds". • >Serial Ports> Advanced serial settings> TCP Settings> Timeout: xx seconds.

If the port is blocked then the device will renew/unblock the port by itself after the chosen timeout. This way a permanent timeout of the device will be avoided. The loss of data will be reduced significantly. For an RMS-CONVERTER interval of 60 seconds, a timeout of 10 to 30 seconds would be meaningful.

Serial Ports
GPIO
Alarms
System
Remote Management
Users

Management
Serial Ports
Connections

Administration
File Management
Backup/Restore
Update Firmware
Factory Default Settings
System Information
Reboot

Logout

Basic Serial Settings

Advanced Serial Settings

The following settings are advanced settings used to fine tune the serial port and access

Serial Settings

☐ Enable Port Logging
Log Size: 32 KB ▼

☐ Enable RTS Toggle
Pre-Delay: 0 ms
Post-Delay: 0 ms

☐ Enable RCI over Serial (DSR)

TCP Settings

☐ Send Socket ID
Socket ID:

☐ Send data only under any of the following conditions:

☐ Send when data is present on the serial line
Match string:
☐ Strip match string before sending

☐ Send after the following number of idle milliseconds
1000 ms

Send after the following number of bytes
1024 bytes


☒ Close connection after the following number of idle seconds
Timeout: 30 secs

☐ Close connection when DCD goes low
☐ Close connection when DSR goes low

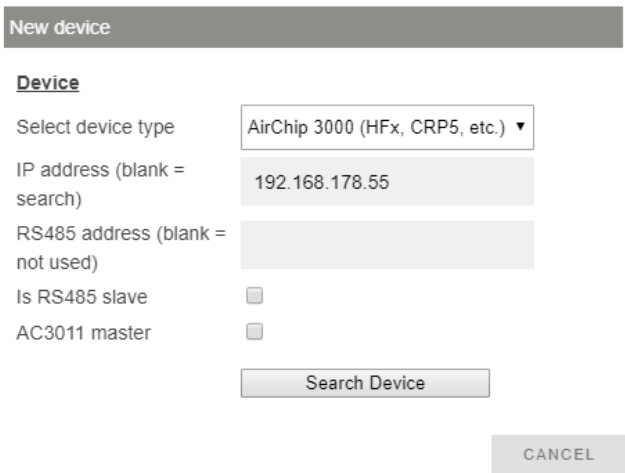
Apply

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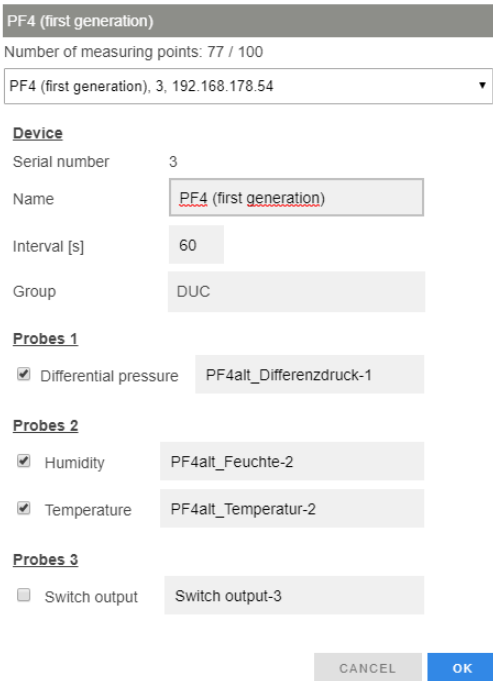

6.4.3 Integration into RMS via the RMS-CONVERTER

Step 1	<p>Log into the RMS software. Select Tools > Setup > Devices. Select the RMS-CONVERTER and click on <Add/Search> devices:</p> <div data-bbox="360 524 1037 1274"> <p>Info</p> <p>ID DEV-1922</p> <p>Device LAN-Converter</p> <p>Serial number 61575399</p> <p>Status  Enabled</p> <p>Battery ---</p> <p>Last refresh 2 Seconds</p> <p>Encryption Yes</p> <p>Settings</p> <p>Name RMS-Converter #399</p> <p>Position Technical Area</p> <p>Timeout [s] 240</p> <p>Owner James Pickering</p> <p>Group RMS Wall</p> <p>Properties Show</p> <p>Devices</p> <p>Add/Search</p> </div>
--------	---

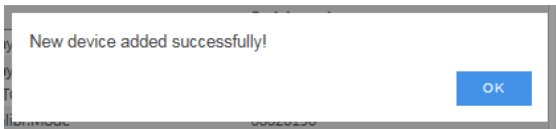
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Step 2	<p>Select the device type in the drop down menu.</p> <p>It is possible to type the IP address or host name into the field <i>IP address</i>.</p> <p>IMPORTANT: If the field stays empty, RMS searches automatically. If the automatic search function is disabled, an IP address or a host name has to be typed into the field.</p> 
--------	--

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Step 3	<p>The device appears: configure accordingly.</p>  <p>Note: The interval cannot be shorter than the interval of the RMS Converter.</p> <p>IMPORTANT: If not all checkmarks for measurement points are set and it is wished to expand it later then the same device needs to be added again with the same identification and IP address (there is no need to delete the device before adding it). The desired check marks can be set. And afterwards, the added or updated measurement points will appear.</p>
Step 4	<p>The device is added.</p> <p>New device added successfully!</p> 

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Step 5	<p>IMPORTANT: Overwritten settings.</p> <p>By adding the device to RMS via the RMS-CONVERTER, the following configuration will be overwritten on the device:</p> <ul style="list-style-type: none"> • Fix value humidity: disabled • Fix value temperature: disabled • Fix value differential pressure: disabled • Fix value calculation: disabled • Fix value analog input: disabled • Fix value if no probe is connected: disabled • Default relative humidity unit: %rh • Default temperature unit: °C • Default pressure unit: Pa • Link alarm on every measurement parameter to relay: disabled <p>Note: if one of the settings above is changed with HW4 further to the initial installation into RMS, then RMS will not note the change. However, such a change would cause RMS to not work correctly. The changes will however be overwritten should the RMS-CONVERTER reboot (due to a short power interrupt).</p>
Step 6	<p>Finish configuration.</p> 

6.4.4 Functionality within RMS

Device settings: log into the RMS software. Select Tools > Setup > Devices. Select the device.

ID	Status	Name	Serial number
DEV-155	OK	LAN-Converter_67382638	67382638
DEV-441	Timeout	CRP5	1234567890
DEV-442	Timeout	HF4	596874521
DEV-443	Timeout	HF5	61000143
DEV-444	Timeout	HF8re	110970380
DEV-445	Timeout	HF8li	10101
DEV-446	Timeout	PF4 (first generation)	3
DEV-447	Timeout	PF4neu	71713630
DEV-450	Disabled	HL-NT_unten	61693554
DEV-453	Timeout	4RTD	0
DEV-454	Timeout	ApexRS	1804100021
DEV-456	Timeout	PF5neu	71713631
DEV-470	Timeout	HL-RC-8	12653048
DEV-471	Timeout	HL-RC-T	12779757
DEV-472	Timeout	8ADC-V	0
DEV-473	Timeout	RedLion E3-16ISOTC	0
DEV-483	Timeout	HL-NT-PT100	61255128
DEV-486	Disabled	HL-NT_oben	60422161
DEV-487	Timeout	8015	0

Info

ID: DEV-446

Device: Third Party Device

Serial number: 3

Status: ● Enabled

Battery: ---

Last refresh: 3 Minutes

Encryption: No

Settings

Name: PF4 (first generation)

Position:

Interval [s]: 60

Timeout [s]: 120

Address: 192.168.178.54

RS485 address: 1

Is RS485 slave: ☐

Auto restore: ☒

Owner: Unknown

Group: DUC

Properties: Show

Gateway: DEV-155, LAN-Converter_67382638

Measuring points

Input 1: ● MPT-1690, PF4alt_Differenzdruck-1, Differential pressure

Input 2: ● MPT-1691, PF4alt_Feuchte-2, Humidity

Input 3: ● MPT-1692, PF4alt_Temperatur-2, Temperature

Status: the device can be disabled/enabled. When disabled, the RMS-CONVERTER will not send any requests.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Properties: Show. The settings can be shown and configured.

Step 1

Device properties

Settings

Output range: 0..1V

Analog output 1

Source: Humi

Measurement range low: 0

Measurement range high: 100

Analog output 2

Source: Temp

Measurement range low: -40

Measurement range high: 60

Status info

Version: V2.0-1

[RPC]: 4-164972460

CANCEL APPLY

IMPORTANT: Under options, the firmware update, import firmware file, import device definition and device inventory are not supported for this device.

IMPORTANT: The output range, the sources and the measurement ranges of the analog outputs 1 and 2, can be scaled and stored within the device clicking <Apply>.

Step 2

Measurement point settings: log into the RMS software. Select Tools > Setup > Measuring point.

Select the measuring point.

Status: the measuring point can be disabled/enabled.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Filters New Select columns						Archive	Delete	Save
ID	Status	Name	Unit	Serial number	Regulation status			
MPT-1656	OK	CRP5_Differenzdruck-1	Differential pressure	0				
MPT-1657	OK	CRP5_Feuchte-2	Humidity	20073369				
MPT-1658	OK	CRP5_Temperatur-2	Temperature	20073369				
MPT-1659	OK	CRP5_Analog-3	Analog	0				
MPT-1660	OK	CRP5_Analog-4	Analog	0				
MPT-1661	OK	CRP5_Druck-5	Pressure	0				
MPT-1662	OK	CRP5_Schalteingang-6	Switch input	0				
MPT-1664	OK	CRP5_Schaltausgang-8	Switch output	0				
MPT-1670	OK	HF4_Humidity	Humidity	596874521				
MPT-1671	OK	HF4_Temperature	Temperature	596874521				
MPT-1672	OK	HF5_Feuchte-1	Humidity	20049983				
MPT-1673	OK	HF5_Temperatur-1	Temperature	20049983				
MPT-1674	OK	HF8re_Feuchte-1	Humidity	60816820				
MPT-1675	OK	HF8re_Temperatur-1	Temperature	60816820				
MPT-1676	OK	HF8re_Feuchte-2	Humidity	247169827				
MPT-1677	OK	HF8re_Temperatur-2	Temperature	247169827				
MPT-1678	OK	HF8re_Schaltausgang-3	Switch output	0				
MPT-1682	OK	HF8li_Feuchte-1	Humidity	60816788				
MPT-1683	OK	HF8li_Temperatur-1	Temperature	60816788				
MPT-1684	OK	HF8li_Feuchte-2	Humidity	247195221				
MPT-1685	OK	HF8li_Temperatur-2	Temperature	247195221				
MPT-1686	OK	HF8li_Schaltausgang-3	Switch output	0				
MPT-1690	OK	Differential pressure	Differential pressure	0				

Info

ID: MPT-1690

Type: Differential pressure

Status: ● Enabled

Serial number: --

Device: PF4 (first generation) [DEV-446] [↗](#)

Last refresh: 7 Seconds

Settings

Name: Differential pressure

Regulation status:

Comment:

Display category:

Display digits: Automatic ▼

Group(s): DUC

Alarm

Mode: ☒ Off ☐ Measuring point ☐ Alarm scheme

Step 3

Adjustment: log into the RMS software. Select Tools > Adjustment. Select the measuring point. Click on <Refresh now>.

General procedure:

- Type the humidity reference value and click <Acquire>
- Repeat until the desired number of adjustment points are acquired.
Note: The user of this feature must take care about sufficient stable circumstances for a data acquisition. Please take the interval into account. One value after every 60 seconds does not detect short term changes of the value.
- Click <Adjust> to finish.
- Use the button <Acquire + Adjust> for one point adjustment.
- Click <Delete user adjustment> to delete the last customer adjustment.

Filters	Select columns	Refresh now									
^ID Name MPT-1656 CRP5_Differenzdruck-1 MPT-1657 CRP5_Feuchte-2 MPT-1658 CRP5_Temperatur-2 MPT-1659 CRP5_Analog-3 MPT-1660 CRP5_Analog-4 MPT-1661 CRP5_Druck-5 MPT-1670 HF4_Humidity MPT-1671 HF4_Temperatur MPT-1672 HF5_Feuchte-1 MPT-1673 HF5_Temperatur-1 MPT-1674 HF8re_Feuchte-1 MPT-1675 HF8re_Temperatur-1 MPT-1676 HF8re_Feuchte-2 MPT-1677 HF8re_Temperatur-2 MPT-1682 HF8li_Feuchte-1 MPT-1683 HF8li_Temperatur-1 MPT-1684 HF8li_Feuchte-2 MPT-1685 HF8li_Temperatur-2 MPT-1690 PF4alt_Differenzdruck-1 MPT-1691 PF4alt_Feuchte-2 MPT-1692 PF4alt_Temperatur-2 MPT-1722 HL-NT_unten_Feuchte-1 MPT-1723 HL-NT_unten_Temperatur-1 MPT-1724 HL-NT_unten_Feuchte-2 MPT-1725 HL-NT_unten_Temperatur-2 MPT-1726 HL-NT_unten_Feuchte-3	Measuring point ID MPT-1672 Name HF5_Feuchte-1 Unit Humidity Status OK Adjustment info Last refresh 0 Days Factory default Date 7/15/2015 Reference 10.93; 34.18; 77.75 User adjustment Date 6/7/2018 Reference Adjustment deleted Acquired values <table border="1"> <thead> <tr> <th>No.</th> <th>Date</th> <th>Reference</th> <th>Measured value</th> <th>Difference</th> </tr> </thead> <tbody> <tr> <td colspan="5"> </td> </tr> </tbody> </table> Measurement Current measured value 35,21%rh Reference value <input type="text" value="Manual input"/> Temperature 25.88 <input type="text" value="HF5_Temperatur-1"/> <input type="button" value="Acquire"/> <input type="button" value="Adjust"/> <input type="button" value="Acquire + Adjust"/> <input type="button" value="Delete user adjustment"/>	No.	Date	Reference	Measured value	Difference					
No.	Date	Reference	Measured value	Difference							

The PF4 has different adjustment scenarios for differential pressure adjustment:

0-Point compensation

To compensate for long term drift, a 0-Point compensation is recommended. For that, the pressure connectors “+” and “-” need to be bridged by a short pipe to create a real 0Pa pressure.

The 0-point procedure at the RMS:

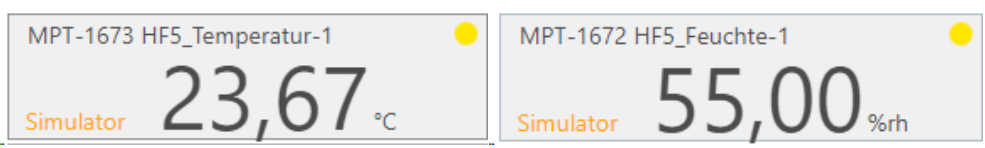
1. Type 0 as the reference value and click <Acquire + Adjust> (or <Acquire> and then <Adjust>)

Note: A new 0-Point compensation overwrites the previous 0-Point compensation, but does not overwrites the current One point (≠0Pa) adjustment (see below).

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	<p>Note: Do not use a low reference value (ex: 0.1Pa). The PF4 would interpret it as a “One point adjustment” such as follows. In this case, the PF4 would display a strong measurement error for higher pressure values.</p> <p>Note: The real date and reference value cannot be shown due to missing compatibility of these systems.</p> <p>One point (≠0Pa) adjustment</p> <p>The PF4 can be adjusted at an applied pressure (≠0Pa) by the customer. Rotronic recommends to apply a pressure around the end of the measurement range.</p> <p>One point (≠0Pa) adjustment at the RMS:</p> <ol style="list-style-type: none">1. Type xxPa as the reference value and click <Acquire + Adjust> (or <Acquire> and then <Adjust>) <p>Note: Rotronic recommends performing a 0-Point compensation first.</p> <p>Note: For the PF4, a customer adjustment with more than one pressure reference value is not possible. The PF4 (first generation) accepts only these two adjustment procedures.</p> <p>Note: For humidity, multiple points can be acquired and adjusted. For temperature only 1 or 2 points.</p>								
Step 4	<p>Data logging: the PF4 has no internal memory, the PF4 is not battery powered. So the PF4 cannot log during a power interruption.</p> <p>In case of a communication interruption to the RMS Server, the RMS Converter logs the data of the PF4. After the interruption, RMS requests the data from the RMS Converter.</p> <p>In case of a communication interruption between the RMS Converter and the PF4, the PF4 would not log the data.</p>								
Step 5	<p>Sensor error: In case of one sensor error out of the two, RMS displays a sensor error for both measurement values.</p> <table><tr><td>MPT-1672</td><td>Sensor error</td><td>HF5_Feuchte-1</td><td>Humidity</td></tr><tr><td>MPT-1673</td><td>Sensor error</td><td>HF5_Temperatur-1</td><td>Temperature</td></tr></table> <div><div>MPT-1672 HF5_Feuchte-1</div><div>0,00 %rh</div></div>	MPT-1672	Sensor error	HF5_Feuchte-1	Humidity	MPT-1673	Sensor error	HF5_Temperatur-1	Temperature
MPT-1672	Sensor error	HF5_Feuchte-1	Humidity						
MPT-1673	Sensor error	HF5_Temperatur-1	Temperature						
Step 6	<p>Measurement alarm: Alarms linked to the measurement limits and programmed within the HC2 will not be transmitted to RMS. However if the device has a display and the display is configured correctly, the alarm will show on the display.</p>								

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Step 7	Fix values on the HC2: fixed measurement values programmed within the HC2 are displayed as simulators within RMS.			
	MPT-1672	Simulator connected	HF5_Feuchte-1	Humidity
	MPT-1673	Simulator connected	HF5_Temperatur-1	Temperature
				
<p>IMPORTANT: In case of an active fix value of one measurement value of a HC2, RMS will show "simulator connected" for both measurement values of the probe.</p>				

6.5 Integration of the PF4/5 transmitter into RMS

6.5.1 Device description



The PF4/5 is the latest generation transmitter with an integrated differential pressure sensor and 1 Pt100 or HC2 probe/analog input and 1 relay.

Important: Please consult the PF4/5 user manual as well as the HW4 manual for PF4/5 devices for further details.

6.5.2 Network configuration of the device

To add the PF4/5 into the RMS, it is necessary to setup the individual network configuration of the device as:

- DHCP active or fixed IP address
- Host name

The PF4/5 default settings are:

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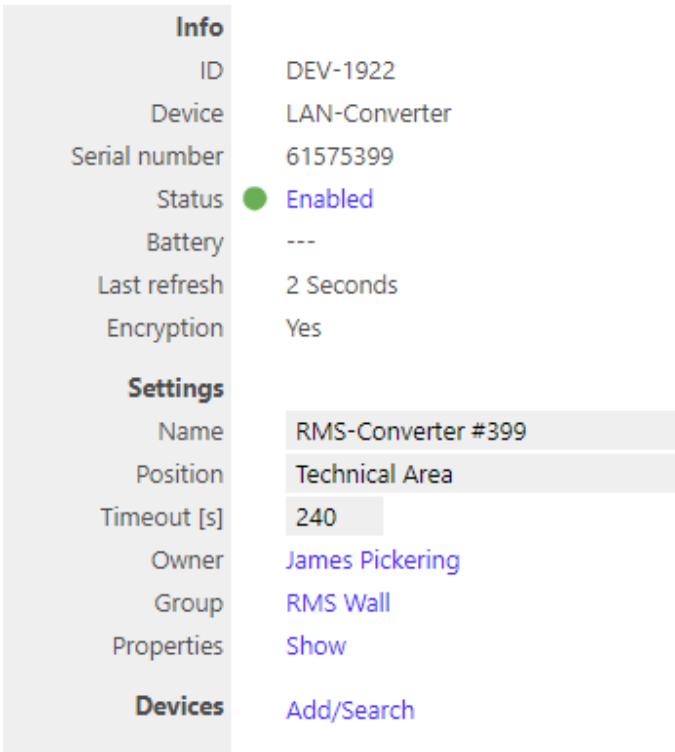
- DHCP on
- Fix IP address 192.168.1.1 (when DHCP is disabled)
- Host name PF45-XXXXXXX (where XXXXXXXX represents the serial number of the device)

IMPORTANT: The digi device discovery tool does not work with the PF4/5

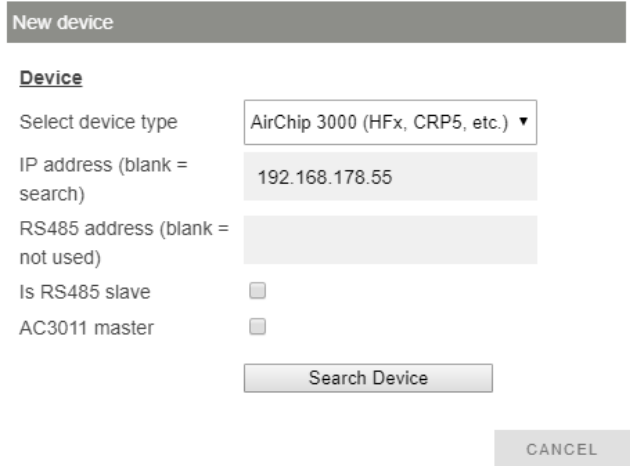
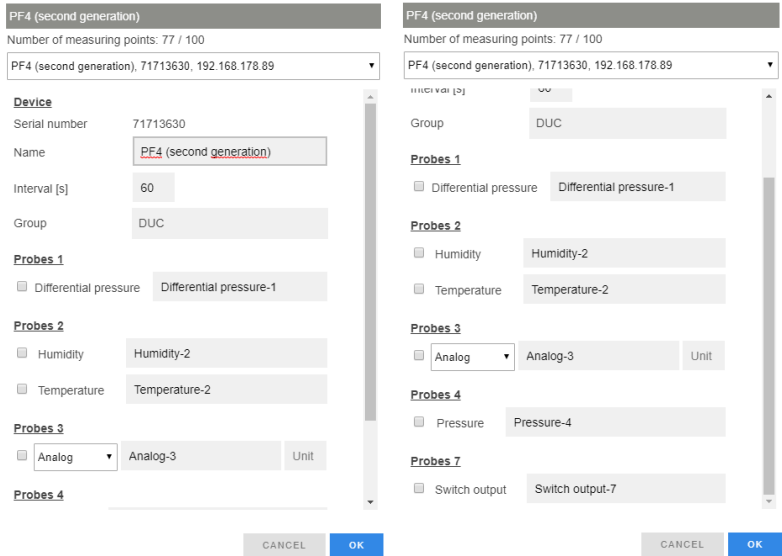
The Options to get the actual device settings are:

- Device display (if existent)
- Automatic or manual device search function via HW4 through the Ethernet connection or by using an AC3006 or AC3009 USB service cable.
- Prompt window -> ping hostname
- Typing the host name into the address bar of the web browser does not work. The PF4/5 does not have a device internal webservice.

6.5.3 Integration into RMS via the RMS-CONVERTER

Step 1	Log into the RMS software. Select Tools > Setup > Devices. Select the RMS-CONVERTER and click on <Add/Search> devices:
	

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Step 2	<p>Select the device type in the drop down menu.</p> <p>It is possible to type the IP address or host name into the field <i>IP address</i>.</p> <p>IMPORTANT: If the field stays empty, RMS will not search for the device automatically.</p> 
Step 3	<p>The device appears: configure accordingly.</p>  <p>Note: The interval cannot be shorter than the interval of the RMS Converter.</p> <p>IMPORTANT: If not all checkmarks for measurement points are set and it is wished to expand it later than please add the same device via the RMS-CONVERTER (with the same identification/IP address) again and set the new wished checkmarks. The added or updated measurement points will appear afterwards.</p>

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Step 4	<p>The device is added.</p> <p>New device added successfully!</p> <p>OK</p>
Step 5	<p>IMPORTANT: Overwritten settings.</p> <p>By adding the device to RMS via the RMS-CONVERTER, the following configuration will be overwritten on the device:</p> <ul style="list-style-type: none"> • Fix value humidity: disabled • Fix value temperature: disabled • Fix value differential pressure: disabled • Fix value calculation: disabled • Fix value analog input: disabled • Fix value flow: disabled • Fix value ambient pressure: disabled • Fix value if no probe is connected: disabled • Default relative humidity unit: %rh • Default temperature unit: °C • Default pressure unit: Pa • Default flow unit: m/s • Default analogue input unit: empty • Default ambient pressure unit: hPa • Link alarm on every measurement parameter to relay: disabled • Relay mute: disabled • Relay alarm on delay: disabled • Relay off after max. time: disabled <p>Note: if one of the settings above is changed with HW4 further to the initial installation into RMS, then RMS will not note the change. However, such a change would cause RMS to not work correctly. The changes will however be overwritten should the RMS-CONVERTER reboot (due to a short power interrupt).</p>
Step 6	<p>Finish configuration.</p> <p>New device added successfully!</p> <p>OK</p>

6.5.4 Functionality within RMS

Device settings: log into the RMS software. Select Tools > Setup > Devices. Select the device.

ID	Status	Name	Serial number
DEV-155	OK	LAN-Converter_67382638	67382638
DEV-441	OK	CRP5	1234567890
DEV-442	OK	HF4	596874521
DEV-443	OK	HF5	61000143
DEV-444	OK	HF8re	110970380
DEV-445	OK	HF8li	10101
DEV-446	OK	PF4 (first generation)	3
DEV-447	OK	PF4 (second generation)	71713630
DEV-450	Disabled	HL-NT_unten	61693554
DEV-453	OK	4RTD	0
DEV-454	OK	ApexRS	1804100021
DEV-456	OK	PF5 (second generation)	71713631
DEV-470	Timeout	HL-RC-B	12653048
DEV-471	Timeout	HL-RC-T	12779757
DEV-472	OK	8ADC-V	0
DEV-473	OK	RedLion E3-16SOTC	0
DEV-483	OK	HL-NT-PT100	61255128
DEV-486	Disabled	HL-NT_oben	60422161
DEV-487	OK	8015	0

Info

ID: DEV-456
 Device: Third Party Device
 Serial number: 71713631
 Status: Enabled
 Battery: ---
 Last refresh: 52 Seconds
 Encryption: No

Settings

Name: PF5 (second generation)
 Position: ---
 Interval [s]: 60
 Timeout [s]: 120
 Address: 192.168.178.86
 RS485 address: 0
 Is RS485 slave: ☐
 Auto restore: ☒
 Owner: Unknown
 Group: DUC
 Properties: Show
 Gateway: DEV-155, LAN-Converter_67382638

Measuring points

Input 1: MPT-1760, Differential pressure, Differential pressure
 Input 2: MPT-1761, Humidity, Humidity
 Input 3: MPT-1762, Temperature, Temperature
 Input 4: MPT-1763, Analog input, Analog
 Input 5: MPT-1764, Ambient pressure, Pressure
 Input 6: MPT-1765, Relay, Switch output

Status: the device can be disabled/enabled. When disabled, the RMS-CONVERTER will not send any requests.

Step 1

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Properties: Show. The settings can be shown and configured.

Device properties

Analog output 1

Source: DiffPressure
 Output range: 4...20mA
 Measurement range low: -25
 Measurement range high: 25
 Load resistor: 250

Analog output 2

Source: Temp
 Output range: 4...20mA
 Measurement range low: 0
 Measurement range high: 50
 Load resistor: 250

Input 1

Input type: Voltage
 Input low [mV]: 0
 Input high [mV]: 10
 Measurement range low: 0
 Measurement range high: 10

Status info

Version: V1.0-1
 [RPC]: 21-314121840

Device properties

Analog output 3

Source: Humi
 Output range: 4...20mA
 Measurement range low: 0
 Measurement range high: 100
 Load resistor: 250

Input 1

Input type: Voltage
 Input low [mV]: 0
 Input high [mV]: 10
 Measurement range low: 0
 Measurement range high: 10

IMPORTANT: Under options, the firmware update, import firmware file, import device definition and device inventory are not supported for this device.

IMPORTANT: The output range, the sources and the measurement ranges of the analog outputs 1 and 2, can be scaled and stored within the device clicking <Apply>.

Step 2

Measurement point settings: log into the RMS software. Select Tools > Setup > Measuring point.

Select the measuring point.

Status: the measuring point can be disabled/enabled.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Filters	New	Select columns	Archive	Delete	Save
ID	Status	Name	Unit	Serial number	Regulation status
MPT-1656	OK	CRP5_Differenzdruck-1	Differential pressure	0	
MPT-1657	OK	CRP5_Feuchte-2	Humidity	20073369	
MPT-1658	OK	CRP5_Temperatur-2	Temperature	20073369	
MPT-1659	OK	CRP5_Analog-3	Analog	0	
MPT-1660	OK	CRP5_Analog-4	Analog	0	
MPT-1661	OK	CRP5_Druck-5	Pressure	0	
MPT-1662	OK	CRP5_Schalteingang-6	Switch input	0	
MPT-1664	OK	CRP5_Schaltausgang-8	Switch output	0	
MPT-1670	OK	HF4_Humidity	Humidity	596874521	
MPT-1671	OK	HF4_Temperature	Temperature	596874521	
MPT-1672	OK	HF5_Feuchte-1	Humidity	20049983	
MPT-1673	OK	HF5_Temperatur-1	Temperature	20049983	
MPT-1674	OK	HF8re_Feuchte-1	Humidity	60816820	
MPT-1675	OK	HF8re_Temperatur-1	Temperature	60816820	
MPT-1676	OK	HF8re_Feuchte-2	Humidity	247169827	
MPT-1677	OK	HF8re_Temperatur-2	Temperature	247169827	
MPT-1678	OK	HF8re_Schaltausgang-3	Switch output	0	
MPT-1682	OK	HF8li_Feuchte-1	Humidity	60816788	
MPT-1683	OK	HF8li_Temperatur-1	Temperature	60816788	
MPT-1684	OK	HF8li_Feuchte-2	Humidity	247195221	
MPT-1685	OK	HF8li_Temperatur-2	Temperature	247195221	
MPT-1686	OK	HF8li_Schaltausgang-3	Switch output	0	
MPT-1690	OK	Differential pressure	Differential pressure	0	

Info

ID: MPT-1690

Type: Differential pressure

Status: ● Enabled

Serial number: --

Device: PF4 (first generation) [DEV-446] [↗](#)

Last refresh: 7 Seconds

Settings

Name: Differential pressure

Regulation status:

Comment:

Display category:

Display digits: Automatic

Group(s): DUC

Alarm

Mode: ☒ Off ☐ Measuring point ☐ Alarm scheme

Step 3

Adjustment: log into the RMS software. Select Tools > Adjustment. Select the measuring point. Click on <Refresh now>.

General procedure:

- Type the humidity reference value and click <Acquire>
- Repeat until the desired number of adjustment points are acquired.
Note: The user of this feature must take care about sufficient stable circumstances for a data acquisition. Please take the interval into account. One value after every 60 seconds does not detect short term changes of the value.
- Click <Adjust> to finish.
- Use the button <Acquire + Adjust> for one point adjustment.
- Click <Delete user adjustment> to delete the last customer adjustment.

Filters

Select columns

Refresh now

^ID

Name

MPT-1656

CRP5_Differenzdruck-1

MPT-1657

CRP5_Feuchte-2

MPT-1658

CRP5_Temperatur-2

MPT-1659

CRP5_Analog-3

MPT-1660

CRP5_Analog-4

MPT-1661

CRP5_Druck-5

MPT-1670

HF4_Humidity

MPT-1671

HF4_Temperature

MPT-1672

HF5_Feuchte-1

MPT-1673

HF5_Temperatur-1

MPT-1674

HF8re_Feuchte-1

MPT-1675

HF8re_Temperatur-1

MPT-1676

HF8re_Feuchte-2

MPT-1677

HF8re_Temperatur-2

MPT-1682

HF8li_Feuchte-1

MPT-1683

HF8li_Temperatur-1

MPT-1684

HF8li_Feuchte-2

MPT-1685

HF8li_Temperatur-2

MPT-1690

PF4alt_Differenzdruck-1

MPT-1691

PF4alt_Feuchte-2

MPT-1692

PF4alt_Temperatur-2

MPT-1722

HL-NT_unten_Feuchte-1

MPT-1723

HL-NT_unten_Temperatur-1

MPT-1724

HL-NT_unten_Feuchte-2

MPT-1725

HL-NT_unten_Temperatur-2

MPT-1726

HL-NT_unten_Feuchte-3

Measuring point

ID

MPT-1672

Name

HF5_Feuchte-1

Unit

Humidity

Status

OK

Adjustment info

Last refresh

0 Days

Factory default Date

7/15/2015

Reference

10.93; 34.18; 77.75

User adjustment Date

6/7/2018

Reference

Adjustment deleted

Acquired values

No.

Date

Reference

Measured value

Difference

Measurement

Current measured value

35,21%rh

Reference value

Manual input

Temperature

25.88

HF5_Temperatur-1

Acquire

Adjust

Acquire + Adjust

Delete user adjustment

The PF4/5 has different adjustment scenarios for differential pressure.

Common adjustment

The PF4/5 can be adjusted at multiple reference pressure values.

Note: A new common adjustment overwrites the common adjustment before, but does not overwrite the 0-point compensation.

0-Point compensation

To compensate long term drift, a 0-Point compensation is recommended.

1. Type in 0 as the reference value and click <Acquire + Adjust> (or <Acquire> and then <Adjust>)

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2. A valve closes the “+” and “-” connectors of the sensor internally and defines a new 0-point. This procedure needs app. 10sec. The PF5 will not be able to send measurement values out during this time.

Note: The PF4 has a 0-point compensation integrated within the device internal sensor. No extra adjustment is necessary.

Note: A new 0-Point compensation overwrites the previous 0-Point compensation, but doesn't overwrites the current One point (≠0Pa) adjustment (see below).

Note: The real date and reference value cannot be shown due to missing compatibility of these systems.

For relative humidity and temperature:

Humidity 2 points acquired

Measuring point					
ID	MPT-1672				
Name	Feuchte-1				
Unit	Humidity				
Status	OK				
Adjustment info					
Last refresh	0 Days				
Factory default Date	7/15/2015				
Reference	10.93; 34.18; 77.75				
User adjustment Date	6/7/2018				
Reference	Adjustment deleted				
Acquired values					
No.	Date	Reference	Measured value	Difference	
1	---	40.00	35.20	-4.80	Remove
2	---	50.00	35.15	-14.85	Remove
Measurement					
Current measured value	35.21%rh				
Reference value	<input type="text"/> Manual input				
Temperature	<input type="text"/> HF5_Temperatur-1				
<input type="button" value="Acquire"/> <input type="button" value="Adjust"/> <input type="button" value="Acquire + Adjust"/> <input type="button" value="Delete user adjustment"/>					

Humidity 2 points adjusted

Measuring point					
ID	MPT-1672				
Name	Feuchte-1				
Unit	Humidity				
Status	OK				
Adjustment info					
Last refresh	0 Days				
Factory default Date	7/15/2015				
Reference	10.93; 34.18; 77.75				
User adjustment Date	10/19/2018				
Reference	40.00; 50.00				
Acquired values					
No.	Date	Reference	Measured value	Difference	
Measurement					
Current measured value	35.18%rh				
Reference value	<input type="text"/> Manual input				
Temperature	<input type="text"/> HF5_Temperatur-1				
<input type="button" value="Acquire"/> <input type="button" value="Adjust"/> <input type="button" value="Acquire + Adjust"/> <input type="button" value="Delete user adjustment"/>					

Note: For humidity, multiple points can be acquired and adjusted. For temperature 1 or 2 points.

Step 4

Data logging: the PF4/5 has no internal memory, the PF4/5 is not battery powered. So the PF4/5 cannot log during a power interruption.

In case of a communication interruption to the RMS Server, the RMS Converter logs the data of the PF4/5. After the interruption, RMS requests the data from the RMS Converter.

In case of a communication interruption between the RMS Converter and the PF4/5, the PF4/5 would not log the data.

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Step 5	Sensor error: In case of one sensor error out of the two, RMS displays a sensor error for both measurement values.			
	MPT-1672	Sensor error	HF5_Feuchte-1	Humidity
	MPT-1673	Sensor error	HF5_Temperatur-1	Temperature
<div><div>MPT-1672 HF5_Feuchte-1</div><div>0,00 %rh</div></div>				
Step 6	Measurement alarm: Alarms linked to the measurement limits and programmed within the HC2 will not be transmitted to RMS. However if the device has a display and the display is configured correctly, the alarm will show on the display.			
Step 7	Fix values on the HC2: fixed measurement values programmed within the HC2 are displayed as simulators within RMS.			
	MPT-1672	Simulator connected	HF5_Feuchte-1	Humidity
	MPT-1673	Simulator connected	HF5_Temperatur-1	Temperature
<div><div>MPT-1673 HF5_Temperatur-1</div><div>23,67 °C</div><div>Simulator</div></div> <div><div>MPT-1672 HF5_Feuchte-1</div><div>55,00 %rh</div><div>Simulator</div></div>				
IMPORTANT: In case of an active fix value of one measurement value of a HC2, RMS will show “simulator connected” for both measurement values of the probe.				

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6.6 *Integration of the CRP5 clean room panel into RMS*

6.6.1 Device description



The CRP5 is a clean room panel an integrated differential pressure sensor and 1 HC2 probe input and 1 relay, 6 relays, 4 analog outputs, 2 analog inputs and 2 digital inputs.

Important: Please consult the CRP5 user manual as well as the HW4 manual for the CRP5 devices for further details.

6.6.2 Network configuration of the device

To add the CRP5 into the RMS, it is necessary to setup the individual network configuration of the device as

- IP address

Note: The CRP5 has no DHCP function and no host name. It can be addressed only by the fix IP address.

The CRP5 default settings are:

- Fix IP address 192.168.1.1

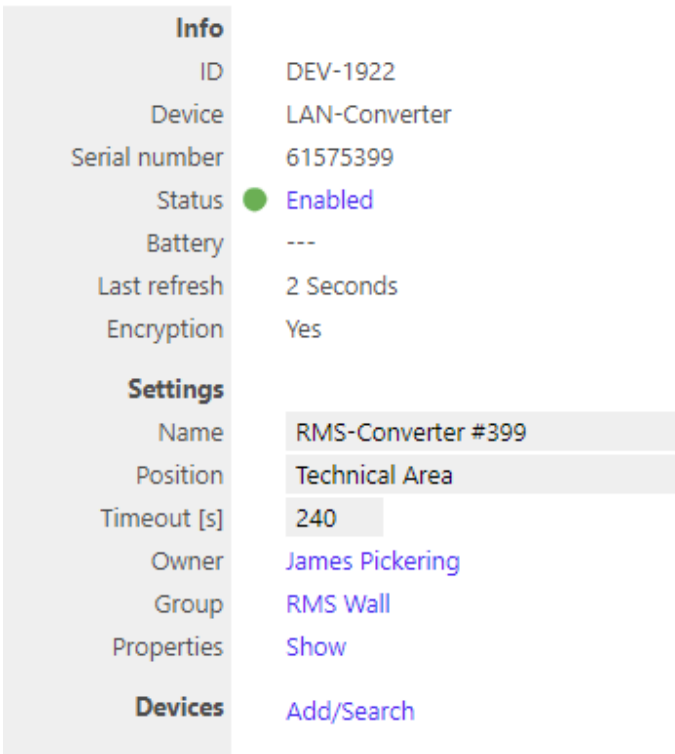
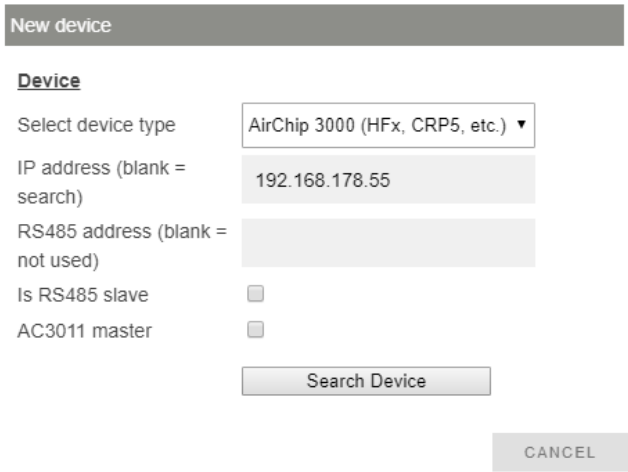
IMPORTANT: The digi device discovery tool does not work with the CRP5

The options to get the actual device settings are:

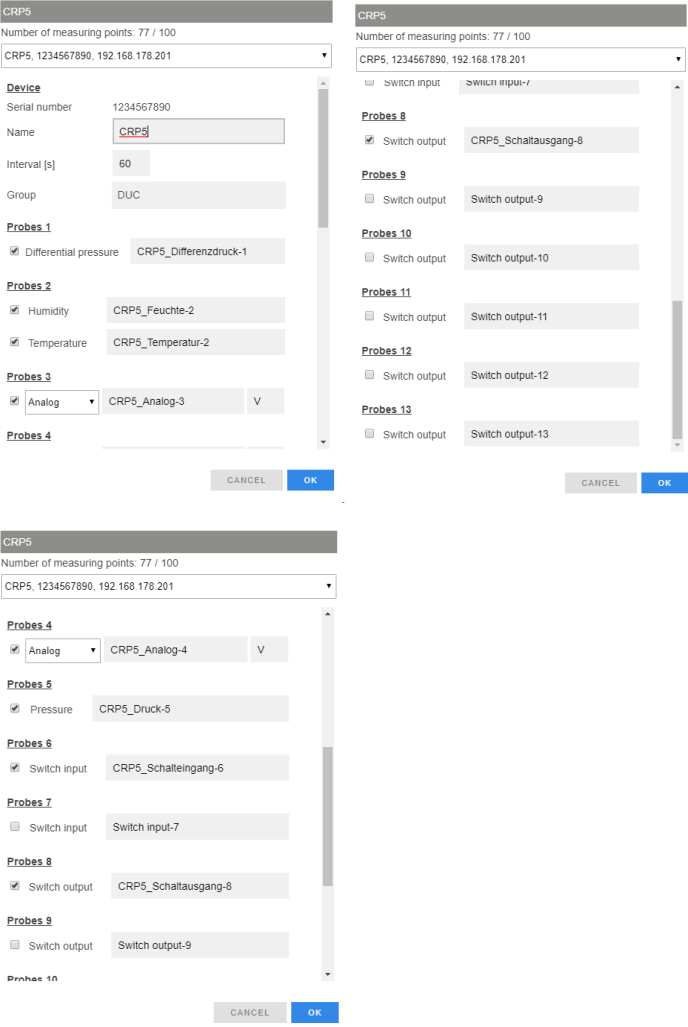
- Device display (if existent)
- Automatic or manual device search function via HW4 through the Ethernet connection or by using an AC3006 or AC3009 USB service cable.
- Prompt window -> ping hostname
- Typing the host name into the address bar of the web browser does not work. The CRP5 does not have a device internal webservice.

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6.6.3 Integration into RMS via the RMS-CONVERTER

Step 1	<p>Log into the RMS software. Select Tools > Setup > Devices. Select the RMS-CONVERTER and click on <Add/Search> devices:</p> 
Step 2	<p>Select the device type in the drop down menu.</p> <p>It is possible to type the IP address or host name into the field <i>IP address</i>.</p> <p>IMPORTANT: If the field stays empty, RMS will not search for the device automatically.</p> 

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<p>Step 3</p>	<p>The device appears: configure accordingly.</p>  <p>Note: The interval cannot be shorter than the interval of the RMS Converter.</p> <p>IMPORTANT: If not all checkmarks for measurement points are set and it is wished to expand it later then the same device needs to be added again with the same identification and IP address (there is no need to delete the device before adding it). The desired check marks can be set. And afterwards, the added or updated measurement points will appear.</p>
<p>Step 4</p>	<p>The device is added.</p> <p>New device added successfully!</p> <p>OK</p>

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Step 5	<p>IMPORTANT: Overwritten settings.</p> <p>By adding the device to RMS via the RMS-CONVERTER, the following configuration will be overwritten on the device:</p> <ul style="list-style-type: none"> • Fix value humidity: disabled • Fix value temperature: disabled • Fix value differential pressure: disabled • Fix value calculation: disabled • Fix value analog input: disabled • Fix value digital input: disabled • Default relative humidity unit: %rh • Default temperature unit: °C • Default pressure unit: Pa • Default analogue input unit: empty • Default ambient pressure unit: hPa • Link alarm on every measurement parameter to relay: disabled <p>Note: if one of the settings above is changed with HW4 further to the initial installation into RMS, then RMS will not note the change. However, such a change would cause RMS to not work correctly. The changes will however be overwritten should the RMS-CONVERTER reboot (due to a short power interrupt).</p>
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6.6.4 Functionality within RMS

Step 1

Device settings: log into the RMS software. Select Tools > Setup > Devices. Select the device.

Filters	New	Select columns	Delete	Options	Save
ID	Status	Name	Serial number		
DEV-155	OK	LAN-Converter_67382638	67382638		
DEV-442	OK	HF4	596874521		
DEV-443	OK	HF5	61000143		
DEV-444	OK	HF8re	110970380		
DEV-445	OK	HF8i	10101		
DEV-446	OK	PF4 (first generation)	3		
DEV-447	OK	PF4 (second generation)	71713630		
DEV-450	Disabled	HL-NT_unten	61693554		
DEV-453	OK	4RTD	0		
DEV-454	OK	ApexR5	1804100021		
DEV-456	OK	PF5 (second generation)	71713631		
DEV-470	Timeout	HL-RC-B	12653048		
DEV-471	Timeout	HL-RC-T	12779757		
DEV-472	OK	8ADC-V	0		
DEV-473	OK	RedUon E3-16ISOTC	0		
DEV-483	OK	HL-NT-PT100	61255128		
DEV-486	Disabled	HL-NT_oben	60422161		
DEV-487	OK	B015	0		
DEV-508	OK	CRP5	1234567890		

Info

ID: DEV-508

Device: Third Party Device

Serial number: 1234567890

Status: ● Enabled

Battery: ---

Last refresh: 1 Seconds

Encryption: No

Settings

Name: CRP5

Position:

Interval [s]: 60

Timeout [s]: 120

Address: 192.168.178.201

RS485 address: 0

Is RS485 slave: ☐

Auto restore: ☒

Owner: Unknown

Group: DUC

Properties: Show

Gateway: DEV-155, LAN-Converter_67382638 [↗](#)

Measuring points

Input 1: ● MPT-2045, CRP5_Differential pressure-1, Differential pressure [↗](#)

Input 2: ● MPT-2046, CRP5_Humidity-2, Humidity [↗](#)

Input 3: ● MPT-2047, CRP5_Temperature-2, Temperature [↗](#)

Input 4: ● MPT-2048, CRP5_Analog-3, Analog [↗](#)

Input 5: ● MPT-2049, CRP5_Analog-4, Analog [↗](#)

Input 6: ● MPT-2050, CRP5_Pressure-5, Pressure [↗](#)

Input 7: ● MPT-2051, CRP5_Switch input-6, Switch input [↗](#)

Input 8: ● MPT-2052, CRP5_Switch input-7, Switch input [↗](#)

Input 9: ● MPT-2053, CRP5_Switch output-8, Switch output [↗](#)

Input 10: ● MPT-2054, CRP5_Switch output-9, Switch output [↗](#)

Input 11: ● MPT-2055, CRP5_Switch output-10, Switch output [↗](#)

Input 12: ● MPT-2056, CRP5_Switch output-11, Switch output [↗](#)

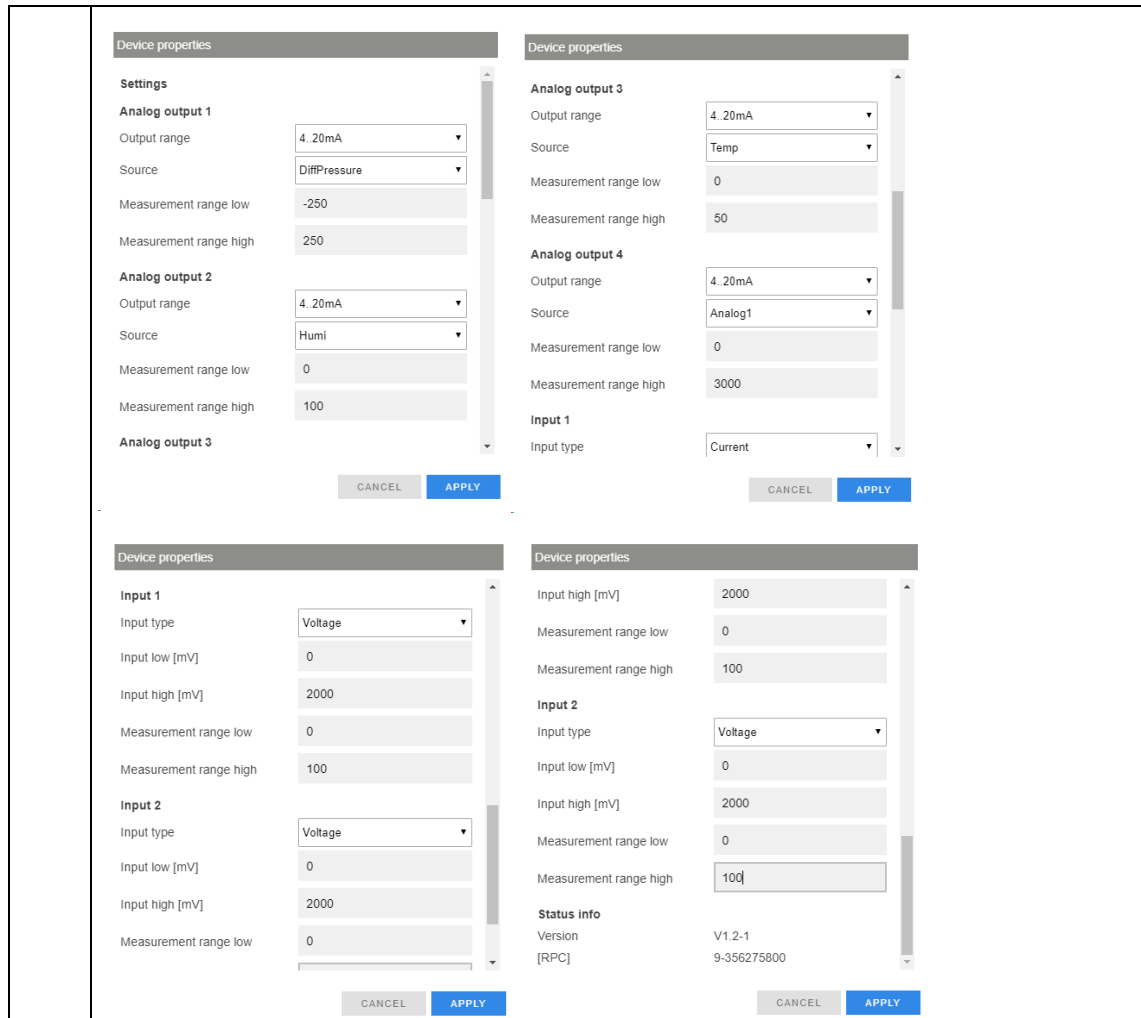
Input 13: ● MPT-2057, CRP5_Switch output-12, Switch output [↗](#)

Input 14: ● MPT-2058, CRP5_Switch output-13, Switch output [↗](#)

Status: the device can be disabled/enabled. When disabled, the RMS-CONVERTER will not send any requests.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Properties: Show. The settings can be shown and configured.



Device properties

Settings

Analog output 1

Output range: 4.20mA

Source: DiffPressure

Measurement range low: -250

Measurement range high: 250

Analog output 2

Output range: 4.20mA

Source: Humi

Measurement range low: 0

Measurement range high: 100

Analog output 3

Output range: 4.20mA

Source: Temp

Measurement range low: 0

Measurement range high: 50

Analog output 4

Output range: 4.20mA

Source: Analog1

Measurement range low: 0

Measurement range high: 3000

Input 1

Input type: Current

Input 2

Input type: Voltage

Input low [mV]: 0

Input high [mV]: 2000

Measurement range low: 0

Measurement range high: 100

Status info

Version: V1.2-1

[RPC]: 9-356275800

IMPORTANT: Under options, the firmware update, import firmware file, import device definition and device inventory are not supported for this device.

IMPORTANT: The output range, the sources and the measurement ranges of the analog outputs 1 and 2, can be scaled and stored within the device clicking <Apply>.

Step 2

Measurement point settings: log into the RMS software. Select Tools > Setup > Measuring point.

Select the measuring point.

Status: the measuring point can be disabled/enabled.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Filters New Select columns						Archive	Delete	Save
~ID	Status	Name	Unit	Serial number	Regulation status			
MPT-1949	OK	HL-NT-PT100_Schalteingang-8	Switch input	0				
MPT-1950	OK	HL-NT-PT100_Schalteingang-9	Switch input	0				
MPT-1975	Disabled	HL-NT_obenFeuchte-1	Humidity	60816806				
MPT-1976	Disabled	HL-NT_obenTemperatur-1	Temperature	60816806				
MPT-1977	Disabled	HL-NT_obenFeuchte-2	Humidity	60816796				
MPT-1978	Disabled	HL-NT_obenTemperatur-2	Temperature	60816796				
MPT-1979	Disabled	HL-NT_obenFeuchte-3	Humidity	208723083				
MPT-1980	Disabled	HL-NT_obenTemperatur-3	Temperature	208723083				
MPT-1981	Disabled	HL-NT_obenFeuchte-4	Humidity	0				
MPT-1982	Disabled	HL-NT_obenTemperatur-4	Temperature	0				
MPT-1983	Disabled	HL-NT_obenFeuchte-5	Humidity	0				
MPT-1984	Disabled	HL-NT_obenTemperatur-5	Temperature	0				
MPT-1985	Disabled	HL-NT_obenFeuchte-6	Humidity	0				
MPT-1986	Disabled	HL-NT_obenTemperatur-6	Temperature	0				
MPT-1987	Disabled	HL-NT_obenFeuchte-7	Humidity	0				
MPT-1988	Disabled	HL-NT_obenTemperatur-7	Temperature	0				
MPT-1989	Disabled	HL-NT_obenSchalteingang-8	Switch input	0				
MPT-1990	Disabled	HL-NT_obenSchalteingang-9	Switch input	0				
MPT-1991	OK	Analog-1	Analog	1				
MPT-2045	OK	CRP5_Differential pressure-1	Differential pressure	0				
MPT-2046	OK	CRP5_Humidity-2	Humidity	20073369				
MPT-2047	OK	CRP5_Temperature-2	Temperature	20073369				
MPT-2048	OK	CRP5_Analog-3	Analog	0				
MPT-2049	OK	CRP5_Analog-4	Analog	0				
MPT-2050	OK	CRP5_Pressure-5	Pressure	0				
MPT-2051	OK	CRP5_Switch input-6	Switch input	0				
MPT-2052	OK	CRP5_Switch input-7	Switch input	0				
MPT-2053	OK	CRP5_Switch output-8	Switch output	0				
MPT-2054	OK	CRP5_Switch output-9	Switch output	0				
MPT-2055	OK	CRP5_Switch output-10	Switch output	0				
MPT-2056	OK	CRP5_Switch output-11	Switch output	0				
MPT-2057	OK	CRP5_Switch output-12	Switch output	0				
MPT-2058	OK	CRP5_Switch output-13	Switch output	0				

Info

ID: MPT-2045

Type: Differential pressure

Status: ● Enabled

Serial number: --

Device: CRP5 [DEV-508] [🔗](#)

Last refresh: 34 Seconds

Settings

Name: CRP5_Differential pressure-1

Regulation status:

Comment:

Display category:

Display digits: Automatic ▼

Group(s): DUC

Alarm

Mode: ☒ Off ☐ Measuring point ☐ Alarm scheme

Step 3

Adjustment: log into the RMS software. Select Tools > Adjustment. Select the measuring point. Click on <Refresh now>.

General procedure:

- Type the humidity reference value and click <Acquire>
- Repeat until the desired number of adjustment points are acquired.
Note: The user of this feature must take care about sufficient stable circumstances for a data acquisition. Please take the interval into account. One value after every 60 seconds does not detect short term changes of the value.
- Click <Adjust> to finish.
- Use the button <Acquire + Adjust> for one point adjustment.
- Click <Delete user adjustment> to delete the last customer adjustment.

Filters	Select columns	Refresh now																																																																																																		
<table border="1"> <thead> <tr> <th>ID</th> <th>Name</th> </tr> </thead> <tbody> <tr><td>MPT-1656</td><td>CRP5_Differenzdruck-1</td></tr> <tr><td>MPT-1657</td><td>CRP5_Feuchte-2</td></tr> <tr><td>MPT-1658</td><td>CRP5_Temperatur-2</td></tr> <tr><td>MPT-1659</td><td>CRP5_Analog-3</td></tr> <tr><td>MPT-1660</td><td>CRP5_Analog-4</td></tr> <tr><td>MPT-1661</td><td>CRP5_Druck-5</td></tr> <tr><td>MPT-1670</td><td>HF4_Humidity</td></tr> <tr><td>MPT-1671</td><td>HF4_Temperature</td></tr> <tr><td>MPT-1672</td><td>HF5_Feuchte-1</td></tr> <tr><td>MPT-1673</td><td>HF5_Temperatur-1</td></tr> <tr><td>MPT-1674</td><td>HF8re_Feuchte-1</td></tr> <tr><td>MPT-1675</td><td>HF8re_Temperatur-1</td></tr> <tr><td>MPT-1676</td><td>HF8re_Feuchte-2</td></tr> <tr><td>MPT-1677</td><td>HF8re_Temperatur-2</td></tr> <tr><td>MPT-1682</td><td>HF8li_Feuchte-1</td></tr> <tr><td>MPT-1683</td><td>HF8li_Temperatur-1</td></tr> <tr><td>MPT-1684</td><td>HF8li_Feuchte-2</td></tr> <tr><td>MPT-1685</td><td>HF8li_Temperatur-2</td></tr> <tr><td>MPT-1690</td><td>PF4alt_Differenzdruck-1</td></tr> <tr><td>MPT-1691</td><td>PF4alt_Feuchte-2</td></tr> <tr><td>MPT-1692</td><td>PF4alt_Temperatur-2</td></tr> <tr><td>MPT-1722</td><td>HL-NT_unten_Feuchte-1</td></tr> <tr><td>MPT-1723</td><td>HL-NT_unten_Temperatur-1</td></tr> <tr><td>MPT-1724</td><td>HL-NT_unten_Feuchte-2</td></tr> <tr><td>MPT-1725</td><td>HL-NT_unten_Temperatur-2</td></tr> <tr><td>MPT-1726</td><td>HL-NT_unten_Feuchte-3</td></tr> </tbody> </table>	ID	Name	MPT-1656	CRP5_Differenzdruck-1	MPT-1657	CRP5_Feuchte-2	MPT-1658	CRP5_Temperatur-2	MPT-1659	CRP5_Analog-3	MPT-1660	CRP5_Analog-4	MPT-1661	CRP5_Druck-5	MPT-1670	HF4_Humidity	MPT-1671	HF4_Temperature	MPT-1672	HF5_Feuchte-1	MPT-1673	HF5_Temperatur-1	MPT-1674	HF8re_Feuchte-1	MPT-1675	HF8re_Temperatur-1	MPT-1676	HF8re_Feuchte-2	MPT-1677	HF8re_Temperatur-2	MPT-1682	HF8li_Feuchte-1	MPT-1683	HF8li_Temperatur-1	MPT-1684	HF8li_Feuchte-2	MPT-1685	HF8li_Temperatur-2	MPT-1690	PF4alt_Differenzdruck-1	MPT-1691	PF4alt_Feuchte-2	MPT-1692	PF4alt_Temperatur-2	MPT-1722	HL-NT_unten_Feuchte-1	MPT-1723	HL-NT_unten_Temperatur-1	MPT-1724	HL-NT_unten_Feuchte-2	MPT-1725	HL-NT_unten_Temperatur-2	MPT-1726	HL-NT_unten_Feuchte-3	<table border="1"> <thead> <tr> <th colspan="2">Measuring point</th> </tr> <tr> <td>ID</td> <td>MPT-1672</td> </tr> <tr> <td>Name</td> <td>HF5_Feuchte-1</td> </tr> <tr> <td>Unit</td> <td>Humidity</td> </tr> <tr> <td>Status</td> <td>OK</td> </tr> </thead> <tbody> <tr> <th colspan="2">Adjustment info</th> </tr> <tr> <td>Last refresh</td> <td>0 Days</td> </tr> <tr> <td>Factory default Date</td> <td>7/15/2015</td> </tr> <tr> <td>Reference</td> <td>10.93; 34.18; 77.75</td> </tr> <tr> <td>User adjustment Date</td> <td>6/7/2018</td> </tr> <tr> <td>Reference</td> <td>Adjustment deleted</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="5">Acquired values</th> </tr> <tr> <th>No.</th> <th>Date</th> <th>Reference</th> <th>Measured value</th> <th>Difference</th> </tr> </thead> <tbody> <tr> <td colspan="5"> </td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="2">Measurement</th> </tr> </thead> <tbody> <tr> <td>Current measured value</td> <td>35,21%rh</td> </tr> <tr> <td>Reference value</td> <td>Manual input</td> </tr> <tr> <td>Temperature</td> <td>25.88 HF5_Temperatur-1</td> </tr> </tbody> </table> <div> <input type="button" value="Acquire"/> <input type="button" value="Adjust"/> <input type="button" value="Acquire + Adjust"/> <input type="button" value="Delete user adjustment"/> </div>	Measuring point		ID	MPT-1672	Name	HF5_Feuchte-1	Unit	Humidity	Status	OK	Adjustment info		Last refresh	0 Days	Factory default Date	7/15/2015	Reference	10.93; 34.18; 77.75	User adjustment Date	6/7/2018	Reference	Adjustment deleted	Acquired values					No.	Date	Reference	Measured value	Difference						Measurement		Current measured value	35,21%rh	Reference value	Manual input	Temperature	25.88 HF5_Temperatur-1
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The CRP5 has different adjustment scenarios for differential pressure.

Common adjustment

The CRP5 can be adjusted at multiple reference pressure values.

Note: Any differential pressure adjustment overwrites the previous customer adjustment.

0-Point compensation

To compensate long term drift, a 0-Point compensation is recommended.

3. Type in 0 as the reference value and click <Acquire + Adjust> (or <Acquire> and then <Adjust>)

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	<div><div><div><div>Measuring point</div><div>ID: MPT-1672</div><div>Name: Feuchte-1</div><div>Unit: Humidity</div><div>Status: OK</div></div><div><div>Adjustment info</div><div>Last refresh: 0 Days</div><div>Factory default Date: 7/15/2015</div><div>Reference: 10.93; 34.18; 77.75</div><div>User adjustment Date: 6/7/2018</div><div>Reference: Adjustment deleted</div></div><div><div>Acquired values</div><table><thead><tr><th>No.</th><th>Date</th><th>Reference</th><th>Measured value</th><th>Difference</th><th></th></tr></thead><tbody><tr><td>1</td><td>---</td><td>40.00</td><td>35.20</td><td>-4.80</td><td>Remove</td></tr><tr><td>2</td><td>---</td><td>50.00</td><td>35.15</td><td>-14.85</td><td>Remove</td></tr></tbody></table></div><div><div>Measurement</div><div>Current measured value: 35.21%rh</div><div>Reference value: Manual input</div><div>Temperature: HF5_Temperatur-1</div><div><div>Acquire</div><div>Adjust</div><div>Acquire + Adjust</div><div>Delete user adjustment</div></div></div></div></div> <div><div><div>Measuring point</div><div>ID: MPT-1672</div><div>Name: Feuchte-1</div><div>Unit: Humidity</div><div>Status: OK</div></div><div><div>Adjustment info</div><div>Last refresh: 0 Days</div><div>Factory default Date: 7/15/2015</div><div>Reference: 10.93; 34.18; 77.75</div><div>User adjustment Date: 10/19/2018</div><div>Reference: 40.00; 50.00</div></div><div><div>Acquired values</div><table><thead><tr><th>No.</th><th>Date</th><th>Reference</th><th>Measured value</th><th>Difference</th><th></th></tr></thead><tbody></tbody></table></div><div><div>Measurement</div><div>Current measured value: 35.18%rh</div><div>Reference value: Manual input</div><div>Temperature: HF5_Temperatur-1</div><div><div>Acquire</div><div>Adjust</div><div>Acquire + Adjust</div><div>Delete user adjustment</div></div></div></div>	No.	Date	Reference	Measured value	Difference		1	---	40.00	35.20	-4.80	Remove	2	---	50.00	35.15	-14.85	Remove	No.	Date	Reference	Measured value	Difference	
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2	---	50.00	35.15	-14.85	Remove																				
No.	Date	Reference	Measured value	Difference																					
	<p>Note: For humidity multiple points can be acquired and adjusted. For temperature 1 or 2 points.</p>																								
Step 4	<p>Data logging: the CRP5 has no internal memory, the CRP5 is not battery powered. So the CRP5 cannot log during a power interruption.</p> <p>In case of a communication interruption to the RMS Server, the RMS Converter logs the data of the CRP5. After the interruption, RMS requests the data from the RMS Converter.</p> <p>In case of a communication interruption between the RMS Converter and the CRP5, the CRP5 would not log the data.</p>																								
Step 5	Sensor errors within the HygroClip will not be transmitted to RMS.																								
Step 6	Measurement alarm: Alarms linked to the measurement limits and programmed within the HC2 will not be transmitted to RMS. However if the device has a display and the display is configured correctly, the alarm will show on the display.																								
Step 7	Fix values on the HC2: fixed measurement values programmed within the HC2 are not displayed as simulators within RMS.																								

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6.7 Integration of the HL-NT data logger into RMS

6.7.1 Device description



The HL-NT is a data logger, combined with the HL-DS docking station can be integrated either as a stand alone device or as a network of devices with various inputs and outputs. The following devices can be integrated: HL-NT3, the HL-DS-PT4, HL-DS-U4 and the HL-DS-U4-420.

Important: Please consult the HL-NT and HL-DS user manual as well as the HW4 manual for HL-NT and HL-DS devices for further details.

6.7.2 Network configuration of the device

To add the HL-NT into the RMS, it is necessary to setup the individual network configuration of the device as:


- DHCP active or fixed IP address
- Host name

The HL-NT default settings are:

- Fix IP address 192.168.1.1
- Host name not defined

To find and configure the network settings of the device, please connect the device into the LAN and use the Digi Device Discovery Tool. (<https://www.rotronic.com/en/productattachments/index/download?id=1531>).

Step 1	Discover the IP address- Open and execute DigiDeviceDiscovery.exe. The device search starts automatically. Double click on the device: a web browser opens-	If the IP address or the host name device is known, please type into the address bar of the web browser: http://ipaddress (e. g. http://192.178.1.1) or http://hostname (e. g. http://SN12345678).
Step 2	Log in for further network configuration: (default username: rotronic / default password: wlan)	



ROTRONIC LAN Configuration and Management

[? Help](#)

Login


Welcome to the Configuration and Management interface of the ROTRONIC LAN

Please specify the username and password to login to the web interface.

See the User Guide and documentation for more information on logging in or retrieving a lost password.

Username:
Password:

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[Remote Management](#)
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[Update Firmware](#)
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[System Information](#)
[Reboot](#)
[Logout](#)

Home

[Getting Started](#)

Tutorial Not sure what to do next? This Tutorial can help.

[System Summary](#)

Model: ROTRONIC LAN
IP Address: 10.75.22.29
MAC Address: 00:40:9D:54:90:41

Description: None
Contact: None
Location: None


Device ID: 00000000-00000000-00409DFF-FF2389C6

[User Interface](#)

Web Interface (Default): ☒ Enabled
Custom Interface:

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Step 3 Check or change the network settings:



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Network Configuration

IP Settings

☒ Obtain an IP address automatically using DHCP *

☐ Use the following IP address:

* IP Address:
* Subnet Mask:
Default Gateway:

* Changes to DHCP, IP address and Subnet Mask require a reboot to take effect.

[Network Services Settings](#)
[Advanced Network Settings](#)

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	<p>IMPORTANT: Rotronic recommends using a fix IP address for the RMS-CONVERTER as well as for the digital devices. The reason being the support of the log function within the RMS-CONVERTER in case of any interruption to the RMS server.</p>
Step 4	<p>Check or change the hostname and set the check mark for "Enable AutoIP address assignment:</p> <div data-bbox="338 542 976 1160" data-label="Form"> </div> <p>If a DNS is active within the network, the RMS / RMS Converter can communicate based on the host name instead of the IP address.</p>
Step 5	<p>Disable the discovery mode:</p> <p>The device search function of HW4 and the Discovery tool uses a Device Discovery function (ADDP). At the end of the configuration, it is meaningful to disable this feature.</p> <ul style="list-style-type: none"> • Network>Network Services Settings>remove the checkmark of "Enable Device Discovery (ADDP)". <p>IMPORTANT: Parallel and unwished communication due to the opening of HW4 will be avoided. A side effect is, that this device will not automatically be found by HW4 or the Discovery tool anymore. To access the device via HW4, the IP address must be added manually.</p>
Step 6	<p>Close connection after the following number of idle seconds:</p> <p>Unwished parallel communication/requests to the Ethernet address of the Rotronic device can cause an unwished blocking of the devices internal access to the Ethernet port. For that reason the following setting can be done:</p> <ul style="list-style-type: none"> • Serial Ports>Advanced serial settings>TCP Settings>Set a checkmark to "Close connection after the following number of idle seconds".

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- >Serial Ports> Advanced serial settings> TCP Settings> Timeout: xx seconds.

If the port is blocked then the device will renew/unblock the port by itself after the chosen timeout. This way a permanent timeout of the device will be avoided. The loss of data will be reduced significantly. For an RMS-CONVERTER interval of 60 seconds, a timeout of 10 to 30 seconds would be meaningful.

Serial Ports
GPIO
Alarms
System
Remote Management
Users
Management
Serial Ports
Connections
Administration
File Management
Backup/Restore
Update Firmware
Factory Default Settings
System Information
Reboot
Logout

Basic Serial Settings

Advanced Serial Settings

The following settings are advanced settings used to fine tune the serial port and access

Serial Settings

☐ Enable Port Logging
Log Size: 32 KB

☐ Enable RTS Toggle
Pre-Delay: 0 ms
Post-Delay: 0 ms

☐ Enable RCI over Serial (DSR)

TCP Settings

☐ Send Socket ID
Socket ID:

☐ Send data only under any of the following conditions:

☐ Send when data is present on the serial line
Match string:
☐ Strip match string before sending

☐ Send after the following number of idle milliseconds
1000 ms

Send after the following number of bytes
1024 bytes


☒ Close connection after the following number of idle seconds
Timeout: 30 secs

☐ Close connection when DCD goes low
☐ Close connection when DSR goes low

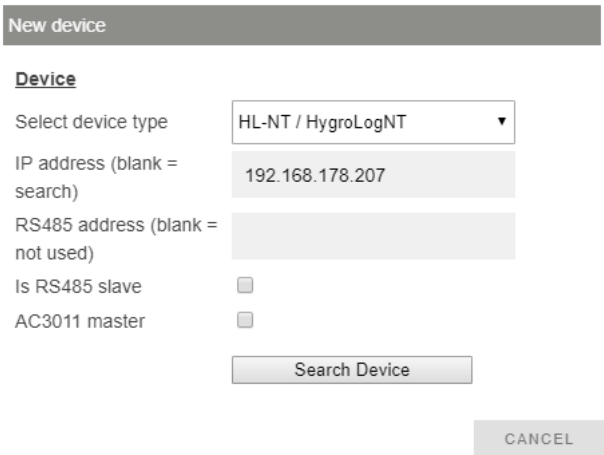
Apply

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6.7.3 Integration into RMS via the RMS-CONVERTER

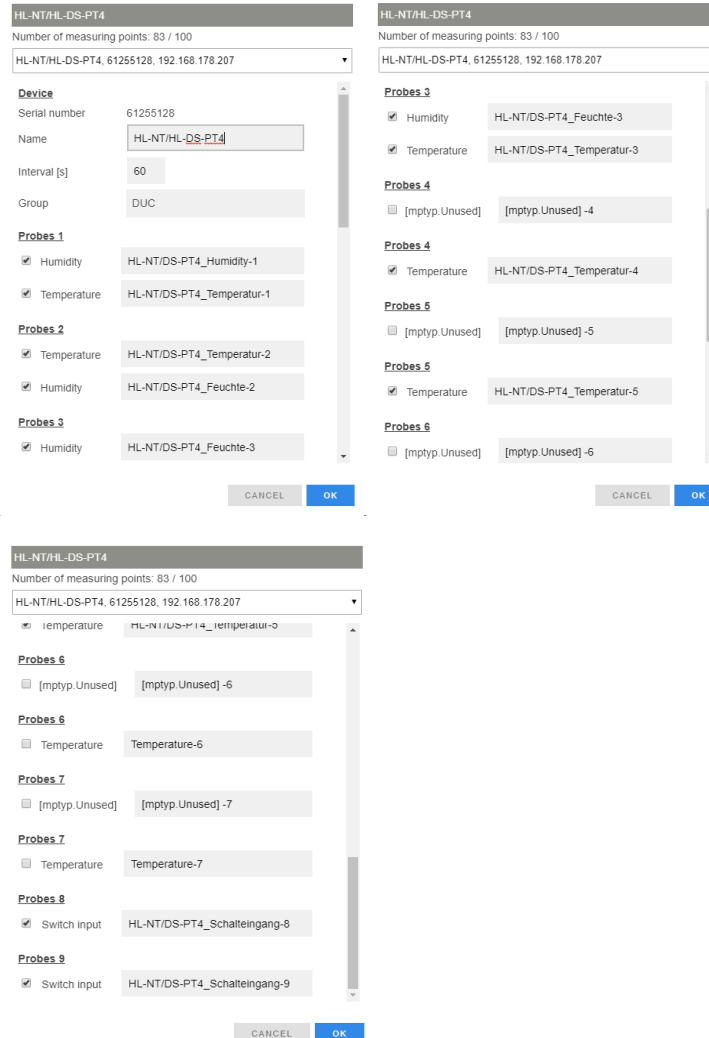
Step 1	<p>Log into the RMS software. Select Tools > Setup > Devices. Select the RMS-CONVERTER and click on <Add/Search> devices:</p> <div> <div> Info ID DEV-1922 Device LAN-Converter Serial number 61575399 Status  Enabled Battery --- Last refresh 2 Seconds Encryption Yes </div> <div> Settings Name RMS-Converter #399 Position Technical Area Timeout [s] 240 Owner James Pickering Group RMS Wall Properties Show </div> <div> Devices Add/Search </div> </div>
--------	---

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Step 2	<p>Select the device type in the drop down menu.</p> <p>It is possible to type the IP address or host name into the field <i>IP address</i>.</p> <p>IMPORTANT: If the field stays empty, RMS searches automatically. If the automatic search function is disabled, an IP address or a host name has to be typed into the field.</p> 
--------	---

Step 3

The device appears: configure accordingly.



The screenshots show the configuration interface for the HL-NT/HL-DS-PT4 device. The first two screenshots show the 'Device' and 'Probes' configuration for HL-NT/HL-DS-PT4, with the third screenshot showing the 'Probes' configuration for HL-NT/HL-DS-PT4 with switch inputs.

Device Configuration:

- Serial number: 61255128
- Name: HL-NT/HL-DS-PT4
- Interval [s]: 60
- Group: DUC

Probes Configuration:

- Probes 1:** Humidity (HL-NT/DS-PT4_Humidity-1), Temperature (HL-NT/DS-PT4_Temperatur-1)
- Probes 2:** Temperature (HL-NT/DS-PT4_Temperatur-2), Humidity (HL-NT/DS-PT4_Feuchte-2)
- Probes 3:** Humidity (HL-NT/DS-PT4_Feuchte-3)
- Probes 4:** Temperature (HL-NT/DS-PT4_Temperatur-4)
- Probes 5:** Temperature (HL-NT/DS-PT4_Temperatur-5)
- Probes 6:** [mptyp Unused] -6
- Probes 7:** [mptyp Unused] -7
- Probes 8:** Switch input (HL-NT/DS-PT4_Schalteingang-8)
- Probes 9:** Switch input (HL-NT/DS-PT4_Schalteingang-9)

Note: Probes 1 to 3 are the probes of the HL-NT. Probes 4 to 7 are the probes of the HL-DS. Probes 8 and 9 are the switch inputs of the HL-DS.

Note: The interval cannot be shorter than the interval of the RMS Converter.

Note: For the HL-DS-PT4, please set a checkmark for temperature on probes 4 and 5. The other probes 6 and 7 are not working and would display a measurement without function. A checkmark cannot be set for the probes 6 and 7 because the hardware interfaces for these probes don't exist for this device version. The RMS would display measurement points without function. These notes are related to the limited compatibility of RMS and the HL-NT technology.

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	<p>Note: For the HL-DS-U4 and HL-DS-U4-420, if the analog inputs of the HL-DS are required, the configuration of the HL-DS can be changed via HW4 and the devices must be integrated again into RMS or the settings can also be changed via the RMS (Tools>Setup>Devices>Properties>Show, a window appears where the settings can be changed. After clicking <Apply> the device need to be deleted from RMS and reintegrated again to show the new input settings.</p> <p>IMPORTANT: If not all checkmarks for measurement points are set and it is wished to expand it later then the same device needs to be added again with the same identification and IP address (there is no need to delete the device before adding it). The desired check marks can be set. And afterwards, the added or updated measurement points will appear.</p>
Step 4	<p>The device is added.</p> <p>New device added successfully!</p> <p>OK</p>
Step 5	<p>IMPORTANT: Overwritten settings.</p> <p>By adding the device to RMS via the RMS-CONVERTER, the following configuration will be overwritten on the device:</p> <ul style="list-style-type: none"> • Alarm settings: will not be overwritten, but ignored by RMS. Meaning that local alarms can be set and the HL-NT will alarm via the display and buzzer. • Log file format: .LOG • Delete old log files: disabled • Relais settings: off • Write protection: off • Current time: UTC • Log interval: 1 min • Create new file: every day • Relative humidity: on • Temperature: on • Calculated value: off • Start time: 1.1.2000 • Stop time: 1.1.2050 • All .XLS files will be deleted. • All .LOG files older than 7 day will be deleted <p>Note: if one of the settings above is changed with HW4 further to the initial installation into RMS, then RMS will not note the change. However, such a change would cause RMS to not work correctly. The changes will however be overwritten should the RMS-CONVERTER reboot (due to a short power interrupt).</p>

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6.7.4 Functionality within RMS

Device settings: log into the RMS software. Select Tools > Setup > Devices. Select the device.

Filters

New

Select columns

ID	Status	Name	Serial number
DEV-155	OK	LAN-Converter_67382638	67382638
DEV-442	OK	HF4	596874521
DEV-443	OK	HF5	61000143
DEV-444	OK	HF8re	110970380
DEV-445	OK	HF8B	10101
DEV-446	OK	PF4 (first generation)	3
DEV-447	OK	PF4 (second generation)	71713630
DEV-453	OK	4RTD	0
DEV-454	OK	ApexR5	1804100021
DEV-456	OK	PFS (second generation)	71713631
DEV-470	Timeout	HL-RC-B	12653048
DEV-471	Timeout	HL-RC-T	12779757
DEV-472	OK	8ADC-V	0
DEV-473	OK	RedLion ES-16ISOTC	0
DEV-483	OK	HL-NT/HL-DS-PT4	61255128
DEV-487	OK	8015	0
DEV-508	OK	CRP5	1234567890
DEV-511	OK	HL-NT/HL-DS-U4	61693554

Delete

Options

Save

Info

ID

DEV-483

Device

Third Party Device

Serial number

61255128

Status

Enabled

Battery

100%

Last refresh

36 Seconds

Encryption

No

Settings

Name

HL-NT/HL-DS-PT4

Position

Interval [s]

60

Timeout [s]

120

Address

192.168.178.207

RS485 address

2

Is RS485 slave

☐

Auto restore

☒

Owner

Unknown

Group

DUC

Properties

Show

Gateway

DEV-155, LAN-Converter_67382638

Measuring points

Input 1

MPT-1939, HL-NT/DS-PT4_Humidity-1, Humidity

Input 2

MPT-1940, HL-NT/DS-PT4_Temperature-1, Temperature

Input 3

MPT-1941, HL-NT/DS-PT4_Humidity-2, Humidity

Input 4

MPT-1942, HL-NT/DS-PT4_Temperature-2, Temperature

Input 5

MPT-1943, HL-NT/DS-PT4_Humidity-3, Humidity

Input 6

MPT-1944, HL-NT/DS-PT4_Temperature-3, Temperature

Input 7

MPT-1945, HL-NT/DS-PT4_Temperature-4, Temperature

Input 8

MPT-1946, HL-NT/DS-PT4_Temperature-5, Temperature

Input 9

MPT-1949, HL-NT/DS-PT4_Switch-input-8, Switch input

Input 10

MPT-1950, HL-NT/DS-PT4_Switch-input-9, Switch input

Step 1

Status: the device can be disabled/enabled. When disabled, the RMS-CONVERTER will not send any requests.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Properties: Show. The firmware version is shown.

Device properties

Status info

Version

V2.0b

CANCEL

APPLY

IMPORTANT: Under options, the firmware update, import firmware file, import device definition and device inventory are not supported for this device.

IMPORTANT: The output range, the sources and the measurement ranges of the analog outputs 1 and 2, can be scaled and stored within the device clicking <Apply>.

Step 2

Measurement point settings: log into the RMS software. Select Tools > Setup > Measuring point.

Select the measuring point.

Status: the measuring point can be disabled/enabled.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Filters	New	Select columns	Archive	Delete	Save
ID	Status	Name	Unit	Serial number	Regulation status
MPT-1656	OK	CRP5_Differenzdruck-1	Differential pressure	0	
MPT-1657	OK	CRP5_Feuchte-2	Humidity	20073369	
MPT-1658	OK	CRP5_Temperatur-2	Temperature	20073369	
MPT-1659	OK	CRP5_Analog-3	Analog	0	
MPT-1660	OK	CRP5_Analog-4	Analog	0	
MPT-1661	OK	CRP5_Druck-5	Pressure	0	
MPT-1662	OK	CRP5_Schalteingang-6	Switch input	0	
MPT-1664	OK	CRP5_Schaltausgang-8	Switch output	0	
MPT-1670	OK	HF4_Humidity	Humidity	596874521	
MPT-1671	OK	HF4_Temperature	Temperature	596874521	
MPT-1672	OK	HF5_Feuchte-1	Humidity	20049983	
MPT-1673	OK	HF5_Temperatur-1	Temperature	20049983	
MPT-1674	OK	HF8re_Feuchte-1	Humidity	60816820	
MPT-1675	OK	HF8re_Temperatur-1	Temperature	60816820	
MPT-1676	OK	HF8re_Feuchte-2	Humidity	247169827	
MPT-1677	OK	HF8re_Temperatur-2	Temperature	247169827	
MPT-1678	OK	HF8re_Schaltausgang-3	Switch output	0	
MPT-1682	OK	HF8li_Feuchte-1	Humidity	60816788	
MPT-1683	OK	HF8li_Temperatur-1	Temperature	60816788	
MPT-1684	OK	HF8li_Feuchte-2	Humidity	247195221	
MPT-1685	OK	HF8li_Temperatur-2	Temperature	247195221	
MPT-1686	OK	HF8li_Schaltausgang-3	Switch output	0	
MPT-1690	OK	Differential pressure	Differential pressure	0	

Info

ID: MPT-1690

Type: Differential pressure

Status: ● Enabled

Serial number: --

Device: PF4 (first generation) [DEV-446] [↗](#)

Last refresh: 7 Seconds

Settings

Name: Differential pressure

Regulation status:

Comment:

Display category:

Display digits: Automatic ▼

Group(s): DUC

Alarm

Mode: ☒ Off

☐ Measuring point

☐ Alarm scheme

Step 3

Adjustment: log into the RMS software. Select Tools > Adjustment. Select the measuring point. Click on <Refresh now>.

General procedure:

- Type the humidity reference value and click <Acquire>
- Repeat until the desired number of adjustment points are acquired.
Note: The user of this feature must take care about sufficient stable circumstances for a data acquisition. Please take the interval into account. One value after every 60 seconds does not detect short term changes of the value.
- Click <Adjust> to finish.
- Use the button <Acquire + Adjust> for one point adjustment.
- Click <Delete user adjustment> to delete the last customer adjustment.

Filters

Select columns

Refresh now

▲ ID

Name

MPT-1656

CRP5_Differenzdruck-1

MPT-1657

CRP5_Feuchte-2

MPT-1658

CRP5_Temperatur-2

MPT-1659

CRP5_Analog-3

MPT-1660

CRP5_Analog-4

MPT-1661

CRP5_Druck-5

MPT-1670

HF4_Humidity

MPT-1671

HF4_Temperature

MPT-1672

HF5_Feuchte-1

MPT-1673

HF5_Temperatur-1

MPT-1674

HF8re_Feuchte-1

MPT-1675

HF8re_Temperatur-1

MPT-1676

HF8re_Feuchte-2

MPT-1677

HF8re_Temperatur-2

MPT-1682

HF8li_Feuchte-1

MPT-1683

HF8li_Temperatur-1

MPT-1684

HF8li_Feuchte-2

MPT-1685

HF8li_Temperatur-2

MPT-1690

PF4alt_Differenzdruck-1

MPT-1691

PF4alt_Feuchte-2

MPT-1692

PF4alt_Temperatur-2

MPT-1722

HL-NT_unten_Feuchte-1

MPT-1723

HL-NT_unten_Temperatur-1

MPT-1724

HL-NT_unten_Feuchte-2

MPT-1725

HL-NT_unten_Temperatur-2

MPT-1726

HL-NT_unten_Feuchte-3

Measuring point

ID

MPT-1674

Name

HF8re_Feuchte-1

Unit

Humidity

Status

OK

Adjustment info

Last refresh

0 Days

Factory default Date

8/20/2011

Reference

12.47; 35.20; 79.02

User adjustment Date

6/29/2018

Reference

Adjustment deleted

Acquired values

No.

Date

Reference

Measured value

Difference

Measurement

Current measured value

27,80%rh

Reference value

25.07

Temperature

Blue man input

HF8re_Temperatur-1

Acquire

Adjust

Acquire + Adjust

Delete user adjustment

Note: For humidity multiple points can be acquired and adjusted. For temperature only 1 or 2 points.

For Temperature only (HL-NT/HL-DS-PT4 → Pt100 on input 4 and 5)

Measuring point					
ID	MPT-1945				
Name	HL-NT/DS-PT4_Temperature-4				
Unit	Temperature				
Status	OK				
Adjustment info					
Last refresh	0 Days				
Factory default Date	---				
Reference	---				
User adjustment Date	---				
Reference	0.00				
Acquired values					
No.	Date	Reference	Measured value	Difference	
1	10/25/2018	25.00	23.86	-1.14	Remove
Measurement					
Current measured value	23,86°C				
Reference value	<input type="text"/> Manual input				
<input type="button" value="Acquire"/>					
<input type="button" value="Adjust"/>					
<input type="button" value="Acquire + Adjust"/>					
<input type="button" value="Delete user adjustment"/>					

Measuring point					
ID	MPT-1945				
Name	HL-NT/DS-PT4_Temperature-4				
Unit	Temperature				
Status	OK				
Adjustment info					
Last refresh	0 Days				
Factory default Date	---				
Reference	---				
User adjustment Date	---				
Reference	0.00				
Acquired values					
No.	Date	Reference	Measured value	Difference	
Measurement					
Current measured value	23,85°C				
Reference value	<input type="text"/> Manual input				
<input type="button" value="Acquire"/>					
<input type="button" value="Adjust"/>					
<input type="button" value="Acquire + Adjust"/>					
<input type="button" value="Delete user adjustment"/>					

Note:

Only a one point adjustment is possible.

“User adjustment Date” will always display as “---”.

“Reference” will always display “000”.

The real date and reference cannot be shown due to missing compatibility of these systems.

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Step 4	<p>Data logging: the HL-NT has an internal memory, the HL-NT is battery powered. So the HL-NT can log during a power interruption.</p> <p>In case of a communication interruption to the RMS Server, the RMS Converter logs the data of the HL-NT. After the interruption, RMS requests the data from the RMS Converter.</p> <p>In case of a communication interruption between the RMS Converter and the HL-NT, the HL-NT would log the data.</p> <p>IMPORTANT: The HL-NT can log for a certain number of days. However, only the log values of the past 7 days can be added into RMS via the RMS-CONVERTER, all other data will be deleted!</p>								
Step 5	<p>Sensor error: In case of one sensor error out of the two, RMS displays a sensor error for both measurement values.</p> <table><tr><td>MPT-1672</td><td>Sensor error</td><td>HF5_Feuchte-1</td><td>Humidity</td></tr><tr><td>MPT-1673</td><td>Sensor error</td><td>HF5_Temperatur-1</td><td>Temperature</td></tr></table> <div><div>MPT-1672 HF5_Feuchte-1</div><div>0,00 %rh</div></div>	MPT-1672	Sensor error	HF5_Feuchte-1	Humidity	MPT-1673	Sensor error	HF5_Temperatur-1	Temperature
MPT-1672	Sensor error	HF5_Feuchte-1	Humidity						
MPT-1673	Sensor error	HF5_Temperatur-1	Temperature						
Step 6	<p>Measurement alarm: Alarms linked to the measurement limits and programmed within the HC2 will not be transmitted to RMS. However if the device has a display and the display is configured correctly, the alarm will show on the display.</p>								
Step 7	<p>Fix measurement values programmed within the Hygroclip are displayed as "Simulator" within RMS.</p> <p>Chart (e. g. fix value for humidity)</p> <div><div>MPT-2113 HL-NT/DS-U4_Humidit...</div><div>Simulator55,00 %rh</div></div> <p>(Temperature of the same Hygroclip is not marked as a Simulator)</p> <div><div>MPT-2114 HL-NT/DS-U4_Tempera...</div><div>23,12 °C</div></div> <table><tr><td>MPT-2113</td><td>Simulator connected</td><td>HL-NT/DS-U4_Humidity-2</td><td>Humidity</td></tr><tr><td>MPT-2114</td><td>OK</td><td>HL-NT/DS-U4_Temperature-2</td><td>Temperature</td></tr></table>	MPT-2113	Simulator connected	HL-NT/DS-U4_Humidity-2	Humidity	MPT-2114	OK	HL-NT/DS-U4_Temperature-2	Temperature
MPT-2113	Simulator connected	HL-NT/DS-U4_Humidity-2	Humidity						
MPT-2114	OK	HL-NT/DS-U4_Temperature-2	Temperature						

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7 Integration of third party products into RMS

7.1 General

Third party products can be integrated into RMS if the communication protocol is available. The digital communication may however be limited.

7.1.1 Limitations

RMS is designed for IoT devices as well as networks where each device has an integrated memory and power supply to bridge power and/or communication interrupts. This postulates a strict architecture in terms of communication, timing and other various points to ensure an uninterrupted monitoring.

The RMS-CONVERTER enables digital devices to be integrated into RMS, these digital devices may be stand alone, but also part of another network or system with another design. As such limitations exist in terms of device features and functions for communication stability and overall performance.

IMPORTANT: Time outs and data gaps can occur due to mismatching systems and limited compatibility!

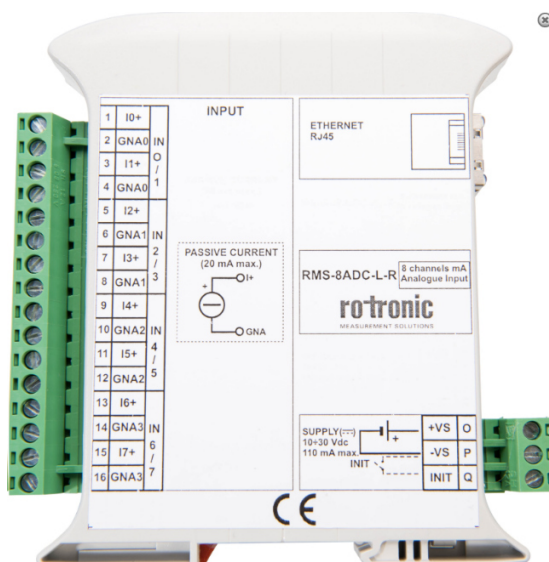
7.1.2 Compatible devices with an Ethernet connection

Device name	Order code	Function	Parameter measured
RMS-8ADC-L-R-A	RMS-8ADC-L-R-A	Transmitter with 8 analog inputs	mA
RMS-8ADC-L-R-V	RMS-8ADC-L-R-V	Transmitter with 8 analog inputs	V
RMS-4RTD-L-R	RMS-4RTD-L-R	Transmitter with 4 RTD inputs	Pt100, Pt1000, Ni100, Ni1000
HL-RC	HL-RC-B HTL-RC-T	Data logger with 1 interchangeable probe input or fixed Pt1000	Temperature and relative humidity or temperature only
Lighthouse Apex R5	N/A	Transmitter with integrated particle counting	Particles

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7.2 Integration of the RMS-8ADC/4RTD transmitters into RMS

7.2.1 Device description



- The RMS-8ADC/4RTD are DIN rail transmitters with an Ethernet port and various inputs. The RMS-8ADC-L-R-A has 8 analog inputs (mA), the RMS-8ADC-L-R-V has 8 analog inputs (V), the RMS-4RTD-L-R has 4 RTD inputs.

Important: Please consult the RMS-8ADC/4RTD user manual a for further details.

7.2.2 Network configuration of the device

The RMS-8ADC/4RTD is connected via Ethernet to the network.

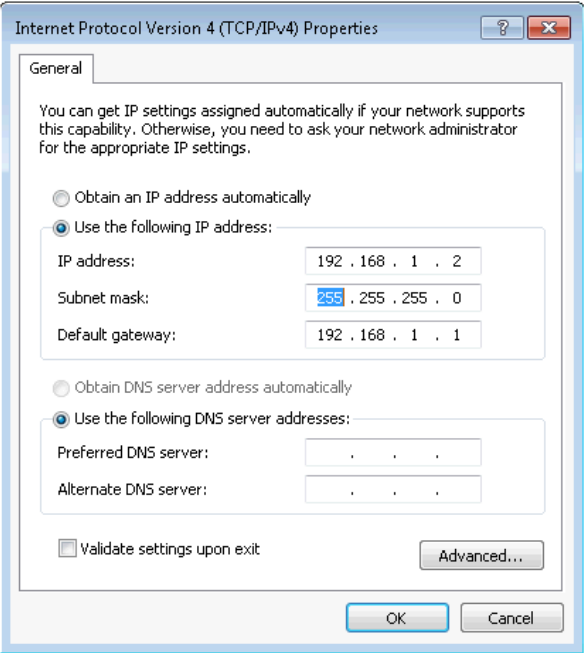
To add the RMS-8ADC/4RTD into the RMS, it is necessary to discover the individual network configuration of the device as

- Fix IP address

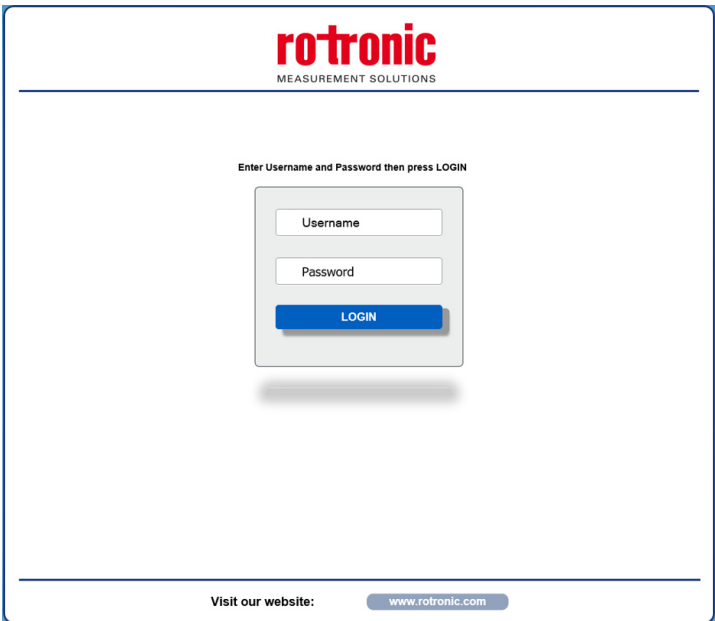
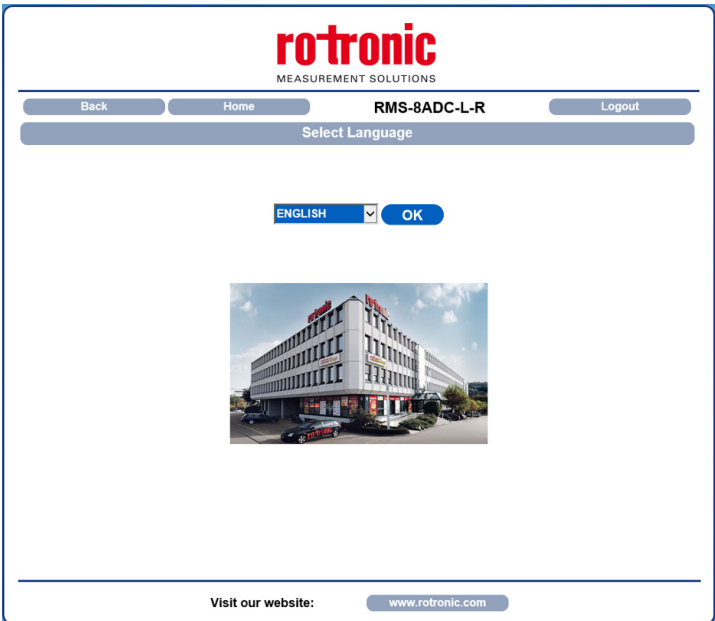
Note: RMS-8ADC/4RTD has no DHCP function and no host name. It can be addressed only by the fix IP address.

Note: The Digi Device Discovery Tool does not work for the RMS-8ADC/4RTD.

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<p>Step 1</p>	<p>To configure the RMS-8ADC/4RTD IP address></p> <ul style="list-style-type: none"> • Setup a point to point Ethernet connection from the device to a PC using an Ethernet cable. • Change the IP settings of the PC (network adapter settings IP4) as follows.  <ul style="list-style-type: none"> • Open the transparent front cover of the RMS-8ADC/4RTD and press the tiny button for approximately 10 seconds until the LED changes the light. • Open a web browser and type in http://192.168.1.100 (the default IP address is 192.168.1.100)
---------------	---

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<p>Step 2</p>	<p>Default log in: Username: Fact_user Password: Ract_pwd</p> <div data-bbox="536 504 1254 1122">  </div> <p>Set the language:</p> <div data-bbox="536 1176 1254 1794">  </div> <p>Network settings and system configuration:</p>
---------------	---

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Logout

Main Menu

Network settings

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Username and Password

Analog Input

Set the Network parameters such as IP Address, Gateway Mask, Socket Timeout...

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Logout

Network settings

Enter the new network parameters and press SAVE

IP Address: 192 168 178 203 192.168.178.203

Subnet Mask: 255 255 255 0 255.255.255.0

Gateway Mask: 192 168 178 1 192.168.178.1

Socket Timeout: 10 min

Save

Visit our website: www.rotronic.com

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Edit the device name, enable/disable WatchDog and PowerUp events...

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System Configuration

Name: RMS-8ADC x

Modbus Address: 1

MAC Address: D8 80 39 B9 2C 0C

WatchDog Enable

TimeOut: 10

WatchDog Event

PowerUp Event

Refresh

Save

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7.2.3 Integration into RMS via the RMS-CONVERTER

Step 1	<p>Log into the RMS software. Select Tools > Setup > Devices. Select the RMS-CONVERTER and click on <Add/Search> devices:</p> <div data-bbox="536 521 1214 1272"> <p>Info</p> <table> <tr><td>ID</td><td>DEV-1922</td></tr> <tr><td>Device</td><td>LAN-Converter</td></tr> <tr><td>Serial number</td><td>61575399</td></tr> <tr><td>Status</td><td> Enabled</td></tr> <tr><td>Battery</td><td>---</td></tr> <tr><td>Last refresh</td><td>2 Seconds</td></tr> <tr><td>Encryption</td><td>Yes</td></tr> </table> <p>Settings</p> <table> <tr><td>Name</td><td>RMS-Converter #399</td></tr> <tr><td>Position</td><td>Technical Area</td></tr> <tr><td>Timeout [s]</td><td>240</td></tr> <tr><td>Owner</td><td>James Pickering</td></tr> <tr><td>Group</td><td>RMS Wall</td></tr> <tr><td>Properties</td><td>Show</td></tr> </table> <p>Devices</p> <p>Add/Search</p> </div>	ID	DEV-1922	Device	LAN-Converter	Serial number	61575399	Status	 Enabled	Battery	---	Last refresh	2 Seconds	Encryption	Yes	Name	RMS-Converter #399	Position	Technical Area	Timeout [s]	240	Owner	James Pickering	Group	RMS Wall	Properties	Show
ID	DEV-1922																										
Device	LAN-Converter																										
Serial number	61575399																										
Status	 Enabled																										
Battery	---																										
Last refresh	2 Seconds																										
Encryption	Yes																										
Name	RMS-Converter #399																										
Position	Technical Area																										
Timeout [s]	240																										
Owner	James Pickering																										
Group	RMS Wall																										
Properties	Show																										

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Step 2

Select the device type in the drop down menu.

It is possible to type the IP address or host name into the field *IP address*.

IMPORTANT: If the field stays empty, RMS will not search automatically.

New device

Device

Select device type

RMS-8ADC-L-R-A

IP address (blank = search)

192.168.178.203

RS485 address (blank = not used)

Is RS485 slave
☐

AC3011 master
☐

Search Device

CANCEL

New device

Device

Select device type

RMS-8ADC-L-R-V

IP address (blank = search)

192.168.178.203

RS485 address (blank = not used)

Is RS485 slave
☐

AC3011 master
☐

Search Device

CANCEL

Note: Please take care that the correct device type is chosen. Because a current input type of the device can be added as a voltage input type (the opposite as well).

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Step 3	The device appears: configure accordingly.
--------	--

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RMS-8ADC-L-R-A

Number of measuring points: 99 / 100

RMS-8ADC-L-R-A, 0, 192.168.178.203

Device

Serial number

0

Name

RMS-8ADC-L-R-A

Interval [s]

60

Group

DUC

Probes 1

☒

Analog

Analog-1

mA

Probes 2

☒

Analog

Analog-2

mA

Probes 3

☒

Analog

Analog-3

mA

Probes 4

☒

Analog

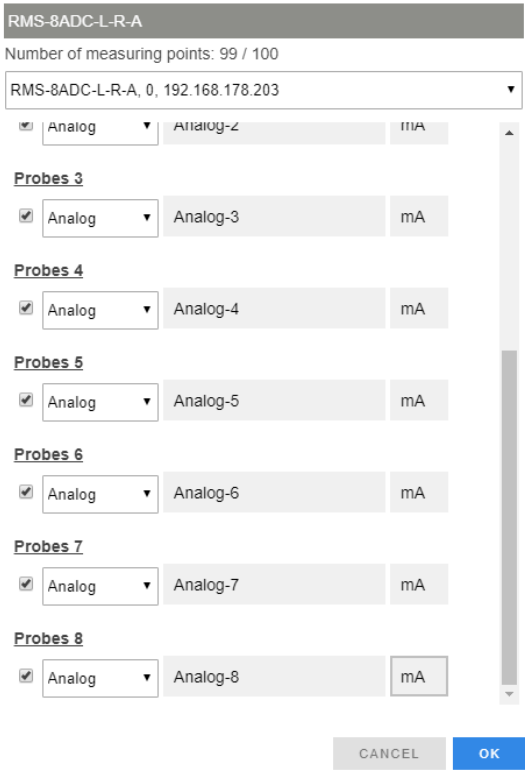
Analog-4

mA

CANCEL

OK

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	 <p>Note: The interval cannot be shorter than the interval of the RMS Converter.</p> <p>Note: The serial number information of the device is not provided to RMS.</p> <p>IMPORTANT: If not all checkmarks for measurement points are set and it is wished to expand it later than please add the same device via the RMS-CONVERTER (with the same identification/IP address) again and set the new wished checkmarks. The added or updated measurement points will appear afterwards.</p> <p>Note: if settings are changed with another software further to the initial installation into RMS, then RMS will not note the change. However, such a change would cause RMS to not work correctly.</p>
Step 4	<p>The device is added.</p> <p>New device added successfully!</p> <p>OK</p>

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7.2.4 Functionality within RMS

Device settings: log into the RMS software. Select Tools > Setup > Devices. Select the device.

Filters	New	Select columns	Delete	Options	Save
ID	Status	Name	Serial number	Info	
DEV-155	OK	LAN-Converter_67382638	67382638	ID	DEV-487
DEV-442	OK	HF4	596874521	Device	Third Party Device
DEV-443	OK	HF5	61000143	Serial number	0
DEV-444	OK	HF8re	110970380	Status	Enabled
DEV-446	OK	PF4 (first generation)	3	Battery	---
DEV-453	OK	4RTD	0	Last refresh	8 Seconds
DEV-454	OK	ApexR5	1804100021	Encryption	No
DEV-456	OK	PF5 (second generation)	71713631	Settings	
DEV-470	OK	HL-RC-B	12653048	Name	RMS-8ADC-L-R-A
DEV-471	OK	HL-RC-T	12779757	Position	
DEV-472	OK	8ADC-V	0	Interval [s]	60
DEV-473	OK	RedLion E3-16ISOTC	0	Timeout [s]	120
DEV-483	OK	HL-NT/HL-D5-PT4	61255128	Address	192.168.178.203
DEV-487	OK	RMS-8ADC-L-R-A	91	RS485 address	1
DEV-508	OK	CRP5	1234567890	Is RS485 slave	<input type="checkbox"/>
DEV-511	OK	HL-NT/HL-D5-U4	61693554	Auto restore	<input checked="" type="checkbox"/>
				Owner	Unknown
				Group	DUC
				Properties	Show
				Gateway	DEV-155, LAN-Converter_67382638
				Measuring points	
				Input 1	MPT-1991, RMS-8ADC-L-R-A, Analog-1, Analog
				Input 2	MPT-2091, RMS-8ADC-L-R-A, Analog-2, Analog
				Input 3	MPT-2092, RMS-8ADC-L-R-A, Analog-3, Analog
				Input 4	MPT-2093, RMS-8ADC-L-R-A, Analog-4, Analog
				Input 5	MPT-2094, RMS-8ADC-L-R-A, Analog-5, Analog
				Input 6	MPT-2095, RMS-8ADC-L-R-A, Analog-6, Analog
				Input 7	MPT-2096, RMS-8ADC-L-R-A, Analog-7, Analog
				Input 8	MPT-2097, RMS-8ADC-L-R-A, Analog-8, Analog

Status: the device can be disabled/enabled. When disabled, the RMS-CONVERTER will not send any requests.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Properties: Show. The device settings can be displayed and changed.

Step 1

Device properties

Input 1

Input low [mV/mA]

0

Input high [mV/mA]

100

Measurement range low

0

Measurement range high

100

Input 2

Input low [mV/mA]

0

Input high [mV/mA]

100

Measurement range low

0

Measurement range high

100

Input 3

CANCEL

APPLY

RMS-Converter

rotronic

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Device properties

Input 1

Measuring mode PT100

Input 2

Measuring mode PT1000

Input 3

Measuring mode Ni100

Input 4

Measuring mode Ni1000

CANCEL

APPLY

IMPORTANT: Under options, the firmware update, import firmware file, import device definition and device inventory are not supported for this device.

Measurement point settings: log into the RMS software. Select Tools > Setup > Measuring point. Select the measuring point.

Status: the measuring point can be disabled/enabled.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Step 2

Filters	New	Select columns		Archive	Delete	Save
ID	Status	Name	Unit	Serial number		
MPT-1944	OK	HL-NT/DS-PT4_Temperature-3	Temperature	60816953		
MPT-1945	OK	HL-NT/DS-PT4_Temperature-4	Temperature	0		
MPT-1946	OK	HL-NT/DS-PT4_Temperature-5	Temperature	0		
MPT-1949	OK	HL-NT/DS-PT4-Switch-input-8	Switch input	0		
MPT-1950	OK	HL-NT/DS-PT4-Switch-input-9	Switch input	0		
MPT-1991	OK	RMS-8ADC-L-R-A_Analog-1	Analog	1		
MPT-2045	OK	CRP5_Differential pressure-1	Differential pressure	0		
MPT-2046	OK	CRP5_Humidity-2	Humidity	20073369		
MPT-2047	OK	CRP5_Temperature-2	Temperature	20073369		
MPT-2048	OK	CRP5_Analog-3	Analog	0		
MPT-2049	OK	CRP5_Analog-4	Analog	0		
MPT-2050	OK	CRP5_Pressure-5	Pressure	0		
MPT-2051	OK	CRP5_Switch input-6	Switch input	0		
MPT-2052	OK	CRP5_Switch input-7	Switch input	0		
MPT-2053	OK	CRP5_Switch output-8	Switch output	0		
MPT-2054	OK	CRP5_Switch output-9	Switch output	0		
MPT-2055	OK	CRP5_Switch output-10	Switch output	0		
MPT-2056	OK	CRP5_Switch output-11	Switch output	0		
MPT-2057	OK	CRP5_Switch output-12	Switch output	0		
MPT-2058	OK	CRP5_Switch output-13	Switch output	0		
MPT-2065	OK	HL-NT/DS-U4_Humidity-1	Humidity	60816869		
MPT-2066	OK	HL-NT/DS-U4_Temperature-1	Temperature	60816869		
MPT-2071	OK	HL-NT/DS-U4_Humidity-4	Humidity	0		
MPT-2072	OK	HL-NT/DS-U4_Temperature-4	Temperature	0		
MPT-2079	OK	Digital input-8	Switch input	0		
MPT-2080	OK	Digital input-9	Switch input	0		
MPT-2091	OK	RMS-8ADC-L-R-A_Analog-2	Analog	2		
MPT-2092	OK	RMS-8ADC-L-R-A_Analog-3	Analog	3		
MPT-2093	OK	RMS-8ADC-L-R-A_Analog-4	Analog	4		
MPT-2094	OK	RMS-8ADC-L-R-A_Analog-5	Analog	5		
MPT-2095	OK	RMS-8ADC-L-R-A_Analog-6	Analog	6		
MPT-2096	OK	RMS-8ADC-L-R-A_Analog-7	Analog	7		
MPT-2097	OK	RMS-8ADC-L-R-A_Analog-8	Analog	8		

Info

ID: MPT-2091

Type: Analog

Status: Enabled

Serial number: 2

Device: RMS-8ADC-L-R-A [DEV-487]

Last refresh: 37 Seconds

Settings

Name: RMS-8ADC-L-R-A_Analog-2

Unit: mA

Regulation status:

Comment:

Display category:

Display digits: Automatic

Group(s): DUC

Alarm

Mode: ☒ Off ☐ Measuring point ☐ Alarm scheme

Step 3 Adjustment: an adjustment of the RMS-8ADC/4RTD is not possible.

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Step 4	Data logging: the RMS-8ADC/4RTD has no internal memory, the RMS-8ADC/4RTD is not battery powered. So the RMS-8ADC/4RTD cannot log during a power interruption.
	In case of a communication interruption to the RMS Server, the RMS Converter logs the data of the RMS-8ADC/4RTD. After the interruption, RMS requests the data from the RMS Converter.
	In case of a communication interruption between the RMS Converter and the RMS-8ADC/4RTD, the RMS-8ADC/4RTD would not log the data.
Step 5	Sensor error cannot be detected, if nothing is connected to the ADC, the measured value is 0.00.

7.3 Integration of the HL-RC data logger into RMS

7.3.1 Device description



The HL-RC is a wireless data logger and combined with the HL-LAN-INTERFACE gateway can be integrated into RMS. To integrate the HL-NT into RMS the device version with Ethernet or RS485 is necessary. The following devices can be integrated: HL-LAN-INTERFACE, HL-RC-B and HL-RC-T.

Important: Please consult the HL-RC user manual as well as the HW4 manual for the HL-RC devices for further details.

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7.3.2 Network configuration of the device

The HL-LAN-INTERFACE is connected via Ethernet to the network.

To add the LAN-INTERFACE into the RMS, it is necessary to discover the individual network configuration of the device as

- DHCP active or fixed IP address.
- Host name.

Only the HW4 can be used to get / edit this network information.

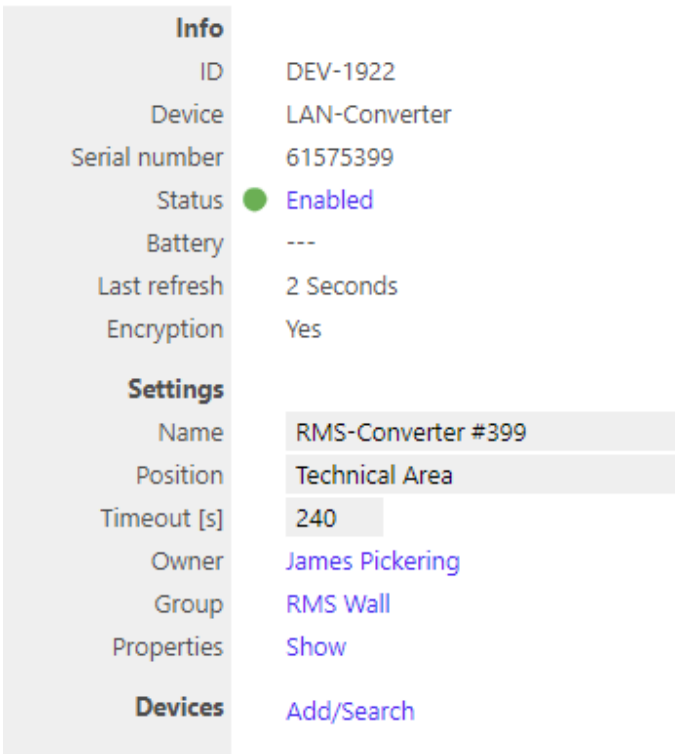
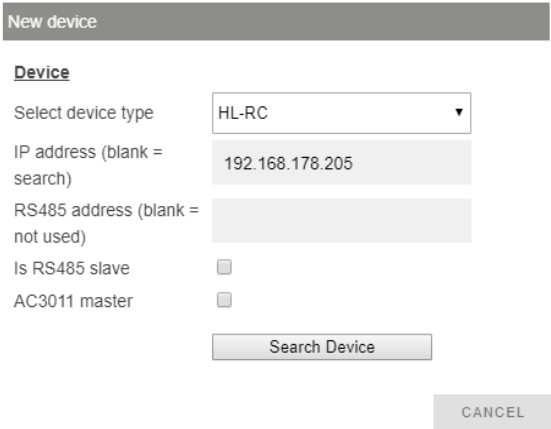
Note: Rotronic strongly recommends avoiding running the HW4 parallel to RMS (e.g. on a PC within the same local Ethernet as for of the RMS Converter and the integrated devices). It will cause timeouts, data gaps or other errors due to communication failures.

Note: The Digi Device Discovery Tool does not work for the HL-LAN-INTERFACE.

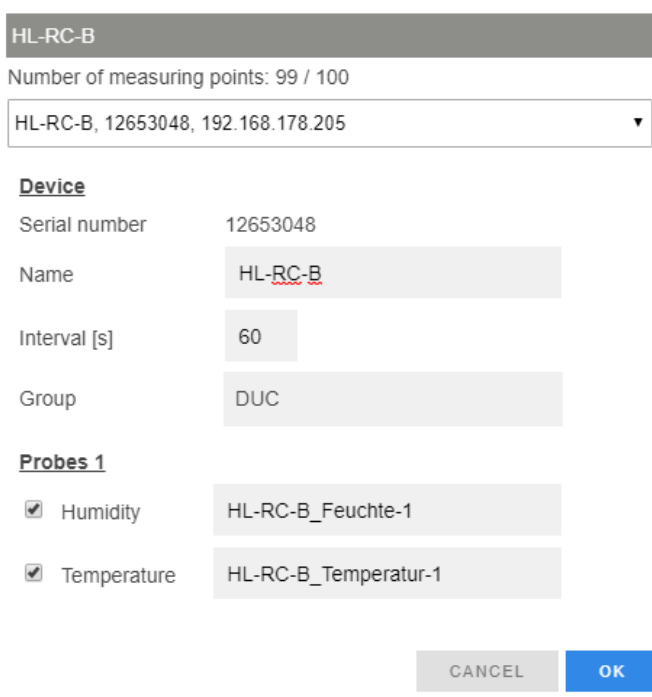
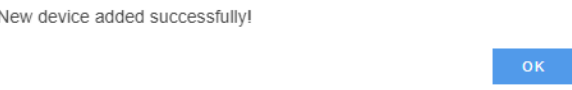
Note: Rotronic recommends to use fix IP addresses for the RMS Converter as well as for the devices. The reason is the logging function of the RMS Converter in case of any interruption to the RMS.

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7.3.3 Integration into RMS via the RMS-CONVERTER

Step 1	<p>Log into the RMS software. Select Tools > Setup > Devices. Select the RMS-CONVERTER and click on <Add/Search> devices:</p> 
Step 2	<p>Select the device type in the drop down menu.</p> <p>It is possible to type the IP address or host name into the field <i>IP address</i>.</p> <p>IMPORTANT: If the field stays empty, RMS will not search automatically.</p> 

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Step 3	<p>The device appears: configure accordingly.</p>  <p>Note: The interval cannot be shorter than the interval of the RMS Converter.</p> <p>IMPORTANT: If not all checkmarks for measurement points are set and it is wished to expand it later than please add the same device via the RMS-CONVERTER (with the same identification/IP address) again and set the new wished checkmarks. The added or updated measurement points will appear afterwards.</p> <p>Note: if settings are changed with another software further to the initial installation into RMS, then RMS will not note the change. However, such a change would cause RMS to not work correctly.</p>
Step 4	<p>The device is added.</p> <p>New device added successfully!</p> 

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7.3.4 Functionality within RMS

Device settings: log into the RMS software. Select Tools > Setup > Devices. Select the device.

Filters	New	Select columns	Delete	Options	Save
#ID	Status	Name	Serial number		
DEV-155	OK	LAN-Converter_67382638	67382638		
DEV-442	OK	HF4	596874521		
DEV-443	OK	HF5	61000143		
DEV-444	OK	HF8re	110970380		
DEV-445	OK	HF8li	10101		
DEV-446	OK	PF4 (first generation)	3		
DEV-447	OK	PF4 (second generation)	71713630		
DEV-453	OK	4RTD	0		
DEV-454	OK	ApexRS	1804100021		
DEV-456	OK	PF5 (second generation)	71713631		
DEV-470	OK	HL-RC-B	12653048		
DEV-471	OK	HL-RC-T	12779757		
DEV-472	OK	8ADC-V	0		
DEV-473	OK	RedLion E3-16ISOTC	0		
DEV-483	OK	HL-NT/HL-DS-PT4	61255128		
DEV-487	OK	8015	0		
DEV-508	OK	CRP5	1234567890		
DEV-511	OK	HL-NT/HL-DS-U4	61693554		

Info

ID: DEV-470

Device: Third Party Device

Serial number: 12653048

Status: ● Enabled

Battery: 20%

Last refresh: 42 Seconds

Encryption: No

Settings

Name: HL-RC-B

Position:

Interval [s]: 60

Timeout [s]: 120

Address: 192.168.178.205

RS485 address:

Is RS485 slave: ☐

Auto restore: ☒

Owner: Unknown

Group: DUC

Properties: Show

Gateway: DEV-155, LAN-Converter_67382638

Measuring points

Input 1: ● MPT-1855, HL-RC-B_Feuchte-1, Humidity

Input 2: ● MPT-1856, HL-RC-B_Temperatur-1, Temperature

Status: the device can be disabled/enabled. When disabled, the RMS-CONVERTER will not send any requests.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

Properties: Show. The firmware version is shown.

Step 1

Device properties

Status info

Version 1

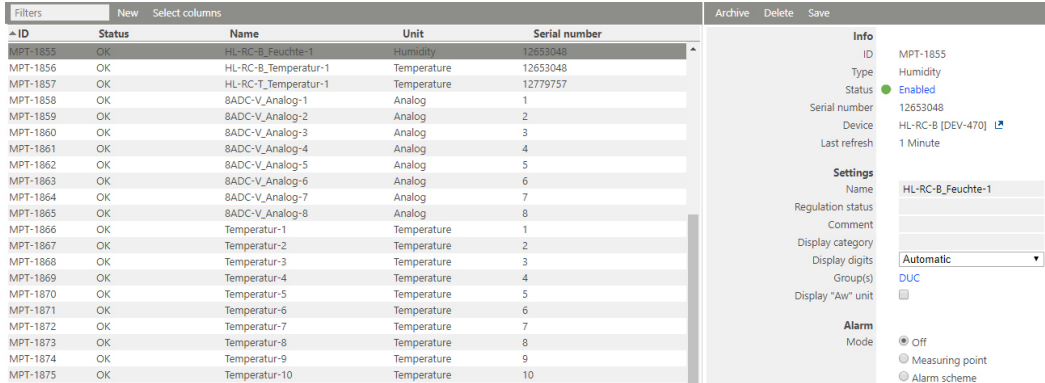
CANCEL

APPLY

IMPORTANT: Under options, the firmware update, import firmware file, import device definition and device inventory are not supported for this device.

IMPORTANT: The output range, the sources and the measurement ranges of the analog outputs 1 and 2, can be scaled and stored within the device clicking <Apply>.

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Step 2	<p>Measurement point settings: log into the RMS software. Select Tools > Setup > Measuring point.</p> <p>Select the measuring point.</p> <p>Status: the measuring point can be disabled/enabled.</p> <p>Settings: Any settings can be changed and confirmed by clicking on <Save>.</p>  <p>The screenshot shows the RMS software interface. On the left, there is a table with columns: ID, Status, Name, Unit, and Serial number. The table lists various measurement points (MPT-1855 to MPT-1875) with their respective statuses (all OK), names, units, and serial numbers. On the right, there is a settings panel for the selected measurement point MPT-1855. The panel includes fields for ID, Type, Status (Enabled), Serial number, Device, and Last refresh. Below these, there are settings for Name, Regulation status, Comment, Display category, Display digits, Group(s), and Display 'Aw' unit. At the bottom, there is an Alarm section with radio buttons for Off, Measuring point, and Alarm scheme.</p>
Step 3	Adjustment: an adjustment of the HL-RC is not possible.
Step 4	<p>Data logging: the HL-RC has an internal memory, the HL-RC is battery powered. So the HL-RC can log during a power interruption.</p> <p>In case of a communication interruption to the RMS Server, the RMS Converter logs the data of the HL-RC. After the interruption, RMS requests the data from the RMS Converter.</p> <p>In case of a communication interruption between the RMS Converter and the HL-RC, the HL-RC would log the data.</p>
Step 5	Sensor error within the HC2 will not be transmitted to RMS
Step 6	Measurement alarm: Alarms linked to the measurement limits and programmed within the HC2 will not be transmitted to RMS.

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Fix measurement values programmed within the Hygroclip are not displayed as "Simulator" within RMS.

Chart (e. g. fix value for humidity)

MPT-1855 HL-RC-B_Feuchte-1

55,00 %rh

Step 7

(Temperature keeps at normal operation)

MPT-1856 HL-RC-B_Temperatur-1

22,92 °C

Tools → Setup → Measurement points

MPT-1855	OK	HL-RC-B_Feuchte-1	Humidity
MPT-1856	OK	HL-RC-B_Temperatur-1	Temperature

7.4 Integration of the Lighthouse Apex R5 data logger into RMS

7.4.1 Device description



The Lighthouse Apex R5 is a particle counter that measures particle concentration with two channels and two measurement ranges.

Important: Please consult the Apex R5 user manual for further details.

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7.4.2 Network configuration of the device

The Lighthouse Apex R5 is to be connected via Ethernet connection to the network.

To add the Lighthouse ApexR5 into the RMS, it is necessary to know the individual network configuration of the device

- IP address (fix or DHCP)
- Host name is not supported for this device

Note: A software and a separate service cable are required for network configuration. Be aware that a host name is not provided. DHCP would only work permanently if the IP address would never be changed by the DHCP server. Rotronic recommends strongly to use the fix IP address for the device as well as for the RMS Converter.

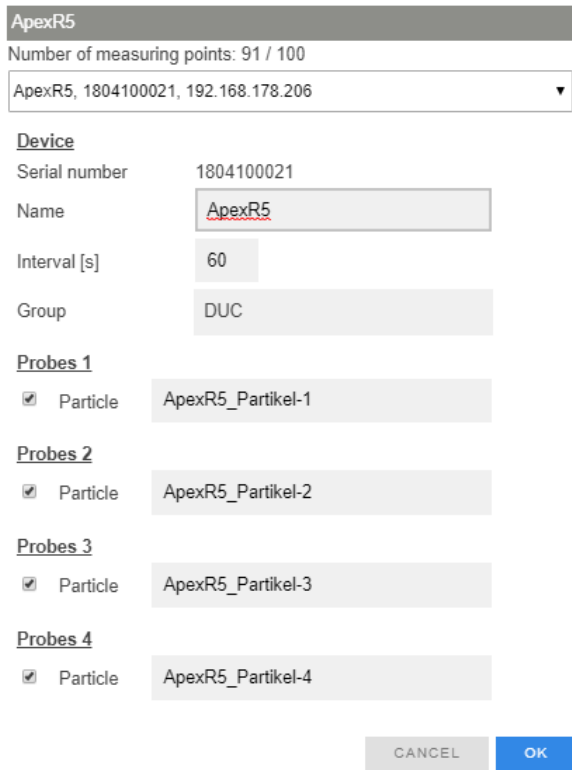
7.4.3 Integration into RMS via the RMS-CONVERTER

Step 1	Log into the RMS software. Select Tools > Setup > Devices. Select the RMS-CONVERTER and click on <Add/Search> devices:

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Step 2	<p>Select the device type in the drop down menu.</p> <p>It is possible to type the IP address or host name into the field <i>IP address</i>.</p> <p>IMPORTANT: If the field stays empty, RMS will not search automatically.</p> <div> <div>New device</div> <div> <div>Device</div> <div> Select device type Lighthouse ApexR5 ▼ </div> <div> IP address (blank = search) 192.168.178.206 </div> <div> RS485 address (blank = not used) </div> <div> Is RS485 slave <input type="checkbox"/> </div> <div> AC3011 master <input type="checkbox"/> </div> <div>Search Device</div> <div>CANCEL</div> </div> </div>
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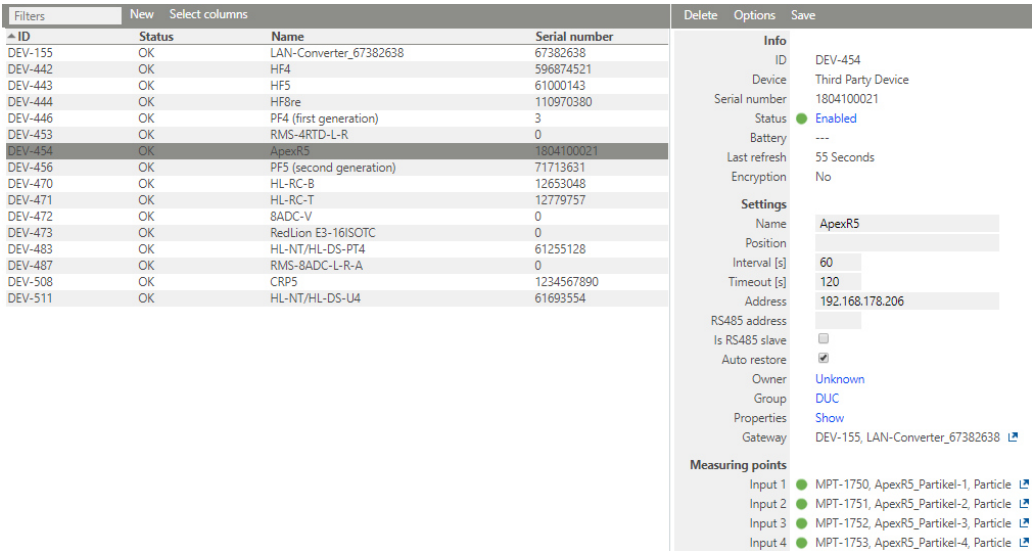
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Step 3	<p>The device appears: configure accordingly.</p>  <p>Note: The interval cannot be shorter than the interval of the RMS Converter.</p> <p>IMPORTANT: If not all checkmarks for measurement points are set and it is wished to expand it later than please add the same device via the RMS-CONVERTER (with the same identification/IP address) again and set the new wished checkmarks. The added or updated measurement points will appear afterwards.</p> <p>Note: if settings are changed with another software further to the initial installation into RMS, then RMS will not note the change. However, such a change would cause RMS to not work correctly.</p>
Step 4	<p>The device is added.</p> <p>New device added successfully!</p> <p>OK</p>

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7.4.4 Functionality within RMS

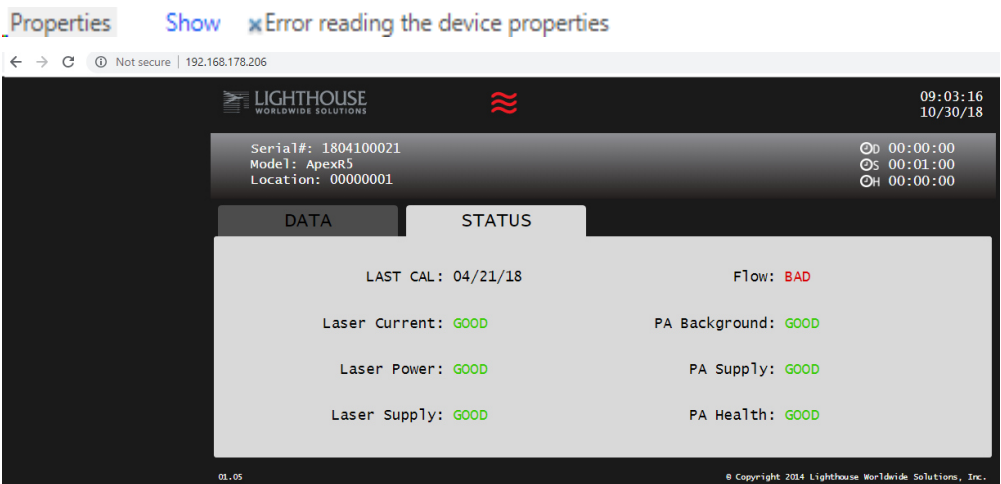
Device settings: log into the RMS software. Select Tools > Setup > Devices. Select the device.



Status: the device can be disabled/enabled. When disabled, the RMS-CONVERTER will not send any requests.

Settings: Any settings can be changed and confirmed by clicking on <Save>.

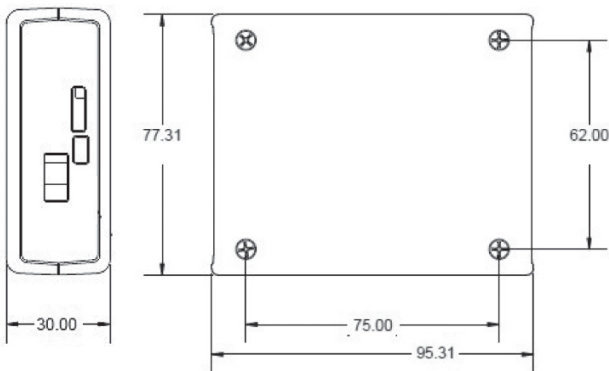
Properties: Show. The device properties cannot be display by RMS: This function is not provided. Some device properties can be displayed using the webbrowser. Please type the IP address into the address bar of the webbrowser and it appears:



IMPORTANT: Under options, the firmware update, import firmware file, import device definition and device inventory are not supported for this device.

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8 Technical specifications

General	
Dimensions	96 x 78 x 30 mm 
Number of measuring points	RMS-CONVERTER-100: 100 measuring points
Compatible products	<ul style="list-style-type: none"> • HF5, • HF8, • HL-NT and HL-DS • PF4 (first generation), • PF4/5 (second generation), • CRP5, • RMS-8ADC-L-R-A/V • RMS-4RTD-L-R, • Lighthouse ApexR5
Log interval	Minimum interval is 60 sec.
Power supply and plug	
Power supply voltage	5 VDC
Electrical connection	Via 230AC/5VDC power supply
Digital interface	
Interface type	Ethernet
Conformity	
EMC directive	EMC-directive: 2004/108/EC
Soldering material	Lead free (RoHS-directive 2011/65/EU)
FDA / GAMP- directives	FDA CFR21 Part 11 / GAMP5
Operating conditions	
Storage- and transport	0...50 °C / 0...90 %rF, not condensing
Operation	0...50 °C / 0...90 %rF, not condensing

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9 Additional Documents

Document Name	Contents
E-IM-RMS-WEB	Instruction Manual: System Installation
E-SM-RMS-WEB	Instruction Manual: System Startup
E-OM-RMS-WEB	Instruction Manual: System Operation

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10 Document Version

Version	Date	Notes
V1_0	August 2017	First version
V1_1	February 2018	Revision
V1_2	April 2018	1.6 Input / Outputs
V1_3	October 2018	Complete review and update of the manual.
V1_4	June 2018	RS485 network compatibility update (mainly Chapter 6.1.5).