Operating Instructions
MEAC300

Emission Data Evalution System

Endress+Hauser
People for Process Automation

Described product

Product name: MEAC300
Product version: 4.2
Product variantes: MEAC300 D
MEAC300 EP
MEAC300 EPW

Manufacturer

Endress+Hauser SICK GmbH+Co. KG
Bergener Ring 27
01458 Ottendorf-Okrilla
Germany

Please note:
The right to use the MEAC software will be given after acceptance of the software license agreement (see page 97).

Legal information

Original document

This document is an original document of Endress+Hauser SICK GmbH+Co. KG.

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1 About this document

1.1 Information in this document

This document contains basic information on operating the MEAC300 emission data evaluation system:

- Product components of the system
- Overview of installation work
- Functions of the MEAC basic program

Further documents in which MEAC300 components are described in detail belong to these Operating Instructions (see “Additional documents”).

1.2 Additional documents

- Technical information on installation, migration and system configuration
- Documentation on software options (see “Overview of user documents”).
- Documentation on hardware components (see “Overview of user documents”).

1.3 Additional individual system information

Every MEAC system is adapted to the individual application. Information on individual customizing is provided in separate documents, e.g.:

- System configuration (e.g., hardware components, software options)
- Individual specifications
- Wiring diagram
- Documentation on individual settings
- Recommended settings

NOTE:

▶ Pay primary attention to any individual information provided.

1.4 Overview of user documents

Document	Information for ...
MEAC300 Operating Instructions	Operation and operating functions of the MEAC system
MEAC300 Technical Information	Installation, configuration and migration
Technical information on MEAC300 add-ons	Additional modules for MEAC300 (software options)
	Hardware options
Individual system documentation	Information about the delivered MEAC system

1.5 Intended use

1.5.1 Product purpose

MEAC300 is a special system to acquire and evaluate emission data. The system comprises software and hardware components (see “System overview”, page 10).

MEAC300 is designed for the following applications:

- Compliant emission data evaluation in accordance with IED or BEP (official German guidelines) under consideration of the relevant European directives and standards (see “Directives complied with”, page 9)
- Visualization of emission and operating data
- Remote emission data transfer to environmental authorities (ERT)
- Integration of emission data in computer networks (LAN) and process control systems (PCS)

1.5.2 Product identification

Product name:	MEAC300
Product variants:	*Software:* – MEAC300 D *(for German guidelines according to “BEP”)* – MEAC300 EP *(for European guideline “IED Power” and “BEP”)* – MEAC300 EPW *(for guidelines “IED Power”, “IED Waste” and “BEP”)* – Software options (see “System overview”, page 10) – Country-specific adaptations
	Hardware: – Data acquisition units – Workstation PCs
Software version:	As from 4.2
Manufacturer:	Endress+Hauser SICK GmbH+Co. KG Bergener Ring 27 · 01458 Ottendorf-Okrilla · Germany

1.6 Responsibility of user

Designated users

The MEAC300 measuring system should only be operated and run by skilled persons who, based on their technical training and knowledge as well as knowledge of the relevant regulations, can assess the tasks given and recognize the hazards involved.

Correct use

This document presumes that the MEAC system has been installed in working order and adapted to the individual requirements as specified during project planning (→ delivered System documentation).

▶ Only use the MEAC system as described and specified in the user documents. The manufacturer bears no responsibility for any other use.
▶ Follow all laws, regulations, and company policies applicable at the installation location.
!▶ Do not make any modifications on the MEAC system that are not explicitly described and specified.

Keeping documents

▶ Retain all user documents of the MEAC system and keep these available.
▶ Convey the documents to a new owner.

2 Product description

2.1 Main functions of a MEAC system

MEAC300 is an emission data evaluation system with hardware and software components.

Function	Concerns
Data acquisition/storage	Measuring devices, analyzers
Emission data evaluation	Registration of emission volumes in accordance with official Directives and Guidelines (see “Directives complied with”)
Visualization	Collection and representation of measured values and operating data
Data transfer	Transfer of emission data to existing computer networks (LAN) and process control systems (PCS)
Automatic emission reports	Summarized emission protocols for environmental authorities
Remote transfer of emission data (ERT)	Automatic transfer of emission data and emission reports to the environmental authorities

Table 1: Main functions:

2.2 Directives complied with

Directive [1]	Concerns
1. BImSchV [2]	Small and medium incineration plants
2. BImSchV [2]	Emissions of highly volatile halogenated organic compounds
13. BImSchV [2]	Large incineration, gas turbine and combustion engine plants
17. BImSchV [2]	Incineration and co-incineration of waste
27. BImSchV [2]	Cremation plants
30. BImSchV [2]	Plants for biological waste treatment
31. BImSchV [2]	Emissions of highly volatile organic compounds
TI Air [2]	Protection against harmful environmental effects through air pollution
2010/75/EU [3]	Industrial emissions
FNADE Rev3 [4]	Waste incineration plants
EN 14181	QAL2, QAL3

Table 2: Official Directives

[1] Selectively
[2] In accordance with “Bundeseinheitliche Praxis bei der Überwachung der Emissionen”(BEP) (“Uniform practice in monitoring emissions”)..
[3] Industrial Emissions Directive (IED).
[4] Guide d’application de l’arrêté du 20 septembre 2002, modifié par l’arrêté du 3 août 2010 [...] – Révision 3 (Guide FNADE – Version 3 – décembre 2013).

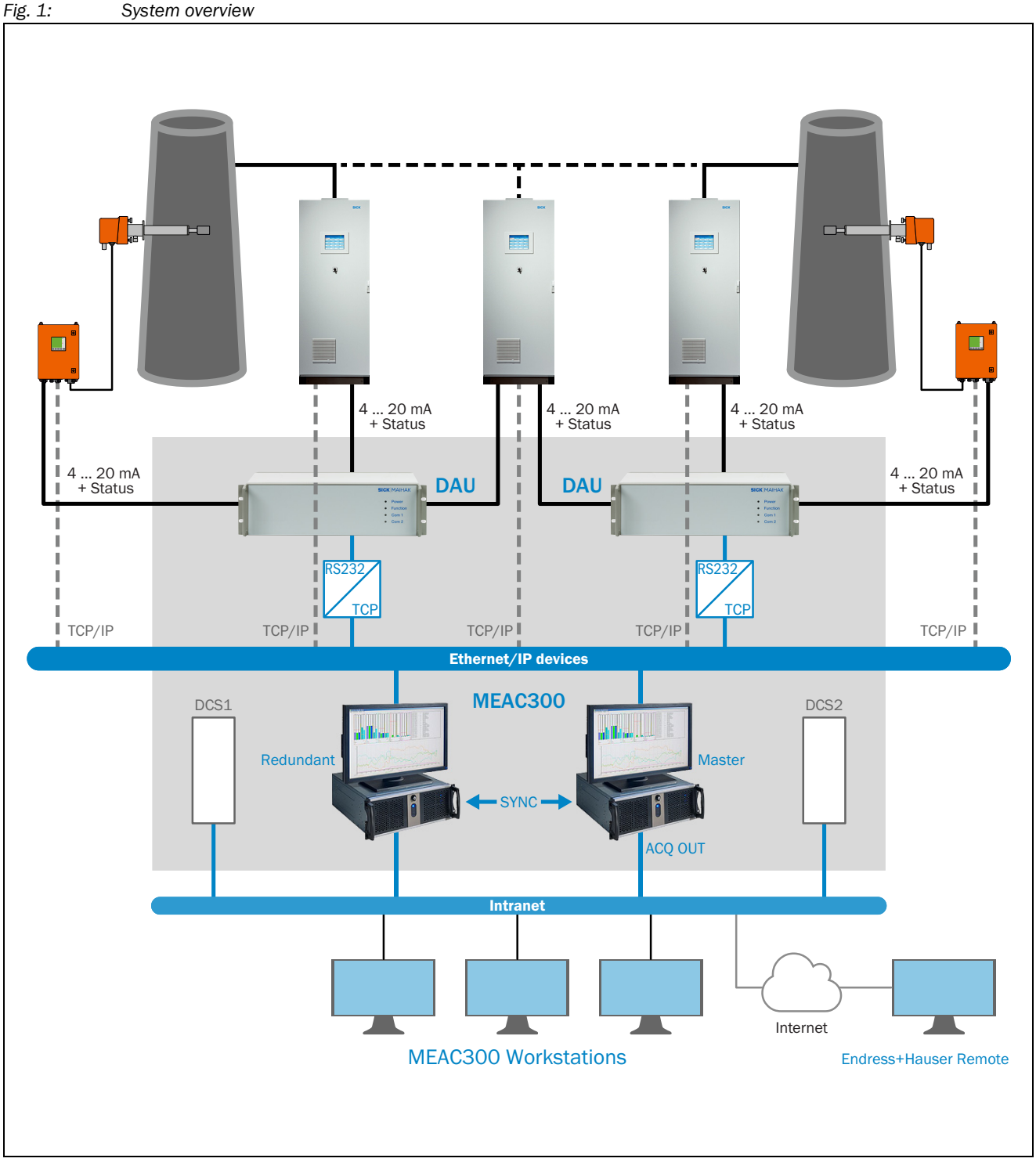
2.3 Essential terms

Term	Significance
Raw value	Average of electronic measured values in a 5-second interval
Momentary value	Raw value converted to a physical unit; used as current measured value in the MEAC system
Average value	Average of momentary values in an average time
Average time	Time interval in which an average value is determined
Daily value	Average of valid average values within a calendar day
Monthly value	Average of valid validated average values within a calendar month
Yearly value	Average of valid daily values within a calendar year
Analog	– *Electronic:* Analog – *During processing:* Numeric
Digital	Binary

The values are converted and considered in accordance with certain rules (scaling, validation, current status) – depending on the Directive.

2.4 System overview

Fig. 1: System overview



2.4.1 MEAC300 hardware

Hardware components	Function
Data acquisition unit	• Acquires and saves current measured data • Sends the data to the emission PC
Emission PC	• Manages up to 14 data acquisition units • Saves the emission data • Displays the emission data • Contains the operating elements
Modem	• Sends emission data to the environmental authority

2.4.2 Inputs and outputs on emission PC

Signal type	Inlets	Outlets
Numeric value	800	400
Status signal	2000	1000

2.4.3 Functions on emission PC

Function	Details
• System configuration	– Configure acquisition system as required – Configure evaluations as required – Activate data model
• User management	– Individual access rights – Individual modification rights
• Control of data acquisition units	– Remote configuration – Remote control – Data transfer
• Storage of all emission data	– Including 5-second average
• Classification	– Average values – Daily values – Monthly values – Daily classes, monthly classes, yearly classes – In accordance with official Directives and regulations – For mixed and composite material incineration in accordance with 13th and 17th BImSchV – Tabular and graphic representation – Automatic and manual data outputs
• Visualization	– Current emission data – Previous emission data – Graphic or tabular – Configure screen as required
• Printed documents	– Printout of graphs and Tables
• Remote transfer of emission data (ERT) [1]	– Automatic data transfer to environmental authority
• Network	– Integration with workstation PCs (monitoring) – Integration of MEAC system in higher level networks (Windows)
• Remote maintenance/external system support	– By Endress+Hauser Customer Service (as required)

[1] Option.

2.4.4 Functions on a workstation PC (option)

Function	Details
• Visualization	– Current emission data – Previous emission data – Graphic or tabular – Configure screen as required
• Printed documents	– Printout of graphs and Tables
• Remote maintenance/external system support	– By Endress+Hauser Customer Service (as required)

2.4.5 Function of the data acquisition units

Data acquisition units are decentralized data reception devices for the following tasks:

Function	Details
• Acquire measured values.	16 analog inputs (0 ... 20 mA)
• Receive status signals.	32 status inputs
• Calculate momentary values.	5-second average
• Send data to emission PC.	RS232 interface
• Save emission data in intermediate storage as required.	– Save all input values (once a minute, with timestamp from own hardware clock) if the emission PC or connection to emission PC has failed. – Storage capacity: 14 days.

2.5 Features of the MEAC300 software

2.5.1 Adjustable parameters

Parameters	Details
• Plant definition	– Emission source of a plant or plant section to be monitored (*example:* Emissions of a waste incineration plant). – *Or:* Summary of particular measured variables of an emission source.
• Measured value conversions	– Physical scaling – Conversion to reference values – Average – Validation
• Limit values	– Constant limit values (adjustable) – Dynamic limit values (calculated)
• Special plant conditions	– Start-up operation – Shutdown operation – Failure of flue gas purification plant
• ERT parameters	
• Limit value messages	– Pre-alarms – Limit value alarms
• Group alarms	
• Operating variables	– Display – Integration

2.5.2 Function safety

Function	Details
• Configuration test via simulation	Parameter changes can first be tested in the simulation function before being released for operation. The MEAC system continues to run with the previous configuration during the simulation.
• Individual access rights	System functions and data can be protected with various password-protected logins.
• Automatic documentation	All configuration changes are recorded in Log files in accordance with regulations.

2.5.3 Acquisition and calculation of emission data

• Momentary values	• Based on the 5-second average
• Scaled momentary values	• After QAL2 conversion • After O_2 reference value calculation as well as temperature/moisture and pressure scaling
• Validated momentary values	• From scaled momentary values after subtraction of standard deviation of calibration in the measuring system
• Average values	• 1/3/10/30/60-minute average of momentary values
• Scaled average values	• After O_2 reference value calculation as well as temperature/moisture and pressure scaling
• Validated average values	• From scaled average values after subtraction of standard deviation of calibration in the measuring system
• Trend for average values	• Extrapolation of scaled and/or validated average value under the assumption that the plant will continue to be operated as now
• Daily values	• Average based on the valid scaled and validated average values
• Trend for daily values	• Extrapolation of the daily value under the assumption that the plant will continue to be operated as now
• Monthly values	• Average based on the valid validated average values
• Average limit values	
• Daily limit	
• Free loads	
• Emission volumes of average times/days/months/years	
• Average monthly and yearly values	
• Daily, monthly and yearly classifications	
• Status changes	

- If a common summary limit value for emission volumes is specified for several plants, this can be considered during data evaluation (“location summary”, e.g., for refineries).
- MEAC300 supports emission measuring systems designed as redundant with several signal sources and redundant emission PCs (→ “Technical Information MEAC300”).

2.5.4 Event management

Function	Details
• Event search	Event types can be filtered out of the stored emission data. Examples: – Limit value violations – Malfunctions in the exhaust gas purification unit – Operating states – Locking times
• Comments	A comment can be entered for each event stored.

2.5.5 Remote transfer of emission data (ERT)

Function	Details
• ERT functions [1]	– Automatic transfer of emission data to the authorities – According to FCI guideline (German Federal Working Group for Immission Control)[2] “Emission Remote Value Transfer” of April 2017

[1] Option.
[2] Explanation of abbreviations, see “Abbreviations”, page 21.

2.5.6 Visualization functions

Function
• Shown in real-time (current values) or as retrospect (previous values)
• Graphic representation of measured values as chronological sequence
• Visualization of measured values as bar graphs (with markings for limit values and calibration range)
• Numeric representation of measured values in Tables
• “Review” with adjustable timeframe and zoom function
• Selection of measured values shown and value types
• Create a schematic process graph [1]
• Numeric representation of emission data on the process graph

[1] With integrated graph function or from imported graph.

2.5.7 Data storage

Internal function	Details
• Primary data storage	Storage medium of emission PC (hard disk)
• Automatic PC data backup	– Cyclic data storage of all data on a second internal storage medium (second hard disk). – Cyclic data storage of all data on an external storage medium (external hard disk and/or server).
• Automatic emission data backup	– Automatic storage of all measured values (once a minute, with timestamp from own hardware clock) if the emission PC or connection to emission PC has failed. – Storage capacity: 30 days.

2.5.8 Data export

Function	Details
• Spreadsheet export	Export of all stored emission data in data format for Table calculation programs.
• ASCII export	Export of stored emission data in tabular text format (CSV).

2.5.9 Internal documents

Function	Details
• Support for hardware installation	– The terminal assignment configured for the data acquisition units can be printed. – Incorrect wiring can be corrected with the software.
• Freely selectable designations	– For measured variables – For measuring points – For plants
• Configuration trace	Adapted formulas and constants are automatically documented.

2.6 Software options

2.6.1 Additional modules for MEAC300

Option	Information
• Workstation software	Settings and visualization of the data via network
• Data model change log	Documentation of parameter changes with data model comparison [1]
• E-mail alarms	Status and event notifications via e-mail
• Remote emission data transfer to authorities (ERT)	in accordance with the FCI interface definition 2017
• Emission statistics in accordance with 11th BImSchV	Report on specific emissions
• Remote support	
• GHG master	Calculation of yearly greenhouse gas emissions in accordance with European guideline 2003/87/EC on trade with greenhouse gas emission certificates (monitoring regulation) [2]
• Manual input	Specification of status signals and input values via menu function
• MEAC Redundancy package	– Automatic data synchronization for redundant emission PCs – Automatic or manual Master/Slave role switch
• MEx	Report software
• MEAC UniversalModbus	Connection to process control systems
• Modbus module for Field module, in accordance with RTU protocol (Master)	
• Modbus module for MCS100, in accordance with RTU protocol (Master)	
• Modbus module RTU (Slave)	
• Modbus module TCP (Slave)	
• OPC client software	For data input and data output
• Process diagrams (Configuration module)	Creation of screen graphics with integrated emission values
• QAL3 Master	Acquisition and evaluation in accordance with DIN EN 14181
• Fault reports	
• SyncService	– For redundant emission PCs – For workstation PC server
• Time synchronization via network	System time synchronization for several PCs
• Central system software	Remote access to several emission PCs via network

[1] Data model = evaluation configuration.
[2] Not certified for evaluations in accordance with BEP2017.

2.6.2 Additional PC programs

These programs are not classified as disruptive with regard to the performance-tested functionality of the MEAC system.

Option	Explanation
• Microsoft Office	Office software (includes “Excel”)
• Remote maintenance software pcAnywhere Host+Remote	Software for remote control via modem/network
• Remote maintenance software Host	Software for remote control via internet
• PC backup/recovery	Software for data backup

3 Installation (overview)

- Installation, customizing and initial start-up are normally carried out by manufacturer's specialists or by other skilled persons with relevant knowledge.
- This document presumes that the MEAC system is ready for operation.
- Detailed information on installation and customizing is contained in other documents (see “Additional documents”, page 7).

3.1 Hardware preparation (overview)

Hardware illustration, see “System overview”, page 10.

Hardware required

Installation step	Action
• Measure required emission data.	► Install sensors/analyzers.
• Install data acquisition unit(s).	► Install data acquisition unit(s).
• Acquire measured values.	► Connect analog measured value outputs (mA) of the sensors/analyzers to the data acquisition unit.
• Setup the emission PC.	► Make PC hardware ready for operation.
• Feed digitalized measured values.	► Connect data acquisition unit(s) to the emission PC.

Optional hardware

Installation step	Action
• Setup the printer.	► Install PC or network printer.
• Prepare remote maintenance.	► Install modem.
• Prepare ERT.	
• Setup workstation PC(s).	► Make PC hardware ready for operation.

3.2 Software preparation (overview)

Installation step	Action
• Install MEAC software.	► Carry out setup on the emission PC.
	► Carry out setup on the workstation PCs.
• Integrate software options.[1]	► Install additional software.
• Configure the MEAC system.	► Customize hardware and software. ► Carry out PC-specific settings. ► Carry out user-specific settings (configuration).
• Perform a test.	► Check operating functions. ► Check evaluation results. ► Check optional functions. [1]

[1] As required.

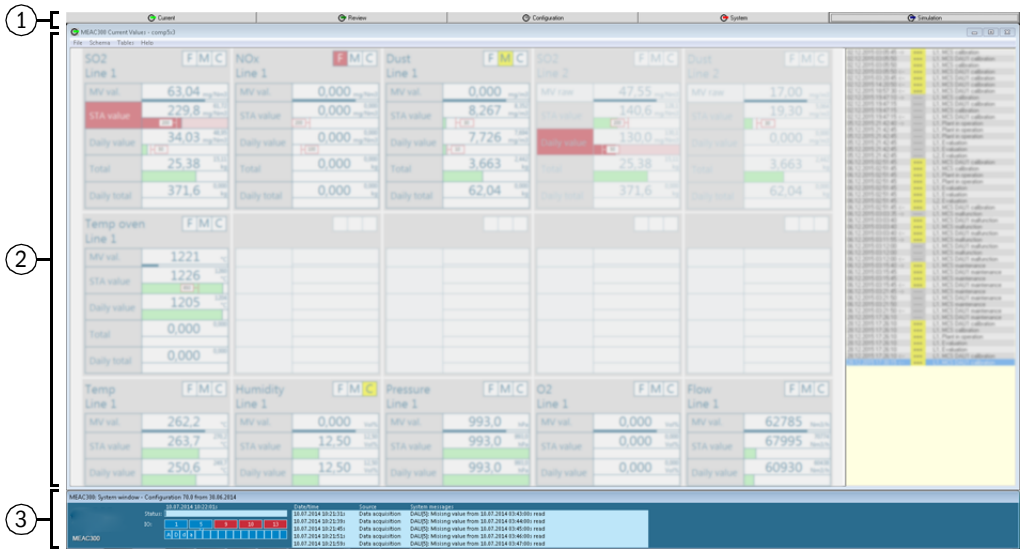
4 Using the program

4.1 Starting the program

1 Start the emission PC.
2 Wait until the MEAC program appears (see Fig. 2).

The emission PC should be configured so that the operating system and MEAC software start automatically.

Fig. 2: Screen components of the MEAC program



1	Toolbar (see “Toolbar functions”, page 19)
2	Program window („Using the MEAC300 without login“/see “Using the MEAC300 with login”, page 18)
3	System window (see “System window contents”, page 20)

4.2 Terminating the program

- The MEAC system is designed to remain permanently in operation. This is especially applicable for MEAC systems that should fulfill the official requirements on permanent operation.
- *When the MEAC system has data acquisition units:* The measured data are stored in the data acquisition units as long as the MEAC program is not running on the emission PC. This functions for a certain time (see “Function of the data acquisition units”, page 12). These measured data must then be considered afterwards (“reprocessed data”).

If the MEAC system may be terminated:

1 Login as user (“Logging in as user”, page 18).
2 Select the function to terminate (see “Using the functions of program section “System””, page 55).

4.3 Using the MEAC300 without login

▶ Select Current.
»» Program section “Current” is activated (see “Program section “Current””, page 22).

4.4 Using the MEAC300 with login

4.4.1 Fundamental login functions

- Certain program functions can be released or blocked for a user. The MEAC system administrator configures the individual access rights.
- All logins are recorded in the MEAC Log file.

- Assigning access rights see “Configuring user access rights”, page 57.
- A certain user can be logged in automatically after the program start (Autologin).

4.4.2 Logging in as user

1 Select Login.
2 Enter name and password.
»» Button Login changes to System.
»» The program functions released for the particular user are available.

4.4.3 Swapping the user

1 Select System.
2 Select the Login function.
3 Enter name and password of new user.
»» The access rights switch to those of the new user.

4.4.4 Logging a user out

1 Select System.
2 Select the Logout function.
»» The access rights are canceled.

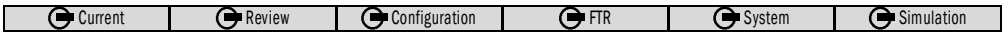
4.5 Toolbar functions

4.5.1 Toolbar modes

Without access rights
(see "Using the MEAC300 without login", page 18):

With access rights
(see "Using the MEAC300 with login", page 18):

With access rights - with option "ERT":



In Simulation mode
(see "Starting Simulation mode", page 72):

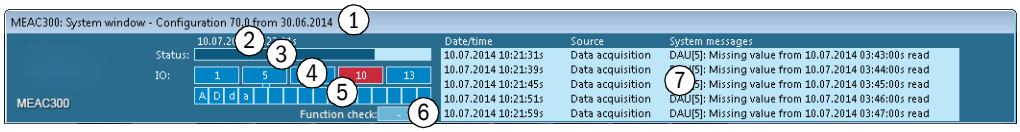
4.5.2 Button functions

Button	Function (Real mode) [1]	
Current	Display current values and status messages (real-time) – as graph or numeric – depending on display configuration	see "Program section "Current"", page 22
Review	Display previous emission data	see "Program section "Review"", page 39
Configuration	Display current evaluation configuration	see "Program section "Configuration"", page 54
FTR	Set emission data remote transfer [2]	
System	– Carry out basic settings – Activate new evaluation configuration – Display information about MEAC system	see "Program section "System"", page 55
Simulation	– Starting Simulation mode – Create new evaluation configuration ("data model") – Test new evaluation configuration	see "Program section "Simulation"", page 72

[1] Functions in Simulation mode, see "Functions in Simulation mode (overview)", page 72.
[2] Option.

4.6 System window contents

Fig. 3: System window (example)



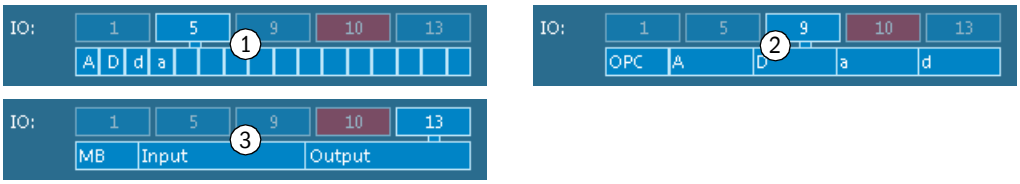
1	Name of the evaluation configuration currently in use [1]
2	Current data/current time (“s” = summer time, “w” = winter time)
3	Progress of a protocol minute [2]
4	Symbols of installed data acquisition devices, output devices and software interfaces (communication paths of digital data communication) with MEAC-internal identification number [3]
5	Status of a selected communication path (see Fig. 4) ▸ *To select the communication path:* Click on a field [4].
6	Status indicator for status “Function check” (Explanation, see “Using status “Function check””, page 58)
7	Messages stored in the Log file [4]

[1] With activation data.
[2] MEAC300 records the measured and calculated values every 5 seconds.
[3] Blue = data communication functioning normally. Red = data communication interrupted.
[4] *When messages referring to “File” malfunctions are displayed:* Inform the manufacturer's Customer Service to have the malfunction cause localized and cleared.

Evaluation of the emission data only runs when the status signal “Subject to monitoring” is signaled (via a digital input of the MEAC system) for the plant in question.

To be able to view the System window on a workstation PC as well:
▸ Activate the respective display option on the workstation PC.

Fig. 4: Status displays for communication paths (examples)



1	Status display for one MEAC data acquisition unit	
	A	Analog input board
	D	Status input board
	a	Analog output board
	d	Status output board

2	Status display for MEAC OPCClient	
	A	Measured value inputs
	D	Status inputs
	a	meas.value outputs
	d	Status outputs

3	Status display for MEAC UniversalModbus	
	Input	Receive data
	Output	Send data

4.7 Key to symbols

4.7.1 Abbreviations

EN	DE	Significance
AL	RG	Average limit
AMS	AMS	Automatic measuring system
AN	RN	Scaled average value
AR	RR	Average value without internal MEAC conversion (“raw value”)
AT	RT	Average value trend [1]
AV	RV	Validated average value
C	K	Status signal “Adjustment”
D.S.C.	G.S.K.	Hardware identifier of data acquisition unit [2]
DAU	DAE	Data acquisition unit
DL	TG	Daily limit
DN	TN	Scaled daily value
DT	TT	Daily value trend[1]
DV	TV	Validated daily value
EPC	EPC	Emission PC
ERT	EFÜ	Emission data remote transfer
F	S	Status signal “Failure””
FCI	LAI	Bund/Länder-Arbeitsgemeinschaft für Immissionsschutz (Federal Council for Immission Protection, Germany)
FGP	ARE	Flue gas purification (flue gas desulphurisation, DeNOx)
LV	GW	Limit Switch Parameters
LVE	GWÜ	Limit value exceeded
M	W	Status signal “Maintenance”
MN	MN	Scaled momentary value
MR	MR	Momentary value (5-second average)
MT	MZ	Measuring duration
PC	NV	Reprocessing
SKK	SKK	Document “Status identification and classification”
RD	SAG	Desulphurisation rate
T	T	Average time
UPI	KKS	Power plant classification system

[1] Extrapolation/forecast
[2] Device.Slot.Channel/Gerät.Slot.Kanal.

4.7.2 Symbols

Characters	Significance
→	Input
←	Output – real [1]
!	Output – virtual [2]
+++	Status is/has been activated (→ logical “true”)
-----	Status is/has been deactivated (→ logical “false”)

[1] Output via a hardware output.
[2] Not output via hardware.

5 Program section “Current”

5.1 Viewing current values

5.1.1 Starting the “Current” screen

1 Select Current.
»» The display of stored values starts with the screen last selected.
2 Select a different screen when necessary (see “Selecting and managing “Current” screens”, page 30).

5.1.2 Changing a “Current” screen

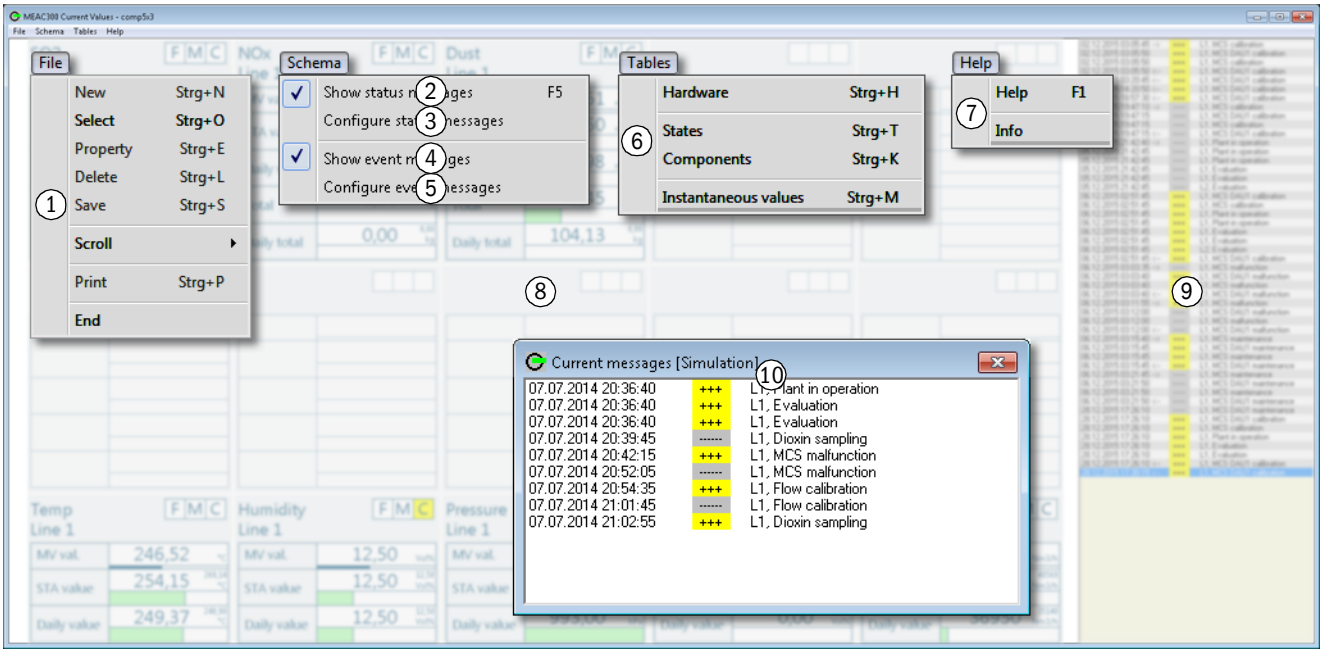
▶ Select a stored screen (see “Selecting and managing “Current” screens”, page 30).

Or:

▶ Create a new screen (see “Creating a new “Current” screen”, page 31).

5.2 Overview of the “Current” window

Fig. 5: Current *Window “Current” (overview)*



1	(▸) Manage “Current” screens.	see “Configuring “Current” screens”, page 30
2	(▸) Activate the status messages display.	→ [9]
3	(▸) Configure status messages.	see “Configuring status messages”, page 35
4	(▸) Activate the event messages display. [1]	see “Configuring event messages”, page 36
5	(▸) Configure event messages. [2]	see “Configuring event messages”, page 36
6	(▸) View system data. [3]	see “Viewing system data”, page 37
7	(▸) Retrieve information on the MEAC program.	
8	Emission data screen (configurable)	see “Configuring “Current” screens”, page 30
9	Status messages display [4]	see “Configuring status messages”, page 35
10	Event messages [1]	see “Configuring event messages”, page 36

[1] The event messages are blended in automatically when a new event occurs. It remains shown until closed.
[2] Only available when the user is logged on (see “Using the MEAC300 with login”, page 18).
[3] The data are displayed in a separate window.
[4] A change to a status is displayed.

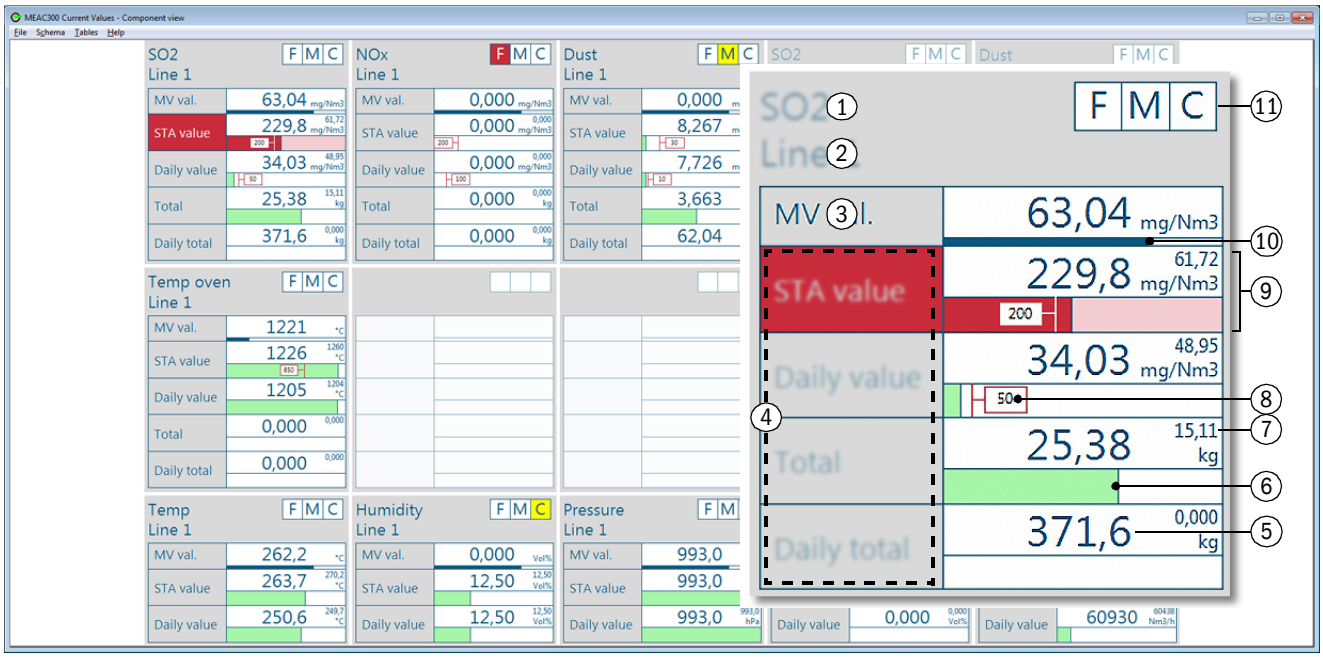
NOTE:
Emission data evaluation is only active when status signal “Subject to monitoring” is activated for the plant in question.

5.3 “Current” screens

Individual customizing, see “Configuring “Current” screens”, page 30.

5.3.1 Components screen

Fig. 6: Current *Components screen (example)*



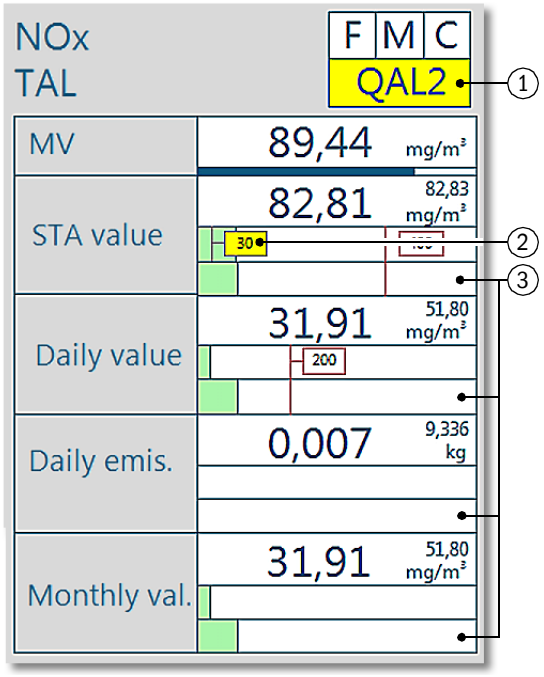
1	Internal MEAC name of component
2	Internal MEAC name of plant
3	*When the status signal “Subject to monitoring” is activated for the plant in question:* Validated momentary value
	When the status signal “Subject to monitoring” is not activated for the plant in question: Validated momentary value *or*[1] current momentary value without internal MEAC conversion (“raw value”)
4	Further emission values (see “Representable statuses”, page 29).
5	Numeric display of a value
6	Graphic representation of value as bar graph display (value range = configured display range for screen displays) [2]
7	Previous value *If this value is crossed through:* The value was invalid because of the status “Failure”, “Maintenance” or “Calibration”.
8	Representation of configured limit value *(if available and in the value range of the bar graph display)* [2]
9	Warning representation when the emission value is higher than the limit value
10	Progress of current average time (for the next average value)
11	Representation of status signals (see “Configuring “Current” screens”, page 30) [3]

[1] see “Configuring a component screen”, page 32.
[2] Configuration, see “Technical Information MEAC300”.
[3] White symbol: Status signal not activated. Colored symbol: Status signal activated. Key to symbols, see “Abbreviations”, page 21.

NOTE:
If a display is shown faded: The corresponding emission data evaluation is not active.
(Cause: Status signal “Subject to monitoring” is not activated for the plant in question.)

5.3.2 Alternative components screen (example)

Fig. 7: Current *Components screen with additional information (example)*

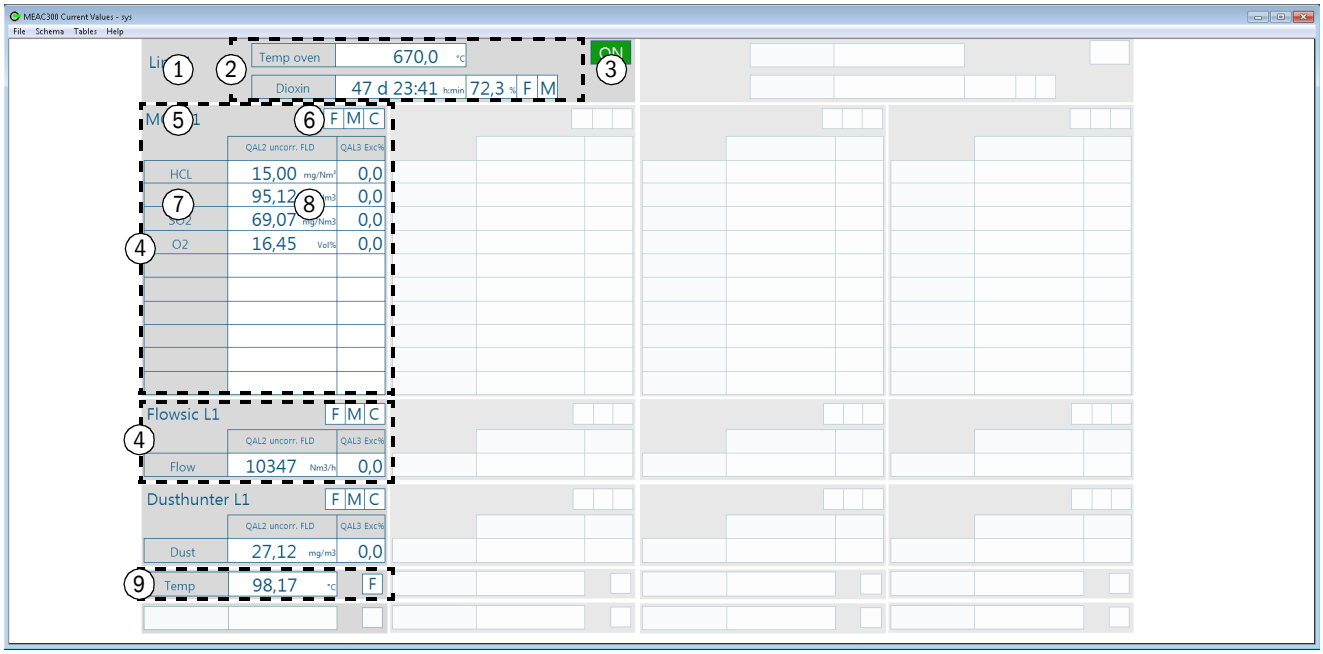


1	Warning symbol for “valid calibration range”[1]
2	Displays the limit of the “valid calibration range”[1]
3	Graphic display of the trend value

[1] see “Viewing compliance with the “valid calibration range””, page 50.

5.3.3 System screen

Fig. 8: Current *System screen (examples)*



1	Internal MEAC name of plant	
2	Important plant values (depending on configuration (see “Configuring the system screen”, page 33) [1]	
3	Representation of status signal “Subject to monitoring” (green = activated, gray = not activated)	
4	Current data of an analyzer	
	5	Internal MEAC name of analyzer
	6	Current status signals of analyzer (see “Configuring “Current” screens”, page 30) [2]
	7	Internal MEAC names of analyzer components
	8	Current component values[3] (see “Representable statuses”, page 29).
9	Current data of an auxiliary component (sensor)	

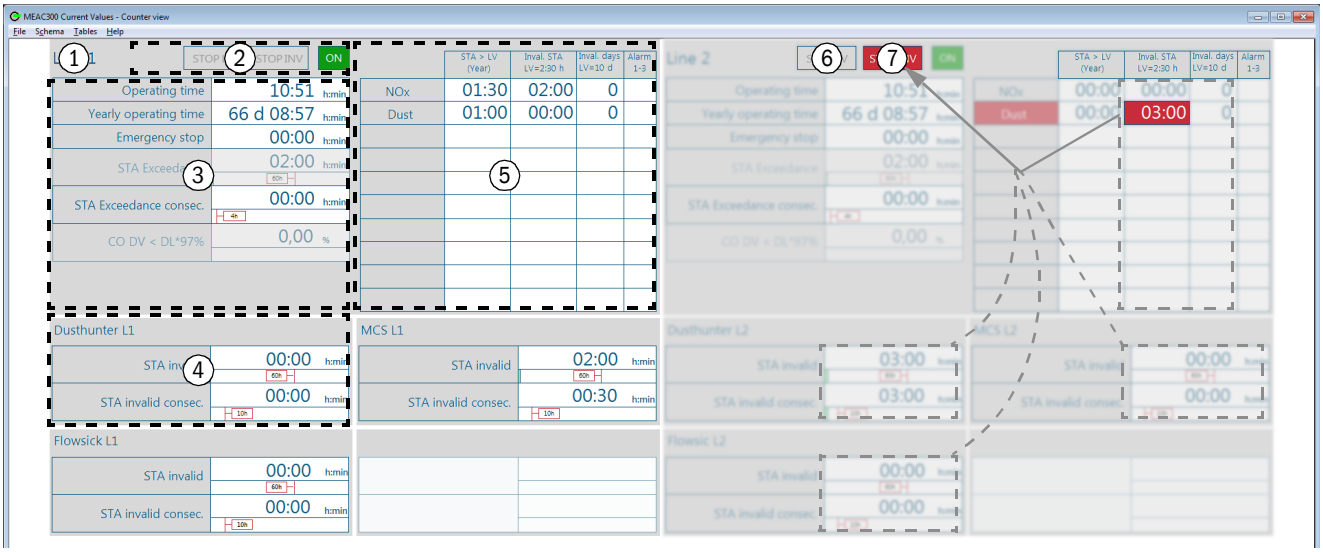
[1] Only when evaluated in accordance with certain Directives.
[2] White symbol: Status signal not activated. Colored symbol: Status signal activated. Key to symbols, see “Abbreviations”, page 21.
[3] Momentary values without internal MEAC conversion (“raw values”) and without QAL2 correction.

NOTE:

If a display is shown faded: The corresponding emission data evaluation is not active.
(Cause: Status signal “Subject to monitoring” is not activated for the plant in question.)

5.3.4 Counter screen

Fig. 9: Current *Counter screen (example)*



1	Internal MEAC name of plant
2	Current plant status (see “Configuring “Current” screens”, page 30) [1]
3	Results of current evaluation for the plant (see “Representable statuses”, page 29) [1]
4	Results of current evaluation of an analyzer
5	Results of current evaluation for the components for which monitoring of the time limit values is activated (see “Representable statuses”, page 29) [2]

[1] Depending on Directive.
[2] **Red field means:** At least one of the component values displayed is higher than the limit value shown in the header line.

Only when evaluated in accordance with Directive “IED Waste/FNADE”:	
6	Stop signal because limit value was exceeded – is activated[1] when the following is true for at least one component of the plant[2]: – Total of times during the current year, in which at least one average value was higher than the average limit value, is higher than the respective yearly limit value [3] (FNADE Standard: 60 hours). – Duration of the time, during which at least one average value was continuously higher than the average limit value, is higher than the respective limit value (EU Standard: 4 hours). – Average value alert level 2 or level 3 is activated (see “Representable statuses”, page 29).
7	Stop signal because of invalid values – is activated when at least one value is invalid in the highlighted areas

[1] The status is updated at every end of an average time.
[2] Only takes components into account which are used for monitoring the plant (configuration → “Technical Information MEAC300”).
[3] Defined in the evaluation configuration.

NOTE:
If a display is shown faded: The corresponding emission data evaluation is not active.
(Cause: Status signal “Subject to monitoring” is not activated for the plant in question.)

5.3.5 Values that can be represented

- For calculated values[1], the previous value is additionally displayed.
- The individual configuration determines what is actually displayed.

[1] Average values, daily values, monthly values, emission volumes, trends.

Item	Reference	Value	Explanation
Momentary value	*Real-time* (5 s)	Validated momentary values	Validated momentary value
		Uncorrected momentary values	Uncorrected momentary values (raw value)
Average value	*Average time*	Validated average values	Current (preliminary) average value in the active average time
		Average value total	Emission volume in the current average time
	Year	STA percentage value < AL%	Percentage share of validated average values that were not higher than the specic limit value in the current year
Daily value	*Day*	Validated daily values	Current (preliminary) daily value
		Load day	Total daily load
		Daily value > Daily limit value	Number of daily values higher than the daily limit value, during the current day
	Year	Percent DV < LV%	Percentage share of validated daily values which were not higher than the specic limit value during the current year
		Daily value invalid	Number of invalid daily values during the current year [1]
Monthly value	*Month*	Monthly value	Current (preliminary) monthly value of the current month on the basis of the validated average values
Component	*Day*	Invalid average values	Total of the average times during the current day in which the average value of the component was invalid [2]
	Year	Limit value exceeded	Total of the average times during the current year in which the average value was higher than the average limit value
Analyzer	*Average time*	Coherent invalid average values	*When the average value of the components of this analyzer was invalid during the last average time:* Total of average times in which the average value was continuously invalid until then [3]
	Week	Calibration range overruns	Percentage share of the times in the current week in which the average value of the component was higher than the end value of the “valid calibration range”; relative to either one calendar week or the operating time of the plant during the current week
	Year	Invalid average values	Total of the average times during the current year in which the average value of the component of this analyzer was invalid [3]
Plant	*Day*	Daily operating time	Total of the times during the current day in which the status signal “Subject to monitoring” was activated
	Year	Annual operating time	Total of the times during the current year in which the status signal “Subject to monitoring” was activated
		Emergency off	Total of the times during the current year in which the status signal “Emergency off” was activated
		Limit value exceeded	Total of times during the current year in which at least one average value was higher than the average limit value [4]
		Coherent limit value overruns	Total of all times during the current year in which at least two successive average values were larger than the average limit value[4]
		FGP failures	Total of the times during the current year in which the status signal “Flue gas purification failure” was activated

[1] Criterion for “invalid daily value”: The minimum operating period during the day was not observed and/or the number of invalid average values during the day was too high.
[2] Criterion for “invalid average value”: At least one of the statuses “Failure”, “Maintenance” or “Adjustment” was activated for the component during the average time.
[3] *For multicomponent analyzer:* For at least one component of the analyzer.
[4] Only for components where the average values are monitored (Configuration → Technical Information MEAC300).

5.3.6 Representable statuses

The individual configuration determines which status is displayed.

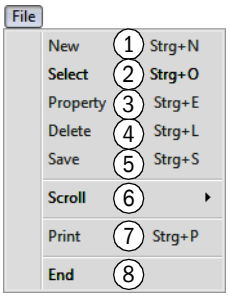
Item	Designation	Explanation
Status	On/Off	Status signal “Subject to monitoring”
	S	Status signal “Failure””
	M	Status signal “Maintenance”
	C	Status signal “Adjustment”
	Alarm 1-3 [1]	Average value alarm (3 levels): • “1” = The last average value was higher than the alarm value [2] and the current momentary value is lower than the alarm value. • “2” = The last average value was higher than the alarm value and the current momentary value is also higher than the alarm value. • “3” = The last two average values were higher than the alarm value.
	Emergency off [1]	Total duration of status signal “Emergency off” during the current year
	STOP LVE	Stop signal because limit value was exceeded (see “Counter screen”, page 27).
	STOP inv.	Stop signal because of invalid values (see “Counter screen”, page 27).

[1] Only when evaluated in accordance with Directive “IED Waste/FNADE”:
[2] The alarm value is either the average limit value or a different alarm value set (defined in the evaluation configuration).

5.4 Configuring “Current” screens

5.4.1 Selecting and managing “Current” screens

Fig. 10: Current *Selecting and managing screens*



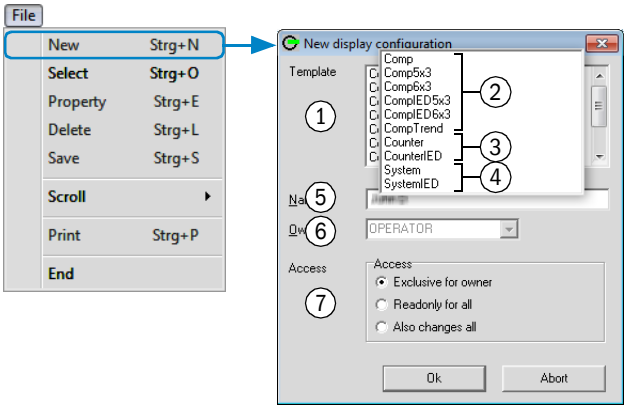
1	▸ Create a new screen configuration.
2	▸ Activate a stored screen configuration.
3	▸ Change access rights of a screen configuration afterwards. [1]
4	▸ Delete the current screen configuration.
5	▸ Save the current screen configuration.
6	▸ Select stored screen configurations sequentially (backwards/forwards). [2]
7	▸ Print the current screen.
8	▸ Close program section “Current”.

[1] Can be done by a different user with the appropriate access rights (see “Creating a new “Current” screen”).
[2] Keyboard shortcut: F3 = forwards, F4 = backwards.

5.4.2 Creating a new “Current” screen

1 Create a new screen (see Fig. 11).
2 Configure the screen.
   – see “Configuring a component screen”, page 32.
   – see “Configuring the system screen”, page 33.
   – see “Configuring the counter screen”, page 34).

Fig. 11: Current *Creating a new screen*



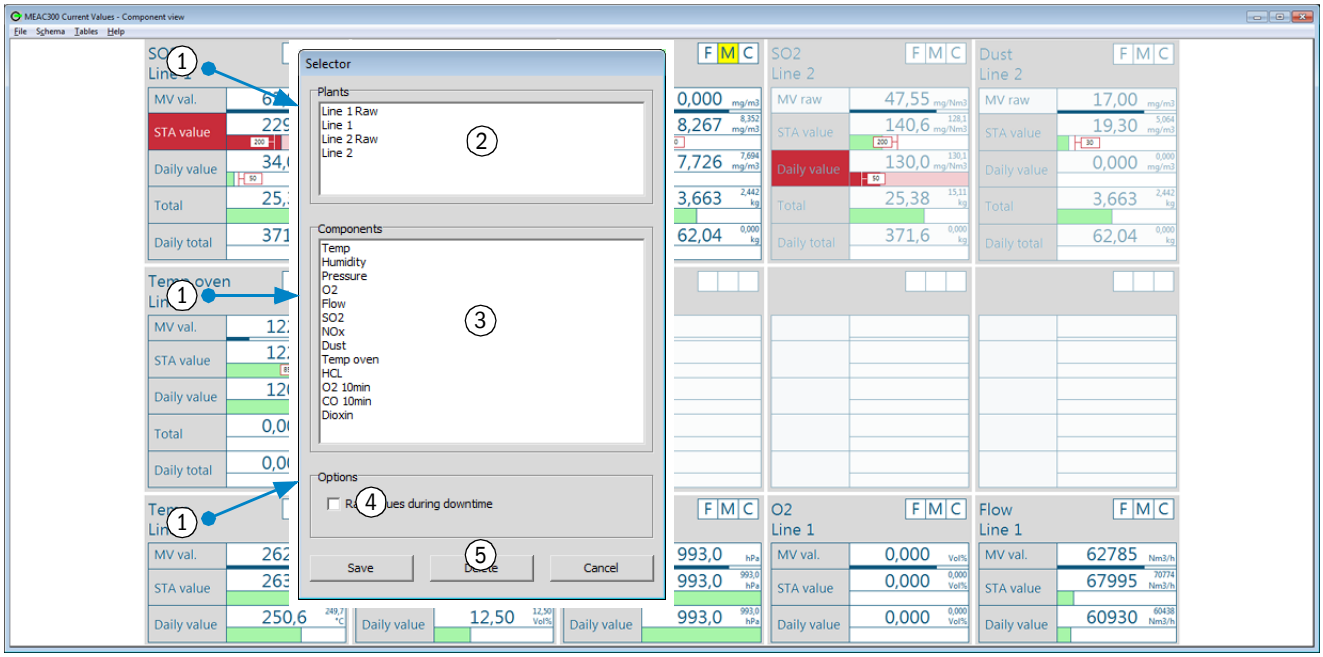
1	▸ Select screen type.
2	Templates for component screens (see “Components screen (example)”, page 24)
3	Template for counter screens (see “Counter screen (example)”, page 27)
4	Template for system screens (see “System screen (examples)”, page 26)
5	▸ Give the screen a name.
6	▸ Select user. [1]
7	▸ Select access rights for this screen.

[1] Concerns the access rights.

5.4.3 Configuring a component screen

1 Select Current.
2 Select an existing component screen (see “Selecting and managing “Current” screens”, page 30) or create a new component screen (see “Creating a new “Current” screen”, page 31).
3 *To select a component for the screen:* Click the appropriate field (see Fig. 12).
4 Make the desired settings (see Fig. 12).
5 Save the screen (see “Selecting and managing “Current” screens”, page 30).

Fig. 12: Current *Configuring the component screen (principle)*



1	1 Click the display field.
2	2 Select desired plant.
3	3 Select desired component.
4	(▸) Display the momentary value without internal MEAC conversion (“raw values”) when the status signal “Subject to monitoring” is not activated.
5	(▸) Create an empty field.

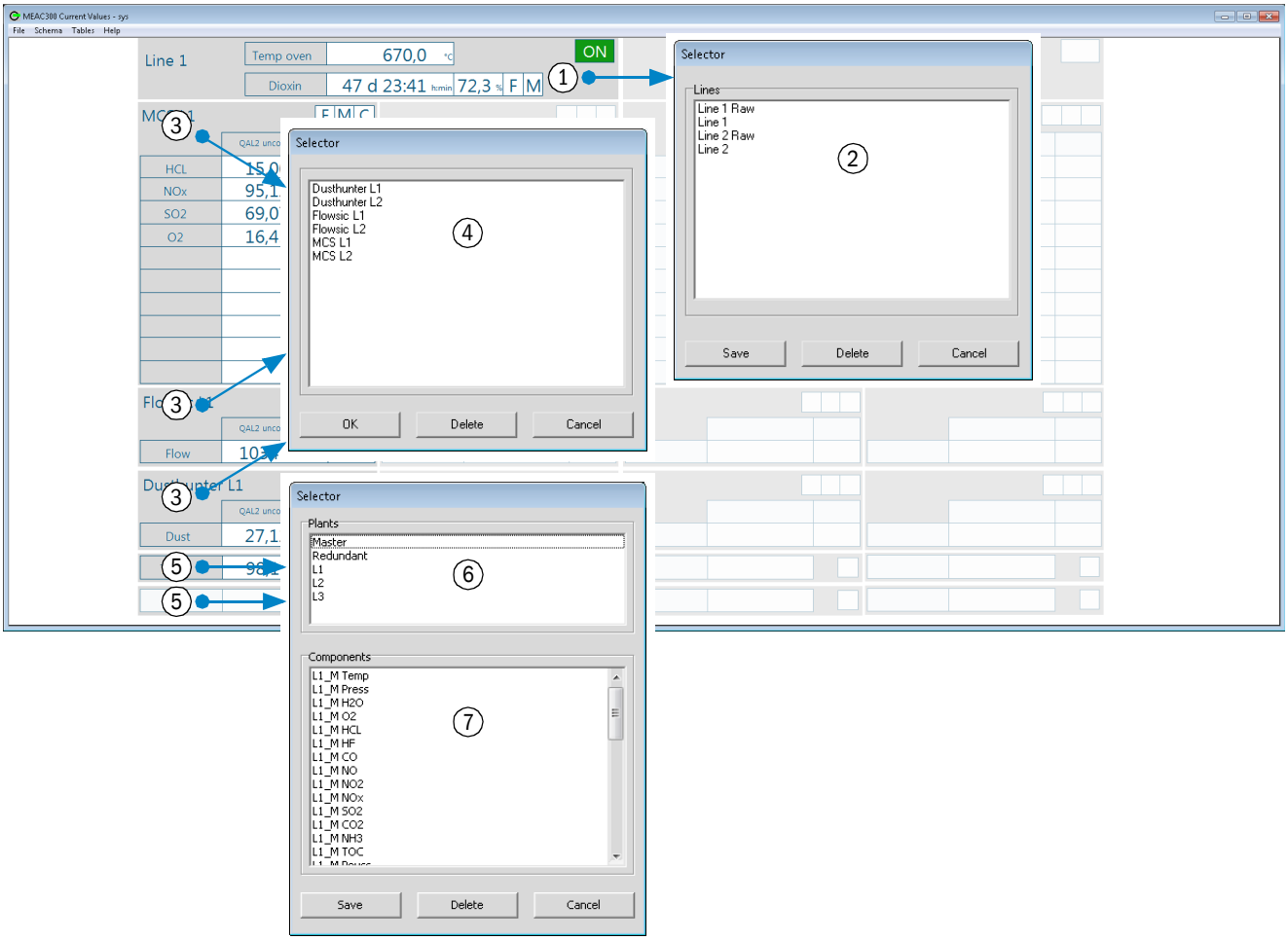
5.4.4 Configuring the system screen

1 Select Current.
2 Select an existing system screen (see “Selecting and managing “Current” screens”, page 30) or create a new system screen (see “Creating a new “Current” screen”, page 31).
3 Make the desired settings (see Fig. 13).

Recommendation: For screens for a plant, only select analyzers belonging to that plant.

4 Save the screen (see “Selecting and managing “Current” screens”, page 30).

Fig. 13: Current *Configuring the system screen (principle)*



1	1 Click the display field.
2	2 Select desired plant.

3	1 Click the display field.
4	2 Select desired analyzer. [1]

[1] The top field is suitable for a multi-component analyzer.

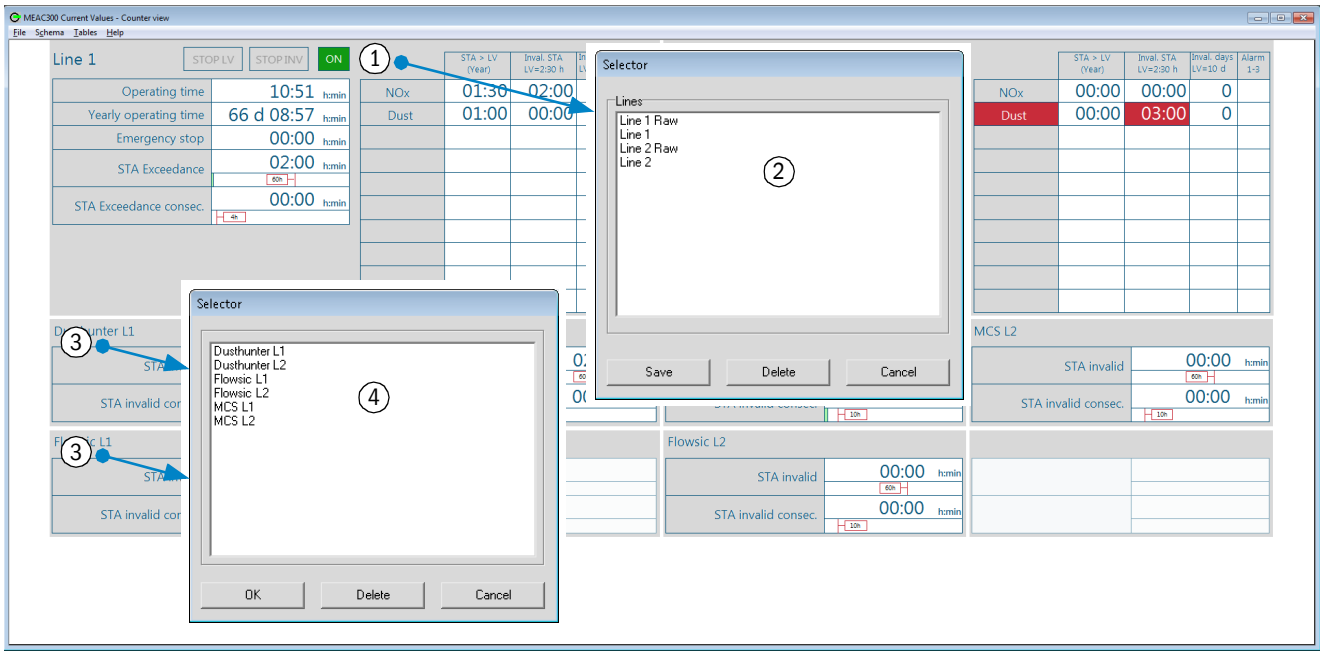
5	1 Click the display field.
6	2 Select the plant to which the desired auxiliary component (sensor) belongs.
7	3 Select desired auxiliary components.

5.4.5 Configuring the counter screen

1 Select Current.
2 Select an existing counter screen (see “Selecting and managing “Current” screens”, page 30) or create a new counter screen (see “Creating a new “Current” screen”, page 31).
3 Make the desired settings (see Fig. 14).

Recommendation: For screens for a plant, only select analyzers belonging to that plant.

Fig. 14: Current *Configuring the counter screen (principle)*



1	1 Doubleclick the display field.
2	2 Select desired plant.

3	1 Doubleclick the display field.
4	2 Select desired analyzer.

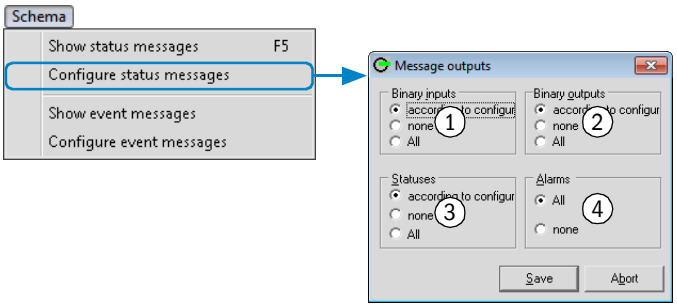
5.5 Configuring the message window

5.5.1 Configuring status messages

Which messages are to be considered for the status messages (see “Window “Current” (overview)”, page 23 [9]) is adjustable. Status messages refer to:

- Status changes in hardware inputs and outputs
- Special operating state (malfunction/maintenance/adjustment)
- Internal MEAC status
- Status signals (inputs and outputs)

Fig. 15: Current *Configuring status messages*



1	▸ Select scope of messages concerning hardware status inputs. [1]
2	▸ Select scope of messages concerning hardware status outputs.
3	▸ Select scope of messages concerning program-internal status changes.
4	▸ Include messages reported via digital outputs.

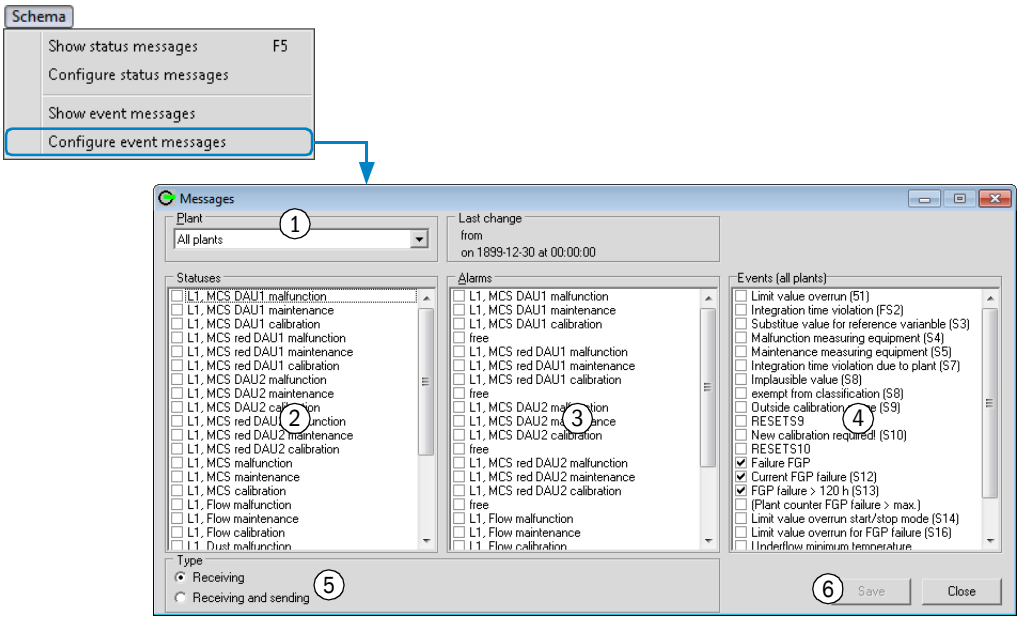
[1] As configured = print status changes (see system configuration).

5.5.2 Configuring event messages

A logged on user (see “Logging in as user”, page 18) can set which events can appear in the event messages (see “Window “Current” (overview)”, page 23 [10]). Events are:

- Change in an internal MEAC status
- Messages concerning a special operating state (malfunction/maintenance/adjustment)
- Warning messages from the plant
- Warning messages from the internal MEAC classification

Fig. 16: Current *Configuring event messages*

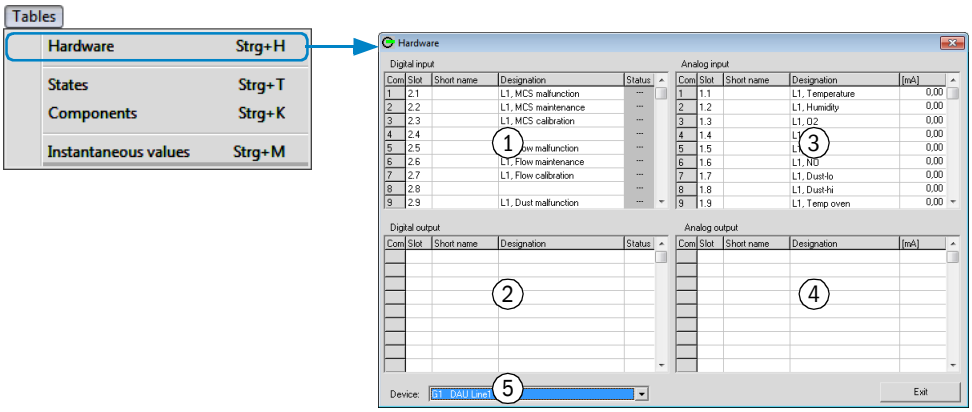


1	▸ Select plant.
2	▸ Select status messages.
3	▸ Select alarm messages.
4	▸ Select emission relevant events.
5	▸ Select whether just the activation of a status is reported or activation and deactivation.
6	▸ Save settings.

5.6 Viewing system data

5.6.1 Viewing current hardware signals

Fig. 17: Current *Hardware signals*

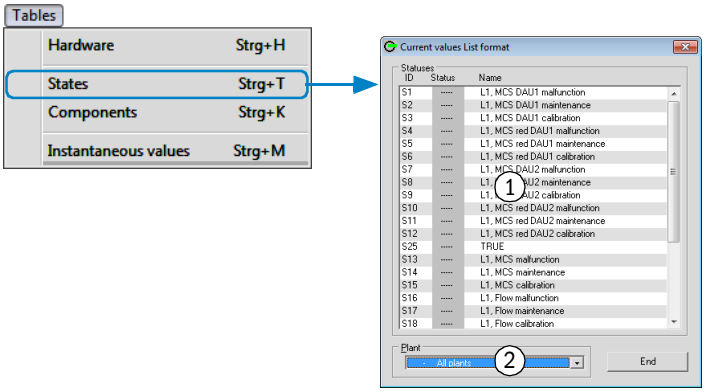


1	Function and current state of the digital hardware inputs [1]
2	Function and current state of the digital hardware outputs [1]
3	Function and current state of the analog hardware inputs
4	Function and current state of the analog hardware outputs
5	▸ Select hardware components.

[1] Key to symbols, see “Symbols”, page 21.

5.6.2 Viewing current system status

Fig. 18: Current *System status*

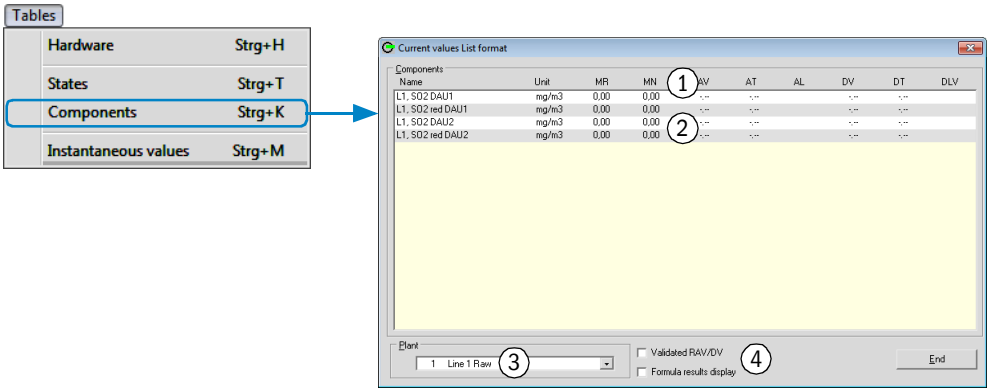


1	Current status [1]
2	▸ Select plant.

[1] Key to symbols, see “Symbols”, page 21.

5.6.3 Viewing measured values

Fig. 19: Current *Measured values list*

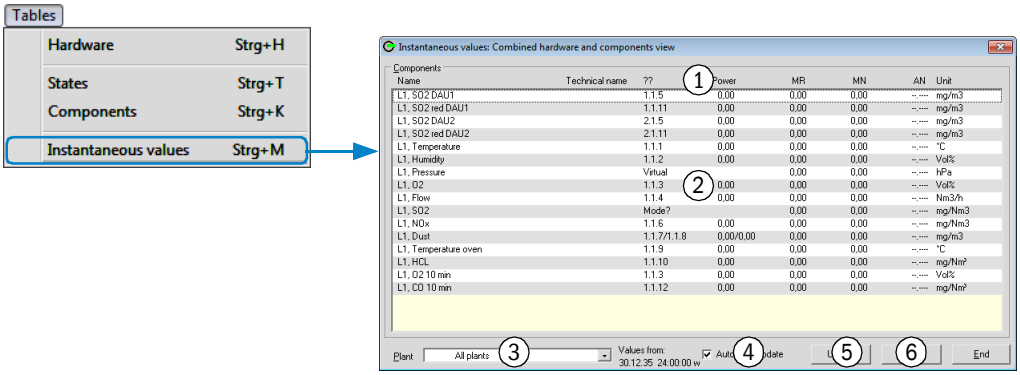


1	Value designation
2	Current values [1]
3	▸ Select plant.
4	(▸) Select display options [2].

[1] *For momentary values:* Red text = this momentary value is invalid.
[2] Formula results are shown in an additional window.

5.6.4 Viewing momentary values

Fig. 20: Current *Momentary values*



1	Value designation [1]
2	Current values [2]
3	▸ Select plant.
4	(▸) Activate automatic update of the screen. [3]
5	(▸) Update screen manually.
6	(▸) Print screen contents.

[1] Key to symbols, see “Abbreviations”, page 21.
[2] *For momentary values:* Red text = this momentary value is invalid.
[3] Update cycle: 5 seconds.

6 Program section “Review”

6.1 Viewing “Review” graphs

Program section “Review” serves to view all data stored in the MEAC system.

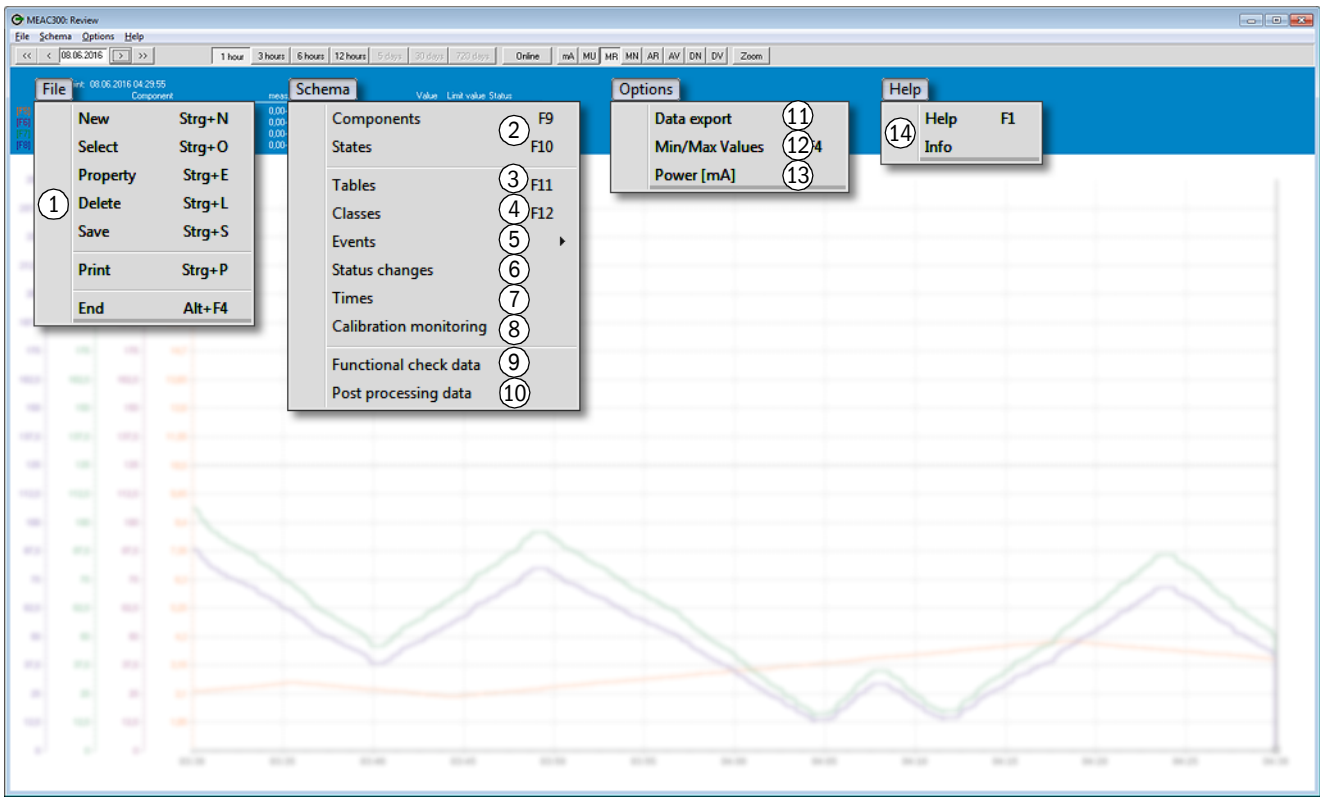
1 Select Review.
» The display of stored values starts with the screen last selected.
2 Select a different screen when necessary (see ““Review”: Menu functions”, page 40).

6.2 Configuring a graphical “Review” screen

1 Select the desired screen:
▶ Select a stored screen (see ““Review”: Menu functions”, page 40).
Or:
▶ Create a new screen (see “Creating a new “Current” screen”, page 31).
2 Configure the screen contents:
▶ Measured value screen, see “Measured values (example)”, page 41.
▶ Status screen, see “Status signals (example)”, page 42.

6.3 “Review”: Menu functions

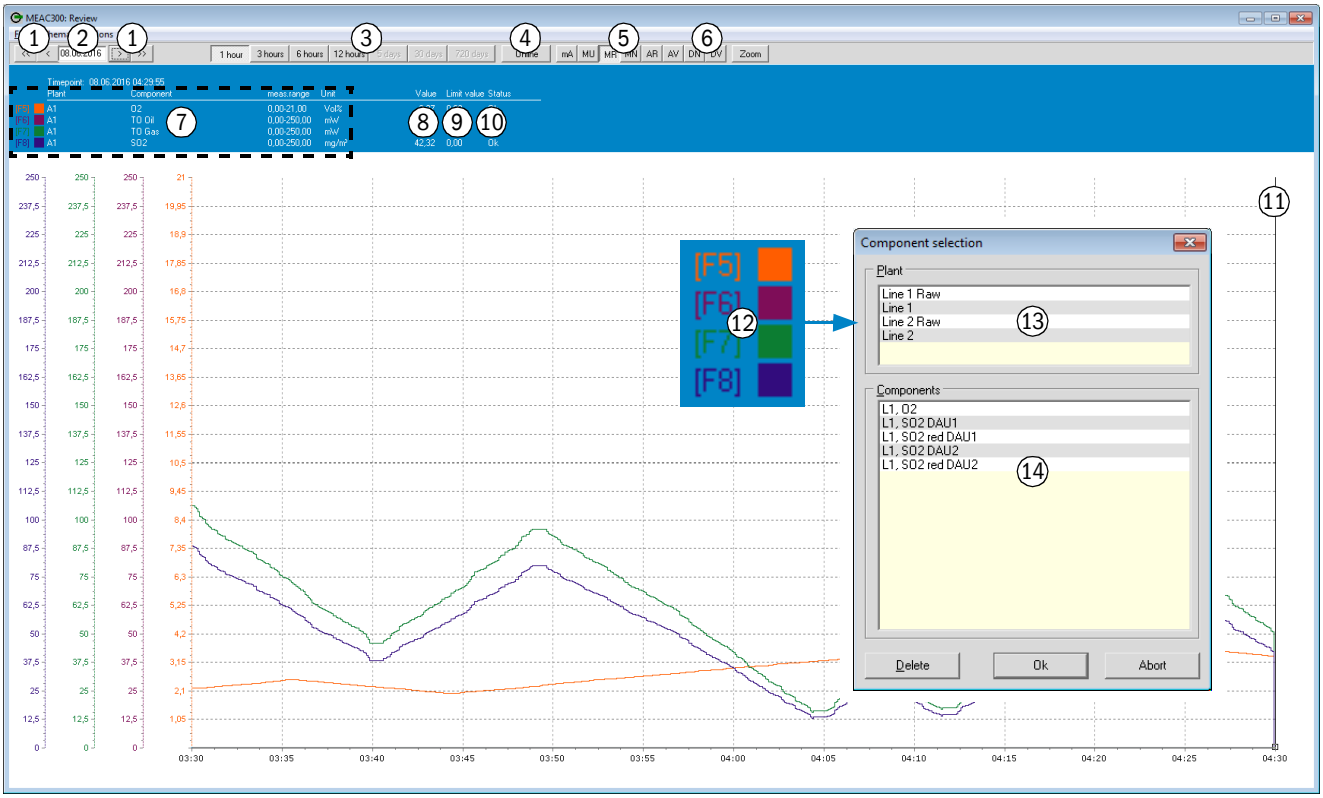
Fig. 21: Review *Menu functions*



1	(▸) Select and manage screens.	see “Viewing “Review” graphs”, page 39
2	(▸) Toggle between measured values and status signals.	see ““Review” window: Measured value mode”, page 41 / see ““Review” window: Status mode”, page 42
3	(▸) Open the tabular display for emission data.	see “Viewing/printing previous measured values”, page 43
4	(▸) Viewing classifications.	see “Viewing/outputting protocols ”, page 45
5	(▸) Search for events.	see “Searching/viewing events ”, page 46
	(▸) Add comments to events.	see “Adding comments to events”, page 47
6	(▸) View status changes.	see “Viewing previous status changes”, page 48
7	(▸) View operating times/special times of a plant.	see “Viewing operating times/special times”, page 49
8	(▸) Show result of calibration range monitoring.	see “Viewing compliance with the “valid calibration range””, page 50
9	(▸) Toggle screen to data stored in status “Function check”.	Explanation, see “Using status “Function check””, page 58
10	(▸) Toggle screen to reprocessed data.	Explanation, see “Terminating the program”, page 17
11	(▸) Export emission data.	see “Exporting the data”, page 51
12	(▸) Search for extreme values.	see “Exporting the data”, page 51
13	(▸) View current values of the numeric inputs (export as CSV file when required)	
14	(▸) Retrieve information on the MEAC program.	

6.4 “Review” window: Measured value mode

Fig. 22: Review *Measured values (example)*



1	(▸) Shift the time interval.
2	(▸) Define start day of time interval shown.
3	(▸) Select length of time interval shown.
4	(▸) Display current momentary values.[1]
5	▸ Select values for screen (Key to symbols, see “Abbreviations”, page 21).
6	(▸) Enlarge screen (zoom). [2]
7	Legend of lines
8	Value of the component shown – *After opening the window:* Value shown at the start time of the representation. – *With time cursor* [11]*:* Value at cursor time.
9	Configured limit value for the value *(if available)*
10	Current status identification for the value
11	Time cursor (follows the mouse pointer)

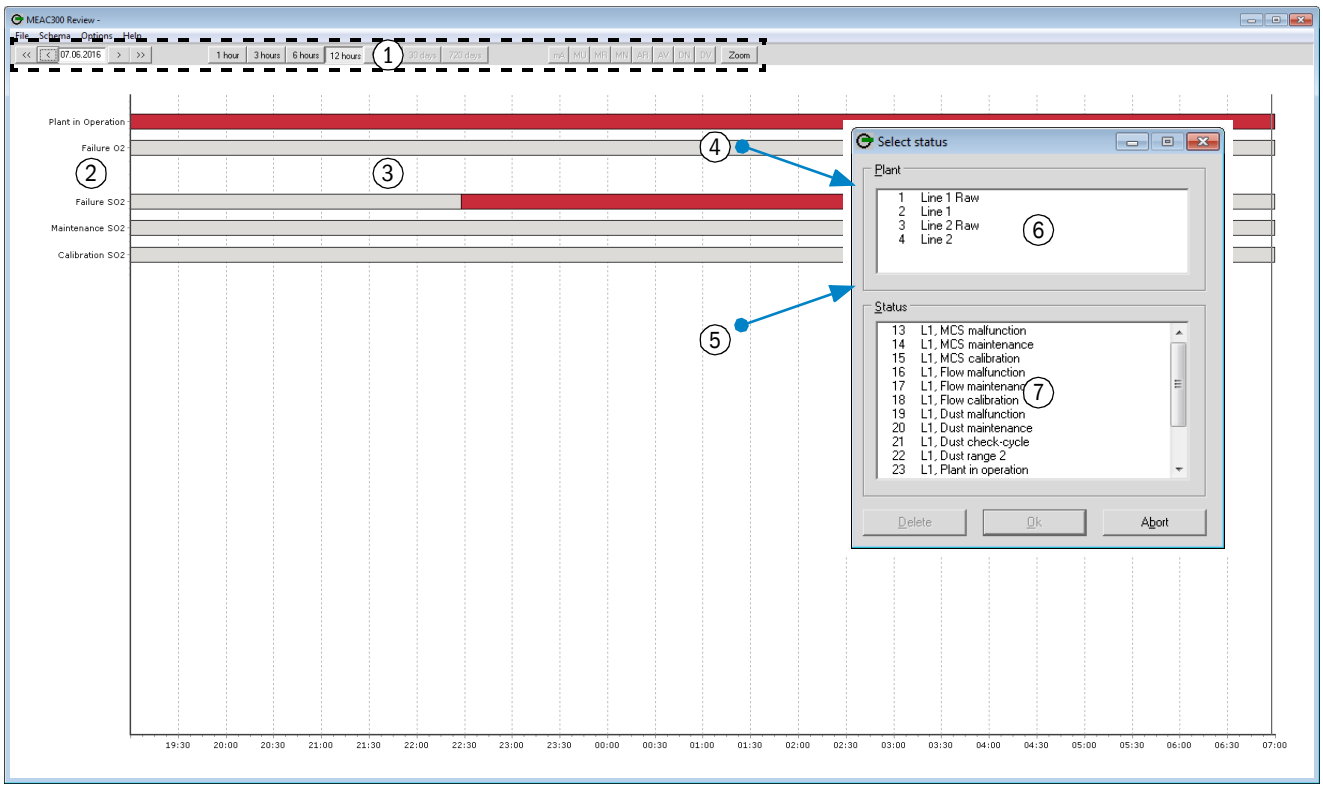
[1] Generated every 5 seconds
[2] *Zoom in:* Click the button and then click in the screen at the desired starting point and then at the desired end point. *Zoom out:* Click the button again.

To change a displayed component:	
12	1 Press the corresponding F button.
13	2 Select desired plant.
14	3 Select desired component.[1]

[1] A maximum of 4 components can be displayed.

6.5 “Review” window: Status mode

Fig. 23: Review *Status signals (example)*



1	Operating functions (see “Measured values (example)”, page 41)
2	Status signal name
3	Status signal state at the respective time
	Red: Activated (TRUE)
	Gray: Not activated (FALSE)

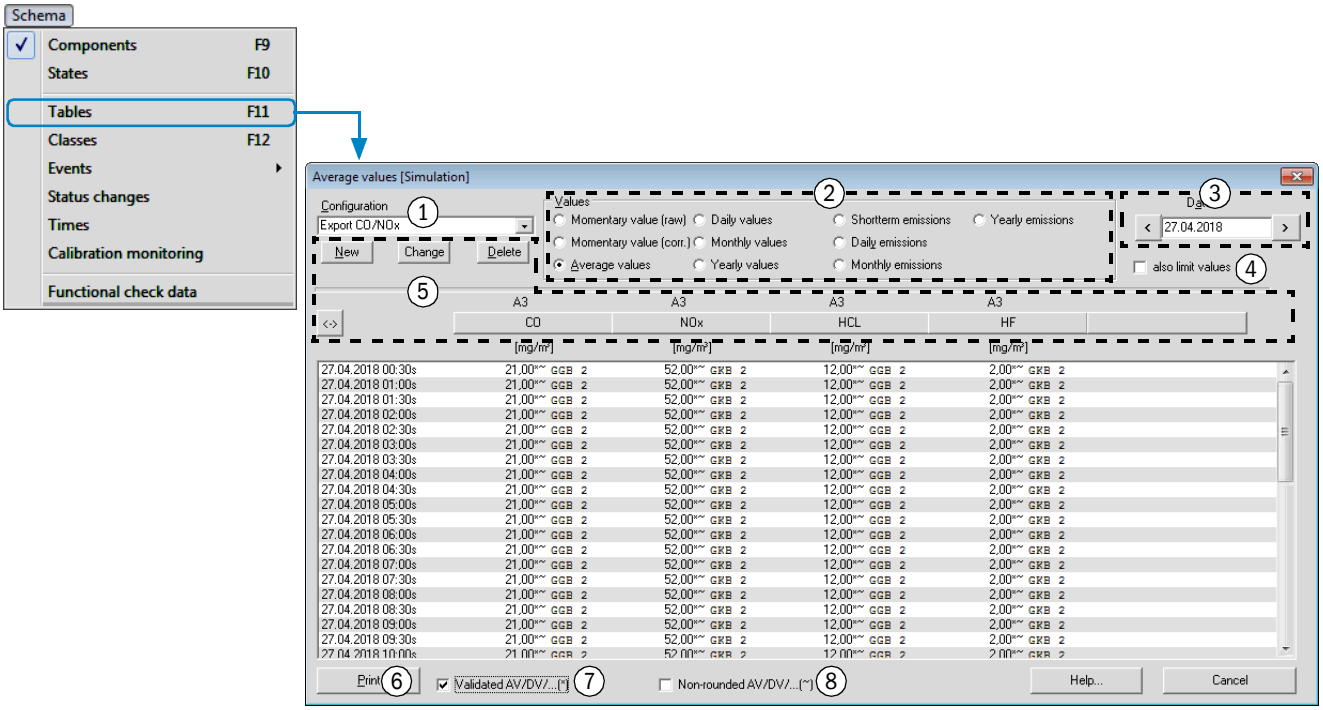
4	▸ *To change a status selection:* Click the corresponding name or bar.
5	▸ *To add a status:* Click in the desired free display area. [1]
6	▸ Select desired plant.
7	▸ Select desired status.

[1] The window can display a maximum of 24 statuses.

6.6 Menu functions in program section “Review”

6.6.1 Viewing/printing previous measured values

Fig. 24: Review *Viewing/printing previous measured values*



1	▸ Select/store screen configuration.
2	▸ Select desired value type. [1]
3	▸ Select start time.
4	▸ Additionally display the limit value.
5	▸ Select components (see “Creating/using output configurations”, page 44).
6	(▸) Print the Table shown.
7	(▸) Display validated average values/average. [2]
8	(▸) Display validated average values/average as non-rounded values.

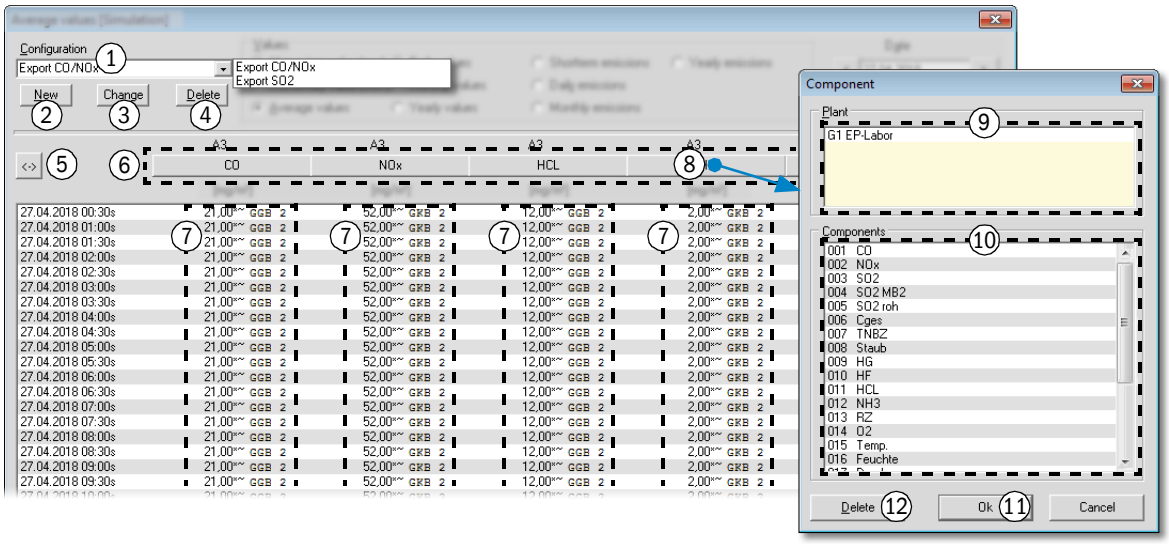
[1] Momentary values, average values, daily/monthly/yearly values, short-term/daily/monthly/yearly emission volumes.
[2] Non-validated average values/average are non-rounded.

6.6.2 Creating/using output configurations

Valid for:

- “Viewing/printing previous measured values”, page 43
- “Displaying/exporting analog measuring signals (raw values)”, page 53

Fig. 25: Review *Creating/using output configurations (example)*



1	► Select/save a stored output configuration.
2	► Create a new output configuration. [1]
3	► Change the name of the active output configuration.
4	► Delete the active output configuration.
5	► Increase displayed list.
6	Button/panel for each list column
7	Values of configured components

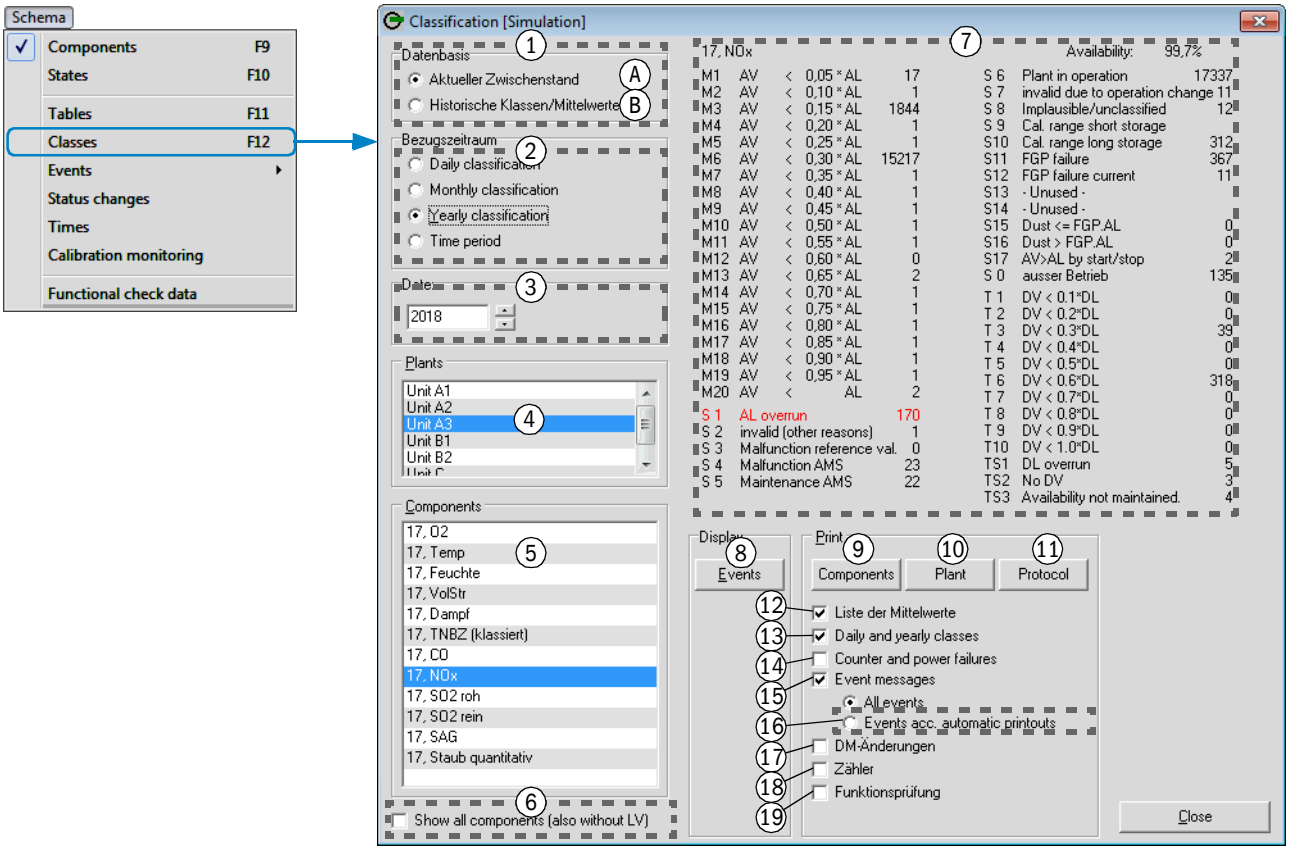
[1] Deletes the active output configuration.

To select a component for a list column:

8	► Click the button on the list column.
9	► Select the plant to which the desired component belongs.
10	► Select desired component.
11	► Save this assignment.
12	► *If required:* Delete the assignment for this list column.

6.6.3 Viewing/outputting protocols

Fig. 26: Review *Viewing classifications*



1	▸ Select data basis: – Mode **A** = current intermediate state in the current reference timeframe – Mode **B** = saved data from previous reference timeframes
2	▸ Select the value of the desired reference timeframe (1 day/1 month/1 year/*only for Mode B:* months within a year).
3	▸ Select the calendar date of the desired reference timeframe.
4	(▸) Mark the desired plant (click).
5	(▸) Mark the desired component (click).
6	(▸) Also show components with non-classified average values[1], which have been classified in past times.
7	Representation of selected dates
8	(▸) Display emission events of the selected components. [2]
9	▸ Output classification data of the selected component.
10	▸ Output classification data of all components of the selected plant.
11	▸ Output classification data of all components of all plants.
12	▸ Additionally output the average of the reference timeframes.

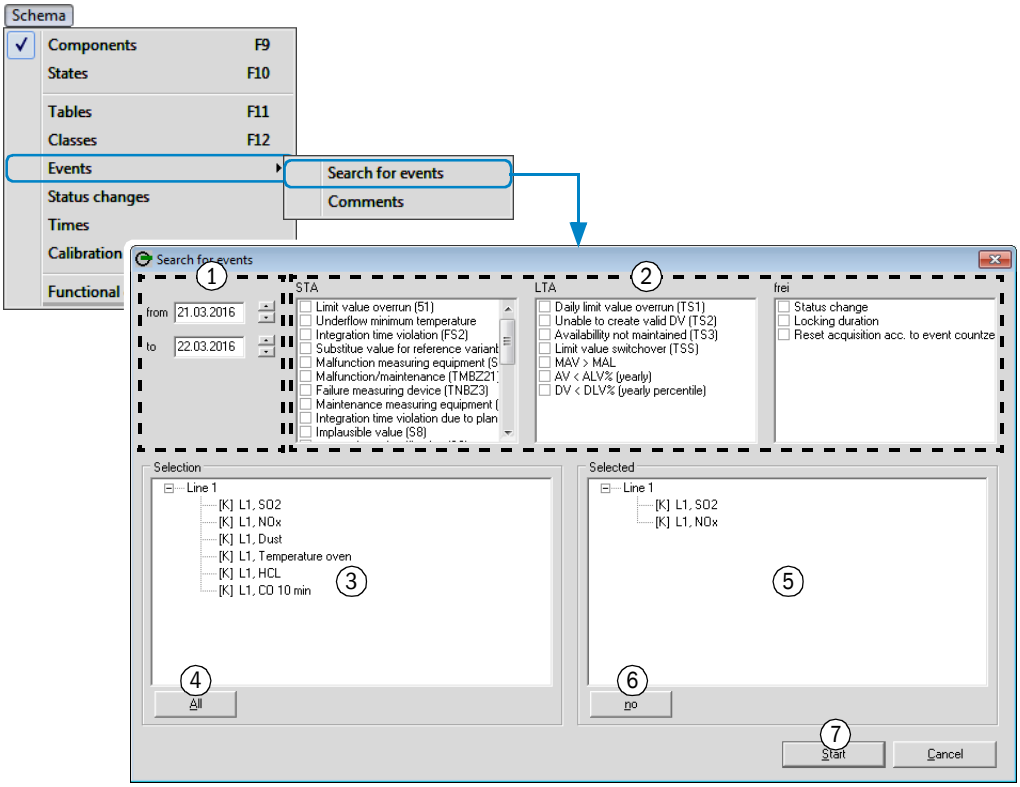
[1] Because no average limit value is stipulated.
[2] For the selected component in selected time interval (timepoint, event, value, limit value). The data are displayed in a separate window.

Only Mode A:	
13	(▸) Take all classification data of the current year up to the current day into account. [1]
14	(▸) Also print the time duration of emission relevant events and power voltage failures of the emission PC.
15	(▸) Also print emission-relevant events.
16	(▸) Only output event messages configured for automatic data output. [2]
17	(▸) Output time of changes in the evaluation configuration.
18	(▸) Select events (beginning/ending).
19	(▸) Select status “Function check” (beginning/ending). [3]

[1] Only available for classification type “Daily classes”.
[2] see “Configuring protocol contents”, page 60.
[3] see “Using status “Function check””, page 58.

6.6.4 Searching/viewing events

Fig. 27: Review *Events*

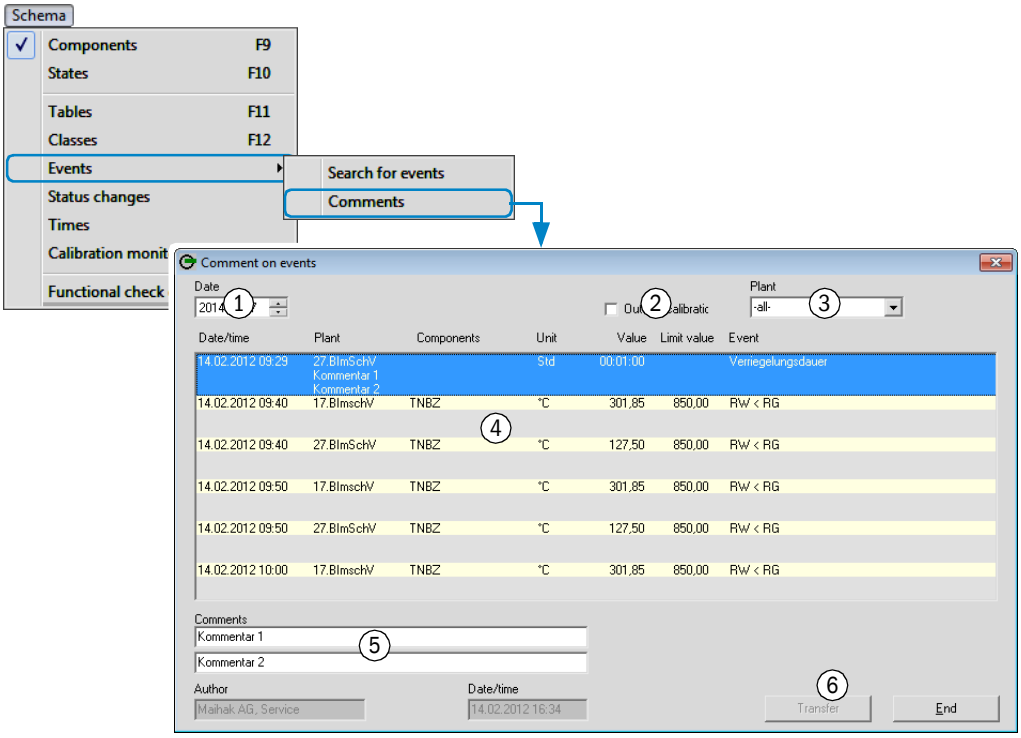


1	▸ Select timeframe.
2	▸ Select event type.
3	List of selectable plants and components. ▸ *To select an individual component or plant:* Doubleclick the name.
4	(▸) Select all plants with all components.
5	List of selected components. [1] (▸) *To remove an individual component or plant:* Doubleclick the name.
6	(▸) Completely delete list of selected components.
7	▸ Start search. [2]

[1] Individual components are automatically assigned to their plant.
[2] The result is displayed as a Table (see “Adding comments to events”, page 47).

6.6.5 Adding comments to events

Fig. 28: Review *Comments*

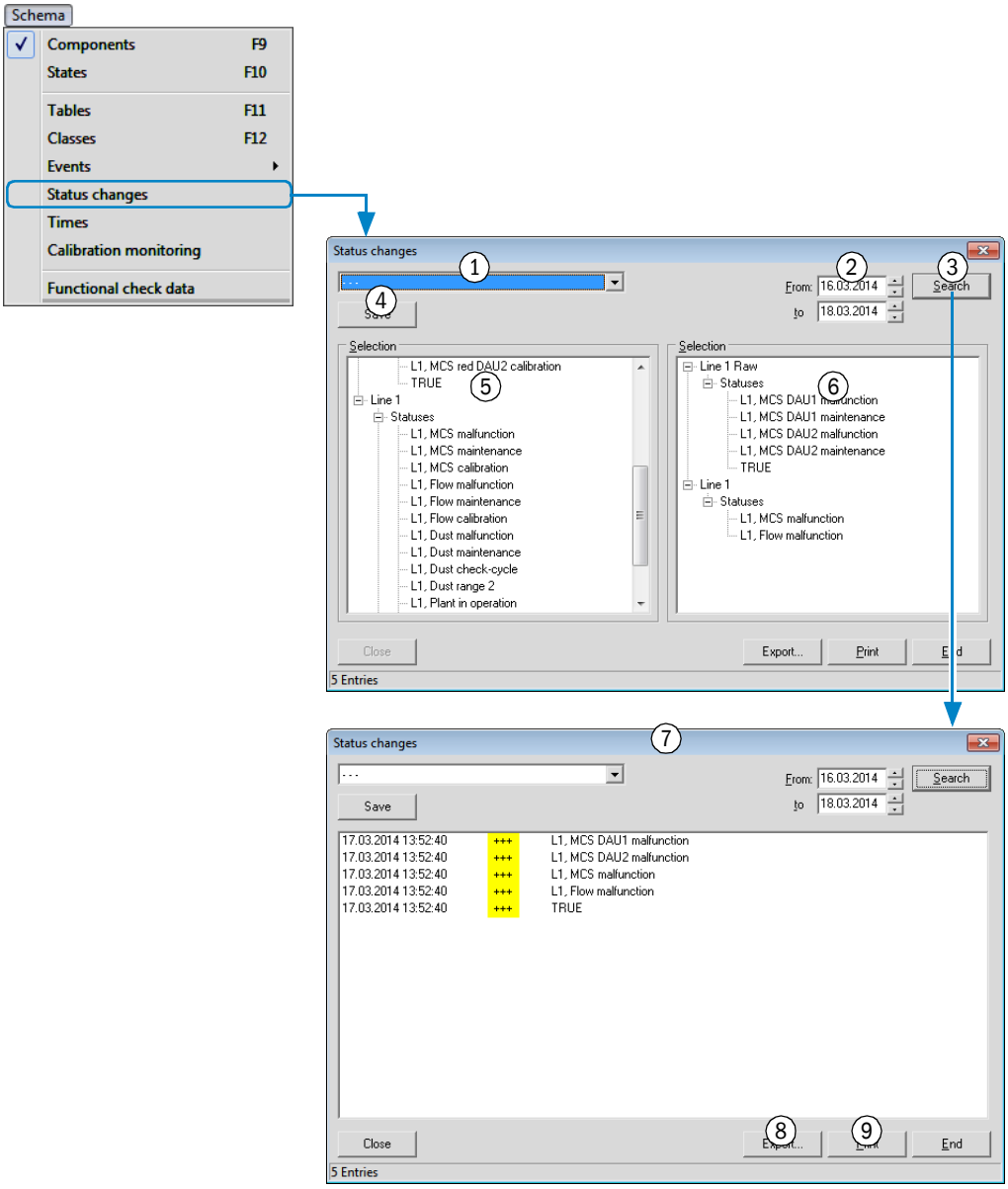


1	▸ Select date.
2	(▸) Include events where the average value is higher than the “valid calibration range”.
3	▸ Select a plant.
4	List of events. (▸) *To select an event:* Click the event.
5	(▸) Enter comments for the selected event. [1]
6	▸ Save changes.

[1] 2 comments with maximum 50 characters.

6.6.6 Viewing previous status changes

Fig. 29: Review *Status changes*



1	▸ Select a stored setting.
2	▸ Select date.
3	▸ Start search.
4	(▸) Save the current settings.
5	▸ Select plants. [1]
6	Selected plants [2]

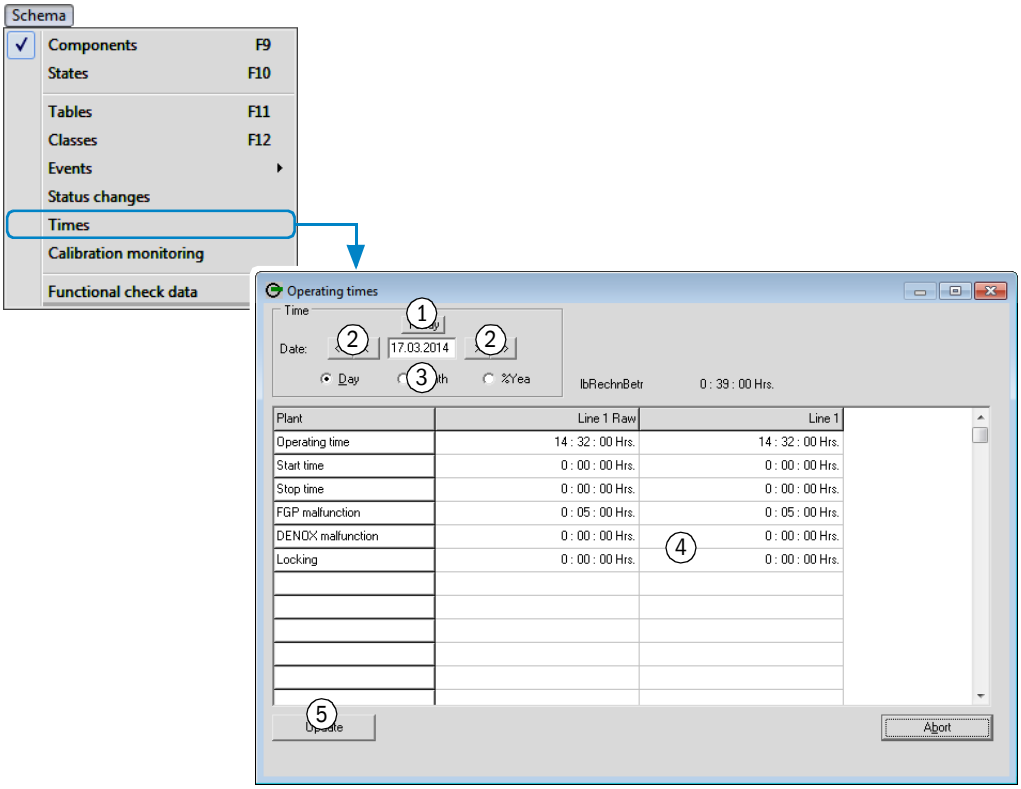
[1] Doubleclick the desired plant.
[2] Doubleclick to remove an entry.

7	List of status messages found (status changes) [1]
8	(▸) Export the list shown.
9	(▸) Print the list shown.

[1] Key to symbols, see “Symbols”, page 21.

6.6.7 Viewing operating times/special times

Fig. 30: Review *Operating times/special times*

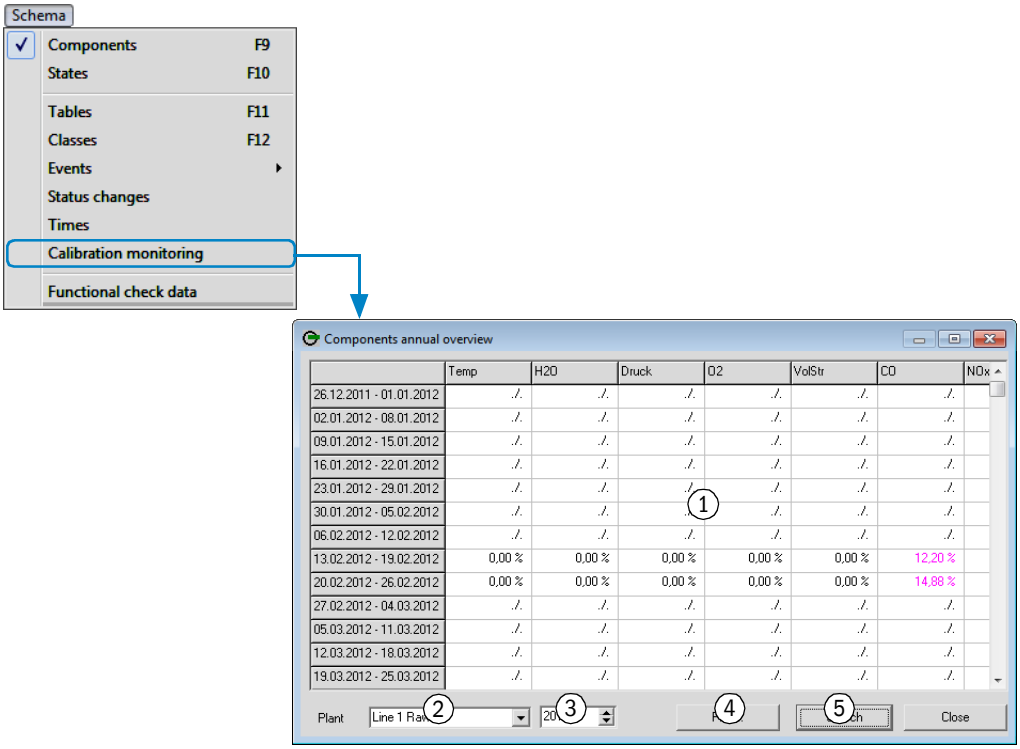


1	▸ Enter date.
2	(▸) Shift date. [1]
3	▸ Select time interval.
4	List of corresponding operating times in selected time interval
5	(▸) Update list to selected time interval.

[1] The list is updated immediately.

6.6.8 Viewing compliance with the “valid calibration range”

Fig. 31: Review *Values in “valid calibration range”*



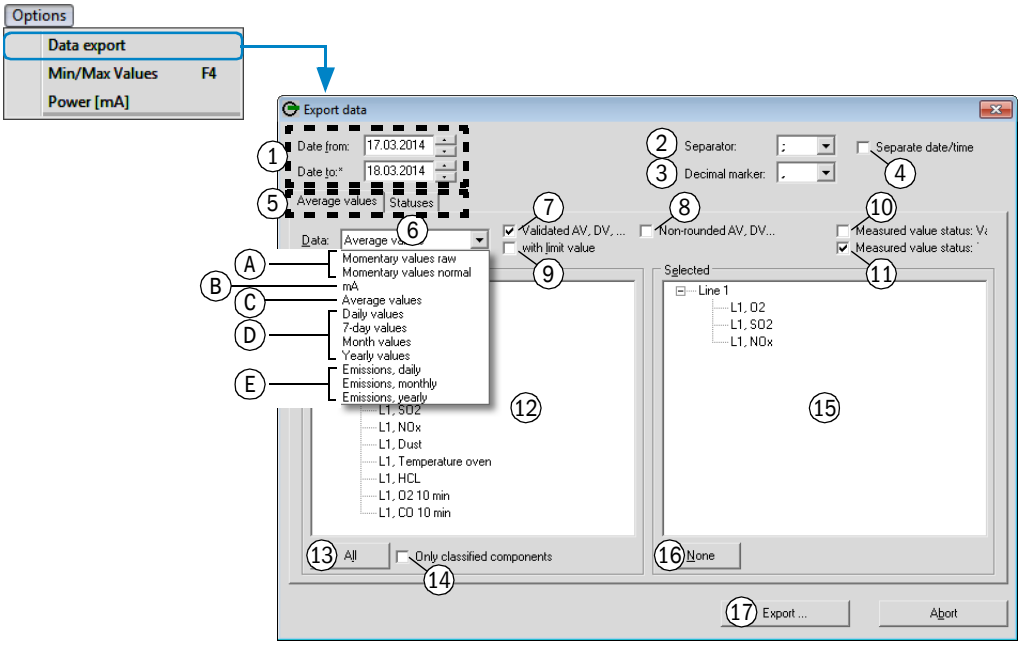
1	Share of average values which were outside the “valid calibration range” in one calendar week (percent). Significance of text color, see below.
2	▸ Select plant.
3	▸ Select year. [1]
4	(▸) Print the list shown.
5	(▸) Only show weeks during which at least one value is higher than 5.00%.

[1] The list is updated immediately.

Text color	Share of average values which were outside the “valid calibration range”
Black	0 ... 5%
Fuchsia (magenta)	> 5 % ... 40%
red	> 40%

6.6.9 Exporting the data

Fig. 32: Review *Data export*



1	▸ Select timeframe.
2	▸ Select separation character.[1]
3	▸ Select decimal character for numeric values.
4	▸ Activate separation of date and time.
5	▸ Select date range: Numeric values or statuses.
6	▸ Select data type.
7	(▸) Export validated average.
8	(▸) Export non-rounded values.
9	(▸) Additionally export the limit value.
10	(▸) Export the status designations of the values as MEAC-internal numeric code.
11	(▸) Export the status designations of the values as text characters in accordance with BEP.
12	List of components/statuses.
	▸ *To select a component/a status:* Doubleclick the respective line.
13	(▸) Select all components/statuses.
14	(▸) Only show measured variables which have a limit value.
15	List of selected components/statuses.
	▸ *To remove a component/a status:* Doubleclick the respective line.
16	(▸) Remove all components/statuses.
17	▸ Export the selected data (save). [2] [3]

[1] The exported data are stored in lines (CSV list). The separator character separates the data within a line.
[2] Select desired storage location in the usual way.
[3] The data are saved in ASCII character format. (*Note:* The ANSI character format is used in the “Windows” operating system.)

A	Momentary values, momentary values after reference value calculation and scaling
B	Input signals (“raw values”)
C	Average values
D	7-days values[1], monthly values, yearly values
E	Daily emission volume, monthly emission volume, yearly emission volume

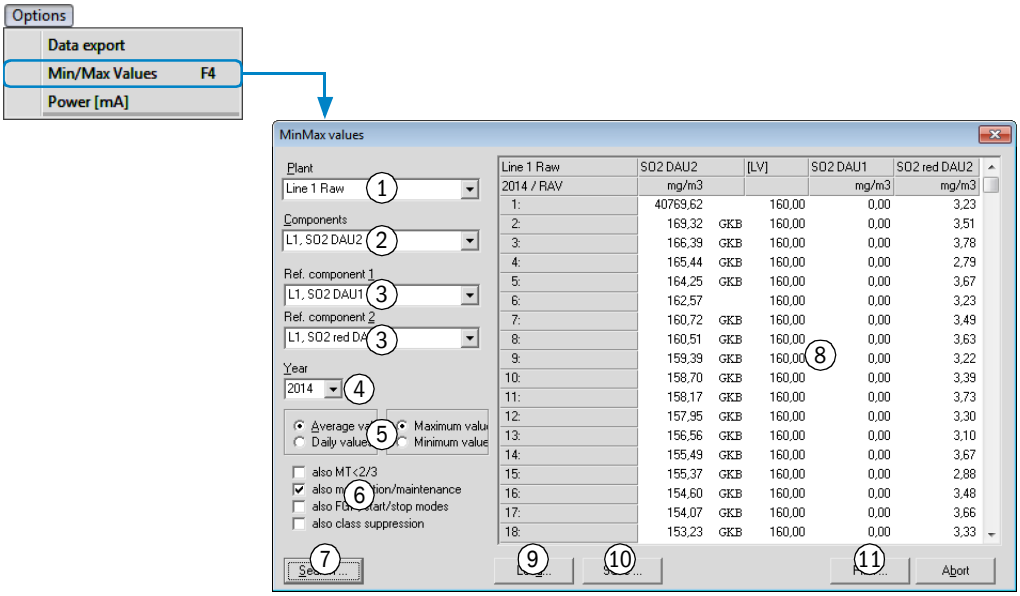
[1] Not available for evaluations in accordance with BEP.

6.6.10 Searching/exporting extreme values

This function finds the 50 highest and lowest validated average values for a particular component during one calendar year. The result can be saved and retrieved again later.

The associated momentary values or average values can be displayed for each value.

Fig. 33: Review *Extreme values (min/max values)*



1	▸ Select plant.
2	▸ Select component.[1]
3	▸ Select reference components.
4	▸ Select calendar year.
5	▸ Select values.
6	(▸) Select options for data. [2]
7	▸ Start search.
8	List of extreme values found. [2]
	(▸) *To retrieve the momentary values or average values of an extreme value:* Doubleclick the respective value. [3]
9	(▸) Display a saved extreme value list in this menu.
10	(▸) Export the list displayed (save). [4]

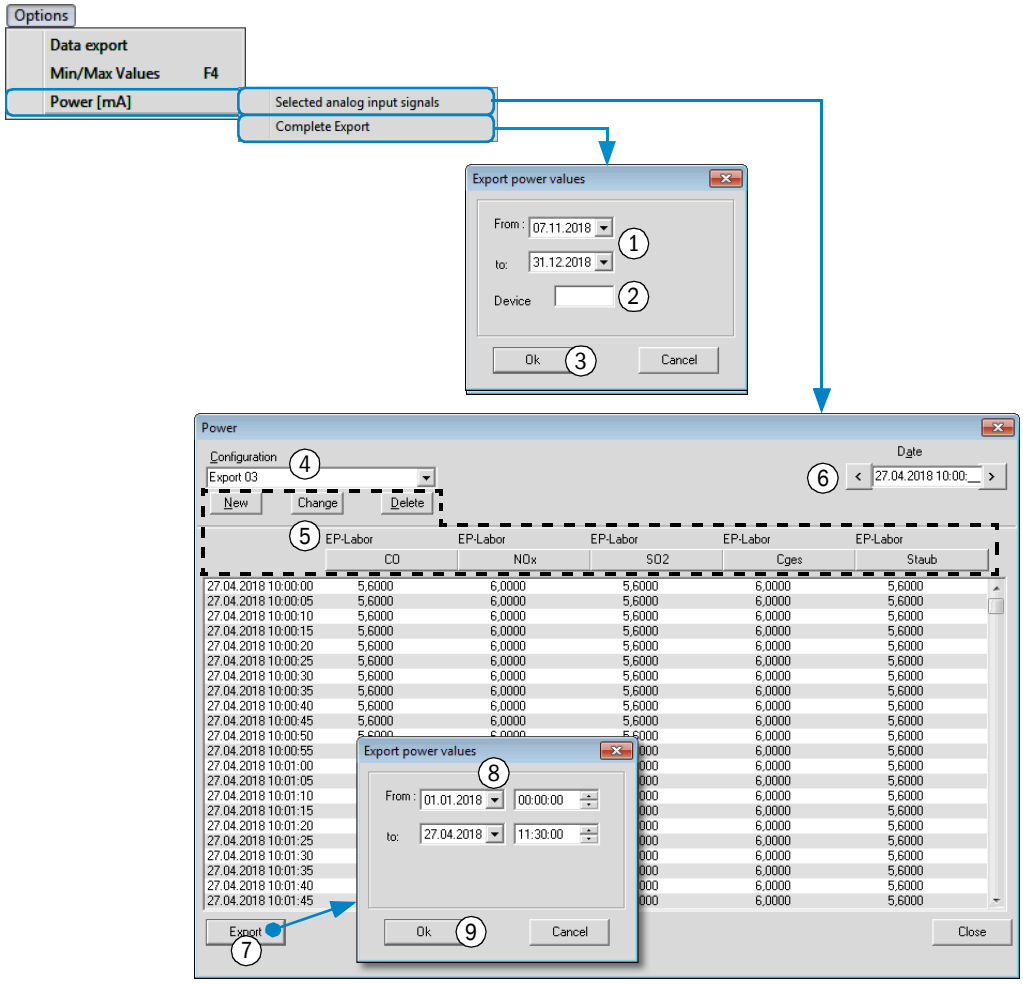
[1] The exported data are stored in lines (CSV list). The separator character separates the data within a line.
[2] Key to symbols, see “Abbreviations”, page 21.
[3] The data are displayed in a separate window (form, functions, see “Viewing/printing previous measured values”, page 43).
[4] Select desired storage location in the usual way.

6.6.11 Displaying/exporting analog measuring signals (raw values)

This function serves to view and output the input signals of selected components. Various selections of components can be saved and retrieved.

The screen display covers the selected calendar hour. The data outputs cover the selected timeframe; the data are saved in a CSV text file.

Fig. 34: Review *Input signals (“raw values”) [mA]*



1	► Select the desired timeframe for data output.
2	► Enter the number for the configured communication path used to transfer the data to the MEAC system. [1]
3	► Start data output. [2]

[1] MEAC-internal identification number of the interface to data acquisition devices or software interface (see “System window (example)”, page 20). Data output will comprise all input signals of all components which use this communication path.
[2] The “Windows” menu “Save as...” then appears.

4	► Select an output configuration.
5	► Select components (see “Creating/using output configurations”, page 44).
6	► Select the desired calendar hour for the display.
7	► Start data export (valid for the displayed components).
8	► Select the desired timeframe for data output.
9	► Start data output. [1]

[1] The “Windows” menu “Save as...” then appears.

7 Program section “Configuration”

7.1 Purpose of program section “Configuration”

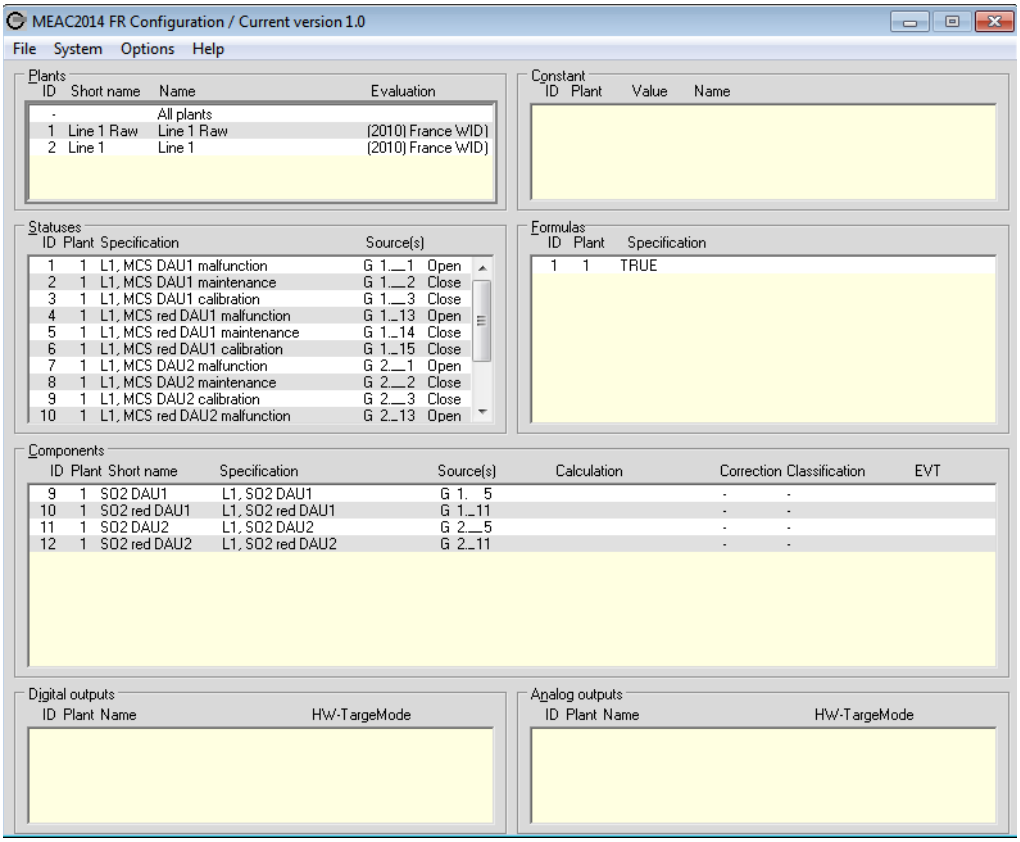
Configuration is an information service: It provides a clear overview of the evaluation configuration with which the MEAC system is currently running, i.e. with which settings the emission data are processed and managed.

- Normal operation with data acquisition and evaluation continues to run while this program section is in use.
- Changes can only be made to the evaluation configuration in program section “Simulation” (see “Program section “Simulation””, page 72).

7.2 Using program section “Configuration”

▶ Select Configuration.
» The current evaluation configuration is displayed (see Fig. 35).

Fig. 35: Configuration *Example*



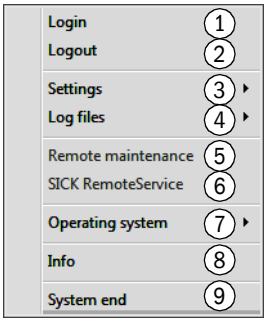
Explanation, see “Program section “System””, page 55.

8 Program section “System”

8.1 Using the functions of program section “System”

1 Select Login.
2 Enter the name and password of a user with access rights to program section “System”.
››› Button Login changes to System.
3 Select System.

Fig. 36: System (Overview)

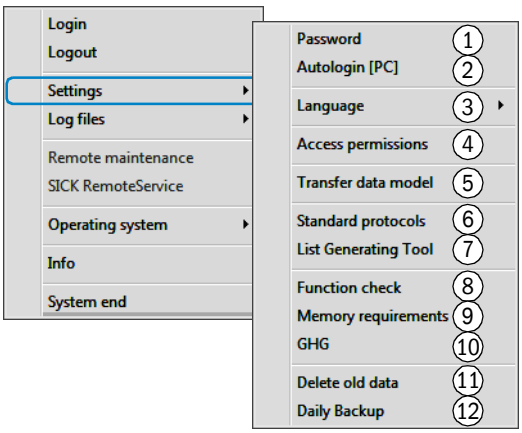


1	▸ Login as user.	see “Logging in as user”, page 18 / see “Swapping the user”, page 18
2	▸ Logout current user.	see “Logging a user out”, page 18
3	▸ Make system settings.	see “Making system settings”, page 56
4	▸ Use the Log files of the MEAC system.	see “Using log functions”, page 62
5	▸ Use remote maintenance.	see “Using remote maintenance”, page 64
6	▸ Connect to Endress+Hauser Remote Service Center. [1]	
7	▸ Use operating system functions.	
8	▸ Retrieve information on the MEAC program.	
9	▸ Terminate the program. [2]	see “Terminating the program”, page 17

[1] Via internet.
[2] IMPORTANT: Observe the information at the same time (see “Terminating the program”, page 17).

8.2 Making system settings

Fig. 37: System *Settings (overview)*

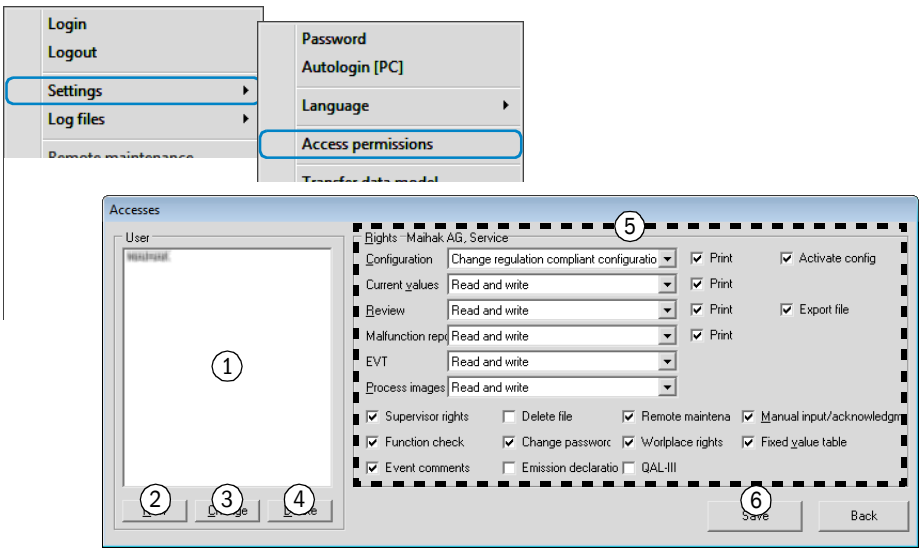


1	► Change the password for the current user.
2	► Define the user to be logged on automatically after a system start.
3	► Select the language for program texts. [1]
4	► Define access rights for the user (see “Configuring user access rights”, page 57).
5	► Replace the actually running evaluation configuration with the evaluation configuration presently configured in Simulation mode (see “Program section “Simulation””, page 72). [2]
6	► Configure printer and data outputs (see “Configuring automatic data outputs”, page 59).
7	► Configure contents and layout of automatic reports (see “Configuring individual automatic reports”, page 61).
8	► Use status “Function check” (see “Using status “Function check””, page 58).
9	► Show information on memory usage and the PC requirement to be expected.
10	► Use software for greenhouse gas emission reports. [3]
11	► Delete all (dispensable) emission data. [4]
12	► Configure automatic backups.

[1] Change is immediately effective.
[2] Also known as “transfer data model”. The currently running evaluation configuration is archived and can be used later, e.g. for reprocessed data. – This function exists only on the emission PC.
[3] Option; see separate Operating Instructions “MEAC GHG”.
[4] Data that are not allowed to be deleted yet for legal reasons are marked and blocked.

8.3 Configuring user access rights

Fig. 38: System *Access rights*



1	► Select an existing user.
2	(►) Create a new user.
3	► Change name and password for selected user.
4	(►) Delete name and access rights for selected user.
5	► Define access rights for selected user.
6	► Save all settings.

8.4 Using status “Function check”

Purpose

Status “Function check” is a MEAC-internal function which can be manually activated or deactivated using a menu function.

Status “Function check” marks the special operating state where a plant transfers measuring and status signals which do not belong to real emissions - e.g. during a technical check of the measuring signal paths.

Effect

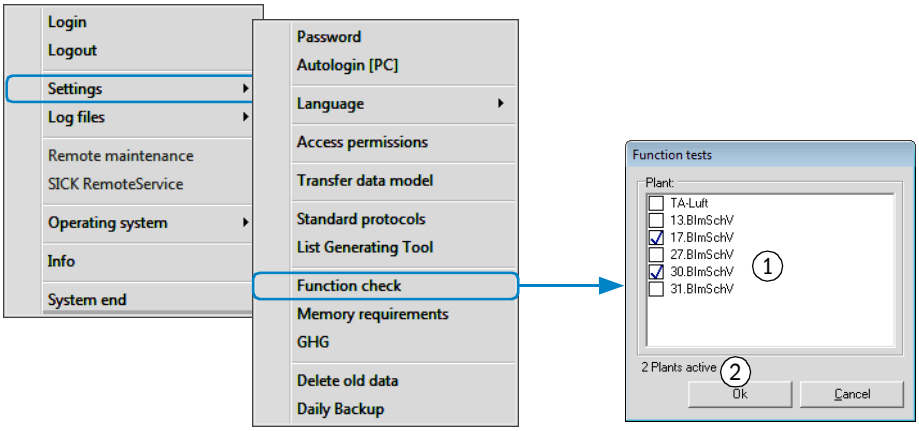
As long as the status “Function check” is activated for a plant, the measuring and status signals of this plant are saved and processed in a separate evaluation.

However, normal emission data evaluation continues. Average times created during status “Function check” are saved in average value class S7.

Program section “Review” serves to view the separate evaluation (see ““Review”: Menu functions”, page 40).

Activating/deactivating

Fig. 39: System Status “Function check”

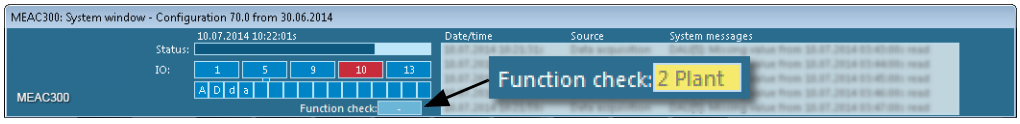


1	▸ Select the nominal state for status “Function check” for the respective plant (marked = activated).
2	▸ Activate the displayed nominal values.

▸ *As soon as the special operating state is no longer valid:* Immediately deactivate status “Function check” again.
Emission data, saved in status “Function check”, are lost for the normal emission data evaluation. This is permanent and cannot be reversed.

Display of status “Function check” in the system window

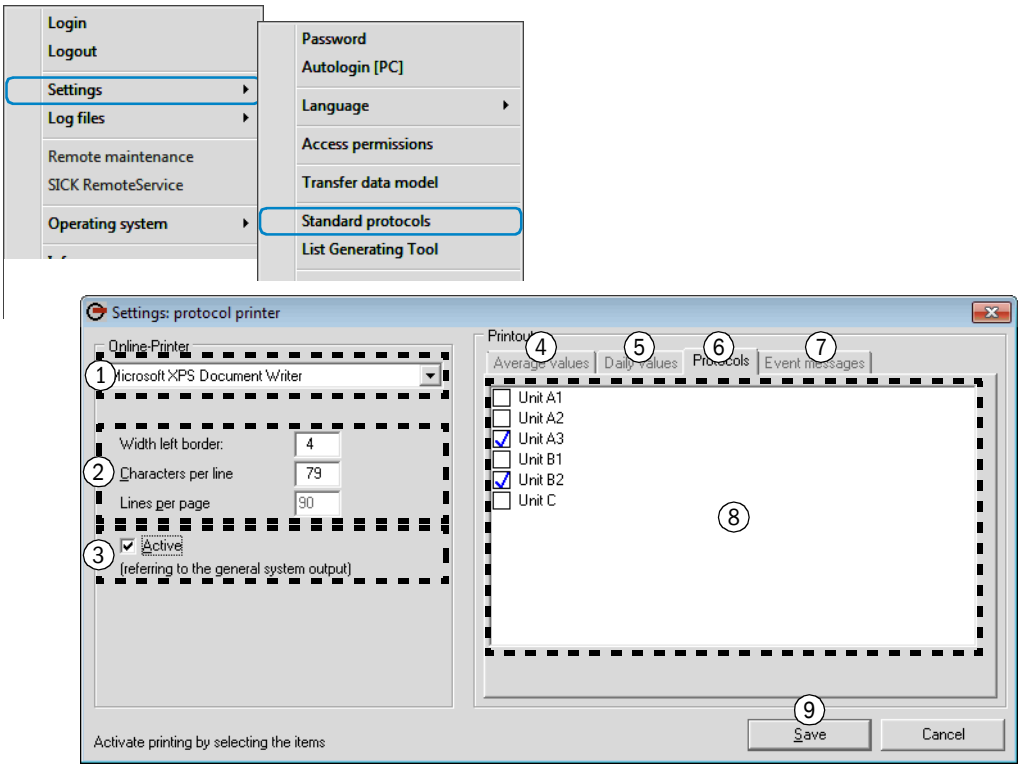
Fig. 40: Display of the activated status “Function check” in the system window (example)



8.5 Configuring automatic data outputs

8.5.1 Activating automatic data outputs

Fig. 41: System *Activating the automatic data output*



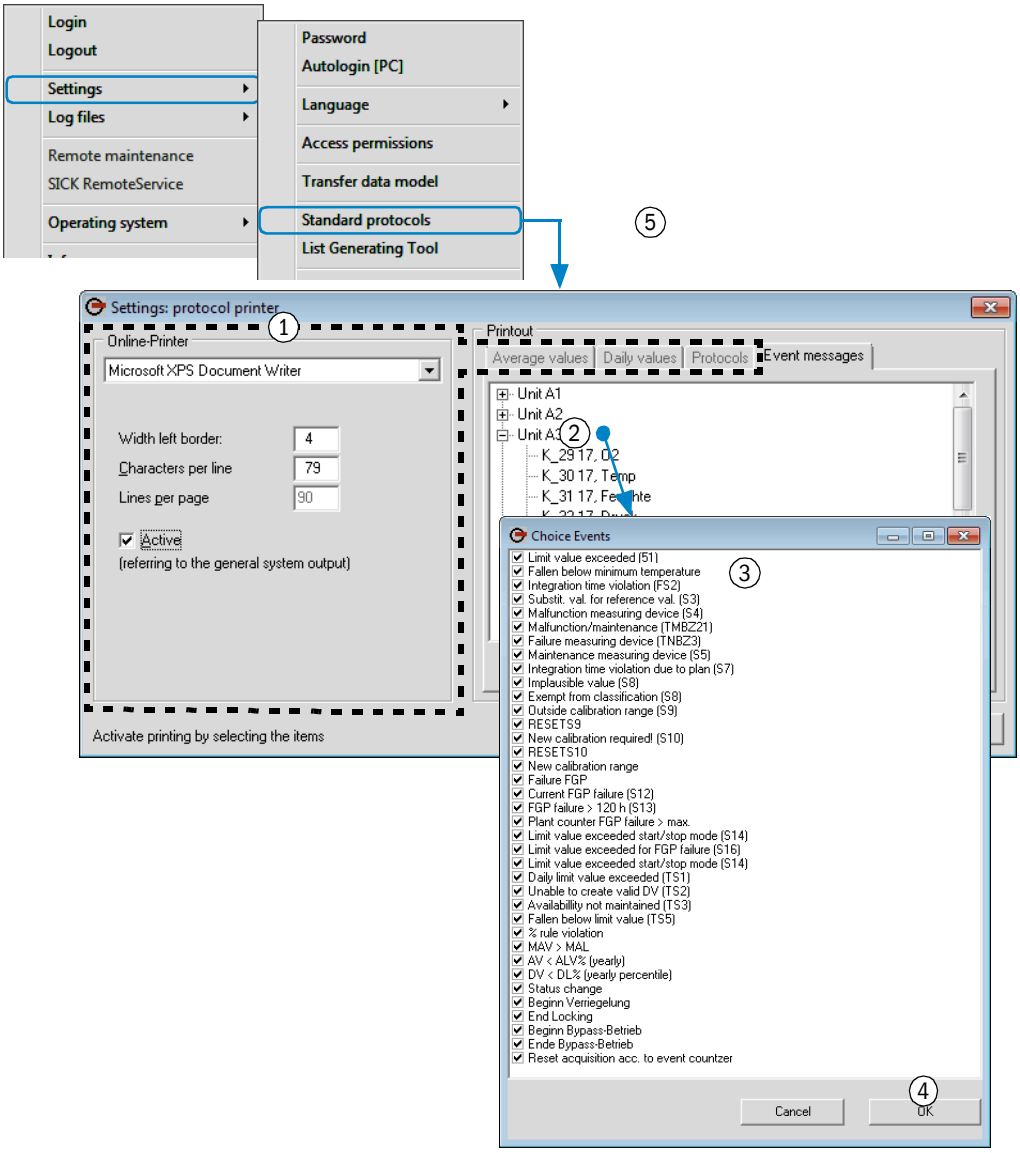
1	► Select the printer used for all automatic outputs.
2	► Select the layout settings for the output.
3	(►) Include general system messages in the output.
4	Select automatic output of average values [1]
5	Select automatic output of daily values [1]
6	Select automatic output of protocols [2]
	NOTE: The contents of the protocols can be configured (see “Configuring protocol contents”, page 60).
7	► see “Configuring protocol contents”, page 60
8	► Select the plant where protocols shall be output automatically.
9	► Save settings.

[1] Output of values takes place during each day change.
[2] *Function:* During each day change, all average values and classifications of the past calendar day are output as well as all current intermediate states for the current calendar year. During each change of month, all daily values of the past calendar month are additionally output (monthly protocol). During each change of year, all monthly values and the classifications of the past calendar year are additionally output (yearly protocol).

8.5.2 Configuring protocol contents

- These settings affect permanent storage of protocol data in the MEAC system.
- Thus, these settings also affect output of protocols (see “Activating automatic data outputs”, page 59).

Fig. 42: System Configuring automatic data outputs (with example data)



1	see “Activating automatic data outputs”, page 59

To change the protocol contents of a component:

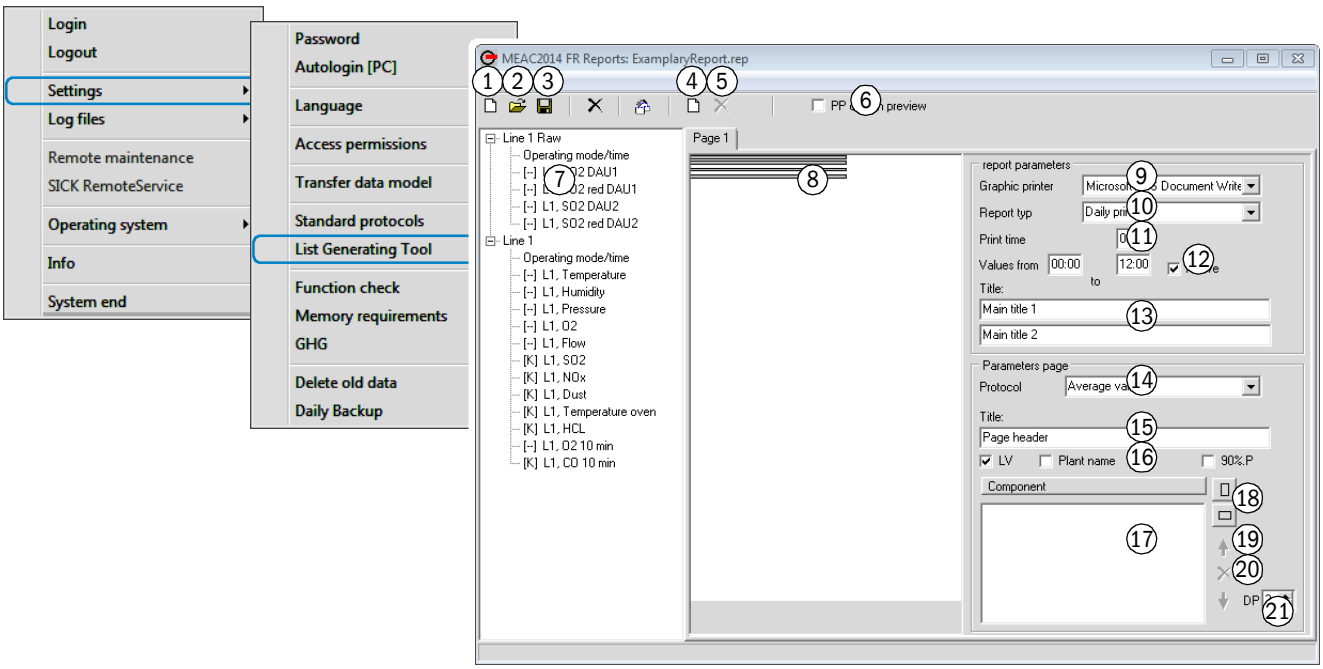
2	▸ Doubleclick on the name of a component.
3	▸ Deactivate individual protocol contents, as desired. [1]
4	▸ Save the displayed protocol configuration for this component.

[1] Standard state: All protocol contents are saved and output.

- Perform protocol configuration for each component.
- Change of a protocol configuration is effective as from the change timepoint. Protocol data already saved are not changed.

8.6 Configuring individual automatic reports

Fig. 43: System *Reports (with example data)*



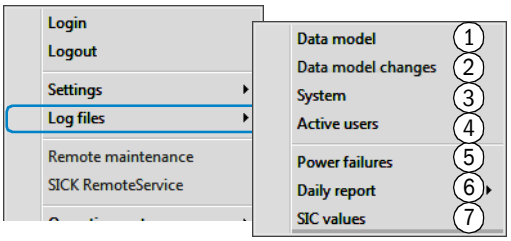
1	▸ Start a new report configuration.
2	(▸) Open an existing report configuration.
3	▸ Save the displayed report configuration.
4	(▸) Create next page. [1]
5	(▸) Delete displayed page layout.
6	(▸) Include reprocessed data in the preview.
7	List of selectable measured value components. ▸ *To select a component for the report:* Drag the name of the desired component in the list of components [17] (Drag&Drop).
8	Page preview
9	▸ Select printer for automatic output.
10	▸ Select time interval for automatic data output (report type).
11	▸ Select timepoint for automatic data output.
12	(▸) Set time interval the report should cover (daytimes). [2]
13	▸ Enter title (headings) for the complete report.
14	▸ Select the type for the values to appear in the report. [3]
15	▸ Enter the heading for the single pages.
16	(▸) Activate additional information.
17	List of measured values that appear in the report.
18	(▸) Select page format (portrait/landscape).
19	(▸) Move selected components in the list (change sequence).
20	(▸) Delete selected components from the list of components.
21	▸ Define number of decimal places with which the values appear in the report.

[1] Necessary when the layout of the actual page is larger than the page width. One report can have a maximum of 8 different pages.
[2] Only possible for daily values.
[3] Selection options depend on [10].

8.7 Using log functions

8.7.1 Log functions (overview)

Fig. 44: System *Functions for log files*

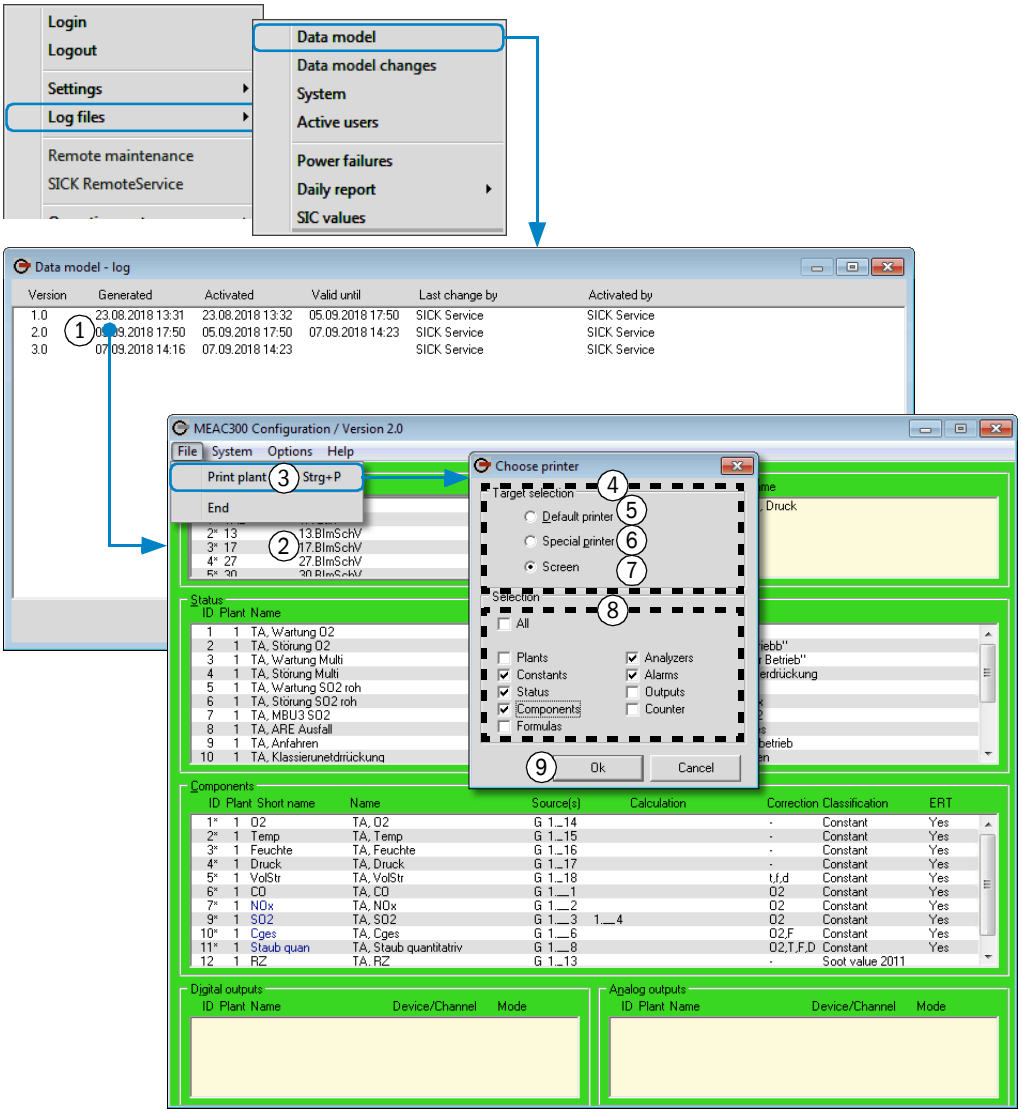


1	see “Displaying/printing log files”, page 63
2	▸ View the differences between the real evaluation configurations and the current simulated evaluation configuration. [1]
3	▸ View stored Log entries of the MEAC system (System Log).
4	▸ View list of users currently logged in.
5	▸ View protocol of power voltage failures. [2]
6	see “Printing saved protocols ”, page 64
7	▸ View stored status designations and classifications.

[1] Green symbol = included in the evaluation configuration. Red symbol = changed from previous version. No symbol = not included in the evaluation configuration.
[2] For one year (selectable).

8.7.2 Displaying/printing log files

Fig. 45: System *Displaying/printing log files (with example data)*

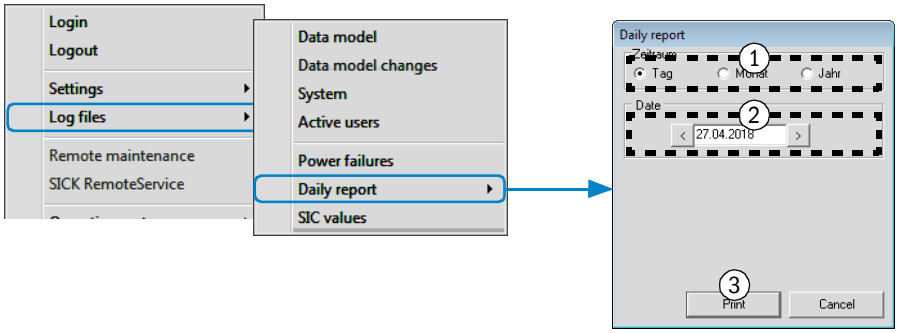


1	▸ *To select the timeframe:* Doubleclick on the relevant line. [1]
2	▸ Mark the desired plant or “All plants” (click on the relevant line).
3	▸ Select the output function.
4	▸ Select the output medium.
5	– Default printer of the Windows system
6	– Printer selection of the Windows system
7	– Representation on the screen
8	▸ Select the values to be output.
9	▸ Start output.

[1] Dates can be selected freely. The list shows evaluation configurations (data models) already activated in this MEAC300 program installation.

8.7.3 Printing saved protocols

Fig. 46: System Printing the daily report



1	▸ Select the desired value of the reference timeframe (day/month/year).
2	▸ Select the calendar date of the desired reference timeframe. [1]
3	▸ Start output.[2]

[1] Not possible for the current calendar date.
[2] The “Windows” menu for printer selection then appears.

The protocols contain the output data in accordance with official Directives and Guidelines.

8.8 Using remote maintenance

Purpose

The emission PC can be check and operated from an external location (e.g. by a manufacturer's specialist). A separate remote maintenance program is used here.

The remote maintenance program also has a Chat function.

Starting remote maintenance

NOTE:
When “ERT” (option) is active and only a modem is used:
▶ Carry out the following actions within one minute.
Otherwise the ERT functions automatically take over the modem again.

1 Activate remote maintenance (see “Using the functions of program section “System””, page 55).
»» The remote maintenance program starts automatically.

In the remote maintenance program:

2 Select Host mode.
3 Select host object “remote maintenance” or “modem”.
»» The MEAC program is ready for remote maintenance.

Terminating remote maintenance

In the remote maintenance program:

▶ Terminate the remote maintenance program.

9 Data outputs

9.1 Data outputs in accordance with BEP/SCC in MEAC300 (overview)

Legal requirements → ↓		Automatic outputs		Manually started outputs		Access to individual emission data
		Output timepoint	Configuration in MEAC300	Current intermediate state [1]	Saved automatic outputs	
Measured values and status signals	Raw values [2]	–	–	Function, see "Exporting the data", page 51 Example, see "Data output of raw values (intermediate state)", page 96	–	see "Viewing/printing previous measured values", page 43
	Plant-dependent status data	–	–	–	–	Function, see "Viewing previous status changes", page 48 Example, see "Print output of status changes", page 80
Average	Scaled average values	–	–	see "Exporting the data", page 51	–	Function, see "Viewing/printing previous measured values", page 43 Example, see "Print output of average values", page 79
	Validated average values					
	Rounded, validated average values [3]	Change of day	see "Activating automatic data outputs", page 59	see "Viewing/outputting protocols ", page 45	Function, see "Printing saved protocols ", page 64 Example, see "Print output of an average protocol", page 81	
	Rounded daily average [3]	Change of month				
	Rounded monthly average[3]	Change of year				
	Non-rounded daily average	–	–	see "Exporting the data", page 51	–	
	Non-rounded monthly average					
Classification	Frequency distribution per day	Change of day	see "Activating automatic data outputs", page 59	see "Viewing/outputting protocols ", page 45	Function, see "Printing saved protocols ", page 64 Example, see "Print output of a class protocol (BEP)", page 82	see "Viewing/outputting protocols ", page 45 [4]
	Frequency distribution per year	Change of year				
	Event messages per day	Change of day	see "Configuring protocol contents", page 60			
	Event messages per year	Change of year				
Configuration	Protocol of evaluation configuration	After change	– *(always active)*	–	Function, see "Displaying/printing log files", page 63 Example, see "Print output of evaluation configuration", page 95	–

[1] *For classifications:* Current result of the evaluation for the current reference timeframe when output starts. *For emission values:* Selectable timeframe between two calendar days.
[2] Momentary values with status identification.
[3] Output of non-rounded values may also be possible in accordance with legal requirements.
[4] Also available per month.

9.2 Further data outputs with date displays (overview)

Manual data access	
Viewing operating times/special times:	see “Viewing operating times/special times”, page 49
Viewing events:	see “Searching/viewing events ”, page 46
Exporting events:	see “Adding comments to events”, page 47
Searching/exporting extreme values:	see “Searching/exporting extreme values”, page 52
Viewing calibration range monitoring:	see “Viewing compliance with the “valid calibration range””, page 50
Exporting measuring signals (raw values):	see “Displaying/exporting analog measuring signals (raw values)”, page 53

Automatic data outputs	
Configuring individual reports:	see “Configuring individual automatic reports”, page 61

10 User functions for Add-ons

These functions are only available when the corresponding Add-on is installed.

Detailed technical information on Add-ons → “Technical Information MEAC300 Add-ons”.

10.1 User functions for MEAC UniversalModbus

Only valid with Add-on “MEAC UniversalModbus” installed

10.1.1 Function of the MEAC UniversalModbus

Program module “MEAC UniversalModbus” serves to transfer emission data via a serial interface (RS232) from the emission PC to a separate computer system - and vice-versa.

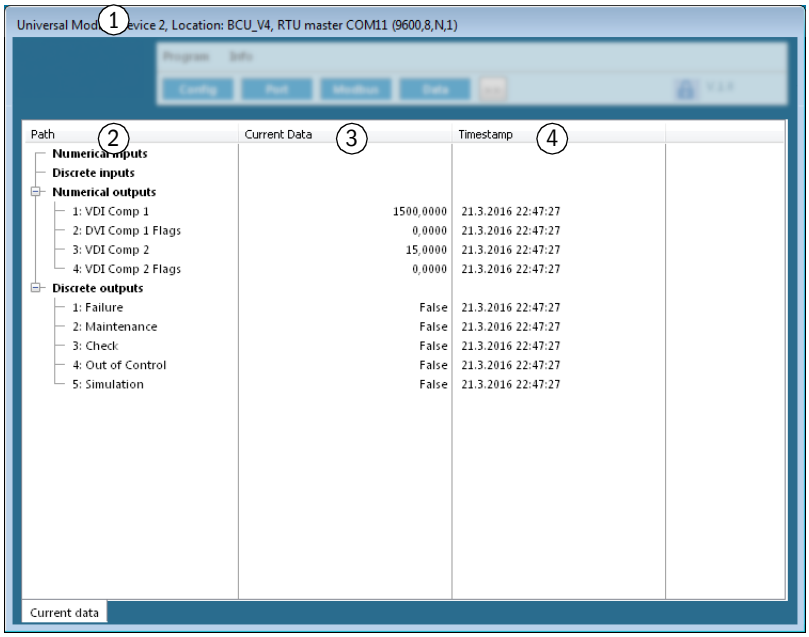
- The Modbus program window is displayed permanently when the MEAC program runs with MEAC UniversalModbus.
- The Modbus program window is applicable for just one Modbus variant. Several Modbus program windows exist when several Modbus variants run at the same time.

Status displays in System window, see “System window contents”, page 20.

10.1.2 Modbus program window: Modbus status

▶ Select the tab for current data in the Modbus window.

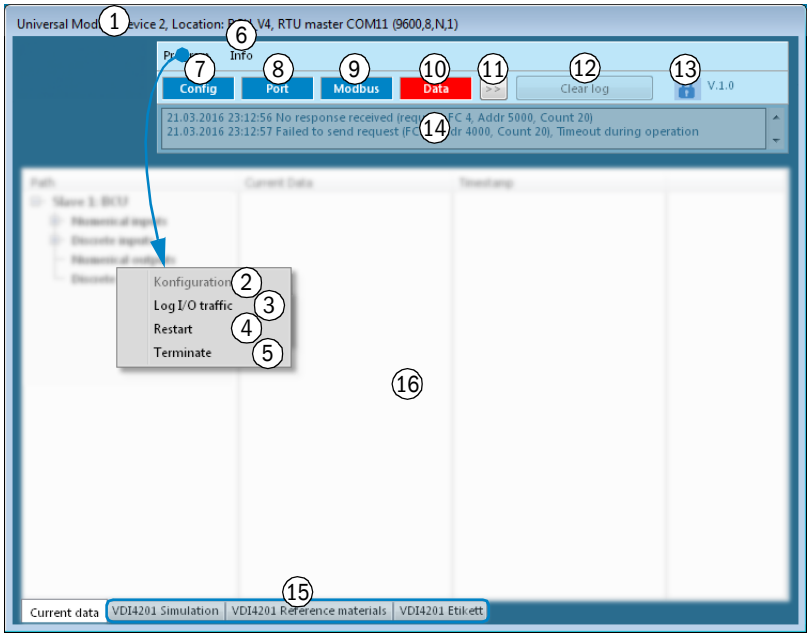
Fig. 47: Modbus program window: Current data (example)



1	Identification of the Modbus variant
2	Configured Modbus inputs and outputs of this Modbus variant
3	Last values transferred
4	Timestamp of last values transferred

10.1.3 Modbus program window: Operating functions

Fig. 48: Modbus program window: Operating functions



1	Identification of the Modbus variant
2	(▸) Call up the configuration function for this UniversalModbus variant. [1]
3	(▸) Record the data transfers of this Modbus variant. [2][3]
4	(▸) Terminate and restart the data transfer of this MEAC UniversalModbus variant.
5	(▸) Terminate this Modbus variant.
6	(▸) Call up information on MEAC UniversalModbus.
7	Status display for the Modbus configuration [4]
8	Status display for the hardware interfaces used [4]
9	Status display for the Modbus data transfer [4]
10	Status display for the values transferred [4]
11	(▸) Activate/deactivate display of Log messages (14). [5]
12	(▸) Clear the Log. [5]
13	Symbol for current user access rights [6]
14	Log messages
15	Special functions[7]
16	Lists and displays, depending on the selected function

[1] Only available on a PC without Laser-Sauerstofftransmitter (Stand-alone configurator).
[2] In text file <MEAC folder>\log\MBxx.log (xx = number of the Modbus variant in the list of interfaces).
[3] Only available with extended access rights (see [13]).
[4] BLUE = operating state. RED = Modbus operation is possibly interrupted.
[5] Only available with the highest access rights (Supervisor).
[6] “Open padlock” = the logged in user has the extended access rights for the Modbus operating functions.
[7] Only available with correspondent program configuration.

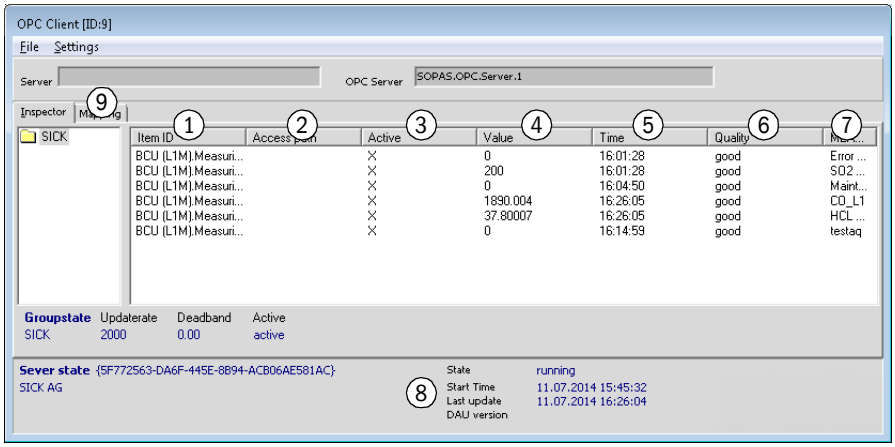
10.2 Status displays for MEAC OPCClient

Only valid with Add-on “MEAC OPCClient”

Program module “MEAC OPCClient” serves to transfer emission data via a network connection (LAN) from the emission PC to a separate computer system with operating system “Microsoft Windows” - and vice-versa.

This Status window is always open when the Add-on “MEAC OPCClient” is active.

Fig. 49: Status display of the MEAC OPCClient (example) 79



1	OPC identification
2	OPC access path
3	X = is assigned MEAC-internally
4	Current measured value
5	Time when the current value was transferred
6	“Good” = OPC communications is functioning / “Bad” = OPC communication is interrupted
7	Name of the input/output in the MEAC evaluation configuration
8	Connection status

9	*Note:* Program section for MEAC OPCClient (→ “Technical Information MEAC300 Add-ons”)

Status displays in System window, see “System window contents”, page 20

10.3 User functions for MEAC Redundancy package

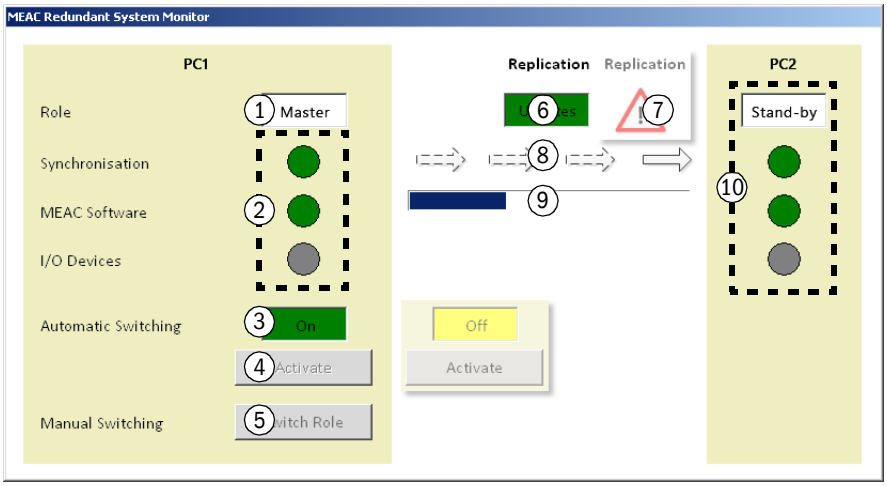
Only valid with Add-on “MEAC Redundancy package” installed

The MEAC Redundancy package makes two identical MEAC emission PCs to redundant emission PCs.
- Emission data evaluation is active in the emission PC which serves as “Master”.
- The “Slave” is passive and continuously receives the current data pool from the “Master”.

If the operation of the “Master” is interrupted, the roles of the “Master” and the “Slave” are automatically switched (Watchdog function). This can also be done manually per menu function.

10.3.1 Checking/controlling redundant operation

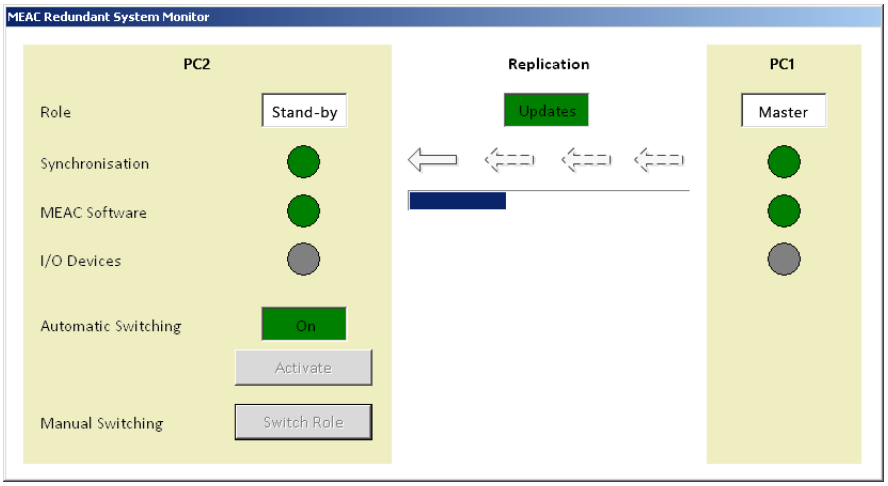
Fig. 50: Operating functions for redundant operation – Master mode (example)



1	Redundancy mode of this emission PC (local PC)
2	Status of this emission PC [1]
3	Status of the automatic Master/Slave switchover
4	(▸) Activate automatic Master/Slave switchover. [2]
5	(▸) Switch Master/Slave roles + deactivate automatic Master/Slave switchover. [3]
6	Status of data synchronization
7	Malfunction indication
8	Direction of data synchronization
9	Progress of data synchronization
10	Status of the other redundant emission PC

[1] Green = functioning. Yellow = interrupted. Orange = only functions partially. Red = not functioning. Gray = not monitored.
[2] Only available when automatic Master/Slave switchover is deactivated.
[3] Only available with highest access rights (login as Supervisor). Notes, see “Influencing Master/Slave switchover”, page 71.

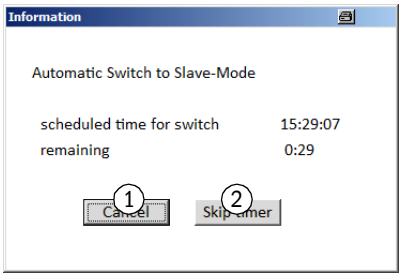
Fig. 51: Operating functions for redundant operation – Slave mode (example)



10.3.2 Influencing Master/Slave switchover

A countdown is displayed before an automatic Master/Slave switchover:

Fig. 52: Message for automatic Master/Slave switchover



1	▸ Prevent this automatic Master/Slave switchover.
2	▸ Perform this automatic Master/Slave switchover now immediately.

Manual Master/Slave switchover, see “Checking/controlling redundant operation”, page 70.

11 Program section “Simulation”

11.1 Purpose of Simulation mode

Program section “Simulation” serves to create or change an evaluation configuration (data model) and to test the configuration under simulated conditions before it is used for the real evaluation. The simulation functions include:

- Manual setting of input and output signals.
- Time-lapse for the simulated sequences.

The simulated evaluation configuration can be used at any time to replace the real evaluation (see “Using Simulation mode (principle)”, page 73).

11.2 Starting Simulation mode

1 Select Login.
2 Enter the name and password of a user with access rights to program section “Simulation”.
»» Login is changed to System.
3 Select Simulation.
»» Simulation mode is active. The toolbar layout is generally as follows:

Current | Review | Current | Review | Configuration | Start | Settings | Main program

- The red functions do not affect real evaluation.
- It is possible that more buttons for real evaluation are shown (depending on the monitor size).

11.3 Functions in Simulation mode (overview)

Button[1]	Function (Simulation mode) [2]
Current	Display the real current emission data.
Review	Display the real historical emission data.
Current	Display the simulated “current” emission data.
Review	Display the simulated “previous” emission data.
Configuration	Display the simulated evaluation configuration.
Start	Start the test run (simulation of evaluation with the evaluation configuration which is configured in Simulation mode). [3]
Settings	Configure the output of simulated data. Delete stored simulation data.
Main program	Terminate Simulation mode.

[1] It is possible that more buttons for real evaluation are shown on large monitors.
[2] Functions in real mode, see “Button functions”, page 19.
[3] Instructions, see “Testing the simulated evaluation configuration”, page 75.

The real emission data evaluation continues to run in Simulation mode as well. Black button “Current” switches immediately to the real current emission data.

Control functions in System window, see “System window with test run functions (example)”, page 75.

11.4 Using Simulation mode (principle)

Step 1: Create a simulated evaluation configuration

1 Start Simulation mode, see “Starting Simulation mode”, page 72.
2 Select Configuration.
3 Set the simulated evaluation configuration (see “Simulation mode (with example data)”, page 74).

In older MEAC documentations, the evaluation configuration is also referred to as “data model”.

Step 2: Test the simulated evaluation configuration

1 Make a test run (see “Starting/terminating a test run”, page 75).
2 Check the test results (see “Checking test results”, page 76).

When the evaluation configuration has been changed, the test run must be terminated and started again so that the changed evaluation configuration is effective during the test run.

When the test was successful:

Step 3: Apply the tested evaluation configuration

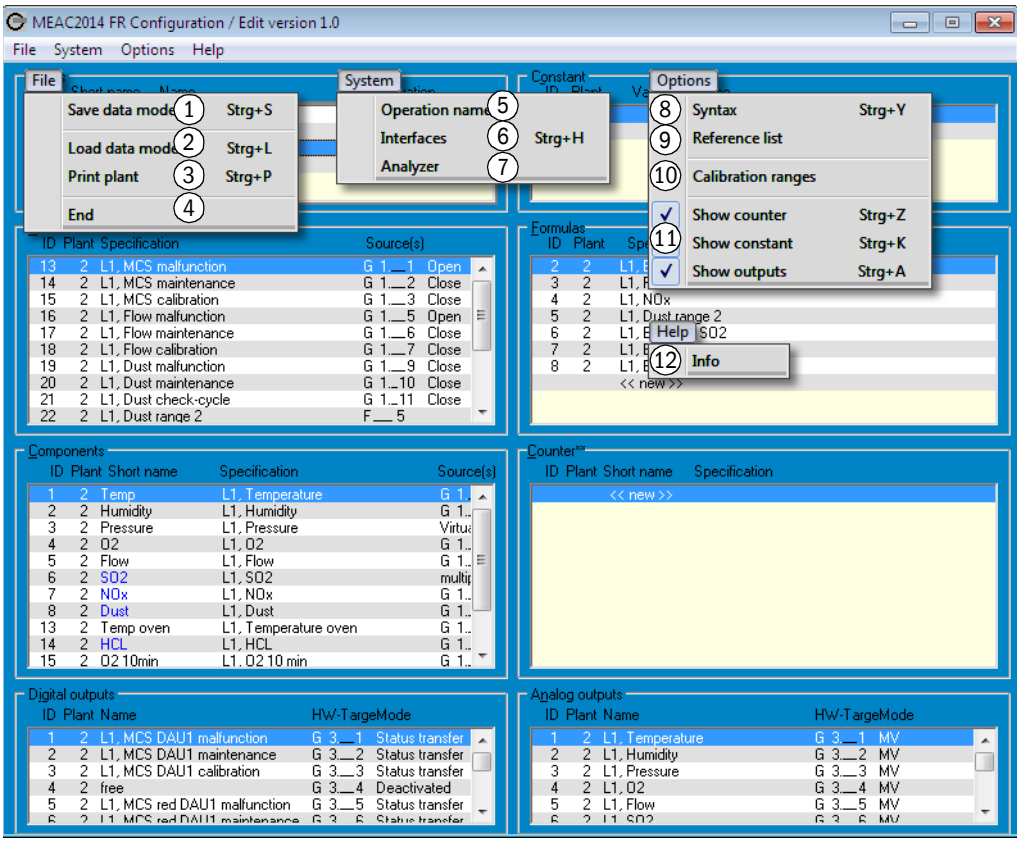
1 Terminate Simulation mode, see “Functions in Simulation mode (overview)”, page 72.
2 Activate the simulated evaluation configuration for the real evaluation (see “Making system settings”, page 56).

CAUTION: Risk of incorrect settings and legal consequences
Incorrect settings in the evaluation configuration can mean the MEAC system no longer functions as intended. Official requirements may not then be met.
- Observe the Technical Information concerning the evaluation configuration (see “Technical Information MEAC300”).
- Change the currently running evaluation configuration only when the valid official regulations have been considered correctly in the evaluation configuration.

11.5 Setting an evaluation configuration (overview)

Detailed information on evaluation configuration settings → “Technical Information MEAC 300”.

Fig. 53: Configuration *Simulation mode (with example data)*



1	▸ Save the displayed evaluation configuration (data model). [1]
2	(▸) Load the current real evaluation configuration or an evaluation configuration stored earlier. *IMPORTANT:* The displayed evaluation configuration is then discarded. [2]
3	(▸) Output the part of the evaluation configuration displayed on a printer. [3]
4	▸ Close the evaluation configuration.
5	▸ Determine the name of the MEAC system. [4]
6	▸ Configure device connections. [4]
7	▸ Integrate analyzers. [4]
8	▸ View errors (inconsistencies) of the evaluation configuration.
9	(▸) View dependency structures of the evaluation configuration. [5]
10	(▸) View the “valid calibration ranges”. [6]
11	(▸) Display additional configuration components.
12	(▸) Retrieve information on the MEAC program.

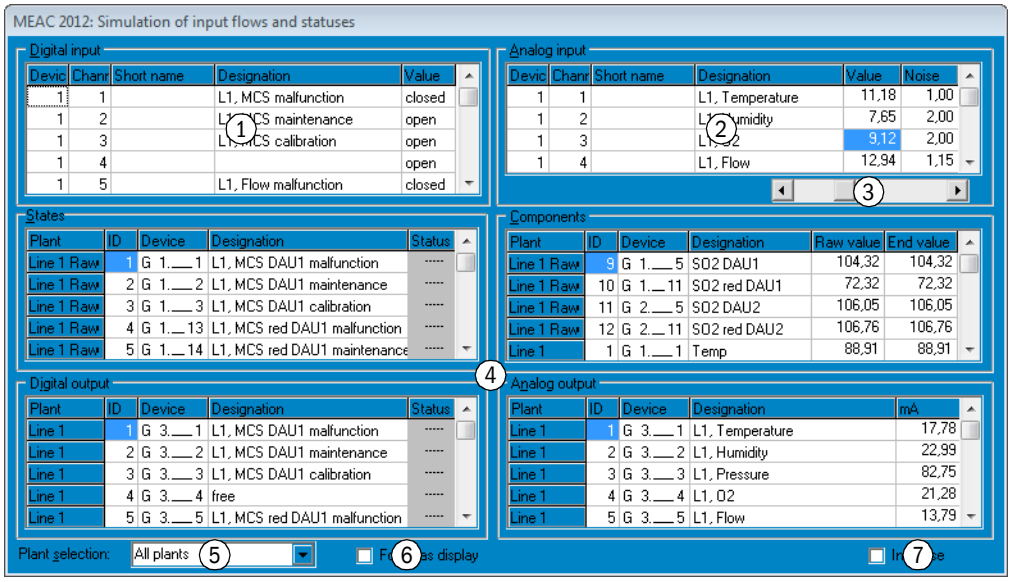
[1] Does NOT activate this evaluation configuration for the real evaluation.
[2] *Recommendation:* Save the displayed evaluation configuration beforehand.
[3] The values to be included in the output are adjustable. Preview on the PC monitor is selectable.
[4] Information → “Technical Information MEAC300”.
[5] Tree structure for statuses, formulas and components.
[6] Physical value ranges in which the average values of a component are considered, metrologically, as reliable

11.6 Testing the simulated evaluation configuration

11.6.1 Starting/terminating a test run

▶ *To start a test run: Select* Start.
»» The simulated data are displayed (see Fig. 54).
»» A system window is displayed(see Fig. 55).
▶ *To terminate a test run:* Stop the simulation in the system window (see Fig. 55 [3]).

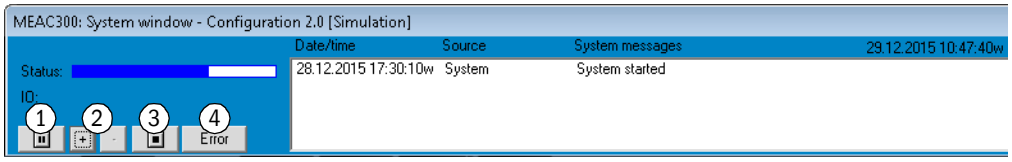
Fig. 54: Start *Simulated data in the test run (example)*



1	Simulated electronic status of digital inputs
	▸ *To change a simulated status:* Doubleclick the respective line.
2	Simulated input signals of numeric inputs
	To change a simulated value: 1 Select the respective value (click with the mouse). [1] 2 *Rough setting:* Drag the slider [3] with the mouse. 3 *Fine setting:* Highlight the slider[3], then press the arrow buttons (cursor buttons).
3	Slider for the simulated value of a numeric input.
4	Results of simulated evaluation at simulated timepoint.
5	(▸) Restrict displays to one plant.
6	(▸) Display simulated formula results (separate window).
7	(▸) Zoom window.

[1] *To mark several values:* Press and hold down the Shift button and click.

Fig. 55: Start *System window with test run functions (example)*



1	(▸) Stop/continue simulated time (pause function).
2	(▸) Speed up/slow down simulated time.
3	▸ Stop the simulation (terminate the test run), close the test run window.
4	(▸) View test run error messages (separate window).

11.6.2 Checking test results

1 Set the simulated input conditions:
   – Set the simulated status of the digital inputs.
   – Set the simulated numeric input values (measured values).
2 Observe and check the simulated output signals and output values:
   – Check the results of the simulated evaluation in the tabular display (see “System window with test run functions (example)”, page 75).
   – Check the graphic representation of the simulated emission data (see “Functions in Simulation mode (overview)”, page 72).
   – Wait for time sequences to elapse.
3 Vary the simulated input conditions.

▶ Hold or speed up the simulated time as required.

NOTE:
The emission data evaluation is only active when the status signal “Subject to monitoring” is activated for the plant in question.

12 Shutdown

The MEAC system is designed to remain permanently in operation. This Section is applicable for the case where the MEAC must be put out of operation for technical reasons.

In Germany, the operator must ensure an availability of 99% (in accordance with the Guideline “Bundeseinheitliche Praxis bei der Überwachung der Emissionen” dated 04.08.2010, Section 2.5.1.3) for an officially required electronic evaluation unit.

12.1 Preparing shutting down

Inform/prepare locations involved

- Inform all locations involved about the pending system shutdown.
- Check whether automatic safety functions are activated when the MEAC system shuts down (e.g. warning messages). Temporarily suspend such safety functions.
- *With emission data remote transfer:* Inform the connected authorities.

Prepare hardware and software

- *Recommendation:* Backup all stored data (or ensure that a current backup exists).
- *On workstation PCs:* Terminate all actions with the MEAC software.
- *When the MEAC system uses MEAC data acquisition units:* Ensure the function of the data acquisition units (ready for operation, voltage supply).

- MEAC data acquisition units can store the current emission data in intermediate storage when the emission PC is not in operation (see “Function of the data acquisition units”, page 12).
- The current emission data are lost during the shutdown time when the emission data are sent via a Field module.

12.2 Shutting down

On workstation PCs:

- Terminate the MEAC software.

On emission PC:

1. Terminate the MEAC software.
2. Shutdown the operating system.

- *With redundant emission PCs:* Observe the information on redundant systems (→ “Technical Information MEAC300 Add-ons”).

12.3 Putting back into operation

On emission PC:

1. Start the emission PC (incl. operating system).
2. Start the MEAC software.
3. *To take the data stored on the MEAC data acquisition units into account:* Include the reprocessed data in the evaluations (see “Measured values (example)”, page 41, see “Configuring individual automatic reports”, page 61).

12.4 Disposing of hardware

- ▶ Dispose of electronic components as electronic waste.
- ▶ Dispose of mechanical components as industrial waste.

▶ Observe local regulations on disposal.

13 Annex 1: Examples for data outputs

13.1 Print output of average values

Fig. 56: Print output of average values (with status identification, example)

Print date: 13.09.2018
- Simulation data -

Average values from 27.04.2018

	17 CO [mg/m³]	17 NOx [mg/m³]	17 HCL [mg/m³]	17 NH3 [mg/m³]
27.04.2018 00:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 01:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 01:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 02:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 02:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 03:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 03:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 04:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 04:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 05:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 05:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 06:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 06:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 07:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 07:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 08:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 08:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 09:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 09:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 10:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 10:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 11:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 11:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 12:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 12:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 13:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 13:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 14:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 14:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 15:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 15:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 16:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 16:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 17:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 17:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 18:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 18:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 19:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 19:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 20:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 20:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 21:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 21:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 22:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 22:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 23:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 23:30s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2
27.04.2018 24:00s	21,00*-GGB 2	52,00*-GKB 2	12,00*-GGB 2	0,00*-GGB 2

13.2 Print output of status changes

Fig. 57: Print output of status changes (example)

Print date: 04.10.2018

Status changes from 01.02.2018 to 14.02.2018 - Simulation data -

Date/time	State	Status signal
01.02.2018 00:00:05	ON	17, ARE Ausfall
02.02.2018 00:00:05	OFF	17, ARE Ausfall
03.02.2018 00:00:05	ON	17, ARE Ausfall
07.02.2018 06:30:05	OFF	17, in Betrieb
07.02.2018 06:30:05	OFF	17, BA Normalbetrieb
08.02.2018 00:00:05	ON	17, in Betrieb
08.02.2018 00:00:05	ON	17, BA Normalbetrieb
08.02.2018 05:30:05	OFF	17, ARE Ausfall
08.02.2018 05:30:05	OFF	17, in Betrieb
08.02.2018 05:30:05	OFF	17, BA Normalbetrieb
09.02.2018 00:00:05	ON	17, Wartung Multi
09.02.2018 00:00:05	ON	17, in Betrieb
09.02.2018 00:00:05	ON	17, Wartung SAG
09.02.2018 00:00:05	ON	17, BA Normalbetrieb
09.02.2018 03:30:05	OFF	17, Wartung Multi
09.02.2018 03:30:05	OFF	17, Wartung SAG
10.02.2018 00:00:05	ON	17, Störung Multi
10.02.2018 00:00:05	ON	17, Störung SAG
10.02.2018 03:30:05	OFF	17, Störung Multi
10.02.2018 03:30:05	OFF	17, Störung SAG
11.02.2018 00:00:05	ON	17, Wartung Multi
11.02.2018 00:00:05	ON	17, Wartung SAG
11.02.2018 01:00:05	OFF	17, Wartung Multi
11.02.2018 01:00:05	ON	17, Störung Multi
11.02.2018 01:00:05	ON	17, Störung SAG
11.02.2018 01:00:05	OFF	17, Wartung SAG
11.02.2018 03:30:05	OFF	17, Störung Multi
11.02.2018 03:30:05	OFF	17, Störung SAG
12.02.2018 00:00:05	ON	17, Wartung Multi
12.02.2018 00:00:05	ON	17, Wartung SAG
12.02.2018 02:00:05	OFF	17, Wartung Multi
12.02.2018 02:00:05	OFF	17, Wartung SAG
12.02.2018 06:00:05	OFF	17, in Betrieb
12.02.2018 06:00:05	OFF	17, BA Normalbetrieb
13.02.2018 00:00:05	ON	17, Wartung Multi
13.02.2018 00:00:05	ON	17, in Betrieb
13.02.2018 00:00:05	ON	17, Wartung SAG
13.02.2018 00:00:05	ON	17, BA Normalbetrieb
13.02.2018 02:00:05	OFF	17, Wartung Multi
13.02.2018 02:00:05	OFF	17, Wartung SAG
14.02.2018 00:00:05	ON	17, Störung Multi
14.02.2018 00:00:05	ON	17, Störung SAG
14.02.2018 02:00:05	OFF	17, Störung Multi
14.02.2018 02:00:05	OFF	17, Störung SAG

13.3 Print output of an average protocol

Fig. 58: Print output of a protocol (example page)

Druckdatum: 22.02.19 07:54:06
Seite: 6

TA-Luft

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service

Kurzzeitmittelwerte

Zeitstempel	O2	Temp	Feuchte	Druck	VolStr m.O2
27.04.2018 00:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 01:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 01:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 02:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 02:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 03:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 03:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 04:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 04:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 05:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 05:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 06:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 06:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 07:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 07:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 08:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 08:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 09:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 09:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 10:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 10:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 11:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 11:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 12:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 12:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 13:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 13:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 14:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 14:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 15:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 15:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 16:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 16:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 17:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 17:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 18:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 18:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 19:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 19:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 20:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 20:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 21:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 21:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 22:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 22:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 23:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 23:30 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2
27.04.2018 24:00 s	6 GGB 2	0 GGB 2	0 GGB 2	1013 GGB 2	10002 GGB 2

Zeitstempel	VolStr o.O2	CO	NOx	SO2	Cges
27.04.2018 00:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 01:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 01:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 02:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 02:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 03:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 03:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 04:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 04:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 05:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 05:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 06:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 06:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 07:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 07:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 08:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 08:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 09:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 09:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 10:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 10:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 11:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 11:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 12:00 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2
27.04.2018 12:30 s	10002 GGB 2	11 GGB 2	129 GGB 2	29 GGB 2	2 GGB 2

13.4 Print output of a class protocol (BEP)

Fig. 59: Print output of classifications - example page 1

Druckdatum: 22.02.19 07:54:06
Seite: 3

TA-Luft

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.

Calculation formula: (S6 – S4 – S5)/S6 × 100%

Klasse	Bezeichnung	SO2		Cges		Cges Mass		Staub	
		Tag	Jahr	Tag	Jahr	Tag	Jahr	Tag	Jahr
	RG	200		10		1		10	
	TG	100		5		0,5		5	
	MG	./.		./.		./.		./.	
	Einheit	mg/m³		mg/m³		kg/h		mg/m³	
	Verfügbarkeit der AMS	100,0	99,2	100,0	99,2	100,0	99,2	100,0	100,0
M 1	RW <= 0,05 * RG	0	0	0	0	48	5345	0	67
M 2	RW <= 0,10 * RG	0	0	0	1	0	7	48	3435
M 3	RW <= 0,15 * RG	48	3487	0	29	0	6	0	1897
M 4	RW <= 0,20 * RG	0	281	48	3440	0	4	0	1
M 5	RW <= 0,25 * RG	0	1	0	448	0	0	0	1
M 6	RW <= 0,30 * RG	0	2	0	1418	0	0	0	1
M 7	RW <= 0,35 * RG	0	1	0	0	0	0	0	1
M 8	RW <= 0,40 * RG	0	1	0	3	0	0	0	0
M 9	RW <= 0,45 * RG	0	0	0	1	0	0	0	0
M 10	RW <= 0,50 * RG	0	0	0	1	0	0	0	1
M 11	RW <= 0,55 * RG	0	1	0	1	0	0	0	0
M 12	RW <= 0,60 * RG	0	0	0	2	0	0	0	0
M 13	RW <= 0,65 * RG	0	0	0	0	0	0	0	0
M 14	RW <= 0,70 * RG	0	48	0	1	0	0	0	0
M 15	RW <= 0,75 * RG	0	2	0	1	0	0	0	0
M 16	RW <= 0,80 * RG	0	0	0	0	0	0	0	0
M 17	RW <= 0,85 * RG	0	0	0	2	0	0	0	0
M 18	RW <= 0,90 * RG	0	0	0	1	0	0	0	0
M 19	RW <= 0,95 * RG	0	96	0	0	0	0	0	0
M 20	RW <= 1,00 * RG	0	0	0	2	0	0	0	0
S 1	GW-Überschreitung (gültig)	0	1442	0	11	0	0	0	3
S 2	ungültig sonstig	0	1	0	1	0	1	0	1
S 3	Ersatzwert Bezug (gültig)	0	1876	0	1876	0	1876	0	1921
S 4	ungültig Störung	0	23	0	23	0	23	0	0
S 5	ungültig Wartung	0	22	0	22	0	22	0	0
S 6	Betriebszeitzähler	48	5431	48	5431	48	5431	48	5431
S 7	ungültig anlagenbedingt	0	11	0	11	0	11	0	11
S 8	nicht beurt.pflicht./ unplaus.	0	12	0	12	0	12	0	12
S 9	Kal.Bereich kurzzeit (gültig)	0	0	0	0	0	0	0	0
S 10	Kal.Bereich langzeit	0	0	0	0	0	0	0	0
S 11	ARE-Ausfall (gültig)	0	365	0	0	0	0	0	370
S 14	GW-Ü An-/Abfahrbetrieb								
S 17	GW-Ü Anfahrbetrieb	0	0						
S 0	Ausser Betrieb	0	136	0	136	0	136	0	136
T 1	TW <= 0.1*TG	0	0	0	0	1	113	0	1
T 2	TW <= 0.2*TG	0	0	0	0	0	1	1	72
T 3	TW <= 0.3*TG	1	72	0	1	0	0	0	41
T 4	TW <= 0.4*TG	0	8	1	72	0	0	0	0
T 5	TW <= 0.5*TG	0	0	0	10	0	0	0	0
T 6	TW <= 0.6*TG	0	0	0	30	0	0	0	0
T 7	TW <= 0.7*TG	0	0	0	0	0	0	0	0
T 8	TW <= 0.8*TG	0	0	0	0	0	0	0	0
T 9	TW <= 0.9*TG	0	0	0	0	0	0	0	0
T 10	TW <= 1.0*TG	0	0	0	0	0	0	0	0
TS 1	Überschreitung TGW	0	34	0	1	0	0	0	1
TS 2	TMW-Bildung nicht möglich	0	3	0	3	0	3	0	2

Fig. 60: Print output of classifications - example page 2

Druckdatum: 22.02.19 07:54:06
Seite: 4

TA-Luft

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.

Klasse		Bezeichnung	Mass Staub Tag	Mass Staub Jahr	RZ Tag	RZ Jahr
		RG	0,4		2	
		TG	0,2		1	
		MG	./.		./.	
		Einheit	kg/h		RZ	
		Verfügbarkeit der AMS	100,0	100,0	100,0	100,0
M	1	RW <= 0,05 * RG	48	5405	0	0
M	2	RW <= 0,10 * RG	0	0	0	0
M	3	RW <= 0,15 * RG	0	0	0	0
M	4	RW <= 0,20 * RG	0	0	0	0
M	5	RW <= 0,25 * RG	0	0	480	54119
M	6	RW <= 0,30 * RG	0	2	0	0
M	7	RW <= 0,35 * RG	0	0	0	0
M	8	RW <= 0,40 * RG	0	0	0	0
M	9	RW <= 0,45 * RG	0	0	0	0
M	10	RW <= 0,50 * RG	0	0	0	0
M	11	RW <= 0,55 * RG	0	0	0	0
M	12	RW <= 0,60 * RG	0	0	0	0
M	13	RW <= 0,65 * RG	0	0	0	0
M	14	RW <= 0,70 * RG	0	0	0	0
M	15	RW <= 0,75 * RG	0	0	0	0
M	16	RW <= 0,80 * RG	0	0	0	0
M	17	RW <= 0,85 * RG	0	0	0	0
M	18	RW <= 0,90 * RG	0	0	0	0
M	19	RW <= 0,95 * RG	0	0	0	0
M	20	RW <= 1,00 * RG	0	0	0	0
S	1	GW-Überschreitung (gültig)	0	0	0	0
S	2	ungültig sonstig	0	1	0	0
S	3	Ersatzwert Bezug (gültig)	0	1921		
S	4	ungültig Störung	0	0	0	0
S	5	ungültig Wartung	0	0	0	0
S	6	Betriebszeitzähler	48	5431	480	54252
S	7	ungültig anlagenbedingt	0	11	0	8
S	8	nicht beurt.pflicht./ unplaus.	0	12	0	125
S	9	Kal.Bereich kurzzeit (gültig)	0	0		
S	10	Kal.Bereich langzeit	0	0		
S	11	ARE-Ausfall (gültig)	0	370		
S	14	GW-Ü An-/Abfahrbetrieb				
S	17	GW-Ü Anfahrbetrieb				
S	0	Ausser Betrieb	0	136	0	1409
T	1	TW <= 0.1*TG	1	115	0	0
T	2	TW <= 0.2*TG	0	0	0	0
T	3	TW <= 0.3*TG	0	0	1	115
T	4	TW <= 0.4*TG	0	0	0	0
T	5	TW <= 0.5*TG	0	0	0	0
T	6	TW <= 0.6*TG	0	0	0	0
T	7	TW <= 0.7*TG	0	0	0	0
T	8	TW <= 0.8*TG	0	0	0	0
T	9	TW <= 0.9*TG	0	0	0	0
T	10	TW <= 1.0*TG	0	0	0	0
TS	1	Überschreitung TGW	0	0	0	0
TS	2	TMW-Bildung nicht möglich	0	2	0	2

Klasse		Bezeichnung	Staub gal Tag	Staub gal Jahr
		RG	10	
		TG	./.	
		MG	./.	
		Einheit	mg/m³	
		Verfügbarkeit der AMS	100,0	100,0
F	1	RG eingehalten f.alle MW(M1)	48	5404
FS	1	RG-Überschreitung min.1 MW (S1)	0	3
FS	2	ungültig sonstig	0	1
FS	4	ungültig Störung	0	0
FS	5	ungültig Wartung	0	0
FS	6	Betriebszeitzähler	48	5431
FS	7	ungültig anlagenbedingt	0	11
FS	8	nicht beurt.pflicht./ unplaus.	0	12
FS	11	ARE-Ausfall (gültig)	0	370
FS	0	Ausser Betrieb	0	136
FS	Ü	Dauer Über. [h:mm:ss] Tag	0:00:00	
		Dauer Über. [h:mm:ss] Jahr	1:30:00	

Zählerstände : keine Daten vorhanden

Fig. 61: Print output of classifications - example page 3

Druckdatum: 22.02.19 07:54:07
Seite: 11

13.BImschV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.

Klasse		Bezeichnung	NOx Raffi Tag	NOx Raffi Jahr	NOx gleiten Tag	NOx gleiten Jahr	NOx MMW Tag	NOx MMW Jahr	SO2 roh Tag	SO2 roh Jahr
		RG	variabel		variabel		500		2000	
		TG	./.		./.		./.		2000	
		MG	./.		./.		150		./.	
		Einheit	mg/m³		mg/m³		mg/m³		mg/m³	
		Verfügbarkeit der AMS	100,0	99,2	100,0	99,2	100,0	99,2	100,0	99,1
M	1	RW <= 0,05 * RG	0	3	0	3	0	4	0	0
M	2	RW <= 0,10 * RG	0	0	0	0	0	5	0	6
M	3	RW <= 0,15 * RG	0	2	0	2	0	150	0	61
M	4	RW <= 0,20 * RG	0	2	0	2	0	20	0	0
M	5	RW <= 0,25 * RG	0	3	0	3	0	1828	0	0
M	6	RW <= 0,30 * RG	0	14	0	14	48	3006	0	0
M	7	RW <= 0,35 * RG	0	144	0	144	0	3	0	1
M	8	RW <= 0,40 * RG	0	4	0	4	0	1	0	0
M	9	RW <= 0,45 * RG	0	9	0	9	0	3	0	0
M	10	RW <= 0,50 * RG	0	3	0	3	0	4	48	3434
M	11	RW <= 0,55 * RG	0	436	0	436	0	1	0	1
M	12	RW <= 0,60 * RG	0	1392	0	1392	0	3	0	0
M	13	RW <= 0,65 * RG	48	3006	48	3006	0	3	0	0
M	14	RW <= 0,70 * RG	0	1	0	1	0	1	0	27
M	15	RW <= 0,75 * RG	0	2	0	2	0	3	0	1823
M	16	RW <= 0,80 * RG	0	1	0	1	0	9	0	0
M	17	RW <= 0,85 * RG	0	0	0	0	0	1	0	1
M	18	RW <= 0,90 * RG	0	4	0	2	0	50	0	1
M	19	RW <= 0,95 * RG	0	1	0	1	0	0	0	0
M	20	RW <= 1,00 * RG	0	0	0	0	0	49	0	0
S	1	GW-Überschreitung (gültig)	0	332	0	334	0	216	0	4
S	2	ungültig sonstig	0	1	0	1	0	1	0	1
S	3	Ersatzwert Bezug (gültig)	0	3	0	6	0	1876	0	6
S	4	ungültig Störung	0	23	0	23	0	23	0	48
S	5	ungültig Wartung	0	22	0	22	0	22	0	0
S	6	Betriebszeitzähler	48	5431	48	5431	48	5431	48	5431
S	7	ungültig anlagenbedingt	0	11	0	11	0	11	0	11
S	8	nicht beurt.pflicht./ unplaus.	0	12	0	12	0	12	0	12
S	9	Kal.Bereich kurzzeit (gültig)	240	240	240	240	0	0	0	0
S	10	Kal.Bereich langzeit	96	96	96	96	0	0	0	0
S	11	ARE-Ausfall (gültig)	0	365	0	365	0	365	0	0
S	12	aktueller ARE-Ausfall	11		11		11		0	
S	13	ARE-Ausfall gleitend	365	365	365	365	365	365	0	0
S	14	GW-Ü An-/Abfahrbetrieb	0	3	0	3	0	2	0	0
S	0	Ausser Betrieb	0	136	0	136	0	136	0	136
T	1	TW <= 0.1*TG	0	0	0	0	0	0	0	0
T	2	TW <= 0.2*TG	0	0	0	0	0	0	0	1
T	3	TW <= 0.3*TG	0	0	0	0	0	0	0	0
T	4	TW <= 0.4*TG	0	0	0	0	0	0	0	0
T	5	TW <= 0.5*TG	0	0	0	0	0	0	1	71
T	6	TW <= 0.6*TG	0	0	0	0	0	0	0	1
T	7	TW <= 0.7*TG	0	3	0	3	0	0	0	1
T	8	TW <= 0.8*TG	0	0	0	0	0	25	0	39
T	9	TW <= 0.9*TG	0	0	0	0	1	38	0	0
T	10	TW <= 1.0*TG	0	1	0	1	0	10	0	0
TS	1	Überschreitung TGW	1	110	1	110	0	36	0	1
TS	2	TMW-Bildung nicht möglich	0	3	0	3	0	8	0	3
TS	3	Verfügbark. nicht eingeh.	0	4	0	4			0	1
		JG	./.		50,00		./.		./.	
		JW 2018 (Anz. TW)	./.		147,06 (114)		./.		./.	

Floating monthly values are currently counted as daily classes T1 ... T10 and TS1 ... TS2 (currently not yet stipulated in the current regulations).

Fig. 62: Print output of classifications - example page 4

Druckdatum: 22.02.19 07:54:07
Seite: 12

13.BImschV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.

Klasse		Bezeichnung	SO2 rein		Cges		Staub		RZ	
			Tag	Jahr	Tag	Jahr	Tag	Jahr	Tag	Jahr
		RG	200		15		20		2	
		TG	100		10		10		1	
		MG	./.		./.		./.		./.	
		Einheit	mg/m³		mg/m³		mg/m³		RZ	
		Verfügbarkeit der AMS	100,0	99,2	100,0	99,2	100,0	100,0	100,0	100,0
M	1	RW <= 0,05 * RG	0	0	0	1	0	67	0	0
M	2	RW <= 0,10 * RG	0	0	0	29	48	3435	0	0
M	3	RW <= 0,15 * RG	48	3487	48	3441	0	1897	0	0
M	4	RW <= 0,20 * RG	0	281	0	1865	0	1	0	0
M	5	RW <= 0,25 * RG	0	1	0	2	0	1	480	54119
M	6	RW <= 0,30 * RG	0	2	0	2	0	1	0	0
M	7	RW <= 0,35 * RG	0	1	0	2	0	1	0	0
M	8	RW <= 0,40 * RG	0	1	0	2	0	0	0	0
M	9	RW <= 0,45 * RG	0	0	0	1	0	0	0	0
M	10	RW <= 0,50 * RG	0	0	0	1	0	1	0	0
M	11	RW <= 0,55 * RG	0	1	0	2	0	0	0	0
M	12	RW <= 0,60 * RG	0	0	0	1	0	0	0	0
M	13	RW <= 0,65 * RG	0	0	0	1	0	0	0	0
M	14	RW <= 0,70 * RG	0	48	0	1	0	0	0	0
M	15	RW <= 0,75 * RG	0	2	0	1	0	0	0	0
M	16	RW <= 0,80 * RG	0	0	0	1	0	0	0	0
M	17	RW <= 0,85 * RG	0	0	0	1	0	0	0	0
M	18	RW <= 0,90 * RG	0	0	0	1	0	0	0	0
M	19	RW <= 0,95 * RG	0	96	0	1	0	0	0	0
M	20	RW <= 1,00 * RG	0	0	0	1	0	0	0	0
S	1	GW-Überschreitung (gültig)	0	1442	0	5	0	3	0	0
S	2	ungültig sonstig	0	1	0	1	0	1	0	0
S	3	Ersatzwert Bezug (gültig)	0	291	0	1872	0	1916		
S	4	ungültig Störung	0	23	0	23	0	0	0	0
S	5	ungültig Wartung	0	22	0	22	0	0	0	0
S	6	Betriebszeitzähler	48	5431	48	5431	48	5431	480	54252
S	7	ungültig anlagenbedingt	0	11	0	11	0	11	0	8
S	8	nicht beurt.pflicht./ unplaus.	0	12	0	12	0	12	0	125
S	9	Kal.Bereich kurzzeit (gültig)	0	0	0	0	0	0		
S	10	Kal.Bereich langzeit	31	31	1	1	0	0		
S	11	ARE-Ausfall (gültig)	0	365	0	0	0	368		
S	12	aktueller ARE-Ausfall	11		0		11			
S	13	ARE-Ausfall gleitend	365	365	0	0	368	368		
S	14	GW-Ü An-/Abfahrbetrieb	0	0	0	0	0	0	0	0
S	0	Ausser Betrieb	0	136	0	136	0	136	0	1409
T	1	TW <= 0.1*TG	0	0	0	1	0	1	0	0
T	2	TW <= 0.2*TG	0	0	1	82	1	71	0	0
T	3	TW <= 0.3*TG	1	72	0	30	0	42	1	115
T	4	TW <= 0.4*TG	0	8	0	0	0	0	0	0
T	5	TW <= 0.5*TG	0	0	0	0	0	0	0	0
T	6	TW <= 0.6*TG	0	0	0	0	0	0	0	0
T	7	TW <= 0.7*TG	0	0	0	0	0	0	0	0
T	8	TW <= 0.8*TG	0	0	0	0	0	0	0	0
T	9	TW <= 0.9*TG	0	0	0	0	0	0	0	0
T	10	TW <= 1.0*TG	0	0	0	0	0	0	0	0
TS	1	Überschreitung TGW	0	34	0	1	0	1	0	0
TS	2	TMW-Bildung nicht möglich	0	3	0	3	0	2	0	2
TS	3	Verfügbark. nicht eingeh.	0	4	0	4	0	0		
		JG	./.		./.		./.		./.	
		JW 2018 (Anz. TW)	./.		./.		./.		./.	

Fig. 63: Print output of classifications - example page 5

Druckdatum: 22.02.19 07:54:07
Seite: 13

13.BImschV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.

Klasse		Bezeichnung	SEG HMW Tag	Jahr
		RG	15	
		TG	15	
		MG	./.	
		Einheit	%	
		Verfügbarkeit der AMS	100,0	98,3
M	1	RW <= 0,05 * RG	0	0
M	2	RW <= 0,10 * RG	0	0
M	3	RW <= 0,15 * RG	0	1
M	4	RW <= 0,20 * RG	48	3718
M	5	RW <= 0,25 * RG	0	3
M	6	RW <= 0,30 * RG	0	1
M	7	RW <= 0,35 * RG	0	0
M	8	RW <= 0,40 * RG	0	0
M	9	RW <= 0,45 * RG	0	0
M	10	RW <= 0,50 * RG	0	0
M	11	RW <= 0,55 * RG	0	0
M	12	RW <= 0,60 * RG	0	48
M	13	RW <= 0,65 * RG	0	46
M	14	RW <= 0,70 * RG	0	0
M	15	RW <= 0,75 * RG	0	0
M	16	RW <= 0,80 * RG	0	0
M	17	RW <= 0,85 * RG	0	96
M	18	RW <= 0,90 * RG	0	0
M	19	RW <= 0,95 * RG	0	1391
M	20	RW <= 1,00 * RG	0	6
S	1	GW-Überschreitung (gültig)	0	4
S	2	ungültig sonstig	0	1
S	3	Ersatzwert Bezug (gültig)	0	0
S	4	ungültig Störung	0	71
S	5	ungültig Wartung	0	22
S	6	Betriebszeitzähler	48	5431
S	7	ungültig anlagenbedingt	0	11
S	8	nicht beurt.pflicht./ unplaus.	0	12
S	9	Kal.Bereich kurzzeit (gültig)	0	0
S	10	Kal.Bereich langzeit	0	0
S	11	ARE-Ausfall (gültig)	0	365
S	12	aktueller ARE-Ausfall	11	
S	13	ARE-Ausfall gleitend	365	365
S	14	GW-Ü An-/Abfahrbetrieb	0	0
S	0	Ausser Betrieb	0	136
T	1	TW <= 0.1*TG	0	0
T	2	TW <= 0.2*TG	1	79
T	3	TW <= 0.3*TG	0	0
T	4	TW <= 0.4*TG	0	0
T	5	TW <= 0.5*TG	0	0
T	6	TW <= 0.6*TG	0	1
T	7	TW <= 0.7*TG	0	0
T	8	TW <= 0.8*TG	0	1
T	9	TW <= 0.9*TG	0	2
T	10	TW <= 1.0*TG	0	29
TS	1	Überschreitung TGW	0	1
TS	2	TMW-Bildung nicht möglich	0	4
TS	3	Verfügbark. nicht eingeh.	0	5
		JG	./.	
		JW 2018 (Anz. TW)	./.	

Klasse		Bezeichnung	SAG+ Tag	Jahr	SAG Tag	Jahr
		RG	./.		./.	
		TG	85		85	
		MG	./.		./.	
		Einheit	%		%	
		Verfügbarkeit der AMS	100,0	98,3	100,0	98,3
TS	2	TMW-Bildung nicht möglich	0	4	0	4
TS	3	Verfügbark. nicht eingeh.	0	5	0	5
TS	4	SAG eingehalten	1	113	1	112
TS	5	SAG unterschritten	0	0	0	1

Fig. 64: Print output of classifications - example page 6

Druckdatum: 22.02.19 07:54:07
Seite: 14

13.BImschV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.

Klasse		Bezeichnung	SAG HMW Tag	Jahr
		RG	85	
		TG	85	
		MG	./.	
		Einheit	%	
		Verfügbarkeit der AMS	100,0	98,3
M	1	RW >= 100% - 0,05*(100%-RG)	0	0
M	2	RW >= 100% - 0,10*(100%-RG)	0	0
M	3	RW >= 100% - 0,15*(100%-RG)	0	1
M	4	RW >= 100% - 0,20*(100%-RG)	48	3718
M	5	RW >= 100% - 0,25*(100%-RG)	0	3
M	6	RW >= 100% - 0,30*(100%-RG)	0	1
M	7	RW >= 100% - 0,35*(100%-RG)	0	0
M	8	RW >= 100% - 0,40*(100%-RG)	0	0
M	9	RW >= 100% - 0,45*(100%-RG)	0	0
M	10	RW >= 100% - 0,50*(100%-RG)	0	0
M	11	RW >= 100% - 0,55*(100%-RG)	0	0
M	12	RW >= 100% - 0,60*(100%-RG)	0	48
M	13	RW >= 100% - 0,65*(100%-RG)	0	46
M	14	RW >= 100% - 0,70*(100%-RG)	0	0
M	15	RW >= 100% - 0,75*(100%-RG)	0	0
M	16	RW >= 100% - 0,80*(100%-RG)	0	0
M	17	RW >= 100% - 0,85*(100%-RG)	0	96
M	18	RW >= 100% - 0,90*(100%-RG)	0	0
M	19	RW >= 100% - 0,95*(100%-RG)	0	1391
M	20	RW >= 100% - 1,00*(100%-RG)	0	6
S	1	GW-Unterschreitung (gültig)	0	4
S	2	ungültig sonstig	0	1
S	3	Ersatzwert Bezug (gültig)	0	0
S	4	ungültig Störung	0	71
S	5	ungültig Wartung	0	22
S	6	Betriebszeitzähler	48	5431
S	7	ungültig anlagenbedingt	0	11
S	8	nicht beurt.pflicht./ unplaus.	0	12
S	9	Kal.Bereich kurzzeit (gültig)	0	0
S	10	Kal.Bereich langzeit	0	0
S	11	ARE-Ausfall (gültig)	0	365
S	12	aktueller ARE-Ausfall	0	
S	13	ARE-Ausfall gleitend	365	365
S	14	GW-Unterschreit. An-/Abfahrbetr.	0	0
S	0	Ausser Betrieb	0	136
T	1	TW >= 100% - 0.1*(100%-TG)	0	0
T	2	TW >= 100% - 0.2*(100%-TG)	1	79
T	3	TW >= 100% - 0.3*(100%-TG)	0	0
T	4	TW >= 100% - 0.4*(100%-TG)	0	0
T	5	TW >= 100% - 0.5*(100%-TG)	0	0
T	6	TW >= 100% - 0.6*(100%-TG)	0	1
T	7	TW >= 100% - 0.7*(100%-TG)	0	0
T	8	TW >= 100% - 0.8*(100%-TG)	0	1
T	9	TW >= 100% - 0.9*(100%-TG)	0	2
T	10	TW >= 100% - 1.0*(100%-TG)	0	29
TS	1	Unterschreitung TGW	0	1
TS	2	TMW Bildung nicht möglich	0	4
TS	3	Verfügb. nicht eingehalt.	0	5
		JG	./.	
		JW 2018 (Anz. TW)	./.	

Klasse		Bezeichnung	SEG Tag	Jahr
		RG	./.	
		TG	15	
		MG	./.	
		Einheit	%	
		Verfügbarkeit der AMS	100,0	98,3
TS	2	TMW-Bildung nicht möglich	0	4
TS	3	Verfügbark. nicht eingeh.	0	5
TS	4	SEG eingehalten	1	112
TS	5	SEG überschritten	0	1

Zählerstände : keine Daten vorhanden

Emissionsereignisse

Zeitstempel	Komponente	Wert	Grenzwert	Ereignis
27.04.2018 00:30 s	NOx Öl	129		nicht klassierungspflichtig (S8)
27.04.2018 00:30 s	NOx Gas	129	100	Grenzwertüberschreitung (S1)
27.04.2018 00:30 s	NOx stufig	135	30	außerhalb Kalibrierbereich (S9)
27.04.2018 00:30 s	NOx stufig	129	100	Grenzwertüberschreitung (S1)
27.04.2018 00:30 s	NOx Raffi	135	30	außerhalb Kalibrierbereich (S9)
27.04.2018 00:30 s	NOx gleiten	135	40	außerhalb Kalibrierbereich (S9)
27.04.2018 01:00 s	NOx Öl	129		nicht klassierungspflichtig (S8)
27.04.2018 01:00 s	NOx Gas	129	100	Grenzwertüberschreitung (S1)
27.04.2018 01:00 s	NOx stufig	135	30	außerhalb Kalibrierbereich (S9)

Fig. 65: Print output of classifications - example page 7

Druckdatum: 22.02.19 07:54:09
Seite: 27

17.BImschV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.
Verriegelungszeit 0:00 Std. Jahr 1025:15 Std.

Klasse		Bezeichnung	HCL Tag	HCL Jahr	HF Tag	HF Jahr	Hg Tag	Hg Jahr	NH3 Tag	NH3 Jahr
		RG	60		4		0,05		15	
		TG	10		1		0,03		10	
		MG	./.		./.		./.		./.	
		Einheit	mg/m³		mg/m³		mg/m³		mg/m³	
		Verfügbarkeit der AMS	100,0	99,2	100,0	99,2	100,0	99,2	100,0	99,2
M	1	RW <= 0,05 * RG	0	0	0	0	0	0	48	5361
M	2	RW <= 0,10 * RG	0	0	0	0	0	0	0	0
M	3	RW <= 0,15 * RG	48	3492	0	493	48	3492	0	0
M	4	RW <= 0,20 * RG	0	1864	0	1417	0	1864	0	0
M	5	RW <= 0,25 * RG	0	2	0	2	0	2	0	0
M	6	RW <= 0,30 * RG	0	1	0	1	0	1	0	0
M	7	RW <= 0,35 * RG	0	1	48	3435	0	1	0	0
M	8	RW <= 0,40 * RG	0	0	0	12	0	0	0	0
M	9	RW <= 0,45 * RG	0	0	0	0	0	0	0	0
M	10	RW <= 0,50 * RG	0	1	0	1	0	1	0	0
M	11	RW <= 0,55 * RG	0	0	0	0	0	0	0	0
M	12	RW <= 0,60 * RG	0	0	0	0	0	0	0	0
M	13	RW <= 0,65 * RG	0	0	0	0	0	0	0	0
M	14	RW <= 0,70 * RG	0	0	0	0	0	0	0	0
M	15	RW <= 0,75 * RG	0	0	0	0	0	0	0	0
M	16	RW <= 0,80 * RG	0	0	0	0	0	0	0	0
M	17	RW <= 0,85 * RG	0	0	0	0	0	0	0	0
M	18	RW <= 0,90 * RG	0	0	0	0	0	0	0	0
M	19	RW <= 0,95 * RG	0	0	0	0	0	0	0	0
M	20	RW <= 1,00 * RG	0	0	0	0	0	0	0	0
S	1	GW-Überschreitung (gültig)	0	1	0	1	0	1	0	1
S	2	ungültig sonstig	0	1	0	1	0	1	0	1
S	3	Ersatzwert Bezug (gültig)	0	1874	0	1859	0	1874	0	1875
S	4	ungültig Störung	0	23	0	23	0	23	0	23
S	5	ungültig Wartung	0	22	0	22	0	22	0	22
S	6	Betriebszeitzähler	48	5431	48	5431	48	5431	48	5431
S	7	ungültig anlagenbedingt	0	11	0	11	0	11	0	11
S	8	nicht beurt.pflicht./ unplaus.	0	12	0	12	0	12	0	12
S	9	Kal.Bereich kurzzeit (gültig)	0	0	240	240	0	0	0	0
S	10	Kal.Bereich langzeit	0	0	60	60	0	0	0	0
S	11	ARE-Ausfall (gültig)	0	0	0	0	0	0	0	0
S	12	aktueller ARE-Ausfall	0		0		0		0	
S	15	<=150 Staub bei ARE-Ausf.	0	0	0	0	0	0	0	0
S	16	>150 Staub bei ARE-Ausf.	0	0	0	0	0	0	0	0
S	17	GW-Ü Anfahrbetrieb	0	0	0	0	0	0	0	0
S	0	Ausser Betrieb	0	136	0	136	0	136	0	136
T	1	TW <= 0.1*TG	0	0	0	0	0	0	1	114
T	2	TW <= 0.2*TG	0	0	0	0	0	0	0	0
T	3	TW <= 0.3*TG	0	0	0	0	1	83	0	0
T	4	TW <= 0.4*TG	0	0	0	0	0	30	0	0
T	5	TW <= 0.5*TG	0	0	0	1	0	0	0	0
T	6	TW <= 0.6*TG	0	0	0	10	0	0	0	0
T	7	TW <= 0.7*TG	0	0	0	30	0	0	0	0
T	8	TW <= 0.8*TG	1	73	0	0	0	0	0	0
T	9	TW <= 0.9*TG	0	0	0	0	0	0	0	0
T	10	TW <= 1.0*TG	0	10	1	72	0	0	0	0
TS	1	Überschreitung TGW	0	31	0	1	0	1	0	0
TS	2	TMW-Bildung nicht möglich	0	3	0	3	0	3	0	3
TS	3	Verfügbark. nicht eingeh.	0	4	0	4	0	4	0	4
		JG	./.		./.		./.		./.	
		JW 2018 (Anz. TW)	./.		./.		./.		./.	

Klasse		Bezeichnung	SAG Tag	SAG Jahr
		RG	./.	
		TG	85	
		MG	./.	
		Einheit	%	
		Verfügbarkeit der AMS	100,0	98,3
TS	2	TMW-Bildung nicht möglich	0	4
TS	3	Verfügbark. nicht eingeh.	0	5
TS	4	SAG eingehalten	1	81
TS	5	SAG unterschritten	0	32

Fig. 66: Print output of classifications - example page 8

Druckdatum: 22.02.19 07:54:09
Seite: 28

17.BImschV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.
Verriegelungszeit 0:00 Std. Jahr 1025:15 Std.

Klasse		Bezeichnung	SAG HMW Tag	Jahr
		RG	85	
		TG	85	
		MG	./.	
		Einheit	%	
		Verfügbarkeit der AMS	100,0	98,3
M	1	RW >= 100% - 0,05*(100%-RG)	0	0
M	2	RW >= 100% - 0,10*(100%-RG)	0	0
M	3	RW >= 100% - 0,15*(100%-RG)	0	0
M	4	RW >= 100% - 0,20*(100%-RG)	48	3434
M	5	RW >= 100% - 0,25*(100%-RG)	0	256
M	6	RW >= 100% - 0,30*(100%-RG)	0	31
M	7	RW >= 100% - 0,35*(100%-RG)	0	1
M	8	RW >= 100% - 0,40*(100%-RG)	0	0
M	9	RW >= 100% - 0,45*(100%-RG)	0	1
M	10	RW >= 100% - 0,50*(100%-RG)	0	0
M	11	RW >= 100% - 0,55*(100%-RG)	0	0
M	12	RW >= 100% - 0,60*(100%-RG)	0	0
M	13	RW >= 100% - 0,65*(100%-RG)	0	0
M	14	RW >= 100% - 0,70*(100%-RG)	0	0
M	15	RW >= 100% - 0,75*(100%-RG)	0	0
M	16	RW >= 100% - 0,80*(100%-RG)	0	0
M	17	RW >= 100% - 0,85*(100%-RG)	0	0
M	18	RW >= 100% - 0,90*(100%-RG)	0	48
M	19	RW >= 100% - 0,95*(100%-RG)	0	0
M	20	RW >= 100% - 1,00*(100%-RG)	0	52
S	1	GW-Unterschreitung (gültig)	0	0
S	2	ungültig sonstig	0	1
S	3	Ersatzwert Bezug (gültig)	0	0
S	4	ungültig Störung	0	71
S	5	ungültig Wartung	0	22
S	6	Betriebszeitzähler	48	5431
S	7	ungültig anlagenbedingt	0	11
S	8	nicht beurt.pflicht./ unplaus.	0	12
S	9	Kal.Bereich kurzzeit (gültig)	0	0
S	10	Kal.Bereich langzeit	0	0
S	11	ARE-Ausfall (gültig)	0	365
S	12	aktueller ARE-Ausfall	0	
S	17	GW-Unterschreitung Anfahrbetr.	0	0
S	0	Ausser Betrieb	0	136
T	1	TW >= 100% - 0.1*(100%-TG)	0	0
T	2	TW >= 100% - 0.2*(100%-TG)	1	72
T	3	TW >= 100% - 0.3*(100%-TG)	0	7
T	4	TW >= 100% - 0.4*(100%-TG)	0	0
T	5	TW >= 100% - 0.5*(100%-TG)	0	0
T	6	TW >= 100% - 0.6*(100%-TG)	0	0
T	7	TW >= 100% - 0.7*(100%-TG)	0	0
T	8	TW >= 100% - 0.8*(100%-TG)	0	0
T	9	TW >= 100% - 0.9*(100%-TG)	0	1
T	10	TW >= 100% - 1.0*(100%-TG)	0	1
TS	1	Unterschreitung TGW	0	32
TS	2	TMW Bildung nicht möglich	0	4
TS	3	Verfügb. nicht eingehalt.	0	5
		JG	./.	
		JW 2018 (Anz. TW)	./.	

Klasse		Bezeichnung	SEG Tag	Jahr
		RG	./.	
		TG	15	
		MG	./.	
		Einheit	%	
		Verfügbarkeit der AMS	100,0	98,3
TS	2	TMW-Bildung nicht möglich	0	4
TS	3	Verfügbark. nicht eingeh.	0	5
TS	4	SEG eingehalten	1	81
TS	5	SEG überschritten	0	32

Fig. 67: Print output of classifications - example page 9

Druckdatum: 22.02.19 07:54:09
Seite: 29

17.BImschV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.
Verriegelungszeit 0:00 Std. Jahr 1025:15 Std.

Klasse	Bezeichnung	TNBZ kls Tag	Jahr
	RG	850	
	TG	./.	
	MG	./.	
	Einheit	°C	
	Verfügbarkeit der AMS	100,0	100,0
TNBZ 1	T >=GW+180	0	10
TNBZ 2	GW+180> T >=GW+160	0	3
TNBZ 3	GW+160> T >=GW+140	0	4
TNBZ 4	GW+140> T >=GW+120	0	4
TNBZ 5	GW+120> T >=GW+100	0	4
TNBZ 6	GW+100> T >=GW +80	0	4
TNBZ 7	GW +80> T >=GW +60	0	4
TNBZ 8	GW +60> T >=GW +40	0	4
TNBZ 9	GW +40> T >=GW +20	0	100
TNBZ10	GW +20> T >=GW	144	10363
TNBZ11	GW > T >=GW -20	0	5723
TNBZ12	GW -20> T >=GW -40	0	3
TNBZ13	GW -40> T >=GW -60	0	3
TNBZ14	GW -60> T >=GW -80	0	3
TNBZ15	GW -80> T >=GW-100	0	3
TNBZ16	GW-100> T >=GW-120	0	3
TNBZ17	GW-120> T >=GW-140	0	3
TNBZ18	GW-140> T >=GW-160	0	3
TNBZ19	GW-160> T >=GW-180	0	3
TNBZ20	GW-180> T	0	0
TNBZ21	Störung/Wartung AMS	0	0
S 2	ungültig sonstig	0	0
S 4	ungültig Störung	0	0
S 5	ungültig Wartung	0	0
S 6	Betriebszeitzähler	144	16278
S 7	ungültig anlagenbedingt	0	8
S 8	nicht beurt.pflicht./ unplaus.	0	23
S 17	GW-Unterschreitung Anfahrbetr.	0	0
S 0	Ausser Betrieb	0	421

Zählerstände : keine Daten vorhanden

Emissionsereignisse

Zeitstempel	Komponente	Wert	Grenzwert	Ereignis
27.04.2018 00:30 s	CO	18992	400	Grenzwertüberschreitung (S1)
27.04.2018 00:30 s	NOx	135	30	außerhalb Kalibrierbereich (S9)
27.04.2018 00:30 s	NOx	129	100	Grenzwertüberschreitung (S1)
27.04.2018 00:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 00:30 s	HF	1	1	außerhalb Kalibrierbereich (S9)
27.04.2018 01:00 s	CO	18992	400	Grenzwertüberschreitung (S1)
27.04.2018 01:00 s	NOx	135	30	außerhalb Kalibrierbereich (S9)
27.04.2018 01:00 s	NOx	129	100	Grenzwertüberschreitung (S1)
27.04.2018 01:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 01:00 s	HF	1	1	außerhalb Kalibrierbereich (S9)
27.04.2018 01:30 s	CO	18992	400	Grenzwertüberschreitung (S1)
27.04.2018 01:30 s	NOx	135	30	außerhalb Kalibrierbereich (S9)
27.04.2018 01:30 s	NOx	129	100	Grenzwertüberschreitung (S1)
27.04.2018 01:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 01:30 s	HF	1	1	außerhalb Kalibrierbereich (S9)
27.04.2018 02:00 s	CO	18992	400	Grenzwertüberschreitung (S1)
27.04.2018 02:00 s	NOx	135	30	außerhalb Kalibrierbereich (S9)
27.04.2018 02:00 s	NOx	129	100	Grenzwertüberschreitung (S1)
27.04.2018 02:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 02:00 s	HF	1	1	außerhalb Kalibrierbereich (S9)
27.04.2018 02:30 s	CO	18992	400	Grenzwertüberschreitung (S1)
27.04.2018 02:30 s	NOx	135	30	außerhalb Kalibrierbereich (S9)
27.04.2018 02:30 s	NOx	129	100	Grenzwertüberschreitung (S1)
27.04.2018 02:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 02:30 s	HF	1	1	außerhalb Kalibrierbereich (S9)
27.04.2018 03:00 s	CO	18992	400	Grenzwertüberschreitung (S1)
27.04.2018 03:00 s	NOx	135	30	außerhalb Kalibrierbereich (S9)
27.04.2018 03:00 s	NOx	129	100	Grenzwertüberschreitung (S1)
27.04.2018 03:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 03:00 s	HF	1	1	außerhalb Kalibrierbereich (S9)

Fig. 68: Print output of classifications - example page 10

Druckdatum: 22.02.19 07:54:11
Seite: 38

27.BImSchV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.
Verriegelungszeit 0:00 Std. Jahr 1032:24 Std.
Bypassbetrieb 0:00 Std. Jahr 207:44 Std.

Klasse	Bezeichnung	O2		Temp		CO	
		Tag	Jahr	Tag	Jahr	Tag	Jahr
	RG	21		200		100	
	TG	./.		./.		./.	
	MG	./.		./.		./.	
	Einheit	Vol%		°C		mg/m³	
	Verfügbarkeit der AMS	100,0	99,8	100,0	100,0	100,0	99,1
M 1	RW <= 0,05 * RG	0	0	24	1755	0	0
M 2	RW <= 0,10 * RG	0	0	0	0	0	0
M 3	RW <= 0,15 * RG	0	0	0	1	0	867
M 4	RW <= 0,20 * RG	0	0	0	0	24	1678
M 5	RW <= 0,25 * RG	0	0	0	953	0	2
M 6	RW <= 0,30 * RG	24	1717	0	0	0	0
M 7	RW <= 0,35 * RG	0	0	0	0	0	1
M 8	RW <= 0,40 * RG	0	0	0	0	0	0
M 9	RW <= 0,45 * RG	0	0	0	0	0	24
M 10	RW <= 0,50 * RG	0	0	0	0	0	0
M 11	RW <= 0,55 * RG	0	982	0	0	0	88
M 12	RW <= 0,60 * RG	0	1	0	0	0	0
M 13	RW <= 0,65 * RG	0	0	0	0	0	0
M 14	RW <= 0,70 * RG	0	1	0	0	0	0
M 15	RW <= 0,75 * RG	0	1	0	0	0	0
M 16	RW <= 0,80 * RG	0	1	0	0	0	0
M 17	RW <= 0,85 * RG	0	0	0	0	0	0
M 18	RW <= 0,90 * RG	0	0	0	0	0	0
M 19	RW <= 0,95 * RG	0	0	0	0	0	0
M 20	RW <= 1,00 * RG	0	0	0	0	0	0
S 1	GW-Überschreitung (gültig)	0	0	0	0	0	24
S 2	ungültig sonstig	0	0	0	0	0	0
S 3	Ersatzwert Bezug (gültig)	0	0	0	0	0	6
S 4	ungültig Störung	0	4	0	0	0	14
S 5	ungültig Wartung	0	2	0	0	0	11
S 6	Betriebszeitzähler	24	2718	24	2718	24	2718
S 7	ungültig anlagenbedingt	0	9	0	9	0	9
S 8	nicht beurt.pflicht./ unplaus.	0	0	0	0	0	0
S 9	Kal.Bereich kurzzeit (gültig)	0	0	0	0	0	0
S 10	Kal.Bereich langzeit	0	0	0	0	0	0
S 11	ARE-Ausfall (gültig)	0	0	0	0	0	0
S 0	Ausser Betrieb	0	66	0	66	0	66

Klasse	Bezeichnung	Staub qual	
		Tag	Jahr
	RG	10	
	TG	./.	
	MG	./.	
	Einheit	mg/m³	
	Verfügbarkeit der AMS	100,0	100,0
F 1	RG eingehalten f.alle MW(M1)	24	2708
FS 1	RG-Überschreitung min.1 MW (S1)	0	1
FS 2	ungültig sonstig	0	0
FS 4	ungültig Störung	0	0
FS 5	ungültig Wartung	0	0
FS 6	Betriebszeitzähler	24	2718
FS 7	ungültig anlagenbedingt	0	9
FS 8	nicht beurt.pflicht./ unplaus.	0	0
FS 11	ARE-Ausfall (gültig)	0	187
FS 0	Ausser Betrieb	0	66
FS Ü	Dauer Über. [h:mm:ss] Tag	0:00:00	
	Dauer Über. [h:mm:ss] Jahr	1:00:00	

Klasse	Bezeichnung	Staub quan	
		Tag	Jahr
	RG	10	
	TG	./.	
	MG	./.	
	Einheit	mg/m³	
	Verfügbarkeit der AMS	100,0	100,0
F 1	RG eingehalten (M1-M20)	24	2708
FS 1	GW-Überschreitung (gültig)S1	0	1
FS 2	ungültig sonstig	0	0
FS 3	Ersatzwert Bezug (gültig)	0	0
FS 4	ungültig Störung	0	0
FS 5	ungültig Wartung	0	0
FS 6	Betriebszeitzähler	24	2718
FS 7	ungültig anlagenbedingt	0	9
FS 8	nicht beurt.pflicht./ unplaus.	0	0
FS 11	ARE-Ausfall (gültig)	0	187
FS 0	Ausser Betrieb	0	66
FS Ü	Dauer Überschreit. [h]	0	1

Fig. 69: Print output of classifications - example page 11

Druckdatum: 22.02.19 07:54:11
Seite: 39

27.BImSchV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.
Verriegelungszeit 0:00 Std. Jahr 1032:24 Std.
Bypassbetrieb 0:00 Std. Jahr 207:44 Std.

Klasse	Bezeichnung	TNBZ alterna Tag	Jahr
	RG	850	
	TG	./.	
	MG	./.	
	Einheit	°C	
	Verfügbarkeit der AMS	100,0	100,0
TNBZ 1	T >=GW+180	0	3
TNBZ 2	GW+180> T >=GW+160	0	3
TNBZ 3	GW+160> T >=GW+140	0	3
TNBZ 4	GW+140> T >=GW+120	0	3
TNBZ 5	GW+120> T >=GW+100	0	3
TNBZ 6	GW+100> T >=GW +80	0	3
TNBZ 7	GW +80> T >=GW +60	0	3
TNBZ 8	GW +60> T >=GW +40	0	3
TNBZ 9	GW +40> T >=GW +20	0	3
TNBZ10	GW +20> T >=GW	144	10472
TNBZ11	GW > T >=GW -20	0	5742
TNBZ12	GW -20> T >=GW -40	0	3
TNBZ13	GW -40> T >=GW -60	0	3
TNBZ14	GW -60> T >=GW -80	0	3
TNBZ15	GW -80> T >=GW-100	0	3
TNBZ16	GW-100> T >=GW-120	0	3
TNBZ17	GW-120> T >=GW-140	0	4
TNBZ18	GW-140> T >=GW-160	0	3
TNBZ19	GW-160> T >=GW-180	0	3
TNBZ20	GW-180> T	0	4
TNBZ21	Störung/Wartung AMS	0	0
TNBZ U	Dauer Unterschreitung [h:mm]	0:00	961:50
S 2	ungültig sonstig	0	0
S 4	ungültig Störung	0	0
S 5	ungültig Wartung	0	0
S 6	Betriebszeitzähler	144	16278
S 7	ungültig anlagenbedingt	0	8
S 8	nicht beurt.pflicht./ unplaus.	0	0
S 0	Ausser Betrieb	0	421

Klasse	Bezeichnung	TNBZ Tag	Jahr
	RG	850	
	TG	./.	
	MG	./.	
	Einheit	°C	
	Verfügbarkeit der AMS	100,0	100,0
TNBZ 1	Min.Temp eingehalten	144	10499
TNBZ 2	Min.Temp unterschritten	0	5771
TNBZ 3	Störung/Wartung AMS	0	0
TNBZ U	Dauer Unterschreitung [h:mm]	0:00	961:50
S 2	ungültig sonstig	0	0
S 4	ungültig Störung	0	0
S 5	ungültig Wartung	0	0
S 6	Betriebszeitzähler	144	16278
S 7	ungültig anlagenbedingt	0	8
S 8	nicht beurt.pflicht./ unplaus.	0	0
S 0	Ausser Betrieb	0	421

Zählerstände : keine Daten vorhanden

Emissionsereignisse : keine Daten vorhanden

Fig. 70: Print output of classifications - example page 12

Druckdatum: 22.02.19 07:54:13
Seite: 44

30.BImSchV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.

Klasse		Bezeichnung	Cges		Staub		N2O	
			Tag	Jahr	Tag	Jahr	Tag	Jahr
		RG/MB-Ende	40		30		200	
		TG	20		10		./.	
		MG	./.		./.		./.	
		Einheit	mg/m³		mg/m³		mg/m³	
		Verfügbarkeit der AMS	100,0	99,2	100,0	100,0	100,0	99,2
M	1	RW <= 0,05 * RG	0	0	0	0	0	2
M	2	RW <= 0,10 * RG	0	36	0	0	0	1
M	3	RW <= 0,15 * RG	48	5317	0	0	0	10
M	4	RW <= 0,20 * RG	0	2	0	0	0	0
M	5	RW <= 0,25 * RG	0	1	0	0	0	0
M	6	RW <= 0,30 * RG	0	1	0	0	0	31
M	7	RW <= 0,35 * RG	0	1	0	0	0	1
M	8	RW <= 0,40 * RG	0	1	0	29	0	1971
M	9	RW <= 0,45 * RG	0	1	0	0	0	1
M	10	RW <= 0,50 * RG	0	1	0	0	0	1
M	11	RW <= 0,55 * RG	0	1	0	0	0	2
M	12	RW <= 0,60 * RG	0	1	0	0	0	1
M	13	RW <= 0,65 * RG	0	1	48	3434	0	2
M	14	RW <= 0,70 * RG	0	1	0	0	48	3005
M	15	RW <= 0,75 * RG	0	1	0	0	0	2
M	16	RW <= 0,80 * RG	0	1	0	1579	0	1
M	17	RW <= 0,85 * RG	0	1	0	0	0	2
M	18	RW <= 0,90 * RG	0	1	0	0	0	2
M	19	RW <= 0,95 * RG	0	1	0	0	0	1
M	20	RW <= 1,00 * RG	0	1	0	0	0	2
S	1	GW-Überschreitung (gültig)	0	4	0	0		
S	2	ungültig sonstig	0	0	0	0	0	0
S	3	Ersatzwert Bezug (gültig)	0	1424	0	0	0	1876
S	4	ungültig Störung	0	23	0	0	0	23
S	5	ungültig Wartung	0	22	0	0	0	22
S	6	Betriebszeitzähler	48	5431	48	5431	48	5431
S	7	ungültig anlagenbedingt	0	11	0	11	0	11
S	8	nicht beurt.pflicht./ unplaus.	0	0	0	0	0	0
S	9	Kal.Bereich kurzzeit (gültig)	0	0	240	240	0	0
S	10	Kal.Bereich langzeit	0	0	96	96	0	0
S	11	ARE-Ausfall (gültig)	0	0	0	378	0	0
S	12	ARE-Ausfall >zul.Dauer	0	0	0	0	0	0
S	15	<=150 Staub bei ARE-Ausf.	0	0	0	377	0	0
S	16	>150 Staub bei ARE-Ausf.	0	0	0	1	0	0
S	0	Ausser Betrieb	0	136	0	136	0	136
T	1	TW <= 0.1*TG	0	0	0	0	0	0
T	2	TW <= 0.2*TG	0	1	0	0	0	0
T	3	TW <= 0.3*TG	1	112	0	0	0	0
T	4	TW <= 0.4*TG	0	0	0	0	0	0
T	5	TW <= 0.5*TG	0	0	0	0	0	0
T	6	TW <= 0.6*TG	0	0	0	0	0	0
T	7	TW <= 0.7*TG	0	0	0	0	0	0
T	8	TW <= 0.8*TG	0	1	0	0	0	0
T	9	TW <= 0.9*TG	0	0	0	0	0	0
T	10	TW <= 1.0*TG	0	0	0	0	0	0
TS	1	Überschreitung TGW	0	0	1	115		
TS	2	TMW-Bildung nicht möglich	0	3	0	2	0	10

Fig. 71: Print output of classifications - example page 13

Druckdatum: 22.02.19 07:54:13
Seite: 45

30.BImSchV

Tagesprotokoll vom 27.04.2018
Letzte Änderung der Parametrierung 07.09.18 14:23:42, geändert durch Service
Betriebszeit 24:00 Std. Jahr 2712:17 Std.

	MQ N20		MQ Cges		Biomasse
	Masse [kg]	MV [g/Mg]	Masse [kg]	MV [g/Mg]	Masse [t]
27.04.2018	32,40		1,50		10,00
01.01.2018 - 31.01.2018	465,03	1550,09	39,41	131,38	300,00
01.02.2018 - 28.02.2018	626,14	2236,23	34,88	124,56	280,00
01.03.2018 - 31.03.2018	1532,86	4944,70	46,45	149,83	310,00
01.04.2018 - 27.04.2018	874,80	3239,96	40,51	150,04	270,00

Zählerstände : keine Daten vorhanden

Emissionsereignisse

Zeitstempel	Komponente	Wert	Grenzwert	Ereignis
27.04.2018 00:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 01:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 01:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 02:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 02:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 03:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 03:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 04:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 04:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 05:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 05:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 06:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 06:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 07:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 07:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 08:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 08:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 09:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 09:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 10:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 10:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 11:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 11:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 12:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 12:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 13:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 13:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 14:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 14:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 15:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 15:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 16:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 16:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 17:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 17:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 18:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 18:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 19:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 19:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 20:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 20:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 21:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 21:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 22:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 22:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 23:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 23:30 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 24:00 s	Staub	20	5	außerhalb Kalibrierbereich (S9)
27.04.2018 24:00 s	Staub	19	10	Tagesgrenzwertüberschreitung (TS1)
27.04.2018 24:00 s	MQ N20	3240	100	Grenzwertüberschreitung (aktuelles MMV)
27.04.2018 24:00 s	MQ Cges	150	55	Grenzwertüberschreitung (aktuelles MMV)

13.5 Print output of evaluation configuration

Fig. 72: Print output of evaluation configuration (example page)

Seite 21
31.01.2019
Softwareversion 4.1.34.17

Anlagenmodell 13.BImschV

Aktuelle Konfiguration 8.0, aktiviert am: 30.01.2019 20:31

Anlagen-Id	**A_2**
Kurzbezeichnung	**13**
Bezeichnung	**13.BImschV**
Richtlinie	**BEP 2017 13.BlmSchV**
Rasterwerte (RW)	
gültig ab (%) gültiger und beurteilungs-pflichtiger Momentanwerte	66,67 % der Integrationszeit
Max. ARE-Ausfallzeit im Jahr [Std]	120
Max. ARE-Ausfallzeit zusammenhängend [Std]	24
Langzeitmittelwerte (TW,MMW,JW)	
gültig ab [%] gültiger RW bzw. TW	25,00 % der Integrationszeit
Max. Anzahl wegen Störung/Wartung ungültiger RW zur Einhaltung der Verfügbarkeit am Tag	6
Max. Anzahl Tage im Jahr, an denen die Verfügbarkeit nicht eingehalten war	10
Anlagenstatus	
überwachungspflichtiger Betrieb	S_22 : 13, überwachungspflichtig
Betriebsarten	
BA_1 Außer Betrieb	
BA_2 Gas-Betrieb	
BA_3 Anfahren	
BA_4 Anfahrbetrieb	
BA_5 Abfahrbetrieb	
BA_6 Abfahren	
BA_7 spezieller Betrieb	
BA_8 Öl-Betrieb	
BA_9 Misch-Betrieb	
Emissions-Fernübertragung	
Werte über EFÜ übertragen	Ja
EFÜ-Bezeichnung	13
PCX-Datei	keine
EFÜ-Aktionen	
Anruf an das G-System	falls RV > RG
Aufnahme in das Archiv	falls RV > RG

13.6 Data output of raw values (intermediate state)

Fig. 73: Data output of raw values: CSV data (example, extract)

```
;"17";;"17";;"17";;"17";
;"CO";;"NOx";;"HCL";;"NH3";
27.04.2018 00:00:05;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:00:10;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:00:15;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:00:20;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:00:25;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:00:30;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:00:35;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:00:40;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:00:45;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:00:50;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:00:55;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:00;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:05;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:10;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:15;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:20;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:25;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:30;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:35;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:40;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:45;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
27.04.2018 00:01:50;15,00;"G";75,00;"G";9,00;"G";0,25;"G"
```

Fig. 74: Data output of raw values: Shown in an editor (example, extract)

	A	B	C	D	E	F	G	H	I	J
1		"17"		"17"		"17"		"17"		
2		"CO"		"NOx"		"HCL"		"NH3"		
3	27.04.2018 00:00:05	15	"G"	75	"G"	9	"G"	0,25	"G"	
4	27.04.2018 00:00:10	15	"G"	75	"G"	9	"G"	0,25	"G"	
5	27.04.2018 00:00:15	15	"G"	75	"G"	9	"G"	0,25	"G"	
6	27.04.2018 00:00:20	15	"G"	75	"G"	9	"G"	0,25	"G"	
7	27.04.2018 00:00:25	15	"G"	75	"G"	9	"G"	0,25	"G"	
8	27.04.2018 00:00:30	15	"G"	75	"G"	9	"G"	0,25	"G"	
9	27.04.2018 00:00:35	15	"G"	75	"G"	9	"G"	0,25	"G"	
10	27.04.2018 00:00:40	15	"G"	75	"G"	9	"G"	0,25	"G"	
11	27.04.2018 00:00:45	15	"G"	75	"G"	9	"G"	0,25	"G"	
12	27.04.2018 00:00:50	15	"G"	75	"G"	9	"G"	0,25	"G"	
13	27.04.2018 00:00:55	15	"G"	75	"G"	9	"G"	0,25	"G"	
14	27.04.2018 00:01:00	15	"G"	75	"G"	9	"G"	0,25	"G"	
15	27.04.2018 00:01:05	15	"G"	75	"G"	9	"G"	0,25	"G"	
16	27.04.2018 00:01:10	15	"G"	75	"G"	9	"G"	0,25	"G"	
17	27.04.2018 00:01:15	15	"G"	75	"G"	9	"G"	0,25	"G"	
18	27.04.2018 00:01:20	15	"G"	75	"G"	9	"G"	0,25	"G"	
19	27.04.2018 00:01:25	15	"G"	75	"G"	9	"G"	0,25	"G"	
20	27.04.2018 00:01:30	15	"G"	75	"G"	9	"G"	0,25	"G"	
21	27.04.2018 00:01:35	15	"G"	75	"G"	9	"G"	0,25	"G"	
22	27.04.2018 00:01:40	15	"G"	75	"G"	9	"G"	0,25	"G"	
23	27.04.2018 00:01:45	15	"G"	75	"G"	9	"G"	0,25	"G"	
24	27.04.2018 00:01:50	15	"G"	75	"G"	9	"G"	0,25	"G"	

14 Annex 2: Software license contract

The customer (hereinafter “Licensee”) shall receive the right to use MEAC Software upon acknowledgment of the License Agreement below.

Licensor:
Endress+Hauser SICK GmbH+Co. KG Bergener Ring 27 01458 Ottendorf-Okrilla Germany

1. The subject of the License Agreement is MEAC Software and, if the Licensee has acquired it, all optional MEAC Software modules and the accompanying Operating Instructions.

The License Agreement shall relate to MEAC Software from delivery of the product (hereinafter “Agreement Product”) to the Licensee in connection with the purchase agreement.

More precisely, the Licensee shall have the following number of single-workstation licenses set in the purchase agreement transferred to him:

a) MEAC300 Evaluation Software
b) MEAC300Workstation Software

(a and b shall hereinafter be referred to as “MEAC Software”)

The source code of MEAC Software is not included in the License.

MEAC Software shall either be delivered as a CD and/or already installed on a PC delivered.

2. Upon initial commissioning of MEAC Software or release of the access code, the Licensee shall acknowledge the License Agreement. Should the Licensee not agree to the License Agreement, the Licensee shall return the MEAC Software including all devices and device parts under the above cited agreement to Endress+Hauser SICK GmbH+Co. KG. The purchase sum shall then either be refunded, partially refunded or credited.
3. The Licensor hereby grants the Licensee the temporally and spatially unrestricted, simple, non-transferable and non-sublicensable right to use MEAC Software. The right to replicate MEAC Software shall be limited to installation of MEAC Software on a PC for use of MEAC Software as well as the right to have a person duly authorized in accordance with sec 69d, par 2 of the German Copyright Act produce a backup copy of MEAC Software. The right to process MEAC Software shall be limited to obtaining or restoration of the agreed functionality of MEAC Software. The Licensee shall not be granted usage and commercialization rights going beyond that.
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   - to fully or partially lend, rent, sublicense or transfer MEAC Software onwards to third parties,
   - to reverse-engineer MEAC Software (reverse engineering), or decompile or dissemble it or in any other way attempt to make MEAC Software source code accessible, to modify or translate MEAC Software or to produce products derived from it,
   - to use the previously obtained copy or use the previous version of MEAC Software upon receipt of a replacement data set or an upgraded version as replacement of an earlier version.
5. Any usage on additional PCs shall not be allowed. The License Agreement shall permit the Licensee to produce a backup copy. That backup copy must be marked with a copyright notation of Endress+Hauser SICK GmbH+Co. KG.
6. MEAC Software shall be secured with a registration code. The registration code shall be made known to the Licensee by Endress+Hauser SICK GmbH+Co. KG as soon as the Licensee has installed MEAC Software on a PC (applies only to German MEAC2012 Evaluation Software, version 3.0).
7. By acquiring MEAC Software the Licensee is only receiving title to the data medium acquired. MEAC Software acquired with that license shall remain the property of Endress+Hauser SICK GmbH+Co. KG and shall be protected by copyright.
8. Endress+Hauser SICK GmbH+Co. KG shall be at liberty to further develop MEAC Software and to produce new software versions. There shall be no obligation of the part of Endress+Hauser SICK GmbH+Co. KG to inform the Licensee of any new MEAC Software versions.
9. The Licensor shall guarantee that MEAC Software it is providing essentially corresponds to the product description. There shall be no defect claims for any insignificant deviation from the agreed or assumed condition and with merely minor impairment of its suitability for use. Product description shall not be deemed to be a guarantee without a separate written agreement. With delivery of updates, upgrades and new versions the guarantee shall be limited to innovations on the delivery of the update, upgrade or new version as compared with the previous version.

10. Should the Licensee demand subsequent fulfillment due to a defect the Licensor shall be entitled to choose between subsequent improvement or supply of a replacement. If the Licensee has set a second appropriate deadline for the Licensor after the first one passed to no avail, and if the second one also passes to no avail or if an appropriate number of subsequent improvements, replacements or attempts at replacement service have passed to no avail, the Licensee may under the statutory prerequisites and at its option either withdraw from the Agreement or demand a reduction. The subsequent fulfillment may also be accomplished by surrender or installation of a new program version or a work-around. Should the defect not impair the functionality, or do so only to a limited extent, then the Licensor shall be entitled, with the barring of any further guarantees, to remedy the defect by delivering a new version or an update in connection with its version, update and upgrade planning.
11. The Licensee shall examine the delivered items without delay for any eventual shipping damages or other outer defects, shall secure the corresponding evidence and shall cede any eventual recourse claims to the Licensor while surrendering the documents.
12. If the defect is due to the defective condition of the product of a subsupplier and if the latter is not acting as an agent of the Licensor, but instead the Licensor is merely passing a third-party product on the Licensee, then the Licensor's guarantee shall initially be limited to the assignment of its guarantee claims on the subsupplier. This shall not apply if the defect is due to any improper handling by the Licensee of the subsupplier's product. Should the Licensee not be able to assert its guarantee claims against the subsupplier out of court then the subsidiary guarantee by the Licensor shall not be affected.
13. The Licensor shall provide guarantee that the MEAC Software it supplies or assigns is free of third-party rights preventing usage in accordance with the Agreement. This shall not include retained title reservations customary in the trade.
14. The statute of limitations for guarantee claims shall be 12 months. The statute of limitations shall commence upon delivery of the first replication item of MEAC software including the user's manual. In case of delivery of updates, upgrades and new versions the guarantee for those parts shall commence again upon delivery.
15. Should third parties be entitled to rights and should they assert them, the Licensor must do everything in its power in order to defend the MEAC Software, at its own expense, against the third-party rights asserted. The Licensee shall immediately inform the Licensor in writing that such third-party rights have been asserted and shall grant the Licensor all powers of attorney and authority required to protect MEAC Software against the third-party rights asserted.
16. To the extent that legal defects obtain, the Licensor shall (a) at its option be entitled to remedy (i) by legitimate means the third-party rights impairing contractual use of MEAC Software, or (ii) their assertion, or (iii) to modify or replace MEAC Software in such a way that third-party rights are no longer infringed, if and to the extent that in that way MEAC Software functionality owed is not significantly impaired, and (b) shall be obliged to reimburse the necessary refundable costs of legal enforcement incurred by the Licensee.
17. Should relief in accordance with numeral 16 fail within an appropriate subsequent deadline set by the Licensee then the Licensee may under the statutory prerequisites and at its option withdraw from the Agreement or demand a reduction and damage compensation.

18. The Licensor shall be liable for damage compensation, for whatever legal reasons, only:
    - in case of deliberate intent,
    - in case of gross negligence by corporate governance bodies or top executives,
    - in case of culpable injury to life, limb or health,
    - in case of defects which the Licensor has maliciously concealed,
    - if the Licensor has assumed a guarantee for a specific condition of MEAC Software,
    - if the Licensor has assumed a guarantee that MEAC Software would maintain a specific condition for a specific period of time, and
    - if under the German Product Liability Act there is liability for personal injuries or property damage to privately used items.

    In case of culpable breach of essential contractual obligations, the Licensor shall also be liable in case of gross negligence of employees who are not top executives and in case of slight negligence, in the latter case however limited to the contractually typical and reasonably predictable damages. Essential contractual obligations are such obligations as protect the buyer's contractually essential legal position which the Agreement must precisely provide it with according to its contents and purpose; essential shall furthermore be such contractual obligations, the fulfillment of which make proper execution of the Agreement possible at all and compliance with which the buyer regularly relies upon and may rely upon. Claims for damage compensation going beyond that shall be barred.
19. All claims for guarantee and damage compensation shall lapse as soon as the Licensee has, on its own and without the consent of Endress+Hauser SICK GmbH+Co. KG, added to, deleted or in any way modified the parameter settings or the configuration or files in the file directory.
20. Any further liability by the Licensor shall be barred in principle.
21. General provisions
    - 21.1 Written form
      Written form applies to this Agreement. Ancillary verbal understandings have not been reached.
    - 21.2 Amendments to the Agreement
      Amendments or supplements to as well any mutually agreed cancellation of this Agreement must be in written form to have legal force.
    - 21.3 Partial invalidity
      Should any provision of this Agreement be or become void or without legal force the validity of the remaining provisions shall not be impaired thereby. In such a case, the void provision or the provision without legal force shall be interpreted, re-interpreted or replaced in such way that the economic purpose intended is achieved.
    - 21.4 Transfer of rights
      The Licensee may only transfer rights under this Agreement to third parties with the written consent of the Licensor.
    - 21.5 Legal succession
      The Parties shall be obliged to impose the obligations of this Agreement on any eventual legal successors.
    - 21.6 Choice of law
      German law shall apply, in particular the provisions of the German Civil Code (BGB) and the German Commercial Code (HGB).
    - 21.7 Force majeure
      Where fulfillment of the Agreement fails due to force majeure the fulfillment of the corresponding contractual obligations shall be suspended as long as the conditions of force majeure persist. The other Party must be notified immediately.

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