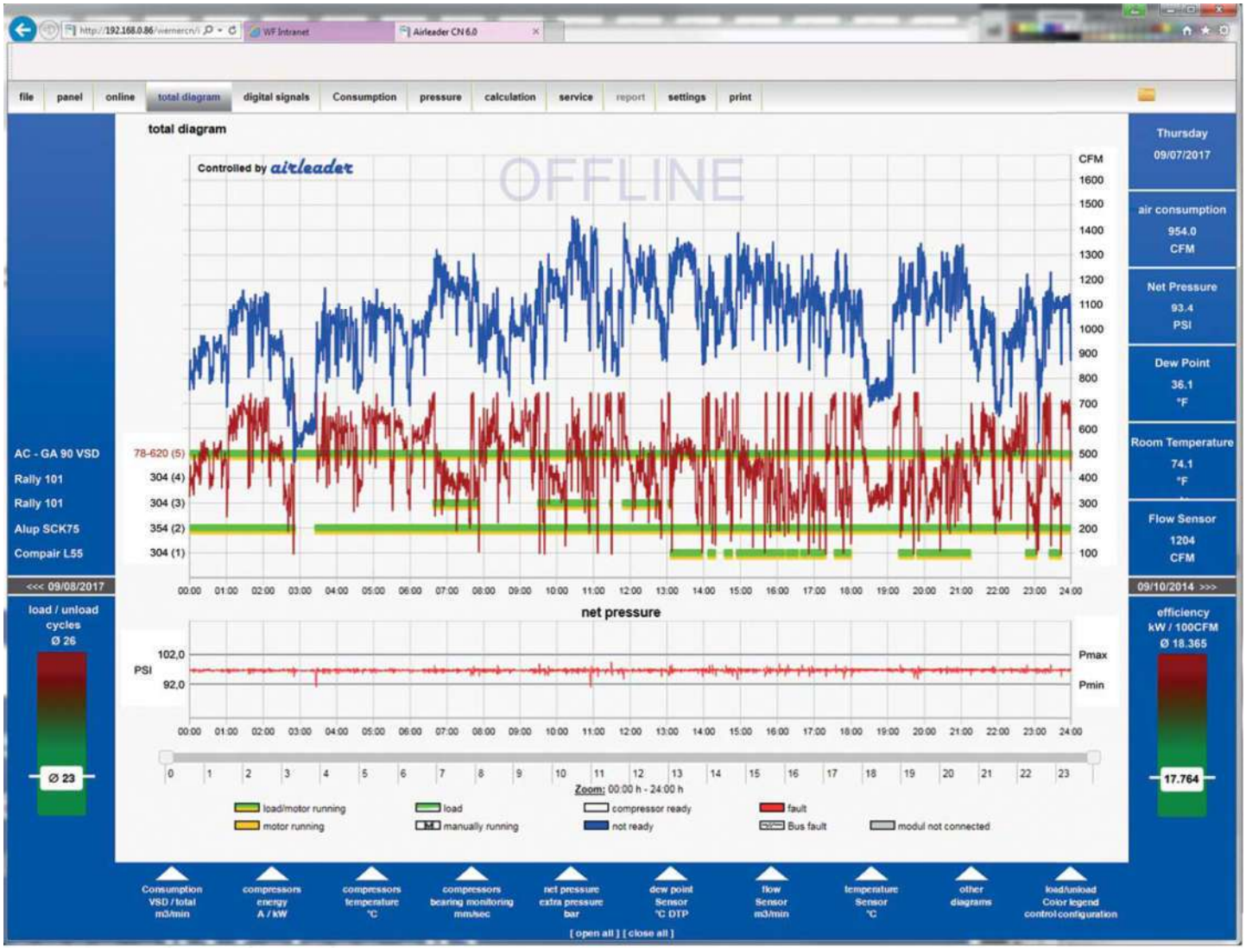
Web-based ONLINE VISUALISATION
AIRLEADER Master II+ an Master-4



Operation manual 4.000

Dated 08/2022

Table of Content

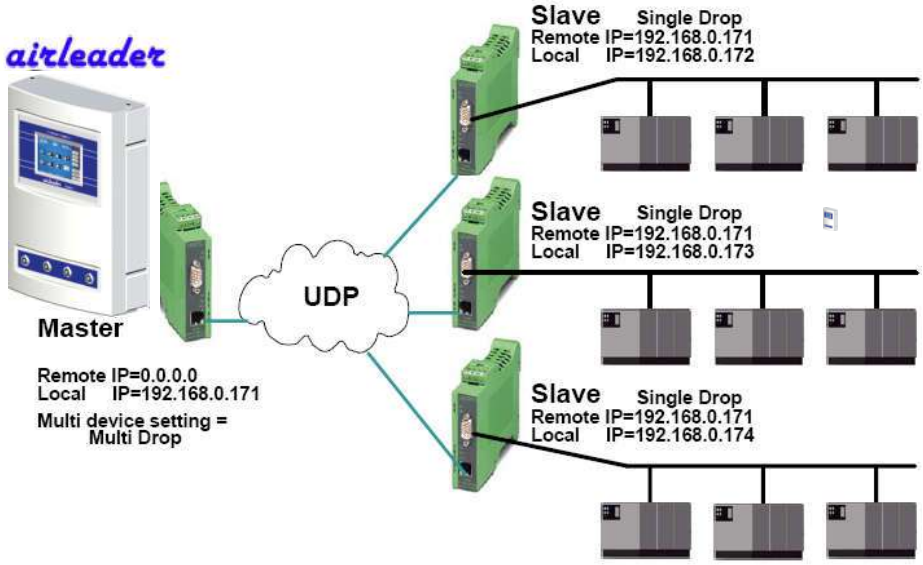
WEB-Server ONLINE Visualization

IP-address, Network and factory settings

IP-address settings: Touch: > Program > Network
> set IP-address
> set Subnet Mask
> set Standart Gateway

If compressors are connected over COM-Server with separate IP-address

go to > Factory settings: Touch > Program > Factory setting



Communikation via Ethernet
The connection between AIRLEADER and the connection modules for compressors and other components can be done via the Ethernet by using the COM server.
The RS-485 interface AIRLEADER is connected to a COM server.
The COM server gets an IP address that matches the IP address range.
More COM-server can be connected to the Ethernet with different IP addresses.

Program waiting time for slave response
ENTER CODE„111111“ than „OK“

Program waiting time to „200 ms“

If necessary changeable up to 250 ms

Installation Web Server

System requirements:

Server:

Intel Pentium from 2.2 Ghz min. 512 MB RAM.— System Windows 2000, 2003, NT, XP, Linux with X-Server Library

Client:

Microsoft Internet Explorer from 5.5

Installation:

Executing the setup program and following the statements. You decide at the end of the installation immediately installed and started whether the web servers' service shall be. We recommend install and start the service immediately. If the the web server is started, Windows starts automatically and records the data of AIRLEADER in the background. After successful installation and start of the service the Internet Explorer opens with the configuration statement for the online visualization in a window.

Achtung:

At the first start it can occur, an error message the Internet Explorer, because the start of the logging service needs longer than starting the AIRLEADER visualization initial page. In this case wait a couple of seconds and klick in the Internet Explorer the button update.

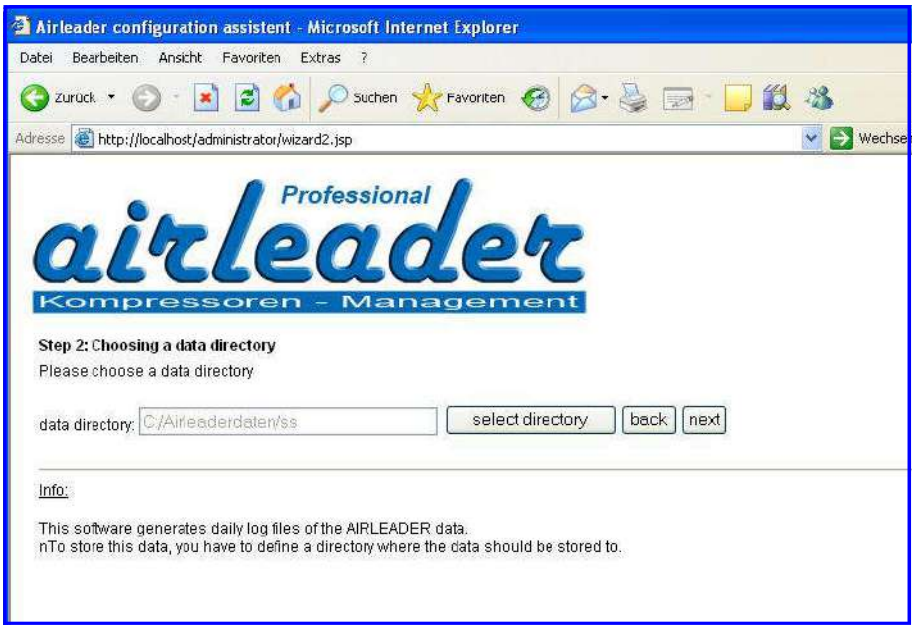
Step 1: Name the station

The configuration of your station start. Intend a name for your compresses air station. From now this name is the offset name of the web address where you reach your station later.

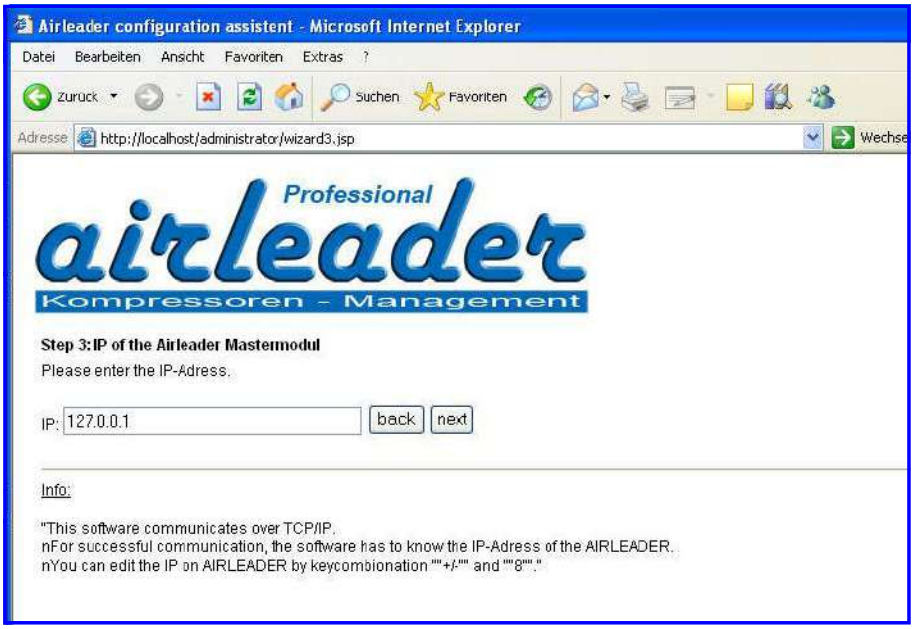
The name may not include any empty or special sign.

Step 2: choosing a data directory

- Select data directory.
- Click Button „select directory“
- Select a fixed directory.



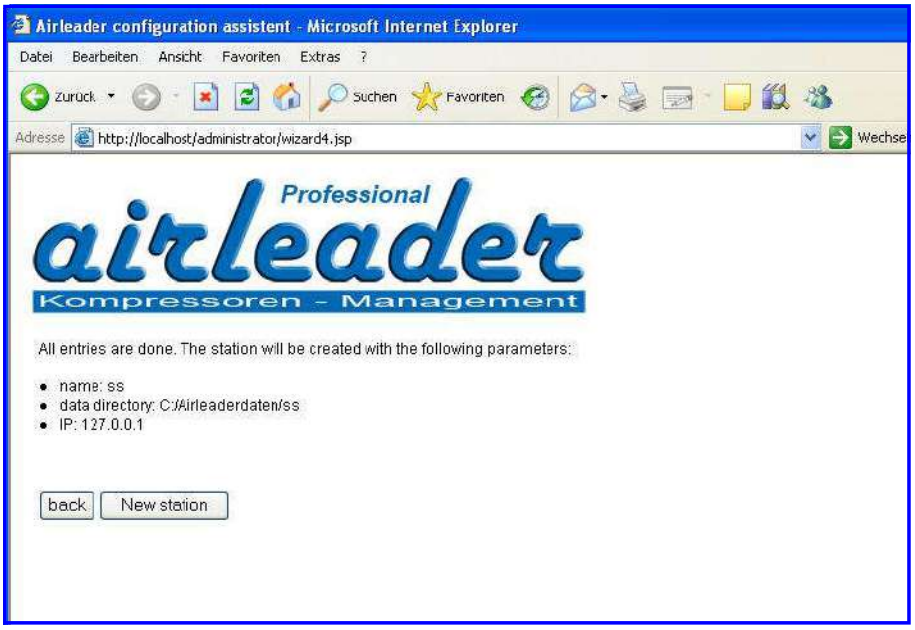
Define Data Directory



Step 3: IP-address of AIRLEADER

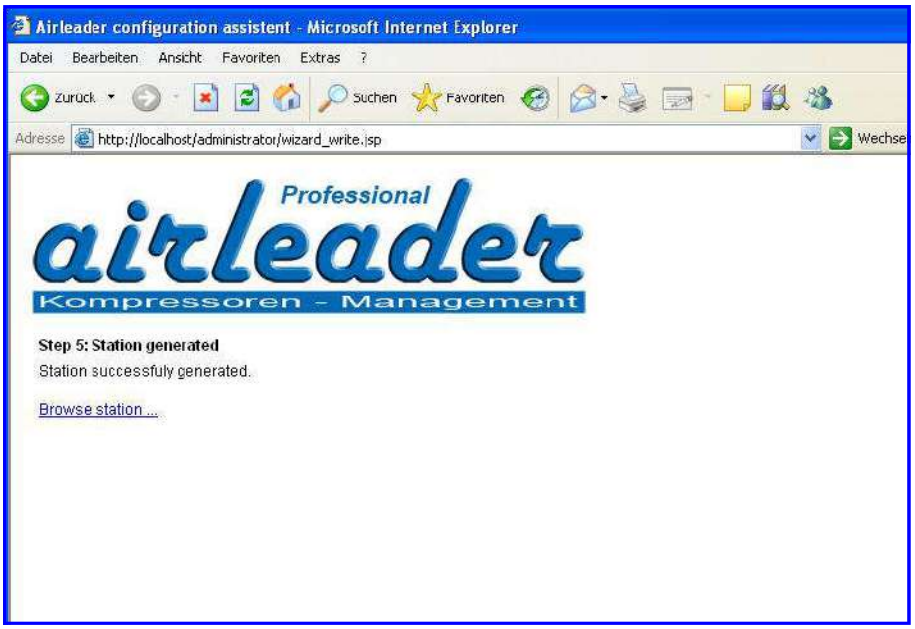
- Enter IP address of AIRLEADER Master Modul
- Click on button „next“

The station will be created.
The process can last for some minutes



According to the base configuration
the online visualization in the background load down the already stored day files
If all file are stores the visualization goes „ONLINE“

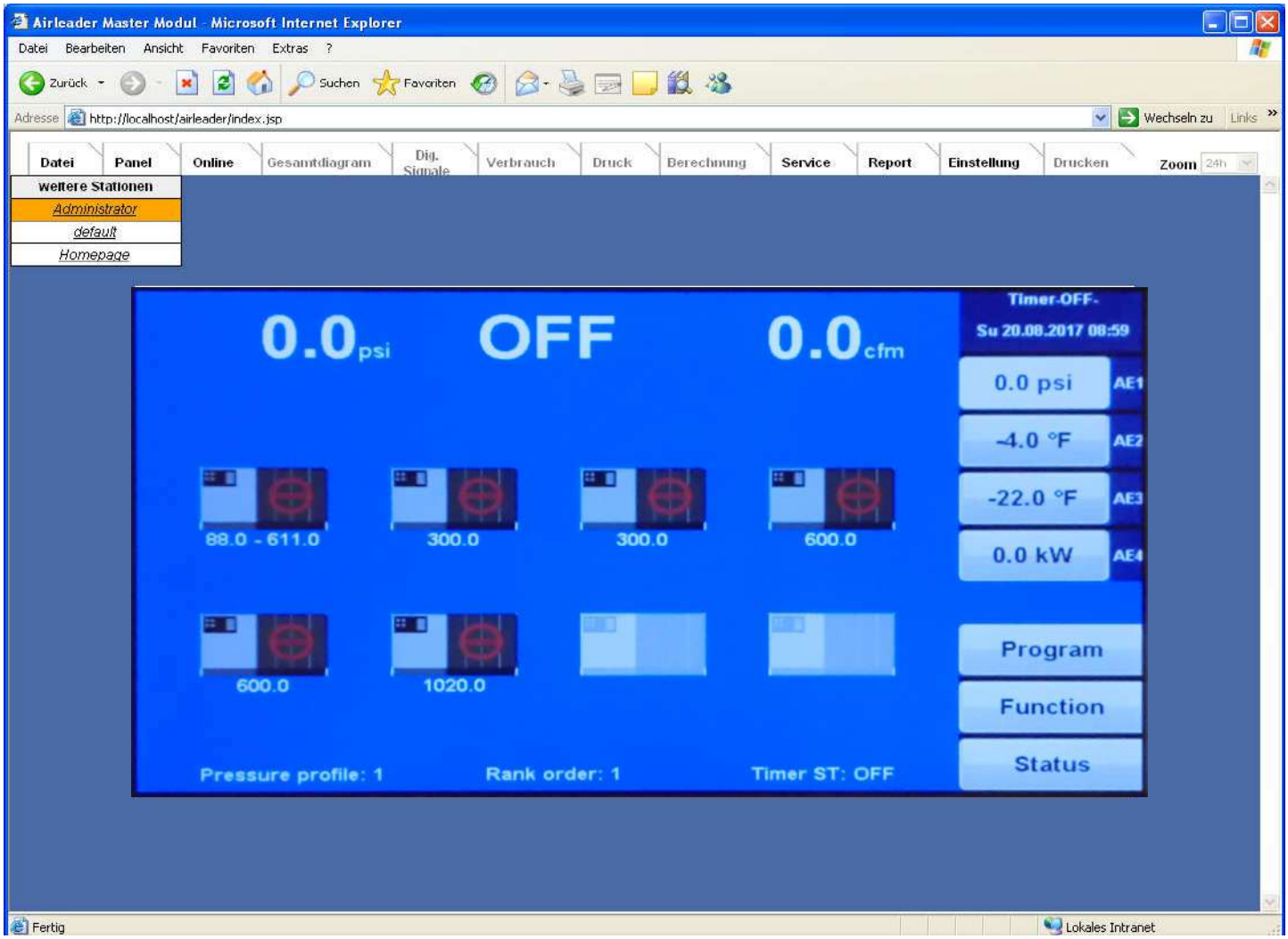
If Airleader
was in operation some time before the Web-Server Software was connected, the configuration should be manually loaded from the master module.



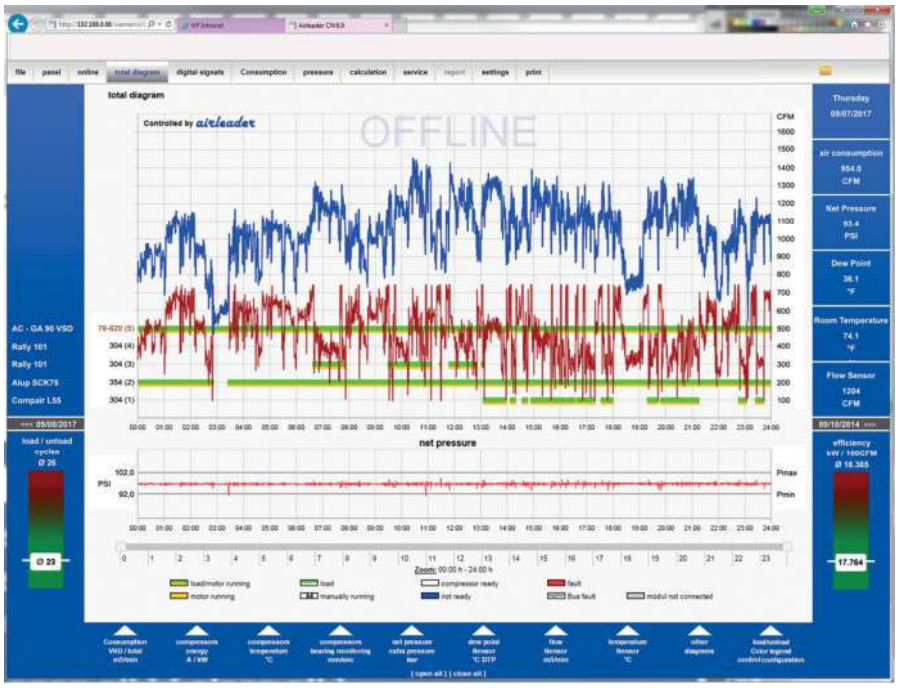
Under „Settings/remote control“
Load configuration from AIRLEADER Master modul

According to this process the software is synchronized now

User Interface



The AIRLEADER Web servers visualization has a card rider system for the basic functions**.** The possible respectively currently options are active (black dialable), The online visualization shows the status of the compressed air station in real time. Fault or service messages are distributed directly here.



OFFLINE Evaluations

Click „Open file:
You get an overview of the saved data of the last months

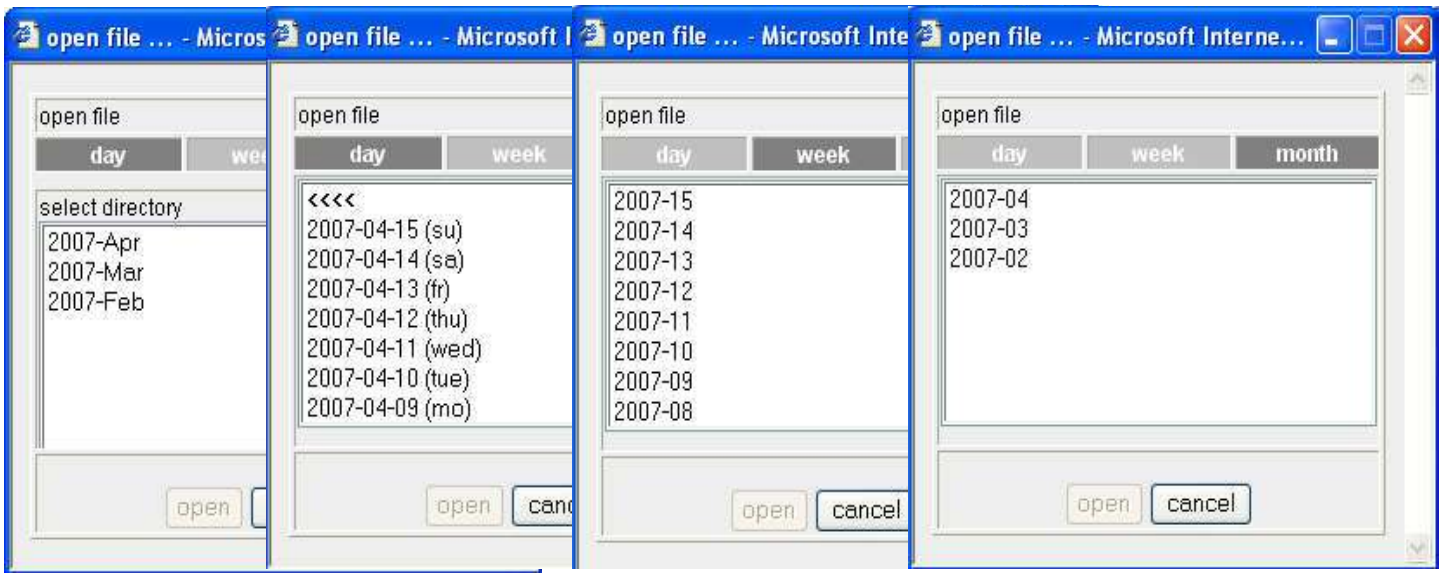
Select month: daily data files can be selected

Weekly data: the files of the week are completly ready with daily air consumption and energy calculation

Monthly data the monthly filesare completly ready with daily air consumption and energy calculation

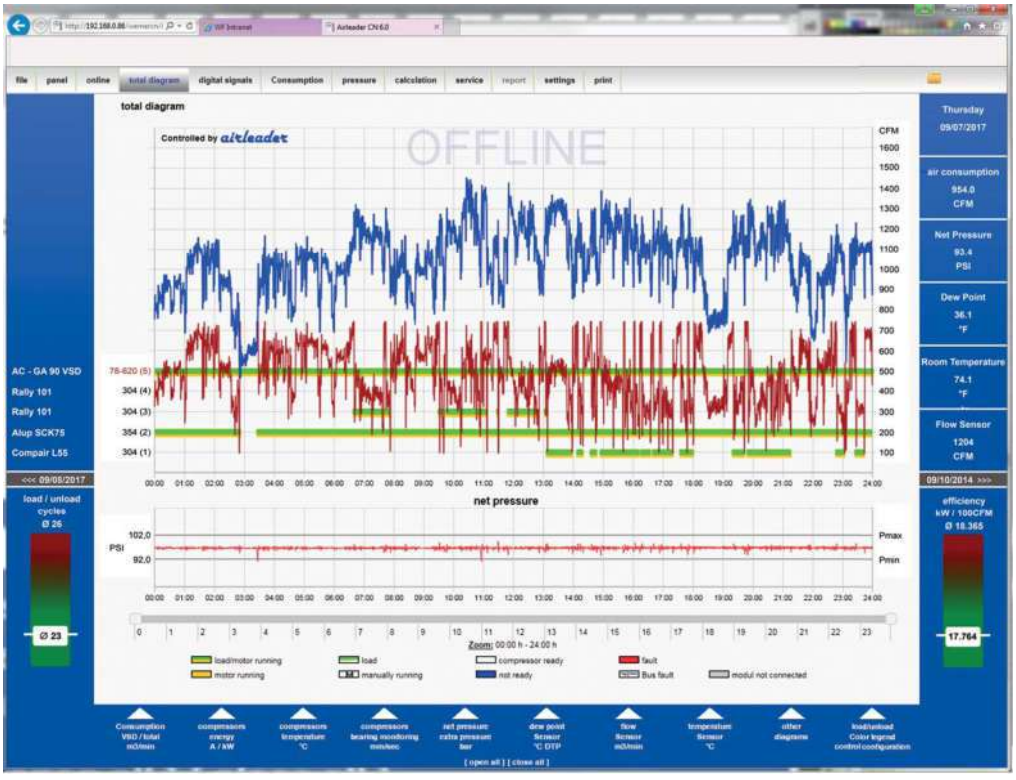
Close The ONLINE or OFFLINE visualization will be closed.

It can take some seconds before open the diagram by selecting of several days together, be cause the data has to tranported over the computer network.

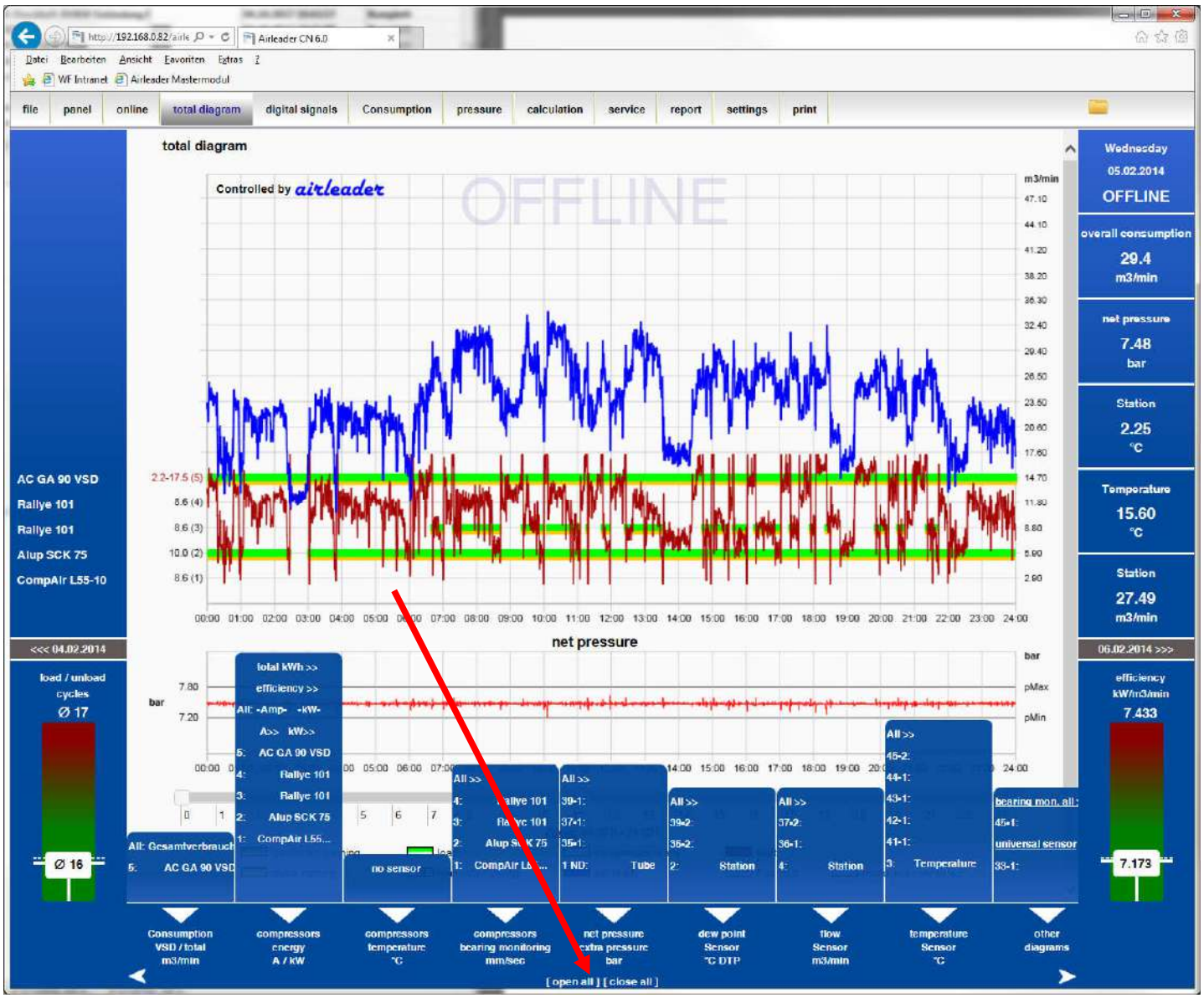


Shows the compressor status

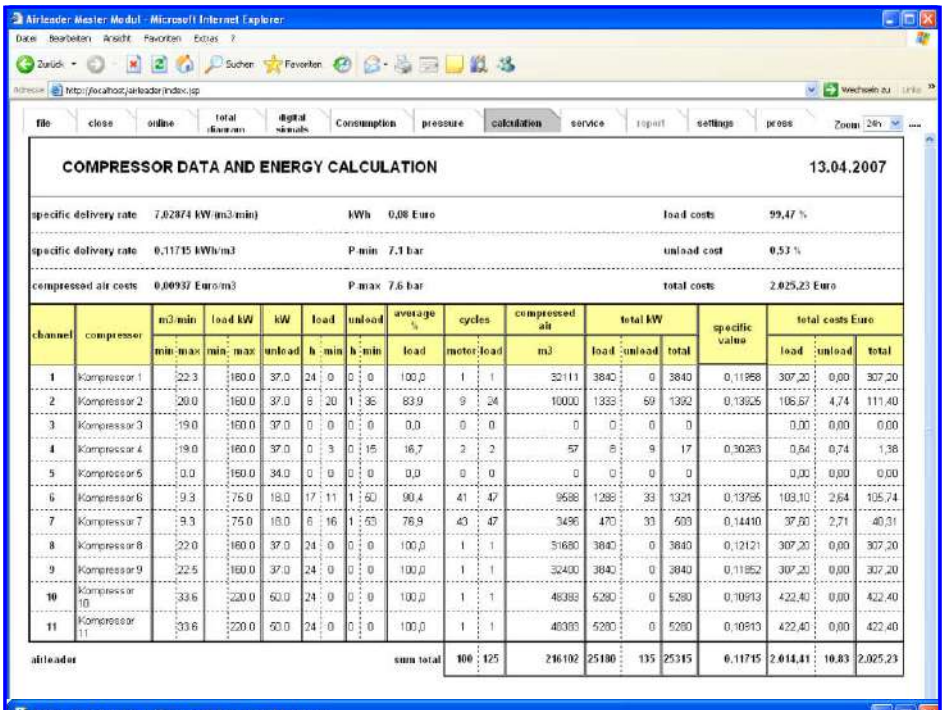
- net pressure
- air consumption
- Connected sensors
- Over the selected time



Selection of various Diagrams



Energy Calculation, Service and Alarm report



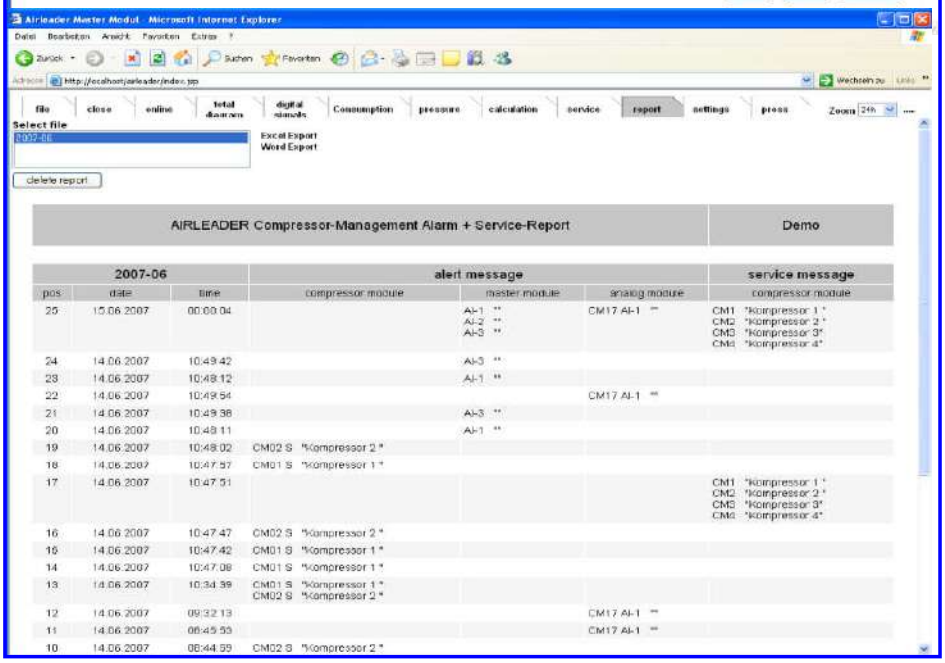
COMPRESSOR DATA AND ENERGY CALCULATION 13.04.2007

channel	compressor	m3/min min	m3/min max	load kW min	load kW max	kW unload	load h	load min	unload h	unload min	average load %	cycles motor	cycles load	compressed air m3	total kW load	total kW unload	total kW total	specific value	total costs Euro load	total costs Euro unload	total costs Euro total
1	Kompressor 1	22.3		160.0		37.0	24	0	0	0	100,0	1	1	32111	3840	0	3840	0,11958	307,20	0,00	307,20
2	Kompressor 2	20.0		160.0		37.0	8	20	1	35	83,9	9	24	10000	1333	59	1392	0,13925	106,67	4,74	111,40
3	Kompressor 3	19.0		160.0		37.0	0	0	0	0	0,0	0	0	0	0	0	0		0,00	0,00	0,00
4	Kompressor 4	19.0		160.0		37.0	0	3	0	15	16,7	2	2	57	8	9	17	0,30263	0,64	0,74	1,38
5	Kompressor 5	0.0		160.0		34.0	0	0	0	0	0,0	0	0	0	0	0	0		0,00	0,00	0,00
6	Kompressor 6	9.3		75.0		18.0	17	11	1	60	90,4	41	47	9588	1288	33	1321	0,13795	103,10	2,64	105,74
7	Kompressor 7	9.3		75.0		18.0	6	16	1	60	76,9	43	47	3496	470	30	500	0,14410	37,60	2,71	40,31
8	Kompressor 8	22.0		160.0		37.0	24	0	0	0	100,0	1	1	31680	3840	0	3840	0,12121	307,20	0,00	307,20
9	Kompressor 9	22.5		160.0		37.0	24	0	0	0	100,0	1	1	32400	3840	0	3840	0,11852	307,20	0,00	307,20
10	Kompressor 10	33.6		220.0		60.0	24	0	0	0	100,0	1	1	48388	5280	0	5280	0,10913	422,40	0,00	422,40
11	Kompressor 11	33.6		220.0		60.0	24	0	0	0	100,0	1	1	48388	5280	0	5280	0,10913	422,40	0,00	422,40
airleader											sum total	100	125	216102	25180	135	25315	0,11715	2.014,41	10,83	2.025,23

Airleader service - Microsoft Internet Explorer

channel	description	total [h]	load [h]	Luftfilterintervall	[h]	Ölfilterintervall	[h]	Ölabscheider	[h]	Ölwechsel	[h]
1	Kompressor 1	40698	38166	1852	R	1852	R	1852	R	1852	R
2	Kompressor 2	41075	37295	1777	R	1777	R	1777	R	1777	R
3	Kompressor 3	15595	14240	2797	R	2797	R	2797	R	2797	R
4	Kompressor 4	15636	14044	2787	R	2787	R	2787	R	2787	R
5	Kompressor 5	67274	50524	2000	R	500	R	2000	R	2000	R
6	Kompressor 6	37199	29003	1266	R	1266	R	4266	R	1266	R
7	Kompressor 7	37222	28573	1340	R	1340	R	4340	R	1340	R
8	Kompressor 8	9795	9480	2495	R	5497	R	5495	R	2495	R
9	Kompressor 9	9929	9651	2492	R	5492	R	5492	R	2492	R
10	Kompressor 10	8707	8688	2197	R	5198	R	5197	R	2197	R
11	Kompressor 11	8714	8667	2197	R	5198	R	5197	R	2197	R
12	Modul 12	0	0	3000	R	6000	R	6000	R	3000	R
13	Modul 13	0	0	3000	R	6000	R	6000	R	3000	R
14	Modul 14	0	0	3000	R	6000	R	6000	R	3000	R
15	Modul 15	0	0	3000	R	6000	R	6000	R	3000	R
16	Modul 16	0	0	3000	R	6000	R	6000	R	3000	R

save reset cancel



AIRLEADER Compressor-Management Alarm + Service-Report — Demo

2007-06 pos	date	time	alert message: compressor module	master module	analog module	service message: compressor module
25	15.06.2007	00:00:04		AI-1 ** AI-2 ** AI-3 **	CM17 AI-1 **	CM1 *Kompressor 1* CM2 *Kompressor 2* CM3 *Kompressor 3* CM4 *Kompressor 4*
24	14.06.2007	10:49:42		AI-3 **		
23	14.06.2007	10:48:12		AI-1 **		
22	14.06.2007	10:48:54			CM17 AI-1 **	
21	14.06.2007	10:48:38		AI-3 **		
20	14.06.2007	10:48:11		AI-1 **		
19	14.06.2007	10:48:02	CM02 S *Kompressor 2*			
18	14.06.2007	10:47:57	CM01 S *Kompressor 1*			
17	14.06.2007	10:47:51				CM1 *Kompressor 1* CM2 *Kompressor 2* CM3 *Kompressor 3* CM4 *Kompressor 4*
16	14.06.2007	10:47:47	CM02 S *Kompressor 2*			
15	14.06.2007	10:47:42	CM01 S *Kompressor 1*			
14	14.06.2007	10:47:08	CM01 S *Kompressor 1*			
13	14.06.2007	10:34:39	CM01 S *Kompressor 1* CM02 S *Kompressor 2*			
12	14.06.2007	09:32:13			CM17 AI-1 **	
11	14.06.2007	08:45:55			CM17 AI-1 **	
10	14.06.2007	08:44:59	CM02 S *Kompressor 2*			

The energy calculation

a tabular list shows the energy calculation of the complete station over the selected time period.

Service

The compressor running time should be stored in the service mask after AIRLEADER configuration and commissioning. The running hours are represented after that with actually data.

Maintenance intervals

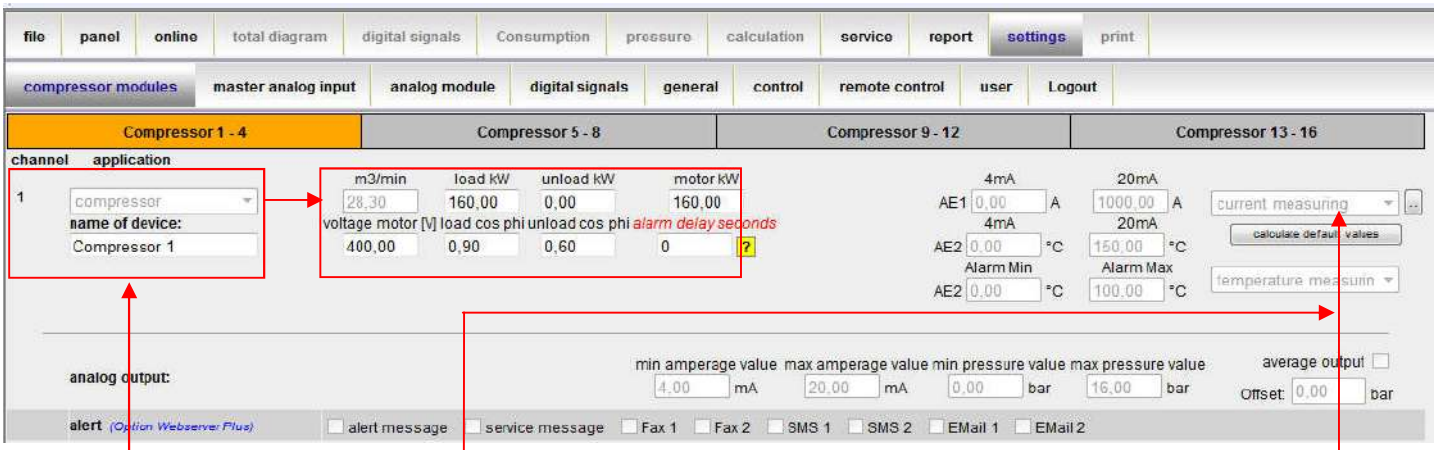
being able to be deposited freely for the compressors and further equipment.
4 differnt intervals are supervised. The maintenance interval can be moved back to the previous value over the **„R“** button.

Changes get active only after storing.

Alarm and Service Report

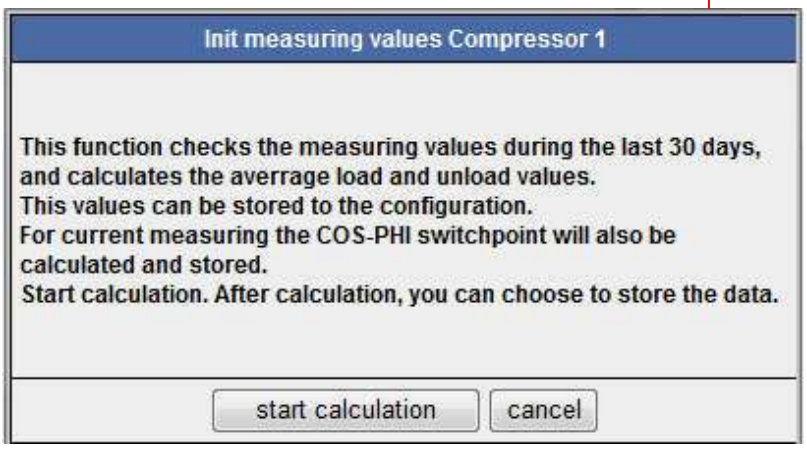
will show every fault alarms and service actions

Basic settings



The compressor data
are managed in this menu. If some adjustings was changed on the AIRLEADER master the Web-Server will take this values automatically.

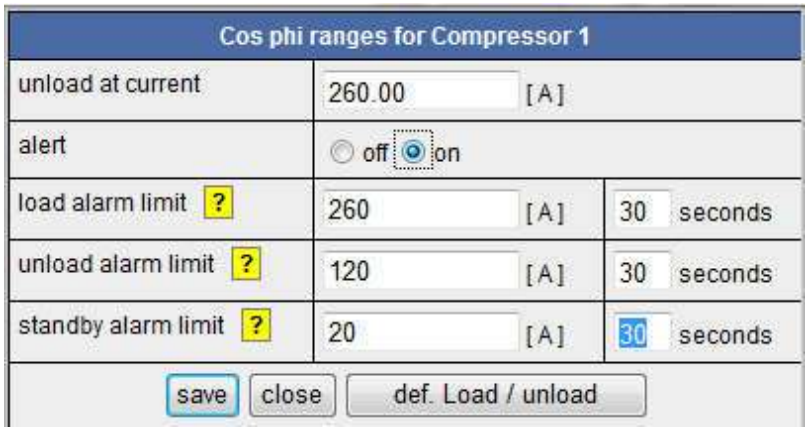
Compressor performance data:
Load kW, - unload kW must be entered manually to the energy calculation



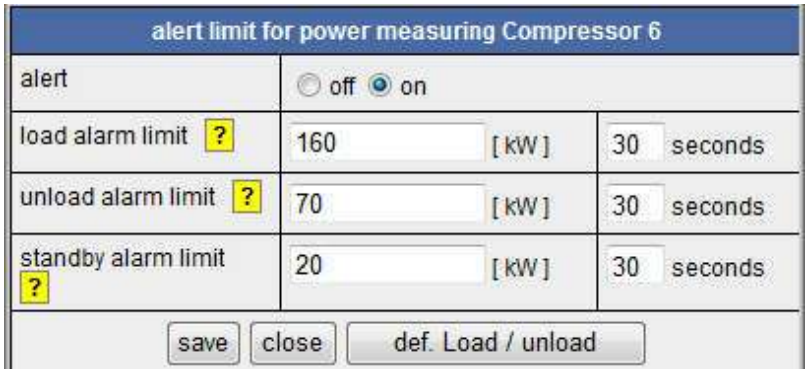
Load and no-load values
be "calculated parameters" by clicking on the button automatically calculates

If a current measurement (A)
is connected
- Motor kW
- motor voltage
- load cos phi
- unload cos phi

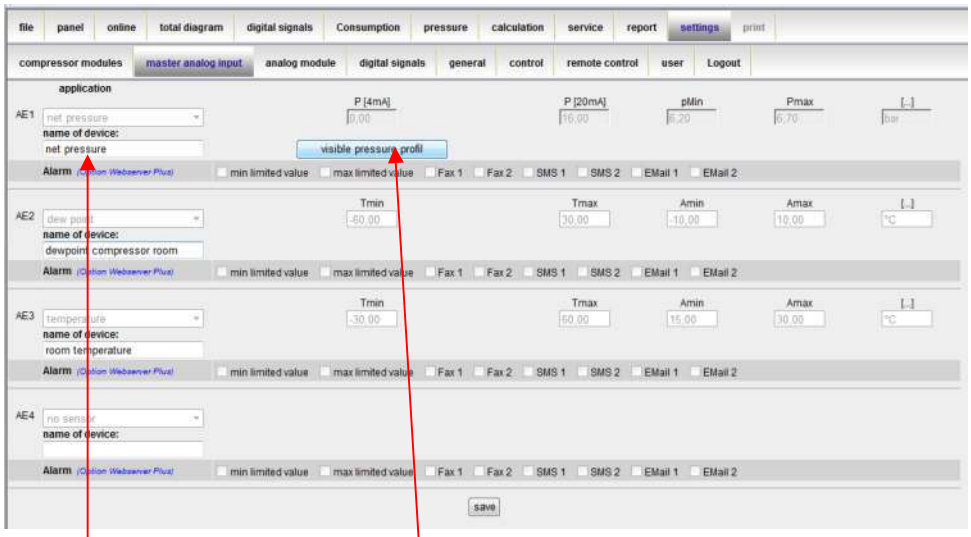
be added to the energy calculation The delay time of alarm is manually



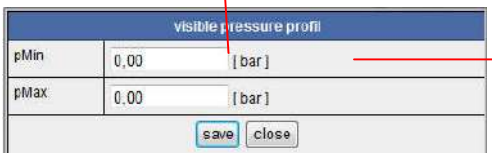
If a kW measurement
is connected to the Values calculated automatically.
The delay time of alarm has to be set manually.



Analog input on Airleader Master Module



Device name
Enter manually



Pressure profile
zooming

Analog inputs on Master
with 4-20mA Signal:

- **AE1** - contol pressure

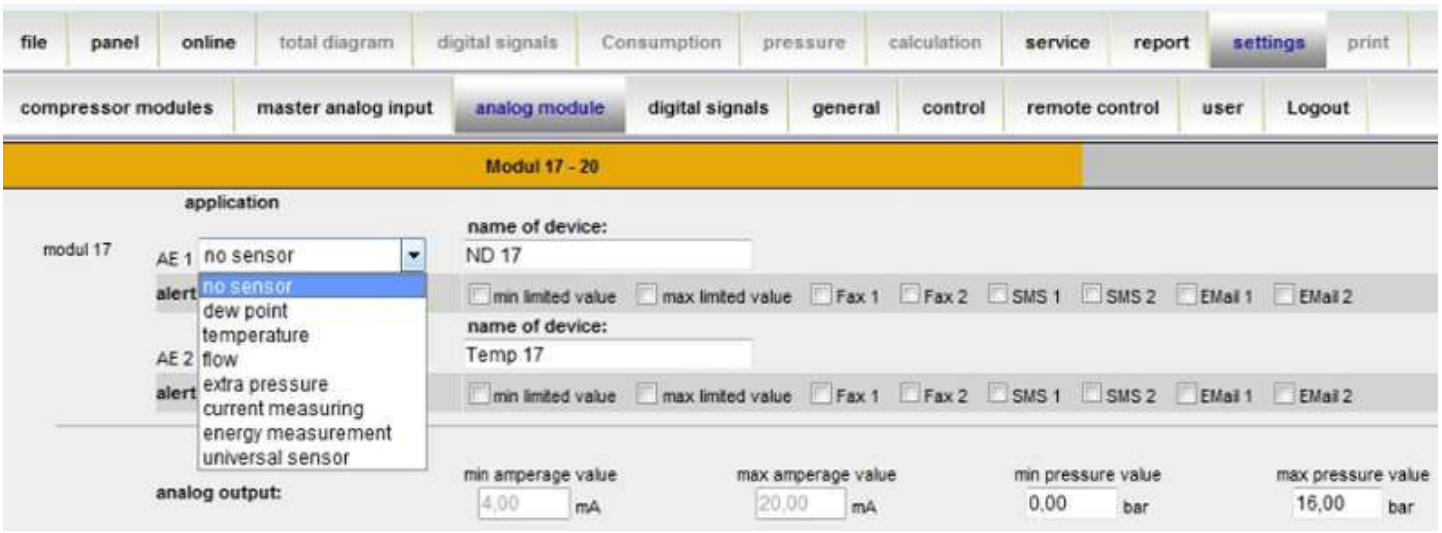
- **AE2 + AE3 + AE4**

Can use the following sensors

- dewpoint
- extra pressure
- temperature
- flow
- current measuring
- energy measuring

The front display
Shows the values of the connected sensors

Connected devices to module 17-24 (Data module)



The connection module (17-24)
has following inputs and outputs:

- 2 Analog inputs 4-20 mA
- 3 Digital inputs
- 2 Digital outputs
- 1 Analog output 4-20 mA

The Analog inputs
for external Sensor can be freely assigned on AIRLEADER

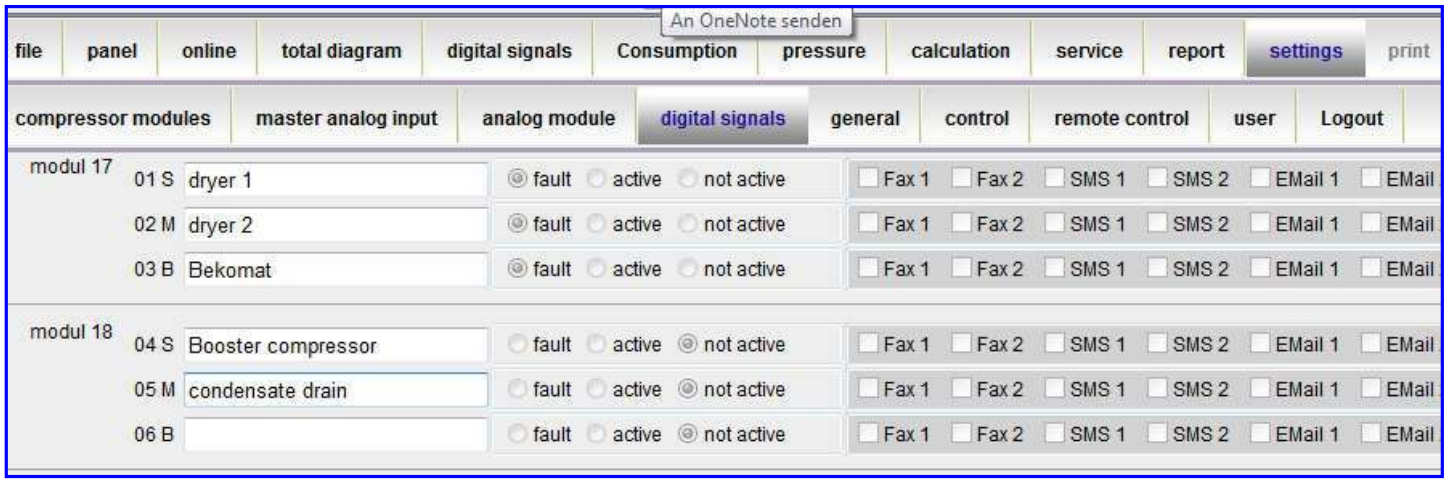
To all analog inputs
various analog sensors can be connected either way. Each measuring point can be named freely.

Alarm limits
within the sensor values can be set free, when necessary

Alarm and Service Management (Option Web-Server-Plus)
Sends fault ans service notifications as

- E-Mail
- SMS
- Fax

Alarm limits
Can be difined freely

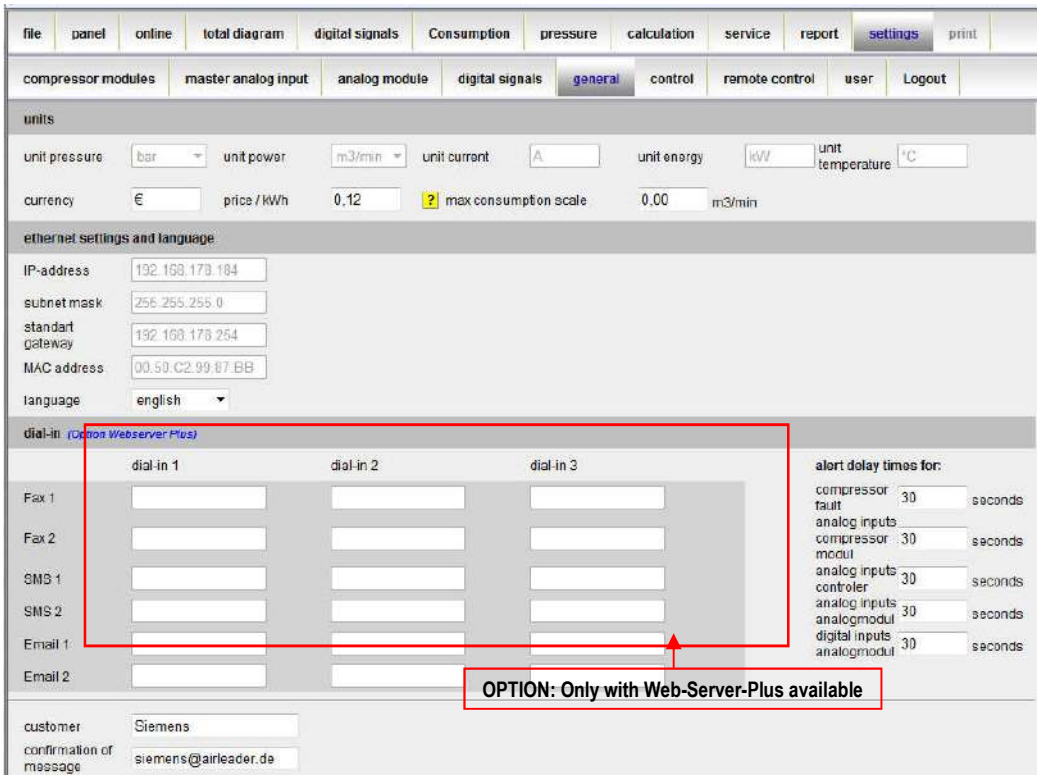


Digital inputs:
are fault or status messages from dryers, filters, condensate drains, etc. Each input can be named freely.

Alarms:
can be assigned individually configured for each input

The Digital outputs
provide for each analog input an output for external alarms

General Settings



Settings:

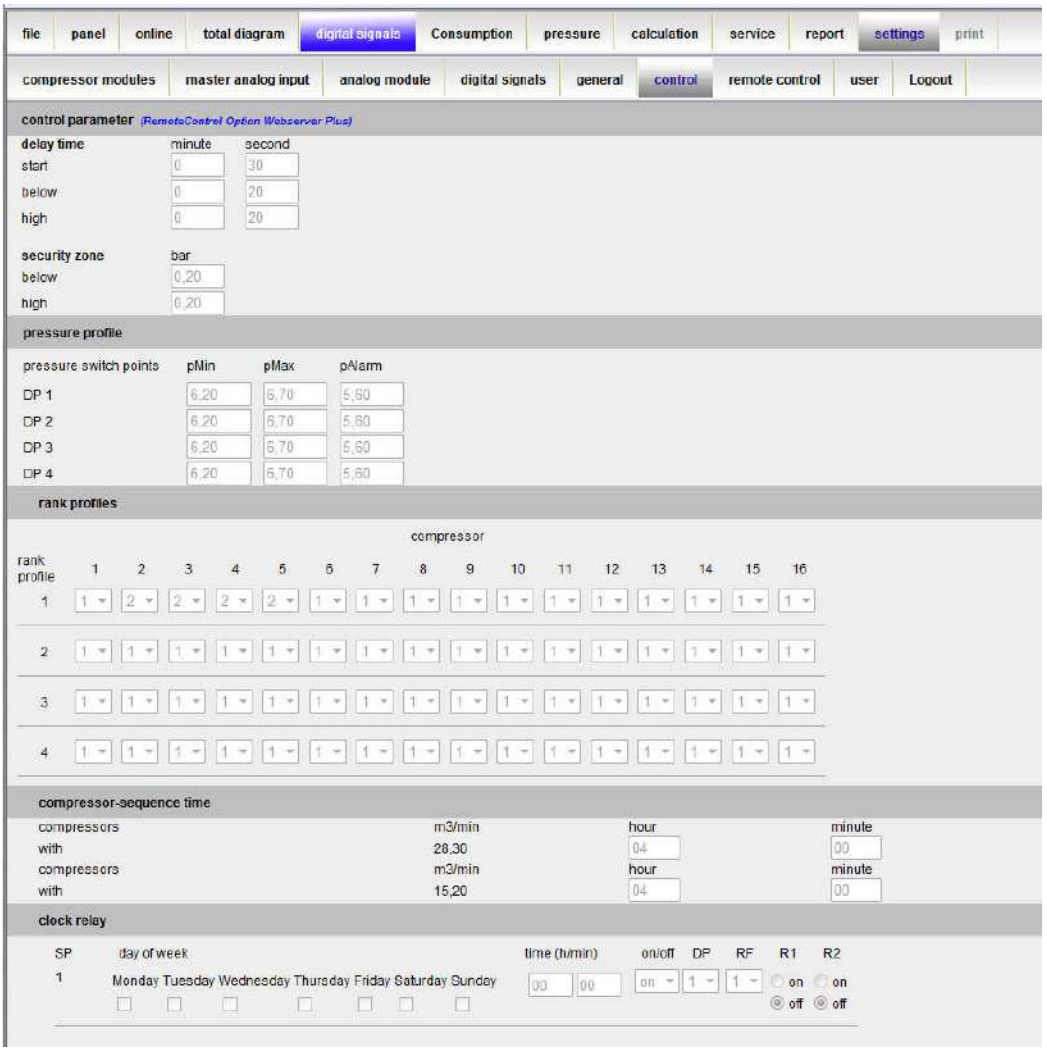
- pressure = bar
- capavity = m³/min
- current = Amperé
- Energy = kW
- Temperature = °C
- currency = EURO
- price/kWh = 0,11
- language = english

Communikation settings

for Service und Alarm-messages are only activ with option:
Web-Server-Plus

Confirmation of message

Is in this field an e-mail address entered, the file from the previous day will be send to this e-Mail (Setting the SMPT-Server)



Control parameter

This menu displays the following data

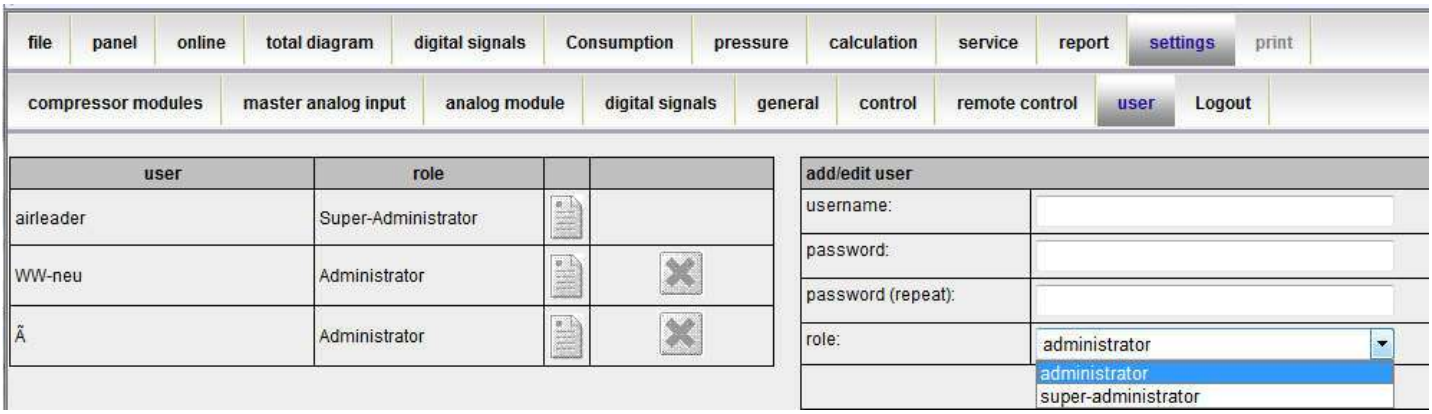
- Delay times
- Security zone
- Pressure profiles
- Rank profiles
- Compressor changing times
- Settings of real time clock

Remoteprogramming

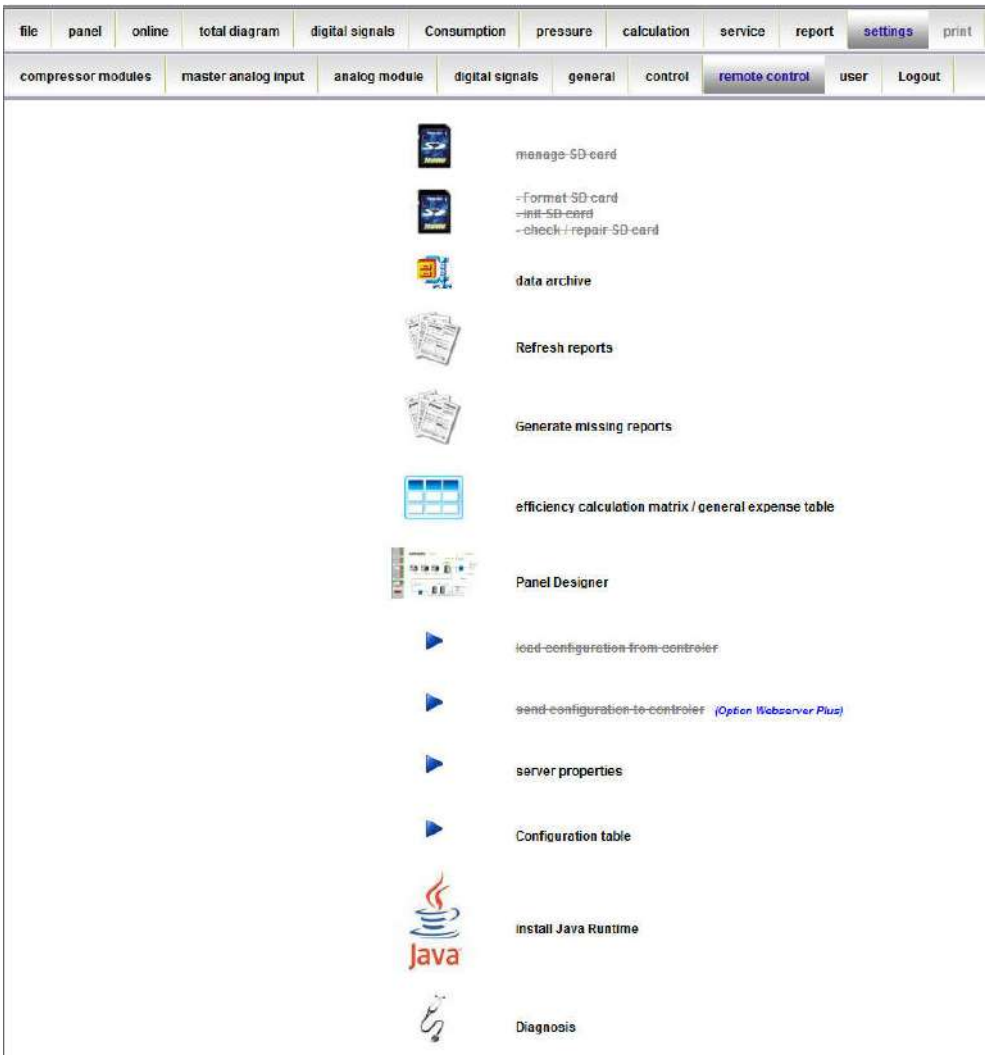
Will be only activ with the option:
Web-Server-Plus

Login and Remote Control

As an introduction to internal settings and remote control of the web server you have to login. On "Settings" - "Login" with the default password "AIRLEADER" for username and password



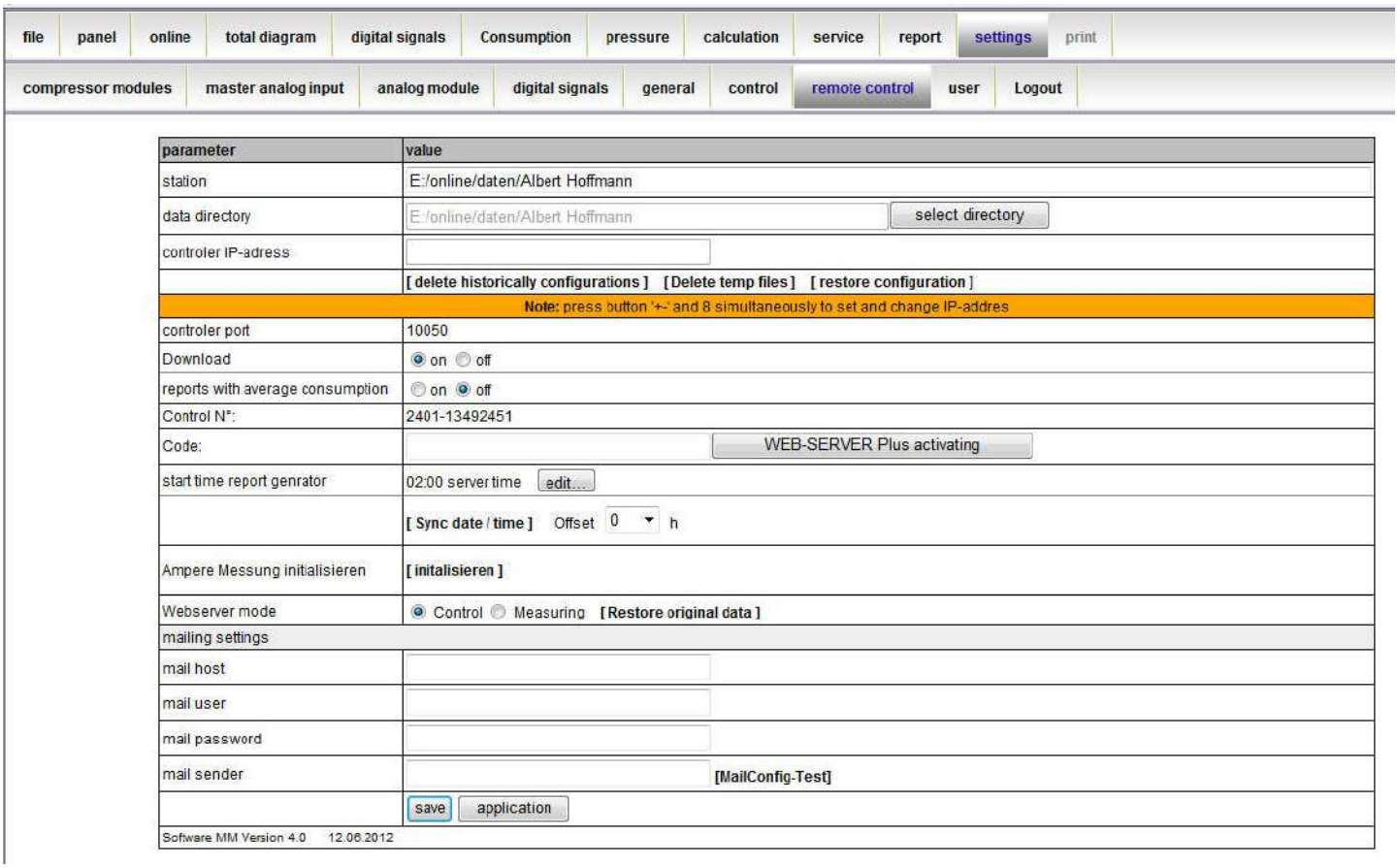
Put different passwords for Administrator and Super Administrator.
Note: The Super Administrator can also perform network settings



In the menu, remote control you can perform following actions

- Manage SD-card
- Formate SD-Karte
- Create data archive
- Refresh reports
- Generate missing reports
- Efficiency calculation matrix / general expenxe table
- Panel designer
- Server proporties
- Configuration table
- Install Java-Plugin
- Diagnosis

Server Settings



In menu „remote control“ - server proporties

You can perform the following actions:

- Delete historical configurations
- Delete temp files
- Restore configuration
- WEB-SERVER Plus activating
- Start time report generator
- Init Compressor currentmeasuring
- Mail settings for SMTP Server

Im Menü Diagnosis

kann man folgende Aktionen durchführen

- Ping ausführen
- Kommunikationskontrolle
- SD-Karte prüfen
- Datumsabgleich
- Mail-Server Konfiguration
- Logfile Viewer

Configuration Table 1

control configuration

customer:	DLW 03-2011
type:	MM
controler number:	
sofware version:	2.603
WebServer:	4.0 (12.06.2012)
IP-address:	192.168.0.100
MAC address:	00.50.C2.72.AB.CB
date:	22.06.2012

compressor	1	2	3	4	5	6
description:	Modul 1	Modul 2	Modul 3	Modul 4	Modul 5	Modul 6
VSD:	no	no	no	no	no	no
m3/min:	16.1 m3/min	16.1 m3/min	7.1 m3/min	7.1 m3/min	16.1 m3/min	13.5 m3/min
Imin / Imax:	-	-	-	-	-	-
reg. range max:	-	-	-	-	-	-
regulation buffer:	-	-	-	-	-	-
flow rate min:	-	-	-	-	-	-
AE1 type of sensor min/max :	current measuring 0.0 - 500.0 (A | kW)	current measuring 0.0 - 500.0 (A | kW)	current measuring 0.0 - 100.0 (A | kW)	current measuring 0.0 - 100.0 (A | kW)	current measuring 0.0 - 200.0 (A | kW)	-
AE2 type of sensor min/max :	temperature 0.0 - 150.0 (°C | mA)	temperature 0.0 - 150.0 (°C | mA)	temperature 0.0 - 150.0 (°C | mA)	temperature 0.0 - 150.0 (°C | mA)	temperature 0.0 - 150.0 (°C | mA)	-
AE2 alert min/max :	0.0 - 120.0 (°C | A | kW)	0.0 - 120.0 (°C | A | kW)	0.0 - 120.0 (°C | A | kW)	0.0 - 120.0 (°C | A | kW)	0.0 - 120.0 (°C | A | kW)	-
analog output current value min / max:	0.0 - 0.0 mA	0.0 - 0.0 mA	0.0 - 0.0 mA	0.0 - 0.0 mA	0.0 - 0.0 mA	0.0 - 0.0 mA
analog output pressure value min / max:	0.0 - 0.0 bar	0.0 - 0.0 bar	0.0 - 0.0 bar	0.0 - 0.0 bar	0.0 - 0.0 bar	0.0 - 0.0 bar
load kW:	93.0 kW	93.0 kW	38.1 kW	38.1 kW	92.5 kW	83.95 kW
unload kW:	24.1 kW	25.1 kW	10.1 kW	9.65 kW	21.2 kW	46.3 kW
motor kW:	0.0 kW	0.0 kW	0.0 kW	0.0 kW	0.0 kW	0.0 kW
motor V:	400.0 V	400.0 V	400.0 V	400.0 V	400.0 V	400.0 V
load Cos phi:	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9
unload Cos phi:	0.6	0.6	0.6	0.6	0.6	0.6

pressure switch points	pMin	Pmax	PAlarm
DP 01	5.7 bar	6.2 bar	5.0 bar
DP 02	5.0 bar	5.4 bar	4.5 bar
DP 03	4.1 bar	5.1 bar	3.6 bar
DP 04	4.1 bar	5.1 bar	3.6 bar

rank profiles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
RF 01	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
RF 02	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
RF 03	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
RF 04	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Configuration Table 2

compressor-sequence time				
compressors	m3/min	hour	minute	
with	16.1	12	00	
compressors	m3/min	hour	minute	
with	7.1	12	00	

control parameter			
delay time	**minute**	**second**	
start	0	50	
below	0	30	
high	0	20	
security zone	**bar**		
below	0.1 bar		
high	0.2 bar		

master analog input	type of sensor	name of device	Min	Max	alert Min	alert Max
AE 1	net pressure		0.0	16.0		
AE 2	flow		0.0	50.0	0.0	50.0
AE 3	flow		0.0	50.0	0.0	50.0
AE 4	flow		0.0	25.0	0.0	25.0

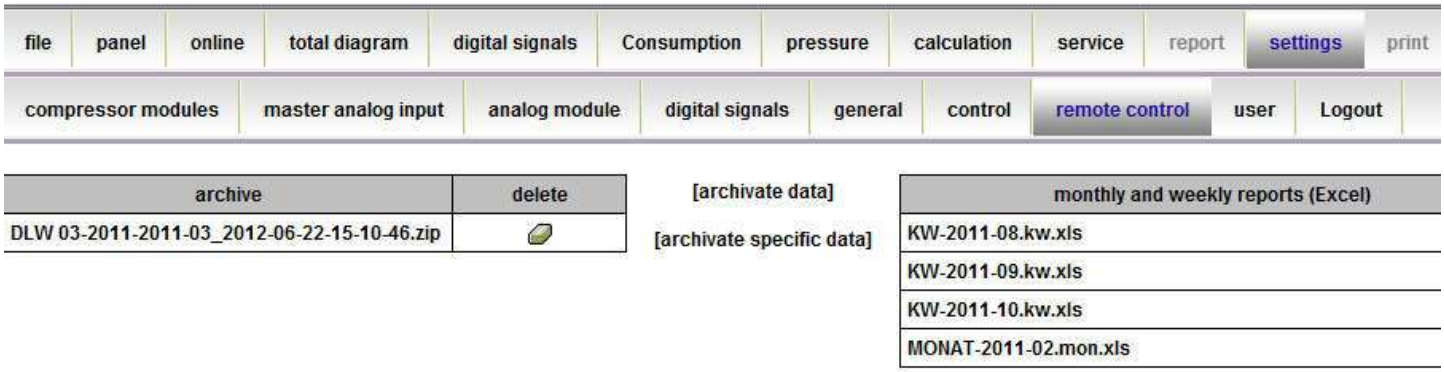
additional modules

clock relay												
SP	**day of week**							**time (h/min)**	**on/off**	**DP**	**RF**	**R1**	**R2**
01	Monday ☐	Tuesday ☐	Wednesday ☐	Thursday ☐	Friday ☐	Saturday ☑	Sunday ☐	05:00	on	2	2	1	1
02	Monday ☐	Tuesday ☐	Wednesday ☐	Thursday ☐	Friday ☐	Saturday ☑	Sunday ☐	00:00	off	2	2	1	1
03	Monday ☐	Tuesday ☐	Wednesday ☐	Thursday ☐	Friday ☐	Saturday ☐	Sunday ☑	00:00	on	2	2	1	1
04	Monday ☐	Tuesday ☐	Wednesday ☐	Thursday ☐	Friday ☐	Saturday ☐	Sunday ☑	21:00	off	2	2	1	1

network properties	
IP-address	192.168.0.100
subnet mask	255.255.255.0
standart gateway	192.168.0.1
MAC address	00.50.C2.72.AB.CB

others	
language	english
VSD Extend	2 (Standard)
price / kWh	0.13 €
alert delay times for	
compressor fault	30 seconds
analog inputs compressor modul	30 seconds
analog inputs controler	30 seconds
analog inputs analogmodul	30 seconds
digital inputs analogmodul	30 seconds

Generate Data Archive



If you want to send data of the demand and control of function, proceed as follows: "Settings-Remote-Data Archive"

Create data archiv:

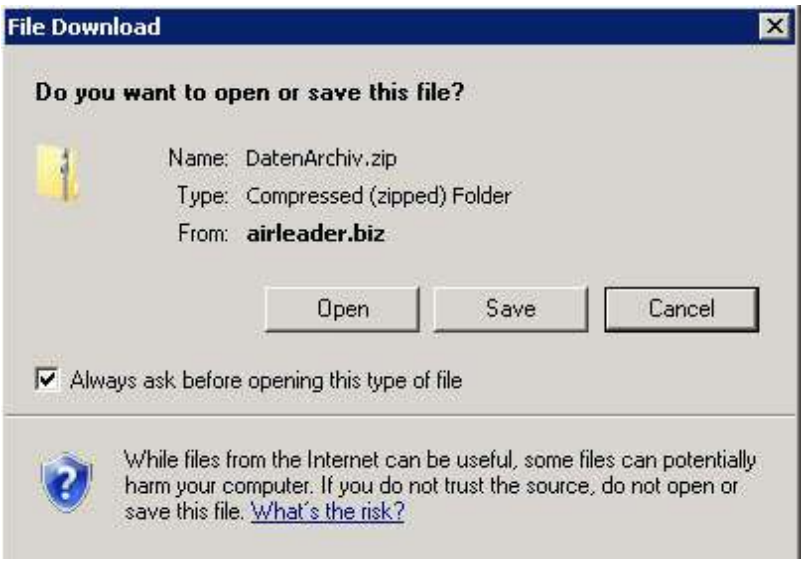
- Click to „archivate data“
  or
- Archivate specific data

By clicking on archivate specific data:

Select month and click on "Archivating".

The data is packed into a ZIP archive (takes time)

The archive will then appear automatically in the archive list



By clicking on the created archive

Either click on Open or Save.

When you click on Open the files are visible.

If you click on Save to keep a register or location will be selected on the hard disk.

The archive is then in the selected directory ready to e-mails.

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