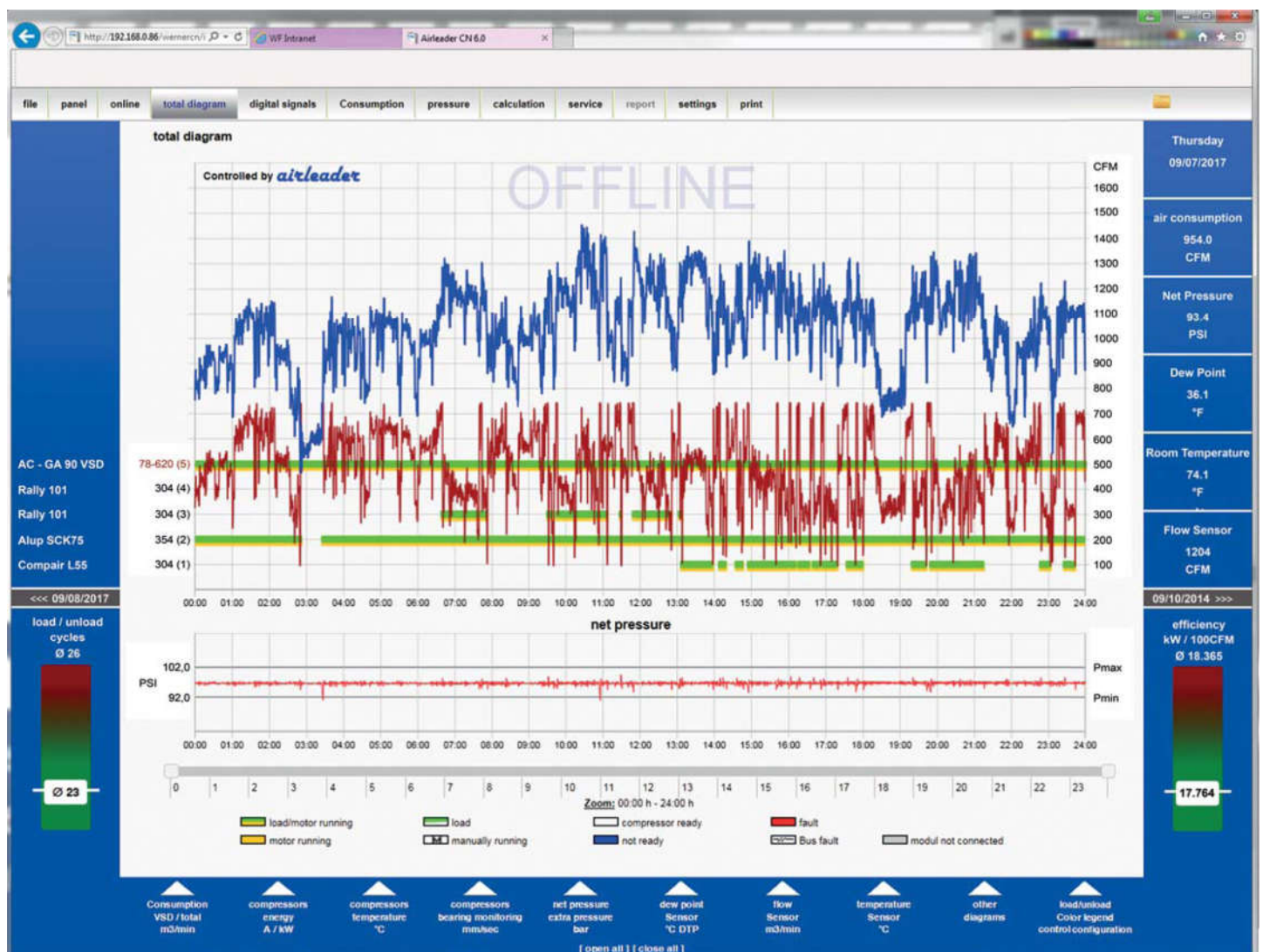# Web-based ONLINE VISUALISATION
AIRLEADER Master II+ an Master-4

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

Programming Airleader Master II Factory setting

Enter code   111111
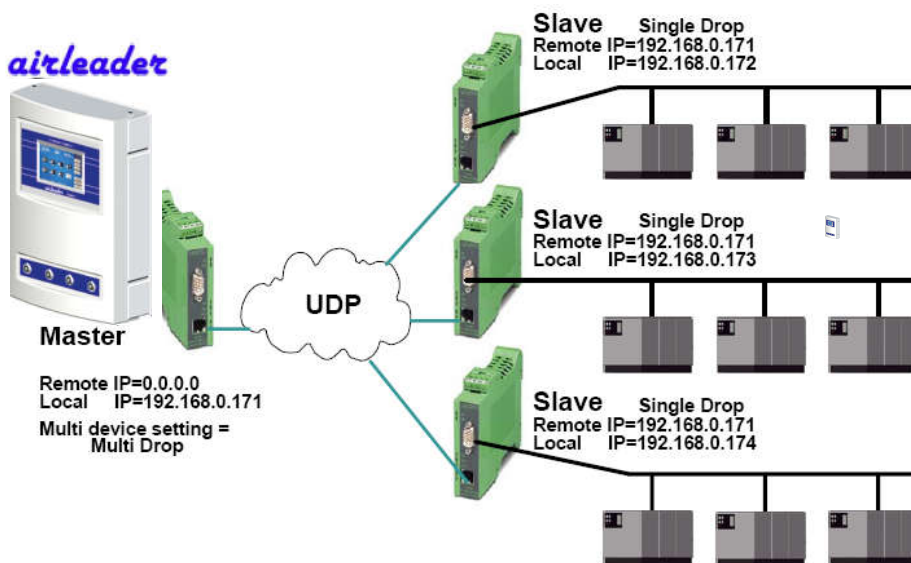
Communikation via Ethernet
The connection between AIRLEADER and the connection modules for compressors and other components can be done via the Ethernet by using the COM server.
The RS-485 interface AIRLEADER is connected to a COM server.
The COM server gets an IP address that matches the IP address 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
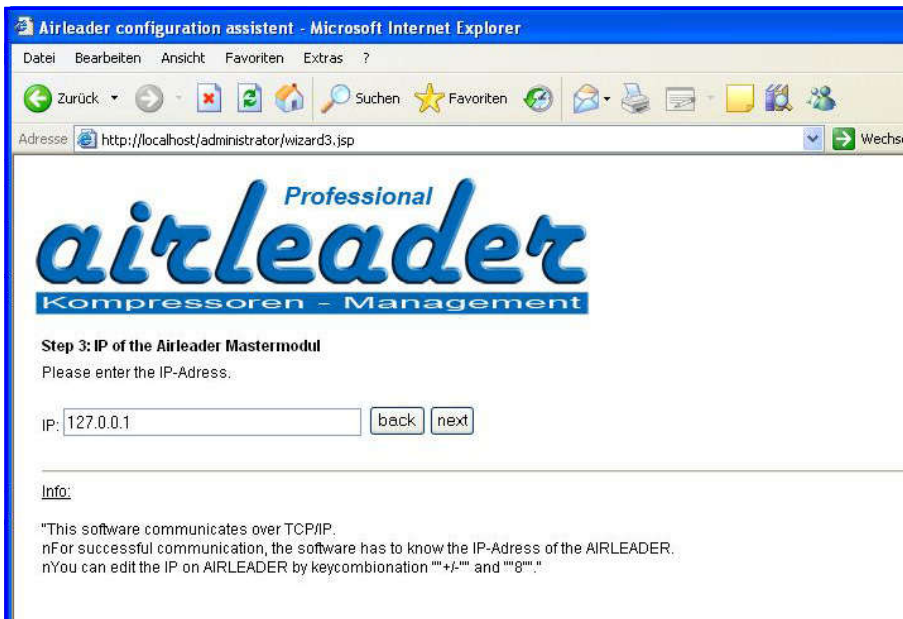
Step 3: IP-address of AIRLEADER

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

  The station will be created.
  The process can last for some minutes
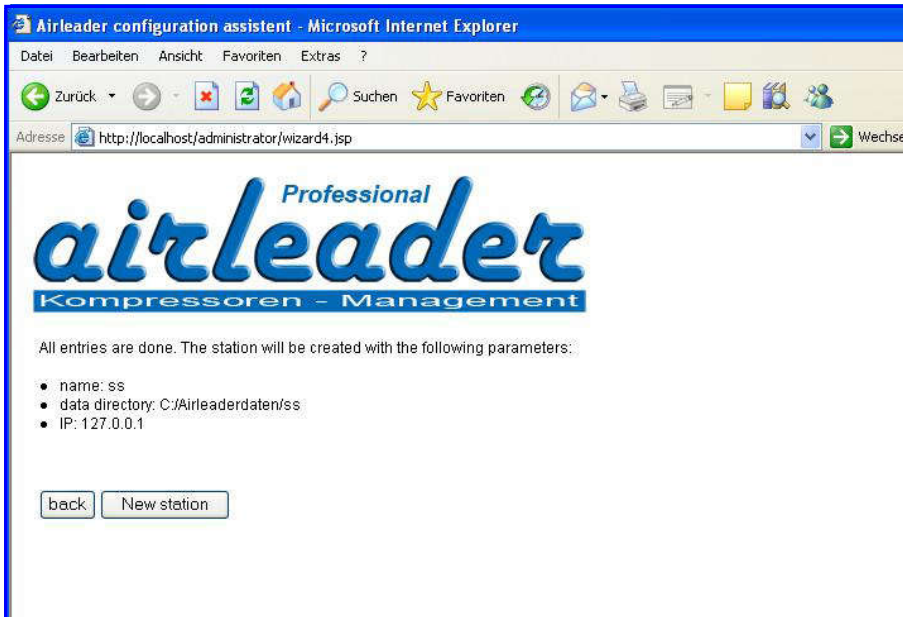
According to the base configuration
the online visualization in the background load down the already stored day files
If all file are stores the visualization goes „ONLINE"

If Airleader
was in operation some time before the Web-Server Software was connected, the configuration should be manually loaded from the master module.
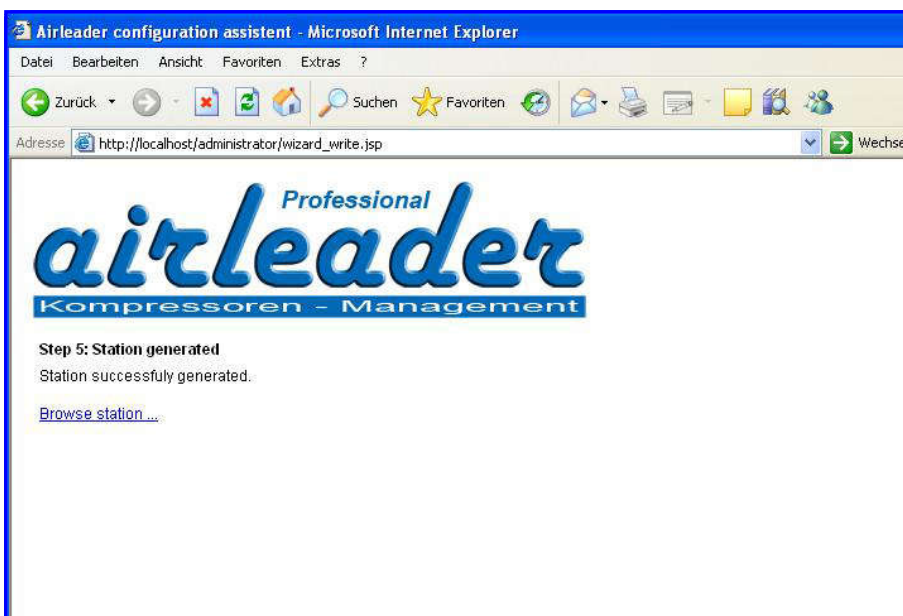
Under „Settings/remote control"
Load configuration from AIRLEADER Master modul

According to this process the software is synchronized now

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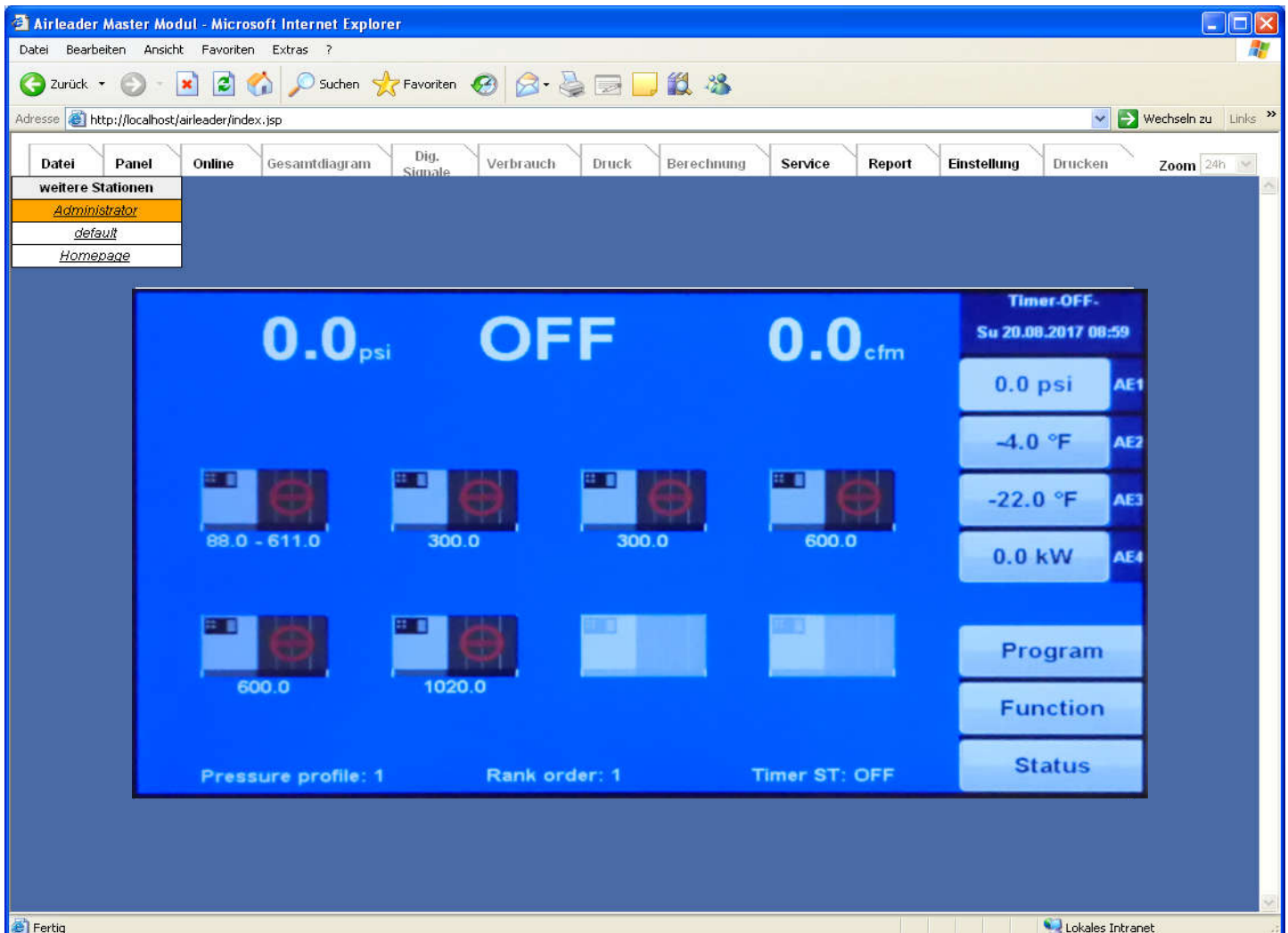
The **AIRLEADER Web servers visualization has** a card rider system for the basic functions**.** The possible respectively currently options are active (black dialable), The online visualization shows the status of the compressed air station in real time. Fault or service messages are distributed directly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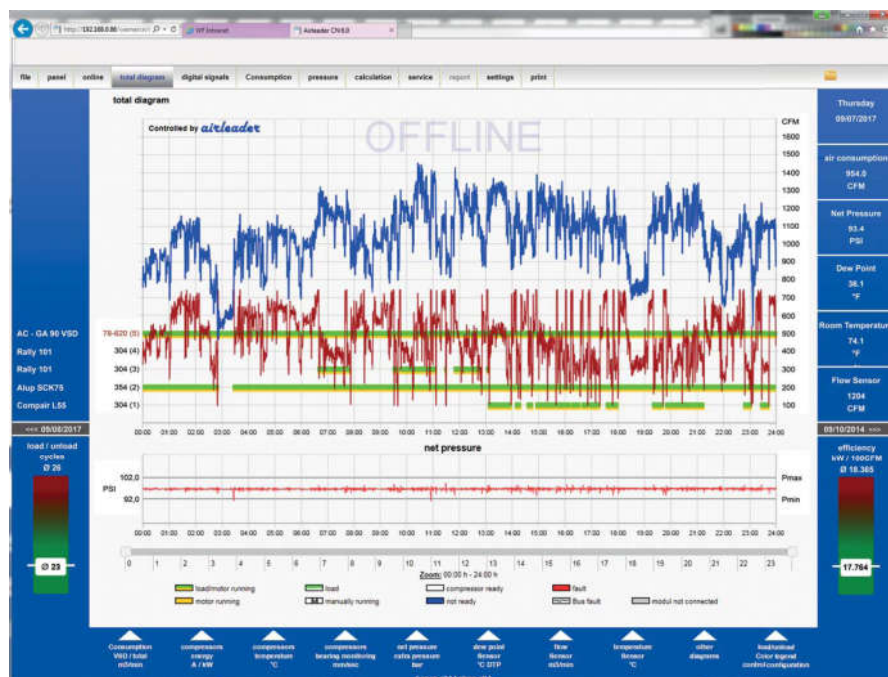
OFFLINE Evaluations

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

specific delivery rate	7,02874 kW/(m3/min)	kWh	0,08 Euro	load costs	99,47 %
specific delivery rate	0,11715 kWh/m3	P-min	7.1 bar	unload cost	0,53 %
compressed air costs	0,00937 Euro/m3	P-max	7.6 bar	total costs	2.025,23 Euro

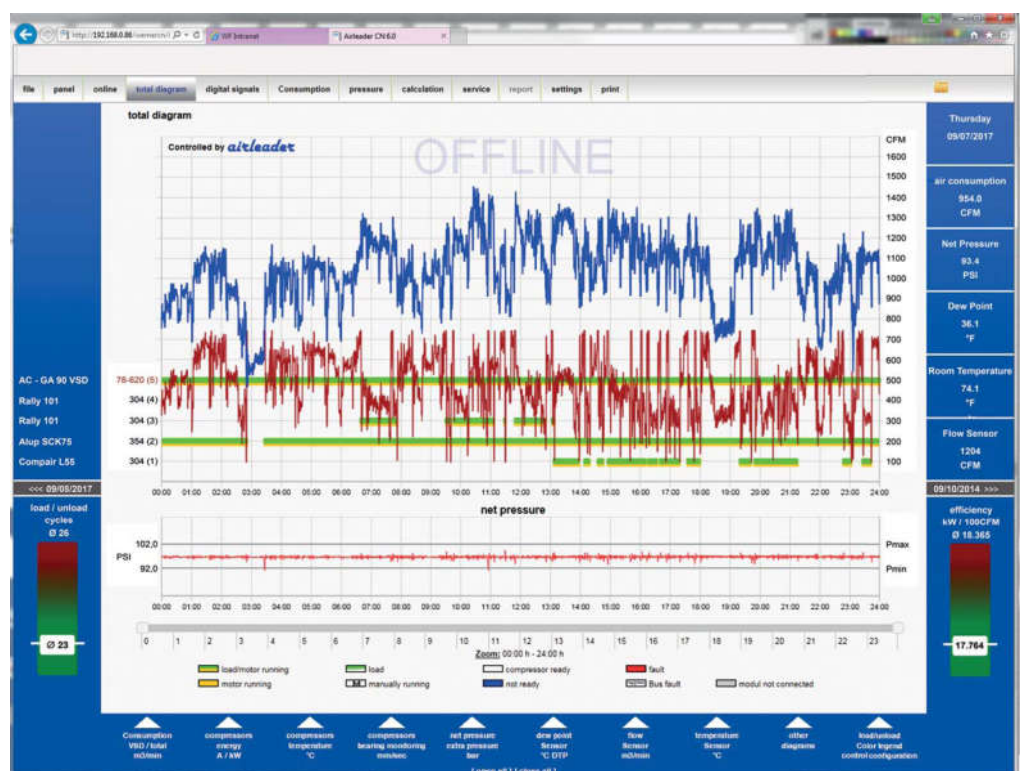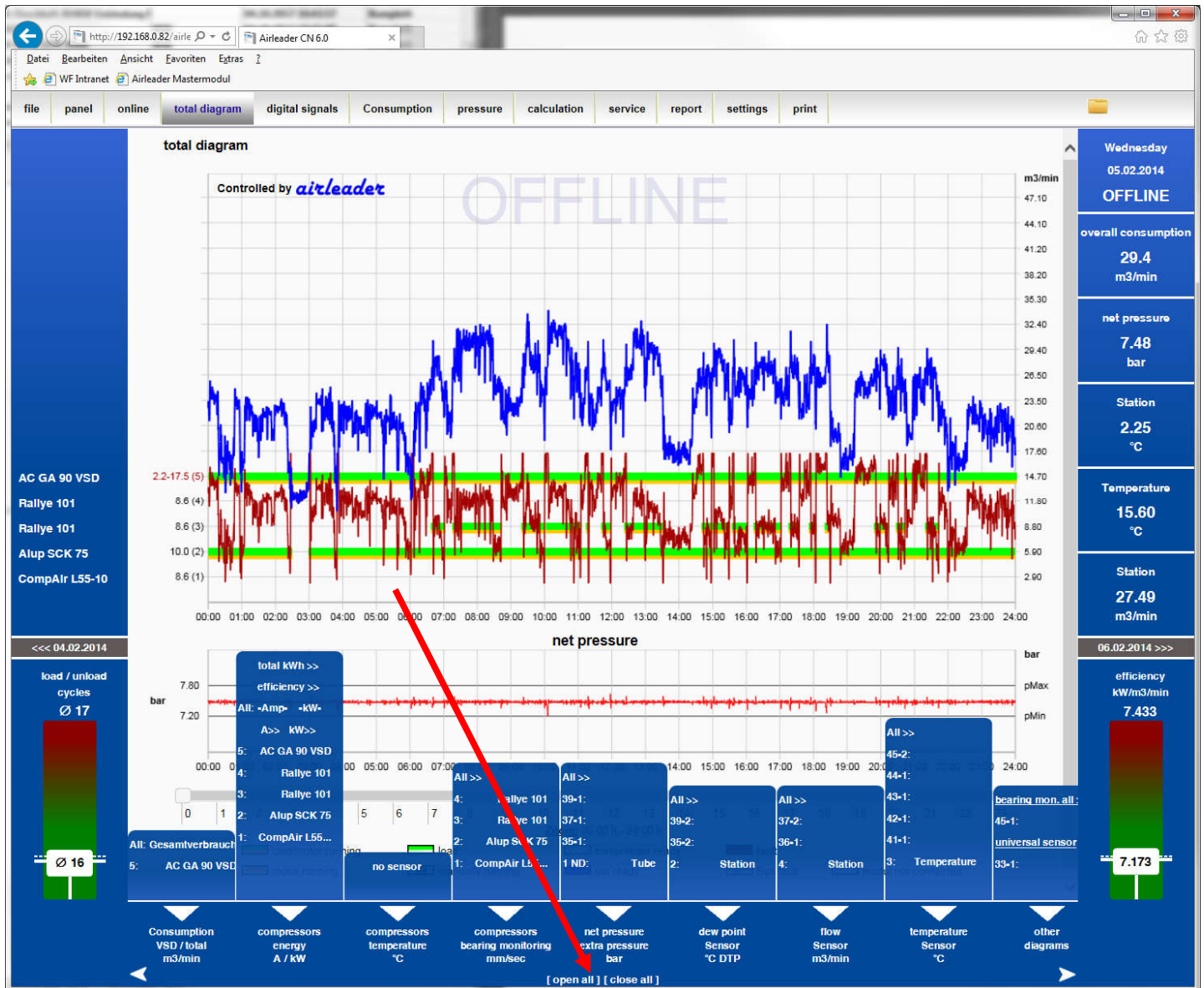| channel	compressor	m3/min min:max	load kW min:max	kW unload	load h:min	unload h:min	average % load	cycles motor:load	compressed air m3	total kW load	total kW unload	total kW total	specific value	total costs Euro load	total costs Euro unload	total costs Euro total
1	Kompressor 1	22.3 : 160.0	37.0	24:0	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	1:36	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 : 150.0	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	1:50	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	1:53	76,9	43:47	3496	470	33	503	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	50.0	24:0	0:0	100,0	1:1	48383	5280	0	5280	0,10913	422,40	0,00	422,40
11	Kompressor 11	33.6 : 220.0	50.0	24:0	0:0	100,0	1:1	48383	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

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

Select file
2007-06   Excel Export
               Word Export

delete report

AIRLEADER Compressor-Management Alarm + Service-Report				Demo	
2007-06			alert message		service message
pos	date	time	compressor module	master module	analog module	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	10:49:54			CM17 AI-1 **	
21	14.06.2007	10:49:38		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	08:45:53			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

file	panel	online	total diagram	digital signals	Consumption	pressure	calculation	service	report	settings	print

compressor modules	master analog input	analog module	digital signals	general	control	remote control	user	Logout

Compressor 1 - 4	Compressor 5 - 8	Compressor 9 - 12	Compressor 13 - 16

channel   application

1   compressor

name of device:
Compressor 1

	m3/min	load kW	unload kW	motor kW
	28,30	160,00	0,00	160,00

voltage motor [V] load cos phi unload cos phi *alarm delay seconds*

400,00	0,90	0,60	0	[?]

	4mA		20mA	
AE1	0,00	A	1000,00	A
	4mA		20mA	
AE2	0,00	°C	150,00	°C
	Alarm Min		Alarm Max	
AE2	0,00	°C	100,00	°C

current measuring
calculate default values
temperature measurin

analog output:

min amperage value	max amperage value	min pressure value	max pressure value	average output
4,00 mA	20,00 mA	0,00 bar	16,00 bar	Offset: 0,00 bar

alert (Option Webserver Plus)   □ alert message   □ service message   □ Fax 1   □ Fax 2   □ SMS 1   □ SMS 2   □ EMail 1   □ EMail 2

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

---

Init measuring values Compressor 1

This function checks the measuring values during the last 30 days, and calculates the averrage load and unload values.
This values can be stored to the configuration.
For current measuring the COS-PHI switchpoint will also be calculated and stored.
Start calculation. After calculation, you can choose to store the data.

[start calculation]   [cancel]

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

Cos phi ranges for Compressor 1

unload at current	260.00 [A]	
alert	○ off ● on	
load alarm limit [?]	260 [A]	30 seconds
unload alarm limit [?]	120 [A]	30 seconds
standby alarm limit [?]	20 [A]	30 seconds

[save] [close] [def. Load / unload]

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

alert limit for power measuring Compressor 6

alert	○ off ● on	
load alarm limit [?]	160 [kW]	30 seconds
unload alarm limit [?]	70 [kW]	30 seconds
standby alarm limit [?]	20 [kW]	30 seconds

[save] [close] [def. Load / unload]

Analog input on Airleader Master Module

Device name
Enter manually

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

Pressure profile
zooming

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

| file | panel | online | total diagram | digital signals | Consumption | pressure | calculation | service | report | settings | print |

Username: airleader

Password: ●●●●●●●●● ← airleader

Login

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

| file | panel | online | total diagram | digital signals | Consumption | pressure | calculation | service | report | settings | print |

| compressor modules | master analog input | analog module | digital signals | general | control | remote control | user | Logout |

user	role		
airleader	Super-Administrator		
WW-neu	Administrator		✖
Ã	Administrator		✖

add/edit user

username:	
password:	
password (repeat):	
role:	administrator ▼
	administrator
	super-administrator

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

| file | panel | online | total diagram | digital signals | Consumption | pressure | calculation | service | report | settings | print |

| compressor modules | master analog input | analog module | digital signals | general | control | remote control | user | Logout |

manage SD card

-Format SD card
-init SD card
- check / repair SD card

data archive

Refresh reports

Generate missing reports

efficiency calculation matrix / general expense table

Panel Designer

load configuration from controler

send configuration to controler *(Option Webserver Plus)*

server properties

Configuration table

install Java Runtime

Diagnosis

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

parameter	value
station	E:/online/daten/Albert Hoffmann
data directory	E:/online/daten/Albert Hoffmann select directory
controler IP-adress	
	[delete historically configurations] [Delete temp files] [restore configuration]
	Note: press button '+-' and 8 simultaneously to set and change IP-addres
controler port	10050
Download	⦿ on ○ off
reports with average consumption	○ on ⦿ off
Control N°:	2401-13492451
Code:	WEB-SERVER Plus activating
start time report genrator	02:00 server time edit...
	[Sync date / time] Offset 0 ▾ h
Ampere Messung initialisieren	[initalisieren]
Webserver mode	⦿ Control ○ Measuring [Restore original data]
mailing settings	
mail host	
mail user	
mail password	
mail sender	[MailConfig-Test]
	save application

Software MM Version 4.0   12.06.2012

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

Diagnose

Auf dieser Seite kann bei auftretenden Problemen die Ursache ermittelt werden.
Sie können von hier aus die Erreichbarkeit der Steuerung testen, die SD Karte in der Steuerung prüfen, die Mailserver-Konfiguration testen,
Datumssynchronität zwischen Server und Steuerung ermitteln,
sowie das Webserver Logfile einsehen und löschen.

Ping ausführen
Mit dem Ping auf die Steuerung prüfen Sie die generelle
Erreichbarkeit der Steuerng über das Netzwerk.

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

file	panel	online	total diagram	digital signals	Consumption	pressure	calculation	service	report	settings	print

compressor modules	master analog input	analog module	digital signals	general	control	remote control	user	Logout

archive	delete		[archivate data]	monthly and weekly reports (Excel)
DLW 03-2011-2011-03_2012-06-22-15-10-46.zip	🗑		[archivate specific data]	KW-2011-08.kw.xls
				KW-2011-09.kw.xls
				KW-2011-10.kw.xls
				MONAT-2011-02.mon.xls

If you want to send data of the demand and control of function, proceed as follows: "Settings-Remote-Data Archive"
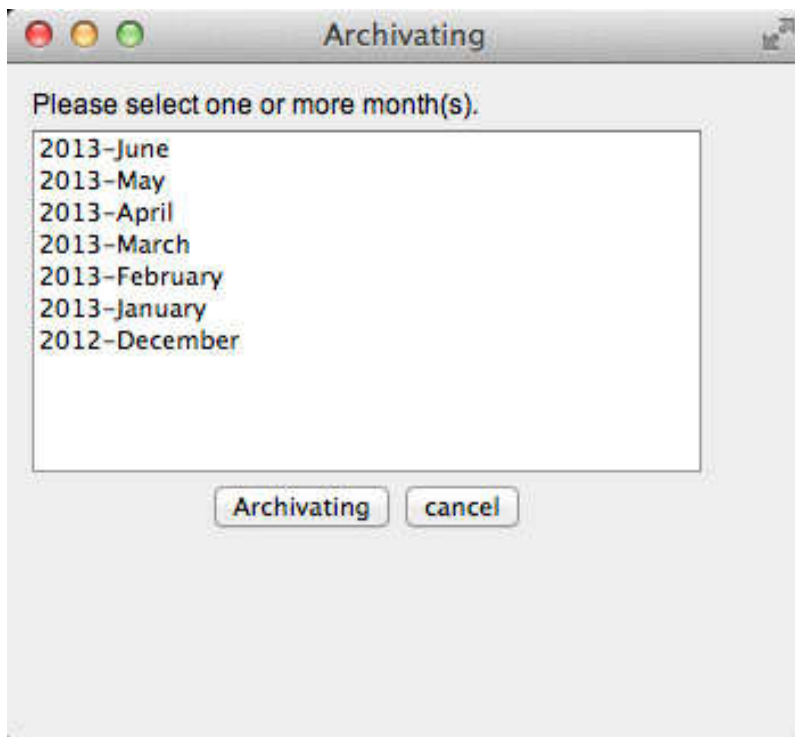
Create data archiv:
- Click to „archivate data"
  or
- Archivate specific data

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

Archivating

Please select one or more month(s).

2013-June
2013-May
2013-April
2013-March
2013-February
2013-January
2012-December

Archivating   cancel

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.

File Download

Do you want to open or save this file?

Name: DatenArchiv.zip
Type: Compressed (zipped) Folder
From: **airleader.biz**

Open   Save   Cancel

☑ Always ask before opening this type of file

While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?