

Description
DUNGS VisionBox

Application

The VisionBox allows the setting of the parameter values of DUNGS control devices via PC, Laptop or Tablet PC.

Suitable for:
MPA 4xxx
MPA 51xx
VPM
W-FM25

Suitable operating systems:
WIN XP, 10, 11

Note: Passwords are required to install the software and for parameterization of the systems. Please contact your DUNGS sales representative for the passwords you require. Administration rights are required for installation.

2. Warnings

2.1 General warnings



The recognised occupational safety rules and accident prevention regulations must be observed and, if necessary, personal protective measures must be taken.



All adjustments and settings should only be performed in accordance with the instruction manuals of the connected machines.



Never carry out work as long as gas pressure or voltage is applied. Avoid open fire. Please observe public regulations.



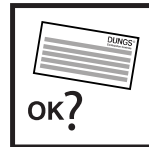
Prior to assembly, the device must be inspected for transport damage.



The device must not be exposed to open fire. Protection against lightning strikes must be guaranteed.



Protection from environmental impacts and weather conditions (corrosion, rain, snow, icing, humidity (e.g. by condensation), mould, UV radiation, harmful insects, poisonous, corrosive solutions/liquids (e.g. cutting and cooling fluids), must be guaranteed. Depending on the installation site, it may be necessary to take protective measures.



The device may only be operated in compliance with the operating conditions stated on the type plate.



The device must be protected from vibrations and mechanical impacts.



The device must not be used in areas with increased seismic risk

Explanation of the symbols

- 1, 2, 3,... = Order of action
- = Instruction

2.2 Designated use

The device is used in accordance with its designated use if the following instructions are observed:

- Applicable only with suitable DUNGS systems and software
- Use only in compliance with the operating conditions stated on the type plate.
- Use in perfect condition only.
- Malfunctions and faults must be eliminated immediately.
- Use only in observance of the instructions given in this instruction manual and of national regulations.

2.3 Risks in case of misuse

- If used in accordance with their designated use, the devices are safe to operate.
- Non-observance of the regulations may result in personal injury or material damage, financial damage or environmental damage.
- Operator errors or misuse present risks to life and limb of the operators and also to the device and other material property.

3. Approval / declaration of conformity

4. Table of contents

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5. Content VisionBox mini

The VisionBox mini includes the adapter to connect a PC/Laptop to MPA and VPM systems.

The required software is not included. It is available from the download areas in the DUNGS homepage www.dungs.com/softwaretools



VisionBox mini with connection cable for MPA and VPM



Connection cable PC / VisionBox mini

5. Content VisionBox

The VisionBox enables the connection of MPA and VPM systems to:

PC/laptop via USB PC or other controllers via RS 232 or Ethernet.

The data logger function can also be used via USB, RS232 or Ethernet.

The VisionBox can also store data stand-alone.

In this case, it is necessary to connect the enclosed power supply unit to supply the VisionBox with power.

The required software is not included. It is available from the download area in the DUNGS homepage www.dungs.com/softwaretools



VisionBox



Plug-in power supply



Connection cable PC / VisionBox

6. Software Download and Installation

www.dungs.com/softwaretools
Downloads / Software Tools

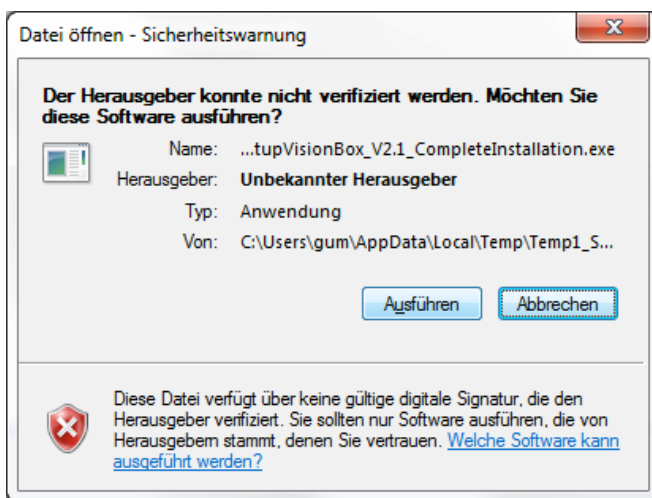
> VisionBox

Installation:

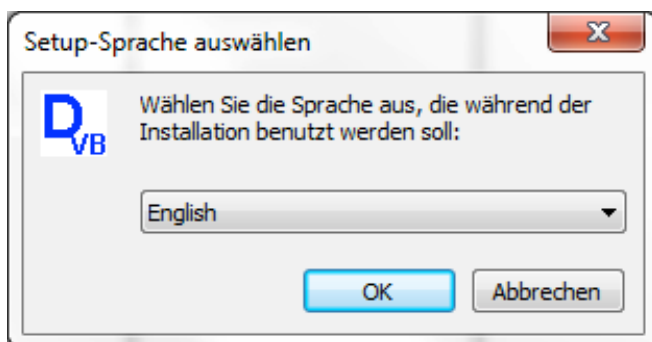
Select a file and select „Open“

Download the file

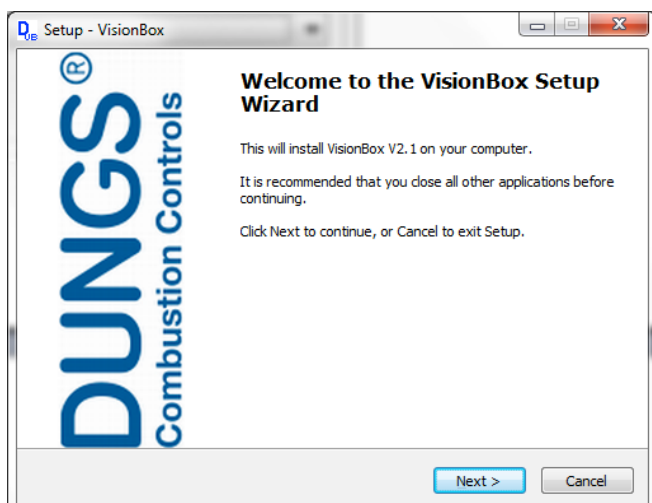
Run the .exe file



Press „Ausführen“

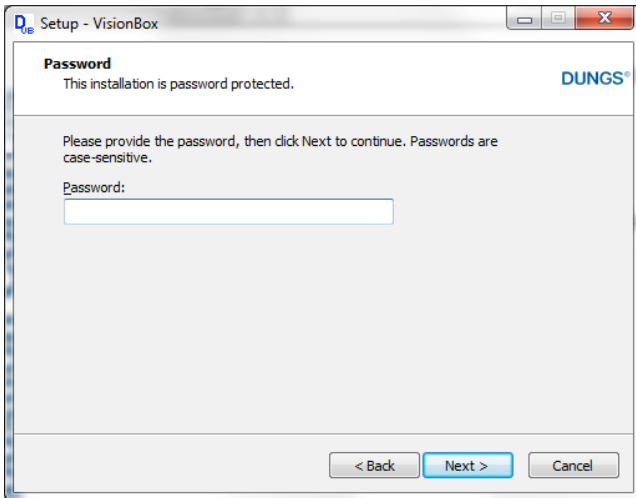


Choose language during installation

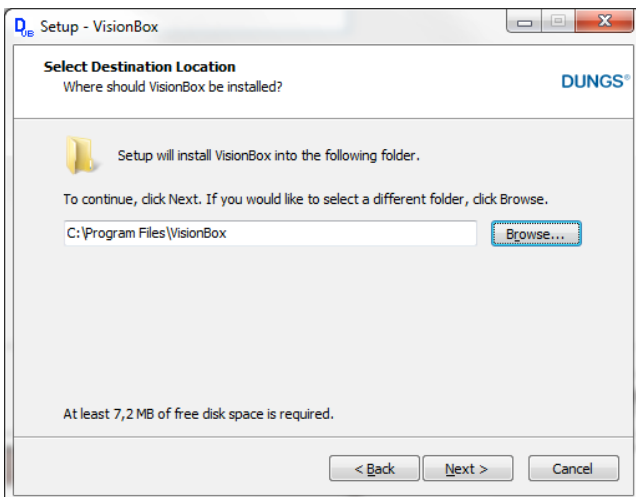


Confirm „Next“

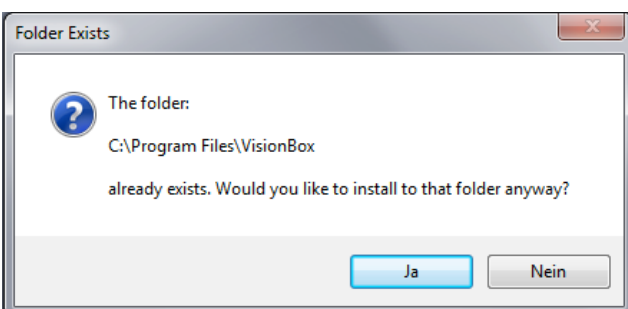
6. Software Download and Installation



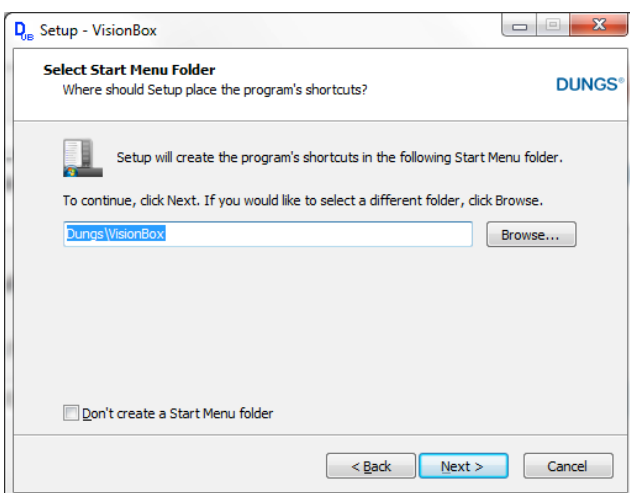
Enter Password



Select target folder
Confirm with „Next“

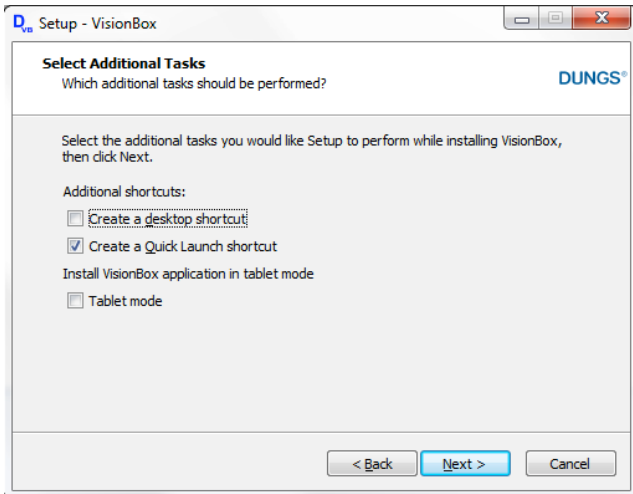


Confirm target folder „Yes“

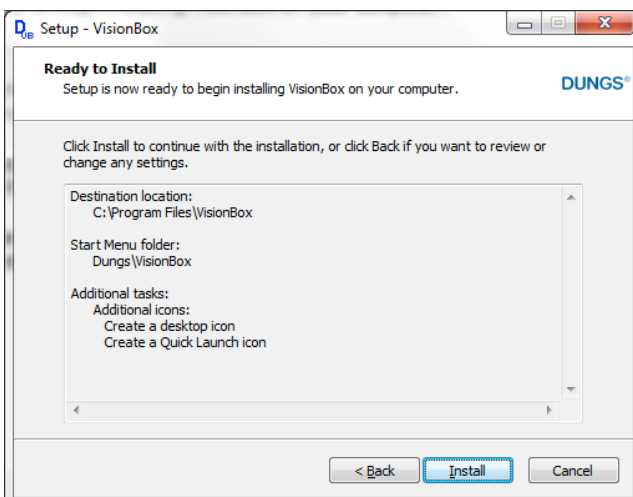


Select Start Menu Folder
Confirm with „Next“

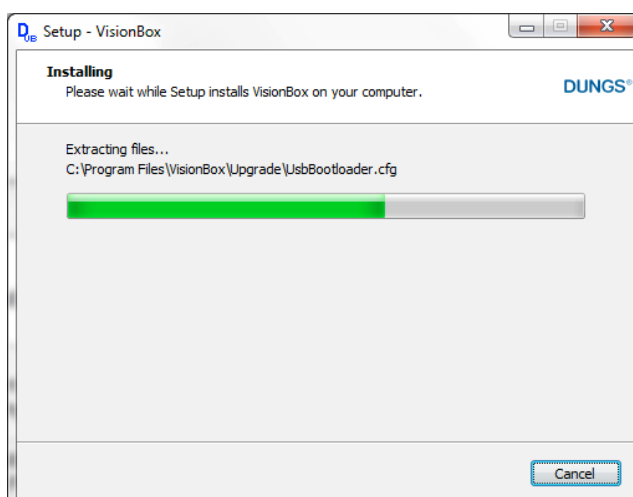
6. Software Download and Installation



Select icon on desktop and / or in quick start bar
To install the program on a Tablet PC choose „Tablet mode“
Confirm with “next”

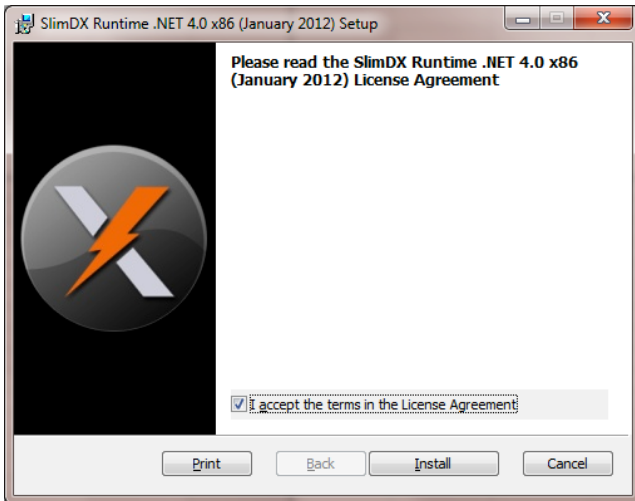


Start installation: „Install“

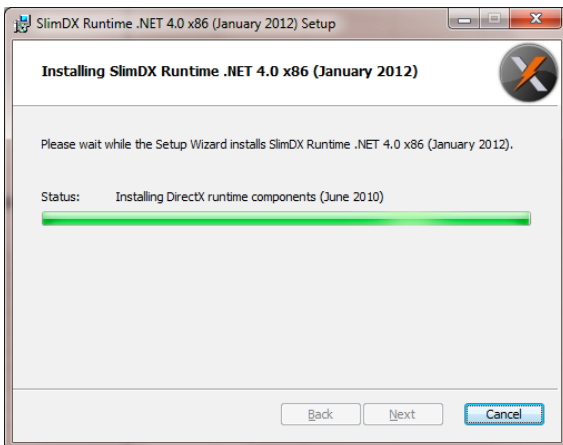


Please wait, installation continues

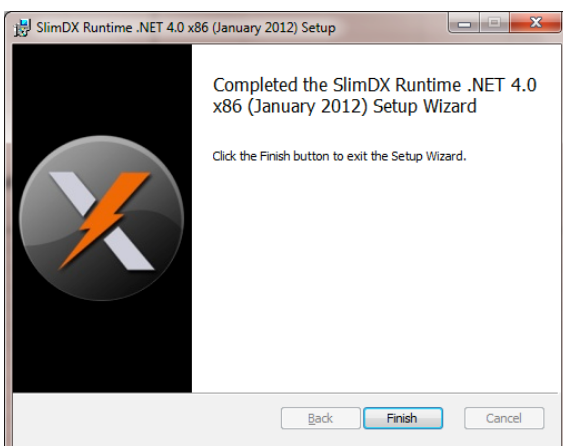
6. Software Download and Installation



Please confirm „I accept...“, continue installation “Install”

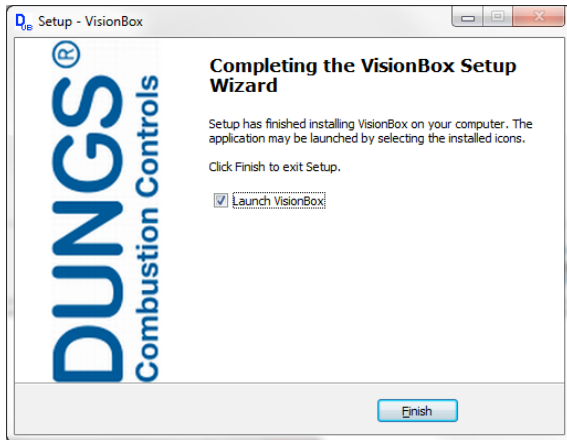


Please wait, installation continues



Complete Installation „Finish“

6. Software Download and Installation



Complete installation of the VisionBox program „Finish“
Restart the computer to enable the changes

7. Connection VisionBox (mini)

VisionBox mini

Caution: Mains voltage, do not touch live parts, observe safety regulations for working with live components.

1. De-energize the MPA/VPM.
2. Plug the 4-pin connector of the VisionBox into the "TWI" connection - note the coding.
3. Connect the VisionBox to the computer/laptop and start the PC/laptop.
4. Supply MPA/VPM with voltage.

LED Power – on

LED MPA – off.

LED PC – flashes

5. Start the VisionBox program



All LEDs light up permanently

8. Connection VisionBox

VisionBox

Caution: Mains voltage, do not touch live parts, observe safety regulations for working with live components.

1. De-energize the MPA/VPM.
2. Plug the 4-pin connector of the VisionBox into the "TWI" connection - note the coding.
3. Connect the VisionBox to the computer/laptop and start the PC/laptop.

LED Power – on

LED PC – flashes

4. Supply MPA/VPM with voltage.

LED MPA – on



5. Start the VisionBox program
All LEDs light up permanently
6. Connecting vending machines with VisionBox software

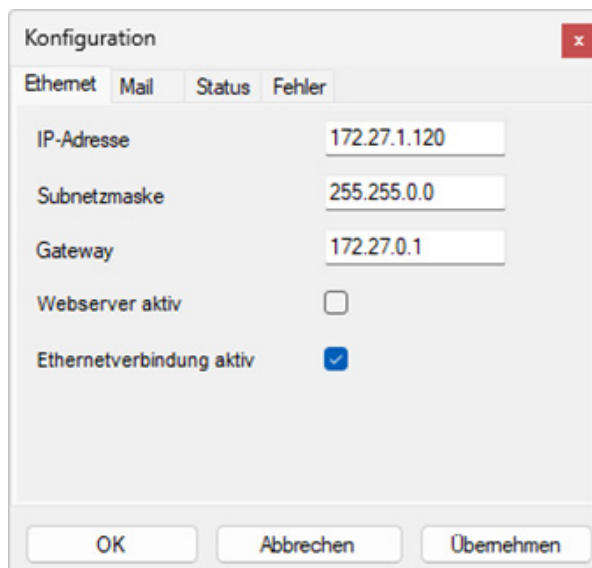
VisionBox connection via RS 232 interface:

Caution: Mains voltage, do not touch live parts, observe safety regulations for working with live components.

1. De-energize the MPA/VPM.
2. Plug the 4-pin connector of the VisionBox into the "TWI" connection - note the coding.
3. Connect the VisionBox to the computer / laptop and MPA/VPM control unit.
4. Connect the plug-in power supply unit to the VisionBox and plug the power supply unit into a suitable socket (use a standard national adapter if necessary). The power supply unit is suitable for input voltages of 100 V-240 V and 50 Hz-60 Hz!
5. Power LED - on. 6. Supply MPA/VPM with voltage. 7. MPA LED - on. 8. LED PC - flashes

Establishing the connection via Ethernet / LAN / Intranet / Internet

Before connecting to the VisionBox via Ethernet for the first time, it must be configured. This is only possible via a connection via RS232 or USB.



1. Connect VisionBox to PC / laptop, start program.
2. Select the menu item "VB configuration setting".
3. In the configuration window, enter an IP address permanently assigned to this VisionBox, a subnet mask and a gateway. DHCP is not possible. When using multiple VisionBoxes, do not assign IP addresses twice. The allocation of IP addresses should be coordinated with an IT network administrator or IT support.
4. The "Web server active" checkbox can be used to allow access via DUNGS 07.12.12 a web browser.
5. Direct access via the TCP/IP protocol must be enabled via the "Ethernet connection active" checkbox. The connection via RS232, USB or Bluetooth can now be disconnected again.
6. Establish a connection to the LAN network (Ethernet cable required). Access to the VisionBox is now possible within a (company) network.
7. If the VisionBox is to be accessed via the Internet, a port of a publicly known IP address must be "mapped" (redirected) to the VisionBox port 1234 by the responsible IT administrator.

Be careful when accessing the Internet:

1. The VisionBox has an integrated bootloader which can be used to update the VisionBox.
2. Voltage interruptions of > 3s lead to a restart.
3. If the IP address is known, read access to the VisionBox or to a connected MPA/VPM is possible via the VisionBox.
4. Write access to the MPA/VPM (changing parameters) is only possible after entering a password and, depending on the access level, after pressing a button on the MPA/VPM display. **Attention:** If the access level has been changed, all parameters can be changed until the access level is reset!
5. If access to the HTML pages of the VisionBox is to be enabled, the IT administration must "map" (redirect) a port of a publicly known IP address to the VisionBox port 80.

Sending e-mails via Ethernet

In the event of faults or error messages, an e-mail can be sent. To do this, the SMTP mail server must accept e-mails from this IP address without authentication!

Konfiguration

Ethernet Mail Status Fehler

Sender visionbox@dungs.com

Empfänger a.b@c.de

SMTP 0.0.0.0

Domäne domain.com

Kundentext

Mail bei 00;00;00;00;00;00;00;00;00;00;

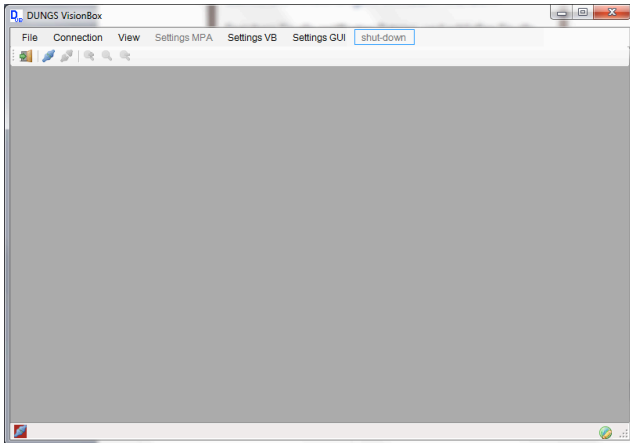
Mail aktiv

OK Abbrechen Übernehmen

1. In the “Sender” field: a valid e-mail address of the sender must be entered here (depending on the mail server).
2. In the “Recipient” field: The e-mail will be sent to this address.
3. The IP address of the mail server must be entered in the “SMTP” field.
4. The correct domain in which the VisionBox is located should be entered in the “Domain” field (e.g. “dungs.com”).
5. “Customer text” field: A system number can be entered here (e.g. ‘Urbach system 2’)
6. Mail on” field: An e-mail is sent if one of the specified error messages (possibly with successful MPA/VPM restart) has occurred. Other error codes do not result in an e-mail being sent. With the entry “FF; 00; 00; 00; 00; 00; 00; 00; 00; 00; 00; 00; 00;” all error messages are sent. ATTENTION: Emails are only sent if the “Mail active” checkbox is active.
7. Field “Mail active”: If this checkbox is activated, the VisionBox sends an e-mail if the connected MPA/VPM goes into error. In addition, e-mails are also sent for the error messages selected above without locking the MPA/VPM (“00; 00; 00; 00; 00; 00; 00; 00; 00; 00; 00;” means: only if the MPA/VPM malfunctions)

8. Operation VisionBox Software

Initial screen VisionBox

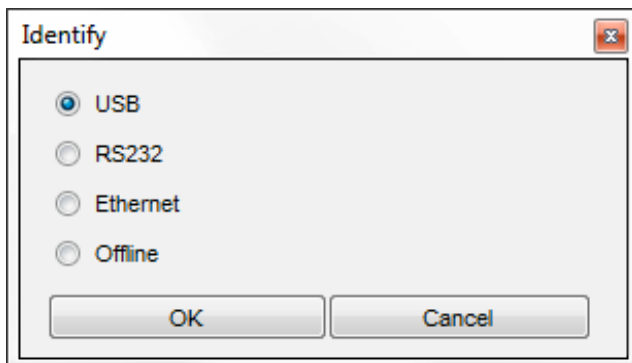


Start-up image VisionBox.

Change language via „Settings GUI“

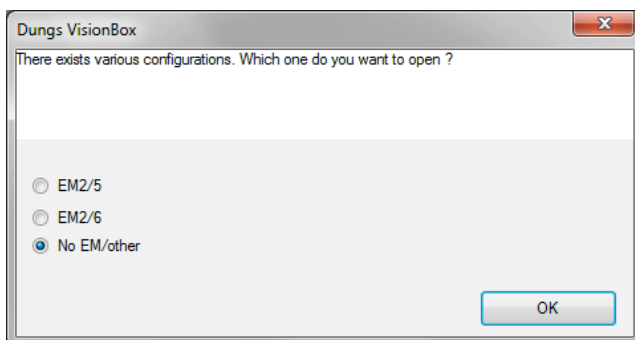
Link to MPA / VPM via „Connection“ or symbol „Connector“

ATTENTION: In case of a required software update for the VisionBox see chapter 10



Choose link to PC / Laptop and confirm „OK“

With the VisionBox Mini only USB and Offline mode possible.



MPA can be equipped with extension modules.

Please choose the built in module and confirm with OK.

8. Operation VisionBox Software

Standard View

Name	Value
Valve 1	Off
Valve 2	Off
Ignition	Off
Fan	Off
Flame	No
Flame 1	No
Quality of flame	0 digits
Flame 2 NO	No
Flame 2 NC / GDW / POC	Yes
Air pressure switch	Opened

#	ID	Description
0	0xA8	Flame failure during operat...
1	0x60	Change of parameter not r...
2	0x18	Error from external applica...
3	0xA8	Flame failure during operat...
4	0x18	Error from external applica...
5	0xA2	Safety Circuit Open
6	0xA2	Safety Circuit Open
7		Memory unused
8		Memory unused
9		Memory unused

#	Identifier	Unit	Value
10	Release parameterisation		*****
11	Address field bus		0
12	recycle count	Anzahl	5
13	recycle count after flame failure during safety...	Anzahl	0
14	recycle count after flame failure	Anzahl	0
15	Lock out after opening safety chain		Immediate lock out
16	Air pressure switch: mode		0 = [Check for off=Off, Operation=...
17	Type of temperature control		3 = Regulation on thermostat

12.03.2015 12:58:34 | SW: 255854_ | #: 226 | cfg: Kein EM/Sonstige | Offline Datalog: Inactive

The standard view shows:

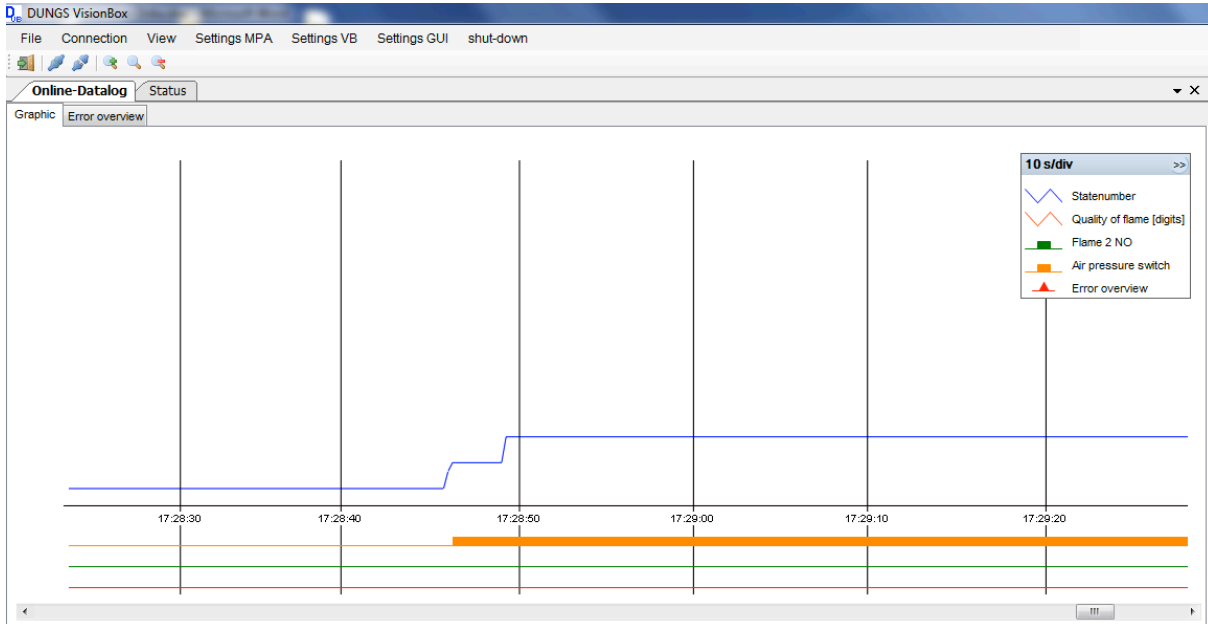
- Status: Operating condition of the connected controlbox
- Error overview: Content of the error memory of the connected controlbox
- Parameter overview: Current parameter setting of the connected controlbox

Name	Value
Valve 1	
Valve 2	Off
Ignition	Off
Fan	Off

The windows shown can be displayed or removed via „View“

8. Operation VisionBox Software

View: Online-Datenlog



The view „Online-Datalog“ provides a graphical overview of the burner functions.

8.1 Change of access level

Adjusting the parameter setting

To adapt or change parameters is done for all DUNGS devices according to the same procedure. However, the devices differ in the activation of new values. Please refer to the corresponding operating and installation instructions.

The ability to change parameters is restricted by a password hierarchy:

Password levels

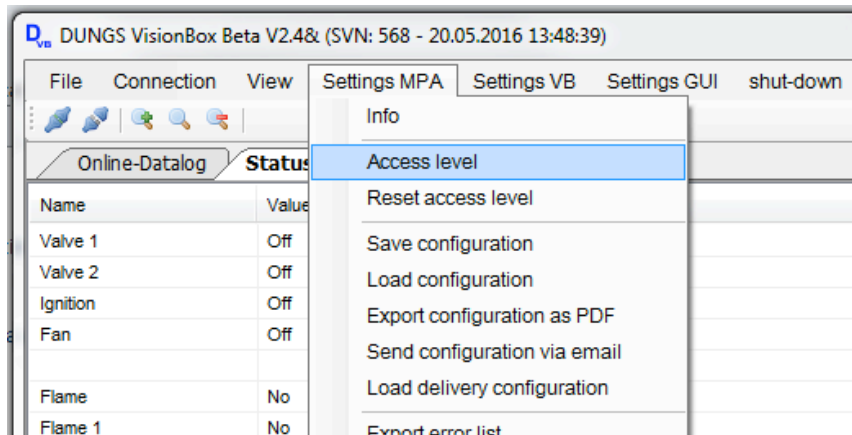
Level 5: Operator / no password / no change authorization

Level 4: Service / password / limited change authorization

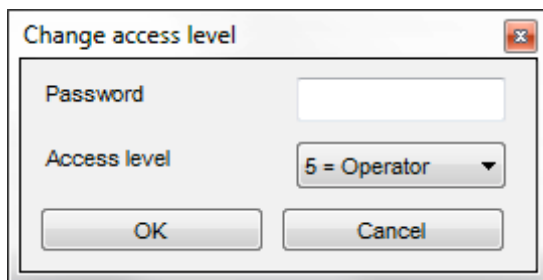
Level 3: OEM / Password / full editing rights

Level 2: OEM expert / password / full editing rights incl. expansion variable upper and lower limits

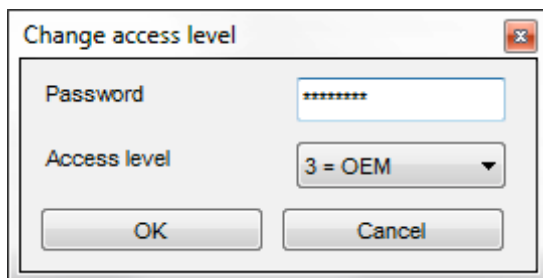
Level 1: DUNGS / password / developer level



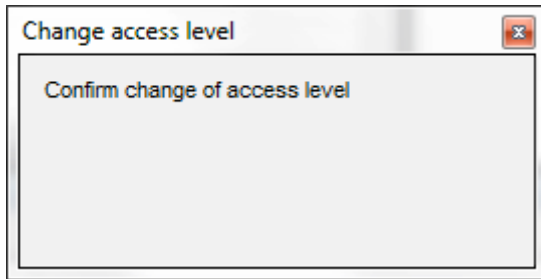
Open „Settings MPA/VPM“
Select „Access Level“



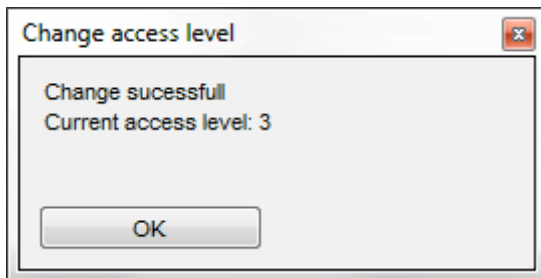
Enter password
Select Access Level



Confirm with OK

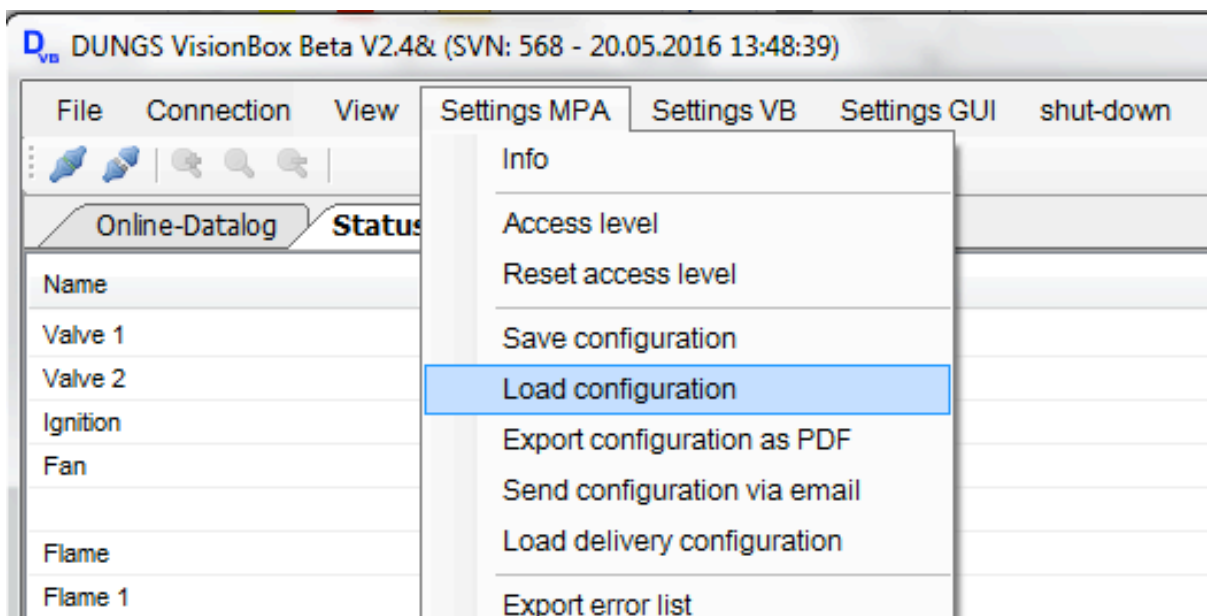


Confirm change of the access level by pressing the RESET button on the MPA / VPM



Change of the access level successful, complete with „OK“

8.2 Copy of a existing parameter set



Open „Settings MPA/VPM“
Select „Load configuration“

If the VisionBox program is connected to a MPA/VPM the differences between the actual parameter setting of the MPA/VPM and the loaded configuration will be shown with yellow marked cells.

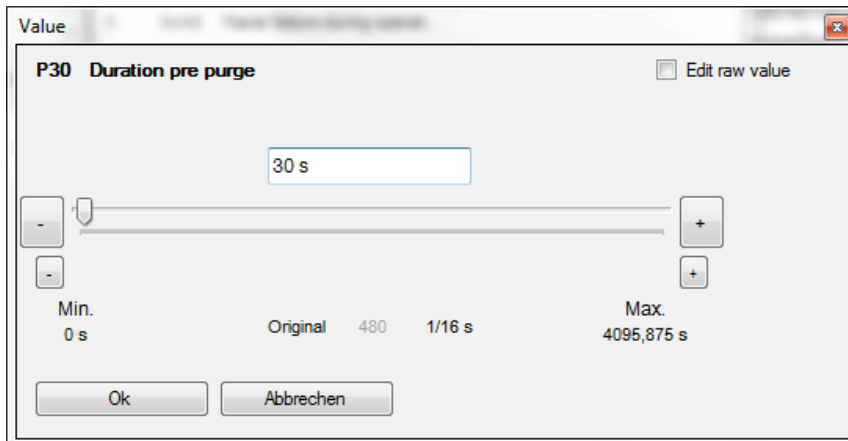
8.3 Change of parameter

Window „Parameter overview“

Parameter overview						
All	General	Startup	Operation	Shut down	Manufacturer specific	Reserved values
#	Identifier	Unit	Value			
10	Release parameterisation		*****			
11	Address field bus		0			
12	recycle count	Anzahl	5			
13	recycle count after flame failure during safety...	Anzahl	0			
14	recycle count after flame failure	Anzahl	0			
15	Lock out after opening safety chain		Immediate lock out			
16	Air pressure switch: mode		0 = [Check for off=Off, Operation=...			
17	Type of temperature control		3 = Regulation on thermostat			
18	Configuration FLW2_NC, GDW or POC		1 = Flame input (NO)			
19	Configuration output operation		3 = Flame on			
20	Duration safety chain open	s	60			
21	Shutter test		0 = [Shutter test flame detector 1=...			
22	FM mode active		Inactive			
30	Duration pre purge	s	30			
31	Pre-ignition time	s	10			
32	First safety time	s	10			
33	Active flame input phase 1		1 = Flame detector 1 only			
34	Stabilization time A	s	3			
35	Second safety time	s	1			
36	Active flame input phase 2		1 = Flame detector 1 only			

Example Change prepurge time

30	Duration pre purge	s	30	<ul style="list-style-type: none"> Read parameter Write parameter Read all parameters Write all parameters <li style="background-color: #0070C0; color: white;">Change Parameter ▶ Show details 	<ul style="list-style-type: none"> <li style="background-color: #0070C0; color: white;">Change Value Change upper limit Change lower limit
31	Pre-ignition time	s	10		
32	First safety time	s	10		
33	Active flame input phase 1		1 = Flame detector 1 only		
34	Stabilization time A	s	3		
35	Second safety time	s	1		
36	Active flame input phase 2		1 = Flame detector 1 only		
37	Stabilization time B	s	3		
38	Configuration V1 and V2		1 = Permanent start gas, V1 and V...		



The value (time in seconds) for the pre-purge time may be entered direct in the value window, by using the +/- buttons or by moving the value pointer.

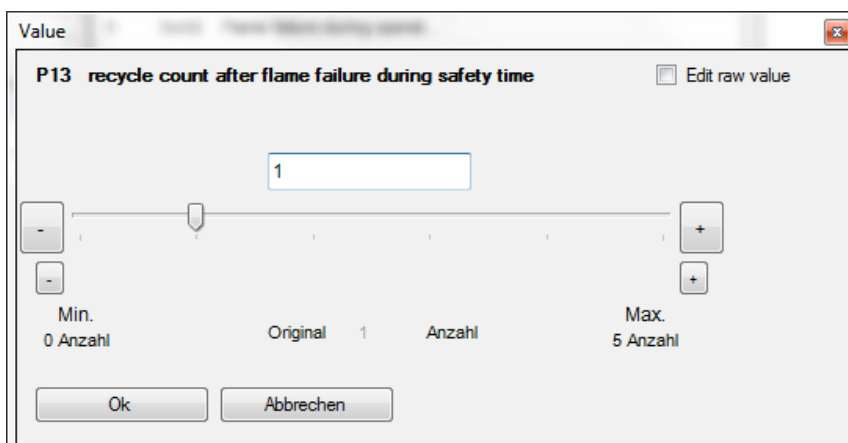
Confirm value with „OK“

The new value is transferred to the device

Example Changing number of restart attempts

Select parameter and activate the parameter by double-click in the value field.

Alternatively, via a selection menu (click right mouse button) the parameters are enabled for change.



The value (number of allowed restart attempts) may be entered direct in the value window, by using the +/- buttons or by moving the value pointer.

Confirm value with „OK“

The new value is transferred to the device.

The values are saved immediately after the confirmation in the control, to enable the parameter change refer to the relevant operating and installation instructions.

9. Error overview

The error overview shows the last ten in the control stored errors.

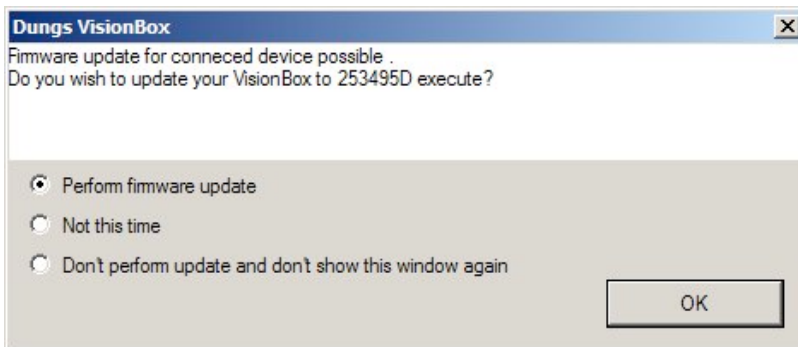
The error ID refers to the error description in the corresponding operating and installation instructions.

Error overview								
#	Performance	ID	Description	Procedure	Anti cycle counter	State	Timestamp	Additional information
0	lock out (0x23)	0xA2	Safety Circuit Open	0x0004	5	8 = Pre-purge	07:55:30	0x60 0x00 0x00 0x7C 0x12 0x40 0x23 0x8F 0x00 0x17
1			Memory unused					
2			Memory unused					
3			Memory unused					
4			Memory unused					
5			Memory unused					
6			Memory unused					
7			Memory unused					
8			Memory unused					
9			Memory unused					

10. VisionBox Update Software

If the VisionBox is connected to the PC / laptop via USB and the software is started, the program automatically performs a check of the software status of the VisionBox.

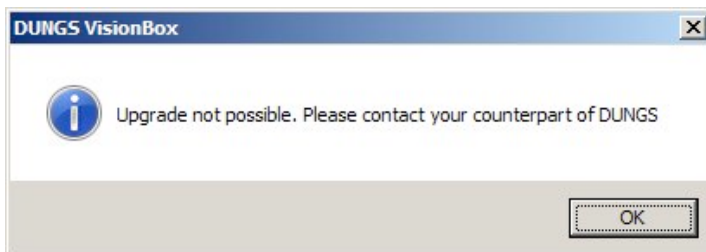
If a later version of the firmware available a update window automatically opens.



Select „firmware update“ with „OK“

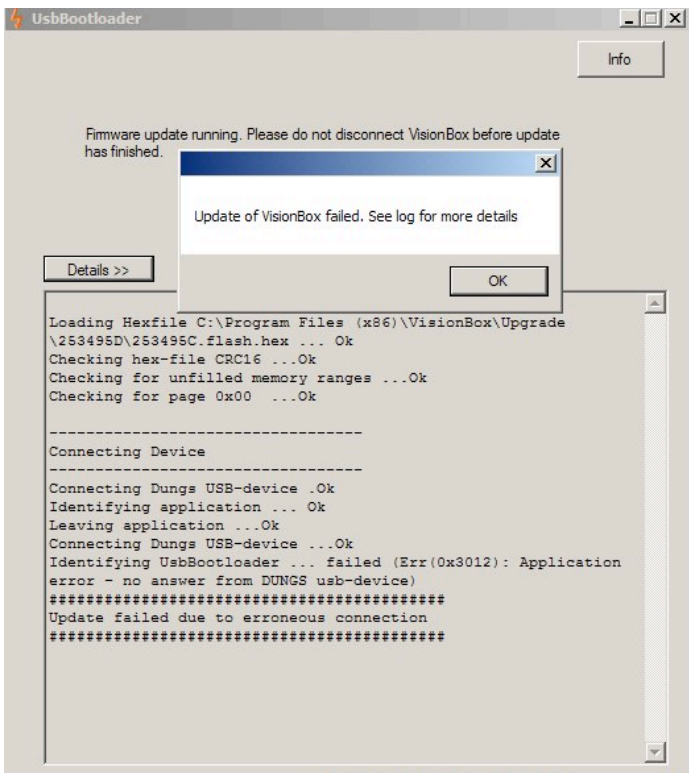
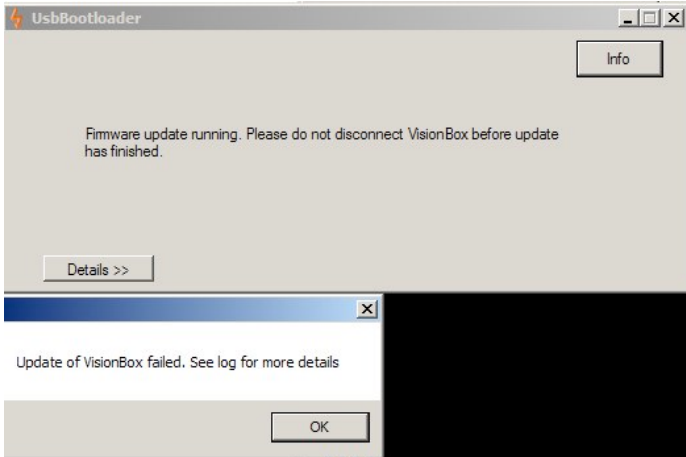
11. VisionBox Update, error messages

Early versions of the VisionBox can not be updated.
The following error message is displayed.
Update VisionBox only possible by DUNGS.



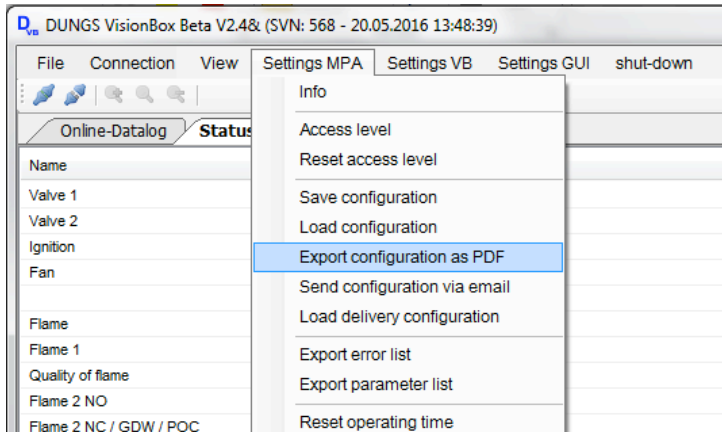
11. VisionBox update, error messages

Other errors such as missing link shows a log of the error.

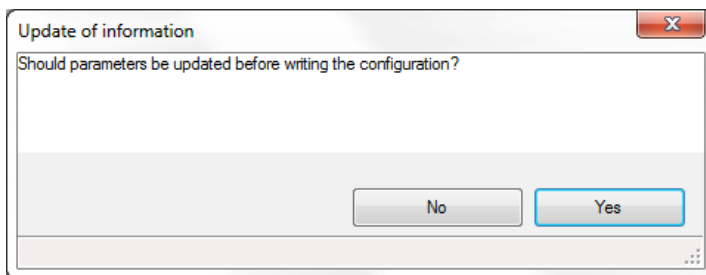


12. Documentation device configuration

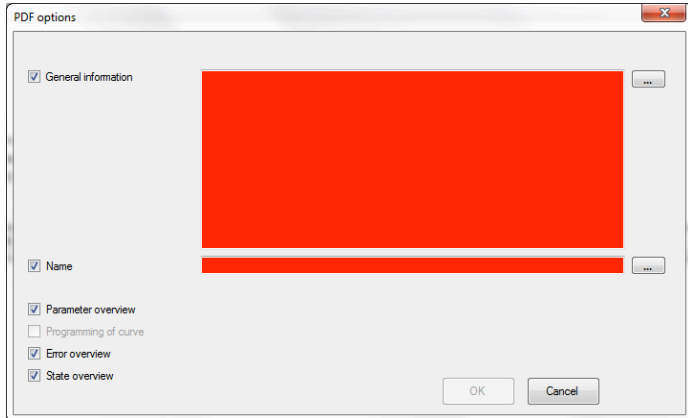
Create PDF document of device configuration



Open “Settings “MPA/VPM”
Select “Export configuration as PDF”

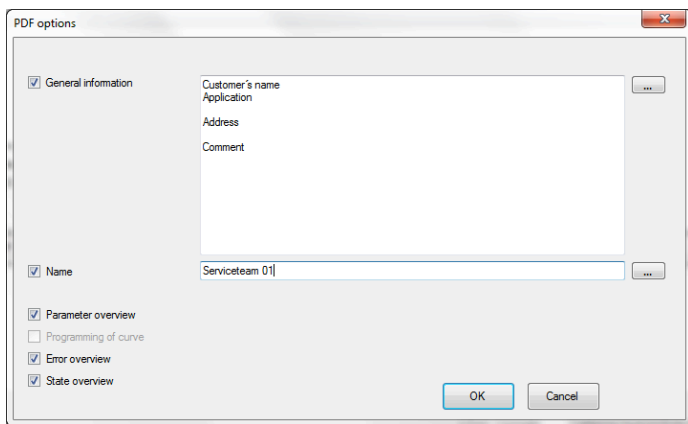


Before the PDF document is generated the
parameter values can be updated



The information which will shown in the file can be selected by putting a check-mark into the selection fields
Light grey fields cannot be shown.

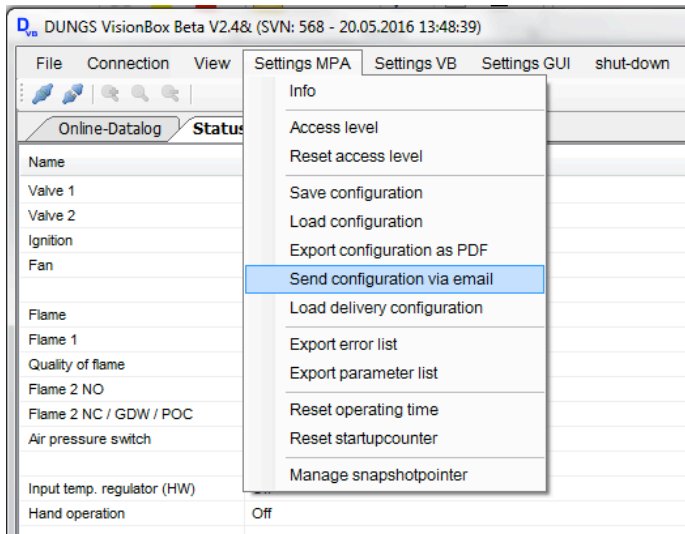
The red coloured areas “General information” and “Name” can be filled in by the applicant. These information will be shown in the front page of the documentation.



The VisionBox saves the information, they can be shown again by pressing the “...” button.

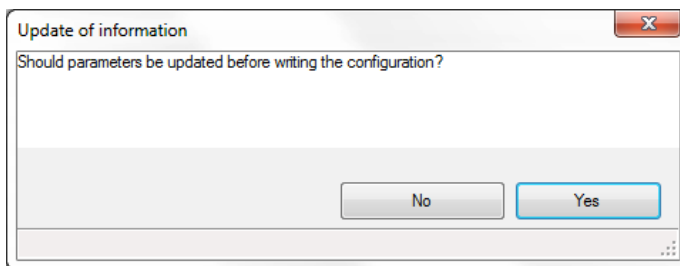
After the input is confirmed by pressing the “OK” button the PDF document will be generated.

13. Send configuration via email



Open “Settings “MPA/VPM”
Select “Send configuration via email”

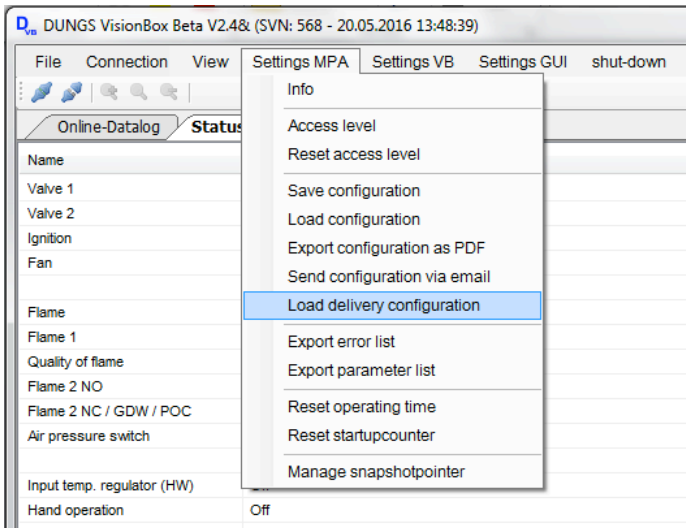
A XML file of the configuration as well as a PDF document with the content of the XML file will be generated.



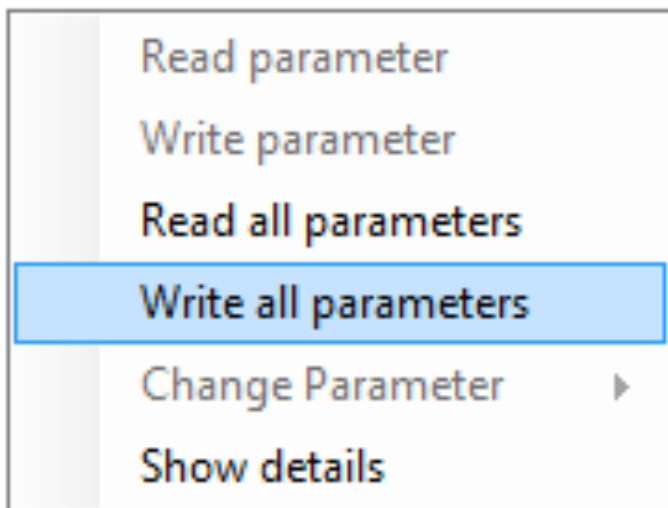
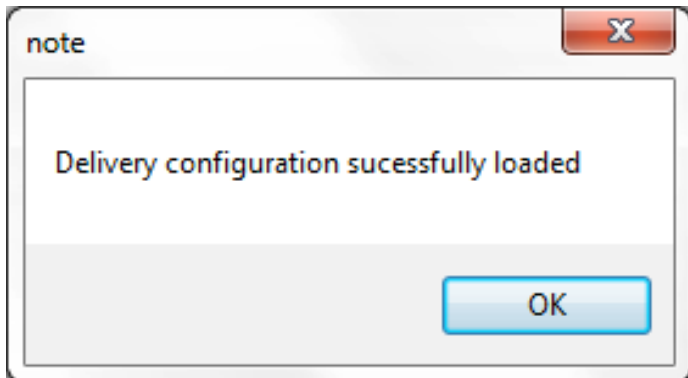
Before the PDF document is generated the parameter values can be updated

After the selection a email will be generated automatically.

14. Reset to factory setting



Open “Settings “MPA/VPM”.
Select “Load delivery configuration”
The VisionBox select’s automatically the belonging configuration.
Different values towards the settings in the MPA/VPM will be highlighted yellow.



To write the factory setting to the device, choose “Write all parameters” by pressing the right mouse button.

To write the parameter values access level „OEM“ is required.

For a new configuration see chapter 8 ff.



The Pressure Equipment Directive (PED) and the Energy Performance of Buildings Directive (EPBD) require a periodic inspection of **heating appliances** in order to ensure a high degree of efficiency over a long term and, consequently, the least environmental pollution.

It is necessary to replace safety-relevant components after they have reached the end of their useful life. This recommendation applies only to heating appliances and not to industrial heating processes. DUNGS recommends replacing such components according to the following table:

Safety relevant component	USEFUL LIFE DUNGS recommends replacement after:	Operating	EN Standard
Valve proving systems	10 years	250.000	EN 1643
Pressure switch	10 years	N/A	EN 1854
Automatic burner control with flame safeguard	10 years	250.000	EN 298
Flame detector (UV probes)	10.000 h operating hours		
Gas pressure regulators	15 years	N/A	EN 88 EN 12078
Gas valve without valve testing system*	10 years	50.000-500.000 <small>depends on diameter</small>	EN 126 EN 161
Low gas pressure switch	10 years	N/A	IEN 1643
Pressure relief valve	10 years	N/A	EN 88 EN 14382
Gas-air ratio control system	10 years	N/A	EN 12067

We reserve the right to make modifications in the course of technical development.

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