

SiCOMS[®] / OCom Data Logger

User Manual

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I. Introduction

SiCOMS / OCom Data Logger is a PC application used in the SiCOMS / OCom system for displaying measurement data from engine in on-line mode and recording the data into logfiles, and also for viewing SiCOMS / OCom log files recorded at an earlier time.

OCom Evaluator collects and processes the current values of oil mist concentration and temperature measured by OMD sensors inside the engine. Together with system status messages, Evaluator sends these data through a serial data link. SiCOMS / OCom Data Logger receives the data through PC serial ports (COM ports), visualises the measured values and writes the data in PC logfiles.

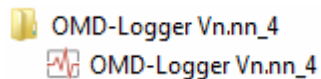
SiCOMS / OCom Data Logger is now available in following modifications:

- version for monitoring up to 4 SiCOMS / OCom systems in parallel (requires display resolution 1280 x 1024 pixels and higher).
This version has only logging function and can not be used for reading SiCOMS / OCom logfiles recorded earlier. To open SiCOMS / OCom logfiles, use either SiCOMS / OCom Data Logger for 1 system or Data_Indicator program
- version for 1 SiCOMS / OCom system (runs with display resolution 1280 x 800 pixels and higher)
- extended 4-system version for Full HD displays (FHD, resolution 1920 x 1080 pixels and higher) that has advanced and flexible settings for showing SiCOMS / OCom data.

II. Installation and setup

To install SiCOMS / OCom Data Logger on a computer, double-click setup.exe on a provided SiCOMS / OCom Data Logger installation CD or other media. Follow the instructions in setup program.

When the installation is complete, SiCOMS / OCom Data Logger can be started through a program group in Windows Start menu:



(or “OMD-Logger_Vn.nn_1” for the 1-system version).

When SiCOMS / OCom Data Logger is started for the first time and its configuration file (OMD-logger.ini) is not found, a default ini-file will be created and the following or similar message displayed:

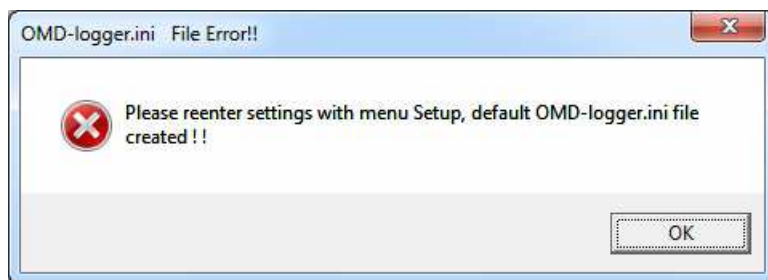


Fig. II-1. SiCOMS / OCom Data Logger Setup warning

Please go to “**Setup**” menu (see IV, 2) to choose valid logfile paths, serial port number and other options.

System requirements:

- Intel I5 processor 2.66 GHz or higher
- CD-Rom drive, recommended CD-R/W drive
- min. 4GB DDR2 RAM
- hard disk with a capacity of min. 500 GB
- supports Windows XP, Windows Vista, Windows 7, Windows 8.x, Windows 10
- Display resolution 1280 x 1024 or higher,
for 1-system version: min. 1280 x 800,
for FHD version: 1920 x 1080 or higher.

III. Main program window

The SiCOMS / OCom Data Logger main window shows the measurement data in graphical form:



Fig. III-1. SiCOMS / OCom Data Logger for 4 systems: main window

There are also gauge controls for selective display of measured values. Click the **“Show details”** button to open extended display with gauges:

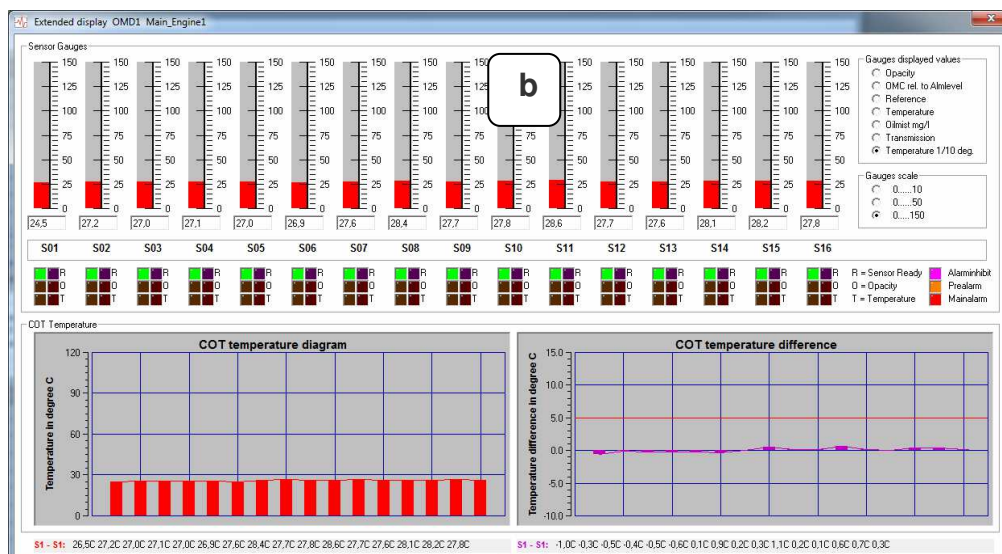
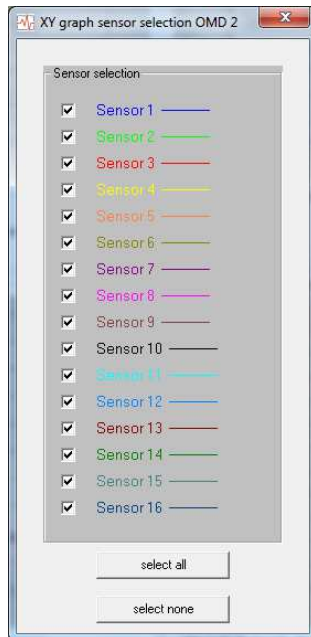


Fig. III-1 a). SiCOMS / OCom Data Logger for 4 systems: extended display

To select which sensor data should be shown at the XY graph, click “**Select Sensors**” button:



- sensor numbers and display switch checkboxes. If a switch box for a sensor is checked, all selected measurement values for the sensor are shown in XY graph, otherwise the measurement values of the sensor are hidden.

Fig. III-1 b). SiCOMS / OCom Data Logger for 4 systems: sensor selection

The SiCOMS / OCom Data Logger for 1 system has gauge controls and sensor indicators at the main window:

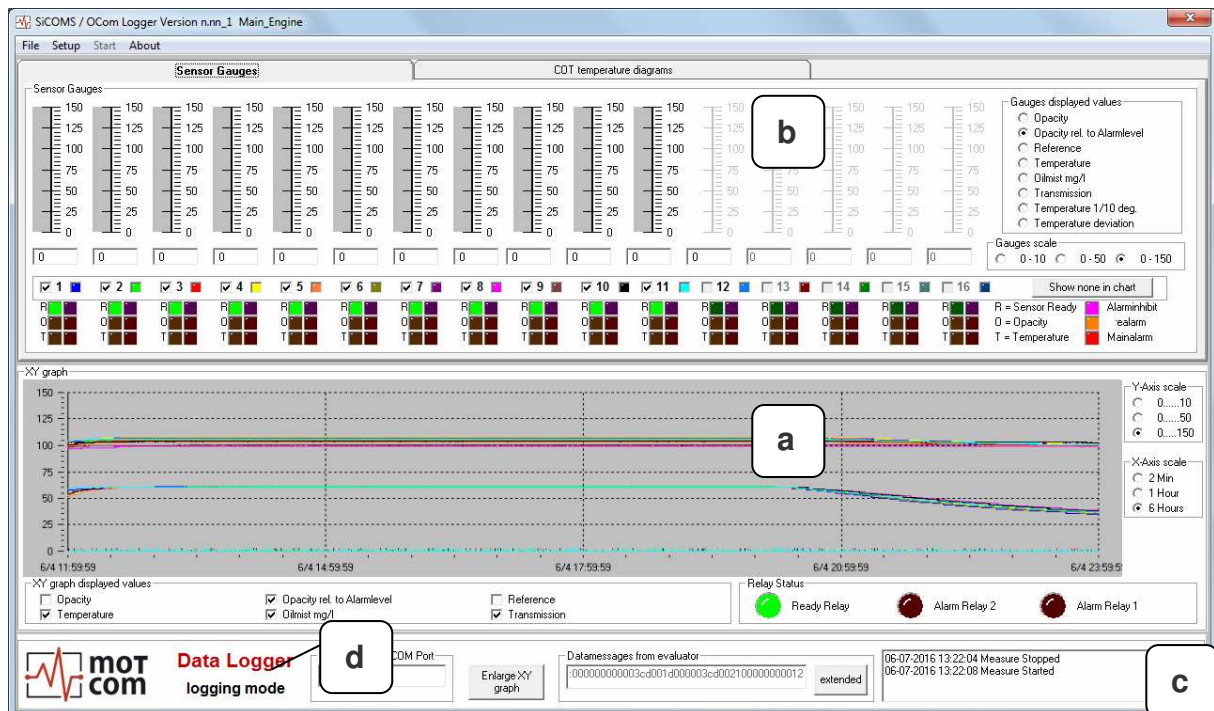


Fig. III-2. SiCOMS / OCom Data Logger for 1 system: main window

The FHD version of SiCOMS / OCom Data Logger has a main window similar to the common 4-system version:

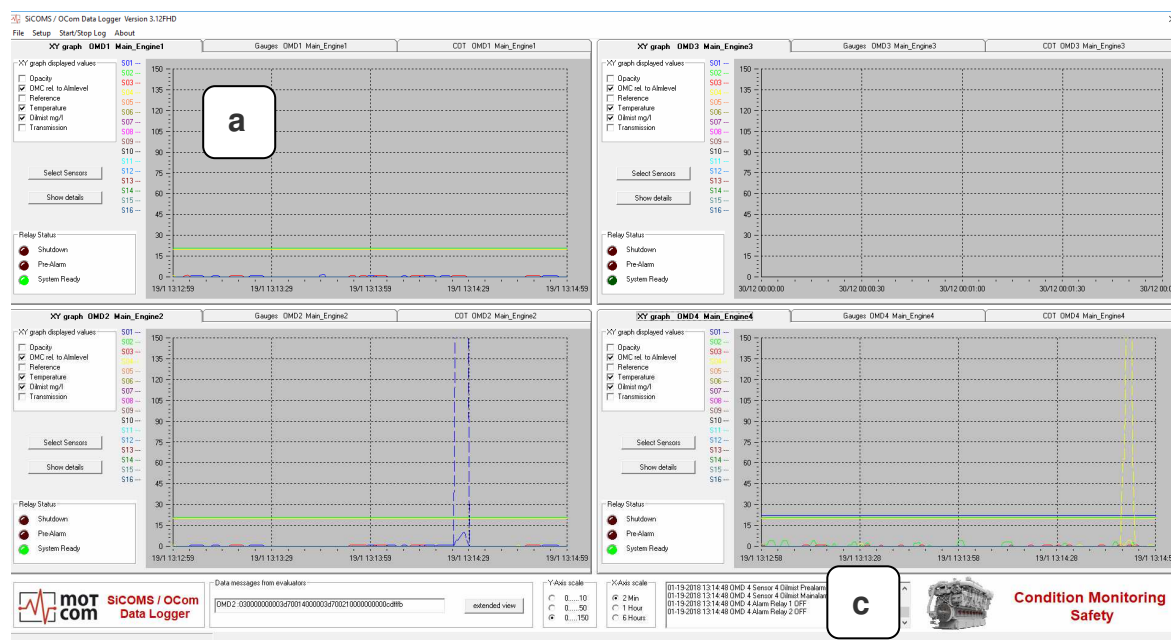


Fig. III-3. SiCOMS / OCom Data Logger FHD for 4 systems: main window

Each of 4 sections has three view pages: “XY graph”, “Gauges” and “COT”. The page selection for each window is retained when the program is closed so that the view pages are restored on program start.

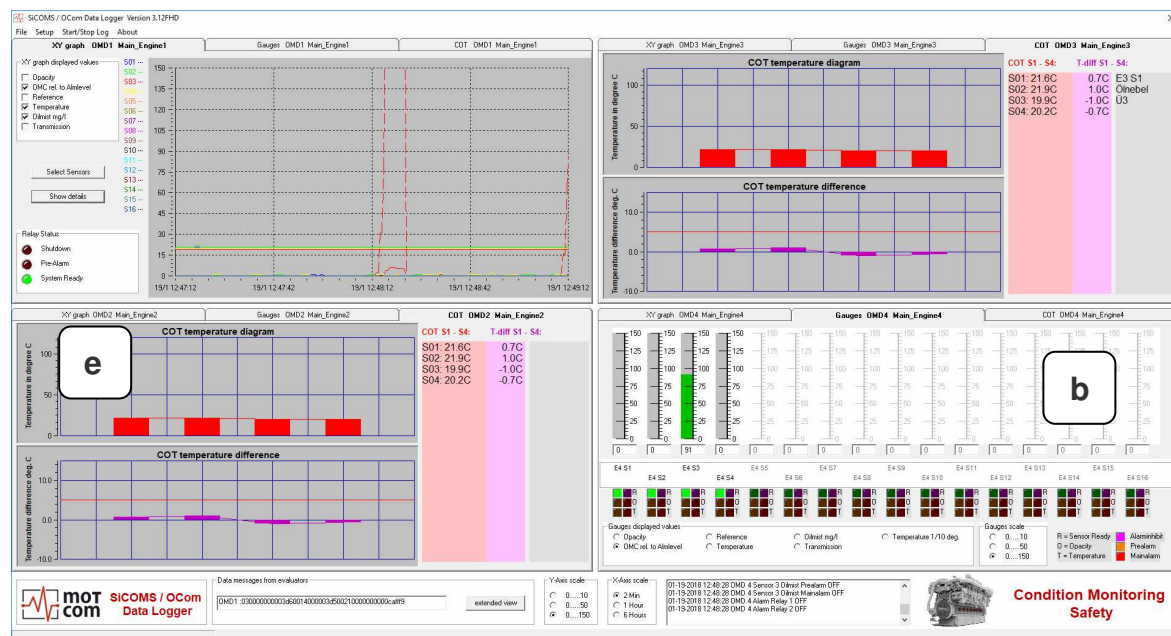


Fig. III-4. SiCOMS / OCom Data Logger FHD for 4 systems: main window with different views

This version allows to assign longer (up to 9 symbols) names to sensors during logging.

“Show details” button opens an extended display identical to that in 4-system version.

The following is a description of program sections:

- a:** XY Graph and options
- b:** Gauges and options
- c:** Message windows and event log window
- d:** SiCOMS / OCom Data Logger modes

1. XY graph and options: a

XY graph displays engine measurement data at a time interval between program start and the current moment.

It is possible to change the scale of the graph and to navigate through it with the help of its options. Double-click on the graph to switch on/off its options:

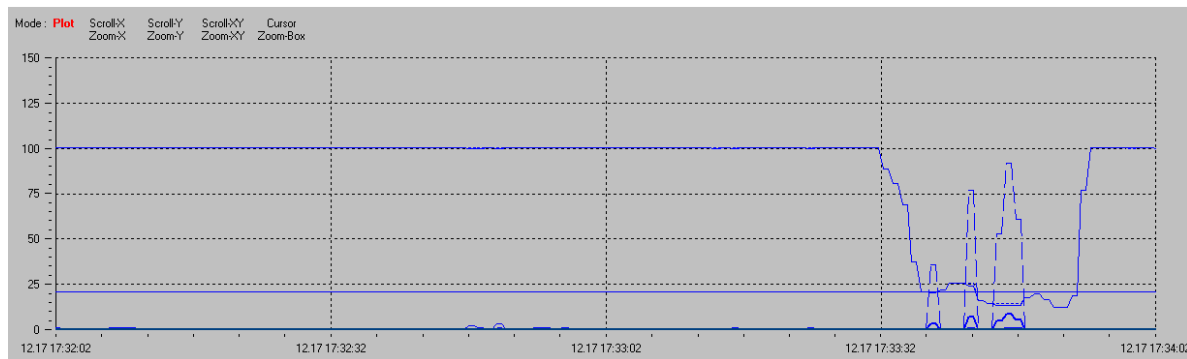


Fig. III-5. XY graph with its navigating options menu

Click an option to change the navigation mode of the graph.

Scroll-X (Scroll-Y): scroll the graph along X- or Y-axis
Scroll-XY: scroll along both X- and Y-axis

To scroll, hold the left mouse button and move the mouse to the desired direction.

Zoom-X (Zoom-Y): enlarge/shrink the graph along X- or Y-axis
Zoom-XY: enlarge/shrink along both X- and Y-axis

To zoom, hold the left mouse button and move the mouse to the right to enlarge and to the left to shrink the graph in X-axis direction. Or move the mouse upwards to enlarge and downwards to shrink along Y-axis.

Zoom-Box: enlarge selected area of the graph. Hold the left mouse button and move the mouse to select an area. Releasing the mouse button stretches the selection to the frame of the graph.

Cursor: display the X and Y values of the selected plot point.

Plot: return the graph to its default scale and continue plotting the data.

1.1. XY graph displayed values

XY graph displayed values

<input type="checkbox"/> Opacity	<input checked="" type="checkbox"/> Temperature
<input checked="" type="checkbox"/> OMC rel. to Almlevel	<input checked="" type="checkbox"/> Oilmist mg/l
<input type="checkbox"/> Reference	<input type="checkbox"/> Transmission

Fig. III-6. Options: XY graph displayed values

These options allow to show or hide the following measurement values at XY graph:

Opacity :	opacity level in percents. 0% = transparent environment, infra red light beam reaches destination without loss; 100% = opaque environment, infra red light doesn't come through
OMC rel. to Almlevel :	oil mist concentration in percents relative to alarm level
Reference :	basis value for calculating "Opacity" and "Opacity rel to Alarmlevel" values, given in digits
Temperature :	sensor temperature in °C with a resolution of 1°C
Oilmist mg/l :	absolute concentration of oil mist in mg/l
Transmission :	amount of light that reaches destination in the measuring unit of OMD sensor. Given in digits, a raw measurement value. Sensor initially calibrated in a transparent environment shows transmission about 1000 digits

(the following values are only shown at the gauges, not in XY graph)

Temperature 1/10 deg. :	sensor temperature in °C with a resolution of 0.1°C
Temperature deviation :	deviation of sensor temperature from the average value of all measured sensors. (Only available in SiCOMS / OCom Data Logger for 1 system)

Enlarge XY graph button:



- pressing the button extends the XY-graph window.

In 1-system version of SiCOMS / OCom Data Logger the button caption changes to "Reduce XY graph".

1.2. Y-Axis scale

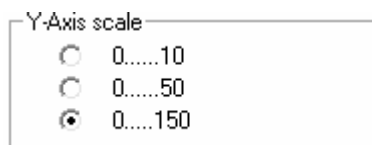


Fig. III-7. Y-Axis scale

The option sets the scale for Y-Axis of XY graph. The same could be done through options menu inside the XY graph with “Zoom-Y” command.

1.3. X-Axis scale

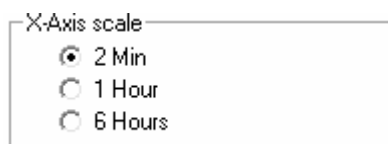


Fig. III-8. X-Axis scale options

These options help to set scale for X-Axis (time) of XY graph. Otherwise the scaling can be changed through options menu of the XY graph with “Zoom-X” command.

1.4. Relay status panel

The relay indicators at the panel show the current system status.



Fig. III-9 a). Relay indicators, “Ready” status

Examples:



Fig. III-9 b). Relay indicators, pre-alarm status



Fig. III-9 c). Relay indicators, main alarm



Fig. III-9 d). Relay indicators, SiCOMS / OCom system has detected an error, or there's no connected SiCOMS / OCom system.

2. Sensor gauges and options: b

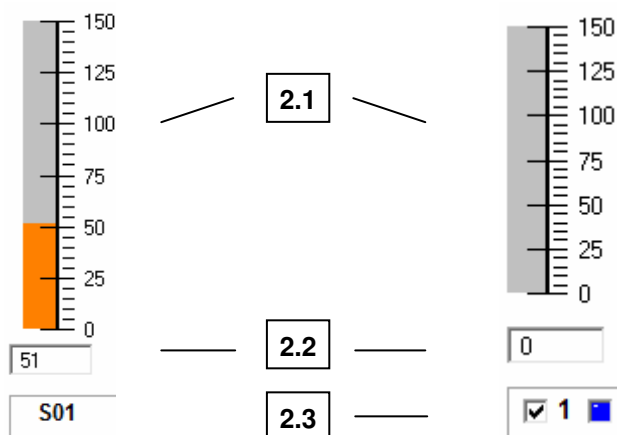


Fig. III-10. Gauge for sensor Nr. 1 in SiCOMS / OCom Data Logger for 4 and for 1 system.

2.1 : gauge. Each gauge displays the current selected measurement value (see gauges options, III, 2.5) of the corresponding sensor at the time pointed by the diagram cursor at XY graph.

2.2 : digital display of measurement value shown at the corresponding gauge.

2.3 : sensor number and display switch checkbox. For 1-system version: if the switch box is checked, all selected measurement values for the sensor are shown in XY graph, otherwise the measurement values of the sensor are hidden.

2.4 : sensor status LED indicators.



- | | | |
|--------|-------------------------------------------------------------------------------------|------|
| 1) - R |  | - 2) |
| 3) - O |  | - 4) |
| 5) - T |  | - 6) |

Fig. III-11. Sensor status indicators. Sensor is connected, no alarm inhibit enabled, all measured values at the sensor are within tolerance limits.

1) - “Sensor Ready” LED. If light green, indicates “Ready” sensor status. If dark green, shows that no connection to the sensor is detected.

2) - Alarm inhibit LED. If pink, shows that alarm inhibit is enabled.

3) - Opacity pre-alarm LED. Orange colour indicates opacity pre-alarm on the sensor.

4) - Opacity Main alarm LED. Red colour shows that Main alarm is raised for the sensor.

5) - Temperature pre-alarm LED. If orange, indicates pre-alarm condition at the sensor.

6) - Temperature Main alarm LED. Red colour indicates Main alarm at the sensor.

Examples:



Fig. III-12 a)
Sensor ready,
alarm inhibit
active



Fig. III-12 b)
Sensor ready,
opacity pre-
alarm



Fig. III-12 c)
Sensor ready,
Main alarm



Fig. III-12 d)
Sensor ready,
temperature
pre-alarm



Fig. III-12 e)
Error is detected
for the sensor, or
sensor not
connected

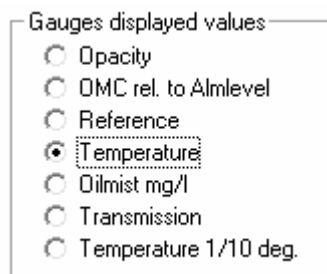
When main alarm is triggered by the system, the following window appears together with relay indicators:



Fig. III-13. Main alarm window.

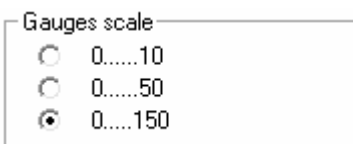
If several SiCOMS systems are monitored simultaneously, the window contains the affected system number ("OMD1", ...) and engine name ("Main_Engine1", ...). Press **"confirm"** button to close the window.

2.5. Gauges options



- These options allow to select the measurement value to show in the gauge. The measurement values are described in III, 1.1.
(“Temperature deviation” option is only available in SiCOMS / OCom Data Logger for 1 system.)

Fig. III-14. Gauges displayed values



- The option sets scale range for the gauges.

Fig. III-15. Gauges scale

2.6. COT temperature diagrams (Crankpin Oil Temperature) : e

The COT diagrams are displayed in extended display window of SiCOMS / OCom Data Logger for 4 systems, and in the main program window of SiCOMS / OCom Data Logger for 1 system at the tab “COT temperature diagrams”.

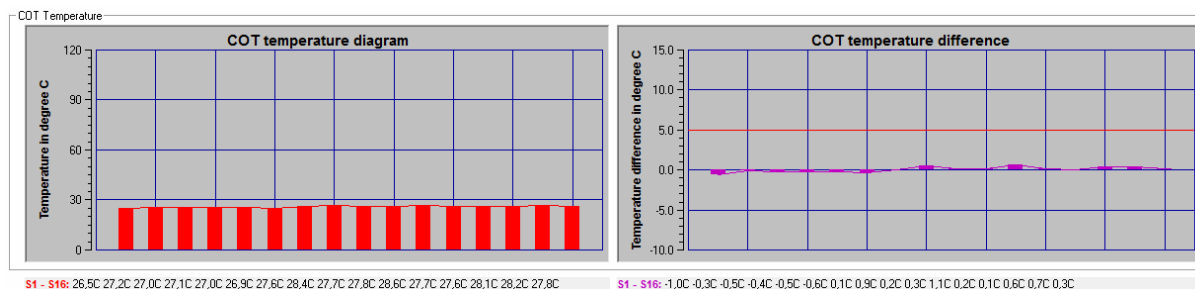


Fig. III-16. SiCOMS / OCom COT diagrams

COT temperature diagram shows sensor temperature values at a selected time point in °C with a resolution of 0.1°C.

COT temperature difference diagram displays the temperature deviation of each sensor at selected time point from the average temperature of all sensors.

Temperature values are also shown numerically for each sensor:

S1 - S16: 26,5C 27,2C 27,0C 27,1C 27,0C 26,9C 27,6C 28,4C 27,7C 27,8C 28,6C 27,7C 27,6C 28,1C 28,2C 27,8C

Fig. III-17. Temperature values for sensors S1 to S16 at COT diagrams

3. Message windows: c

Data messages from evaluator window:

Shows measurement data received from Evaluator in raw format. Press “**extended view**” button to open a larger window with Evaluator messages.

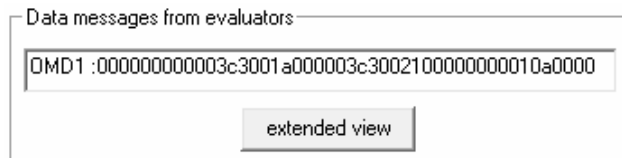


Fig. III-18. Data messages from evaluators

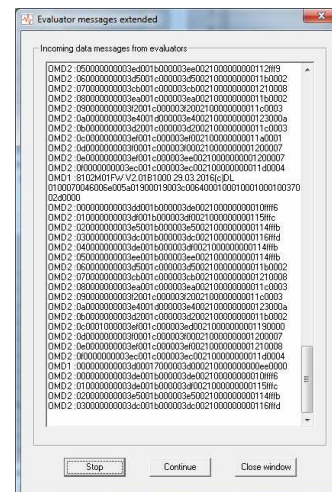


Fig. III-19. Evaluator messages extended

Event log window:

Displays event messages and warnings produced by the SiCOMS / OCom systems during monitoring. Double-click anywhere at its field to open a larger status window with event log:

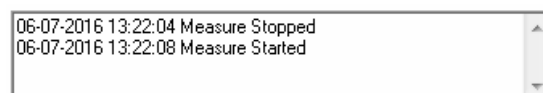


Fig. III-20. Status window

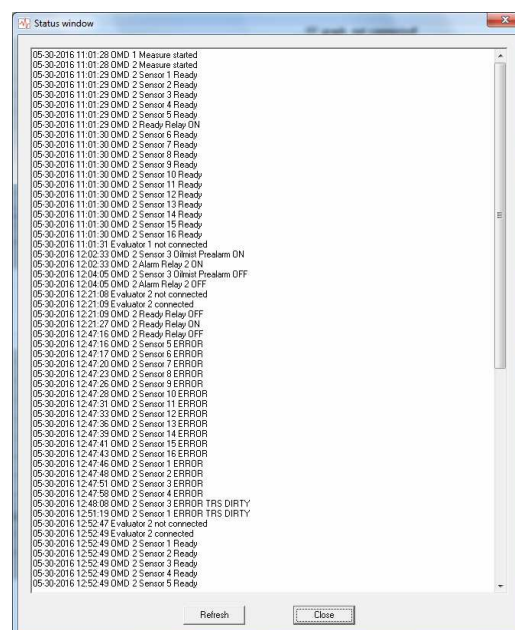
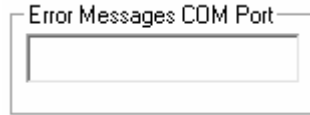


Fig. III-21. Extended status window

COM Port message window:

(Only available in 1-system version of SiCOMS / OCom Data Logger)



- displays current status and error messages for COM port.

Fig. III-22. Error messages of COM port.

4. SiCOMS / OCom Data Logger modes: d

(Only available in 1-system version of SiCOMS / OCom Data Logger)

This status string shows the current functional mode of SiComs / OCom Data Logger:

logging mode - monitoring connected SiCOMS / OCom system, recording measurement data in a log file.

file mode - viewing an existing SiCOMS / OCom log file. Relay and LED indicators are hidden from SiCOMS / OCom Data Logger main panel.

File mode is switched automatically if an SiCOMS / OCom log file is loaded for viewing. To return to logging mode, click "File / Unload" menu item (see IV, 1.3)



Note: Switching functional modes is available in SiCOMS / OCom Data Logger versions for 1 SiCOMS / OCom system. SiCOMS / OCom Data Logger for 4 systems only works in logging mode.

IV. Menu

1. File menu

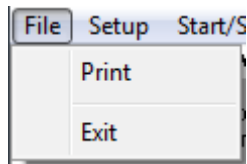


Fig. IV-1 a). File menu
in SiCOMS / OCom Data Logger
for 4 systems

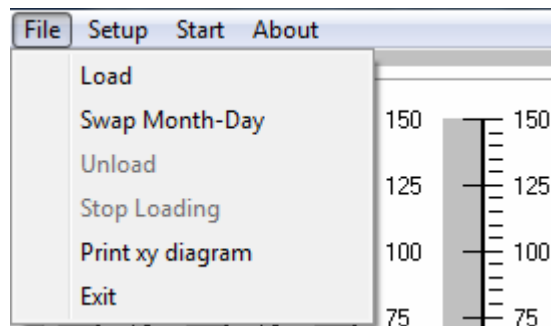


Fig. IV-1 b). File menu
in SiCOMS / OCom Data Logger
for 1 system

1.1. Load

This menu item opens an existing log file recorded in SiCOMS / OCom Data Logger for viewing. The program switches into file mode. The **“Unload”** menu item becomes activated.

1.2. Swap Month-Day

The **“Swap Month-Day”** command changes appearance of day and month in the date format at XY graph. Useful for some region/language Windows settings that have different date format than English/US Windows settings.

1.3. Unload

The menu item closes a loaded log file and returns the program into logging mode.

1.4. Stop Loading

This menu item cancels current logfile loading.

1.5. a) Print (4-systems version)

- opens a dialog for selecting one of connected SiCOMS / OCom systems. The current view of XY graph is then printed using standard MS Windows Print dialog.

b) Print xy diagram (1-system version)

This menu prints the current view of XY graph using standard MS Windows Print dialog.

1.6. Exit

The menu item stops any active logging and closes the program. To stop logging, password is required (see chapter IV, 2.1.3 and 2.2.3).

2. Setup menu

2.1. Setup menu in SiCOMS / OCom Data Logger for 4 systems

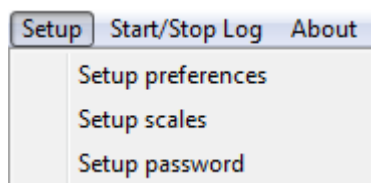


Fig. IV-2. Setup menu in OMD Logger for 4 systems



Note: It is only possible to change setup settings when logging is stopped. After any change made in options please close the program and restart it.

2.1.1. Setup preferences

The first page of tab control contains SiCOMS / OCom Data Logger installation parameters:

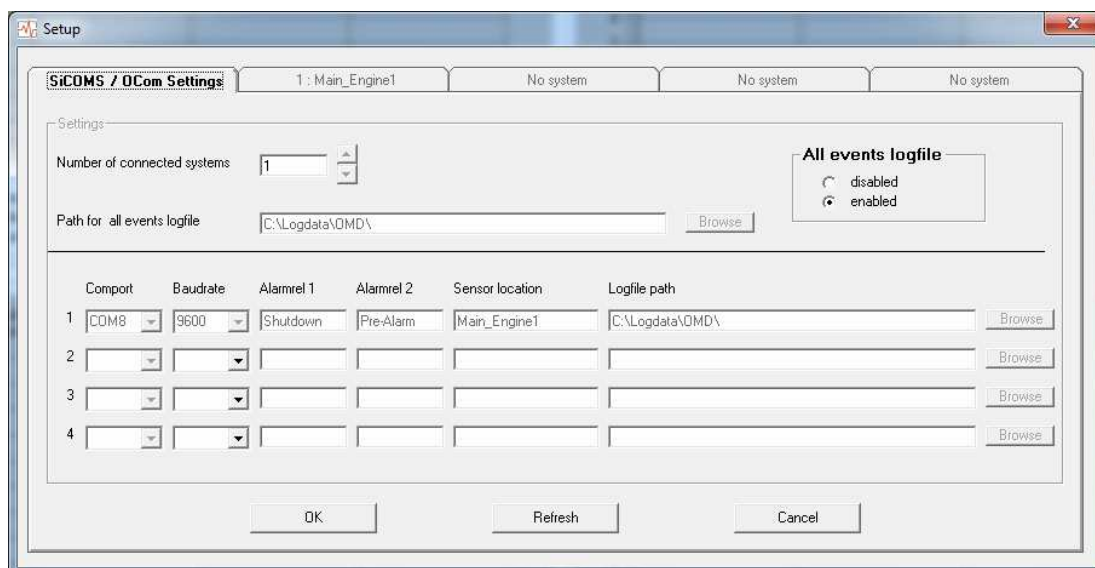


Fig. IV-3. Setup preferences in SiCOMS / OCom Data Logger for 4 systems

Number of connected systems:

The number of SiCOMS / OCom systems connected to the PC in range 1 to 4.

All events logfile:

If this option is enabled, a separate logfile is created during logging which contains text status messages (events) for all connected SiCOMS / OCom systems.

Path for all events logfile:

- directory where the all-events logfile is saved. Use “**Browse**” button to select it.

The following settings are repeated 4 times and contain individual options for each SiCOMS / OCom system:

Comport:

- serial port used for connection to the SiCOMS / OCom system.

Baudrate:

- the baudrate for the selected port.

Alarmrel1 and Alarmrel2:

These text strings will be shown at the main program window in “Relay status” section.

Sensor location:

The text entered in this field is used to form logfile names for the selected SiCOMS / OCom system, for instance: YYYYMMDDSi_Main_Engine1.slg, where YYYY is the current year, MM – current month, DD – current day.

(The old logfile name format is YYYYMMDD_Main_Engine.log.)

Logfile path:

- directory where logfiles are saved. Use “**Browse**” button to select it.

Further tab control pages show SiCOMS / OCom system parameters received from Evaluator of each connected SiCOMS system:

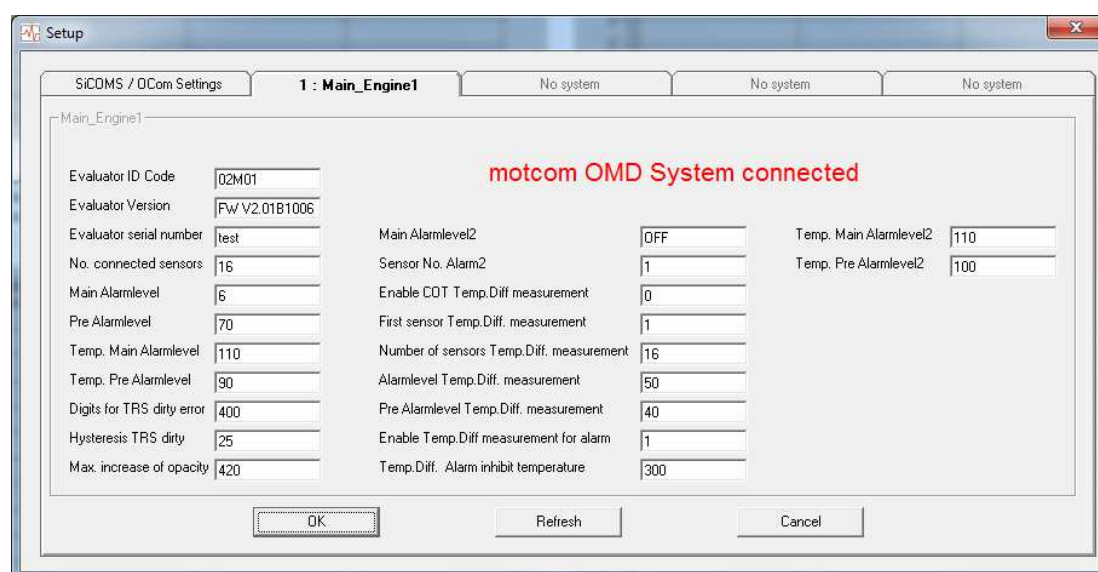


Fig. IV-4. Setup preferences in SiCOMS / OCom Data Logger for 4 systems, SiCOMS system parameters

2.1.2. Setup scales

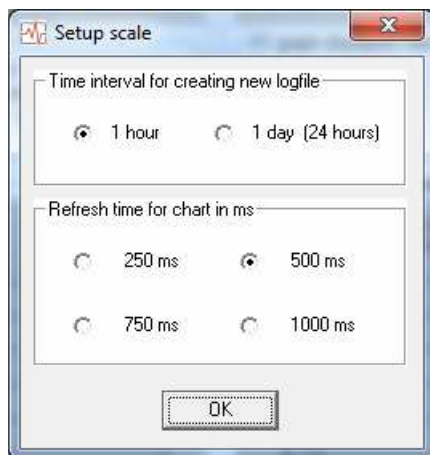


Fig. IV-5. Setup scales in SiCOMS / OCom Data Logger for 4 systems

Time interval for creating new logfile:

This option defines whether a new logfile must be created at the beginning of a new hour or once a day (at 00:00:00).

Refresh time for chart in ms:

- time interval for updating the XY diagram with new measured values in logging mode.

2.1.3. Setup password



- Use this menu to set a new password required to stop data monitoring and logging. The default password is "omd".

Fig. IV-6. Setup password

2.2. Setup menu in SiCOMS / OCom Data Logger for 1 system

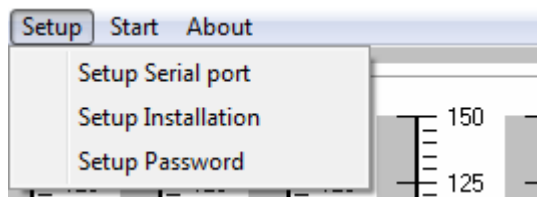
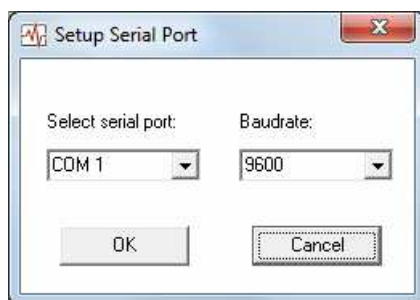


Fig. IV-7. Setup menu



Note: It is only possible to change setup settings when logging is stopped. After any change made in options please close the program and restart it.

2.2.1. Setup Serial port



- Select the serial port used for connection to SiCOMS / OCom system and the baudrate for the port.

Fig. IV-8. Setup serial port.

2.2.2. Setup Installation

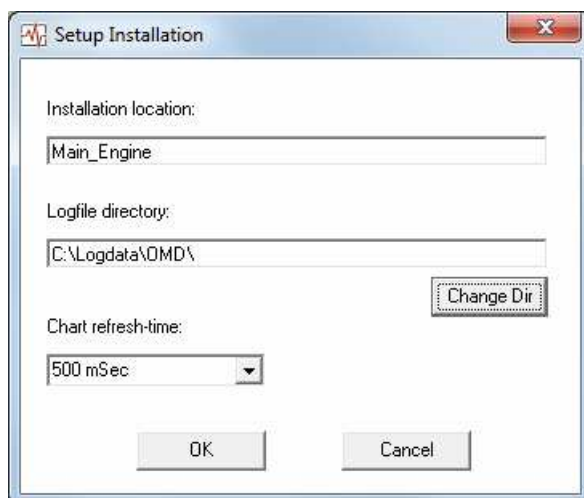


Fig. IV-9. Setup Installation

Installation location:

- text used to form logfile name, for example: YYYYMMDDSi_Main_Engine.slg, where YYYY is the current year, MM – current month, DD – current day.

(The old logfile name format is YYYYMMDD_Main_Engine.log. SiCOMS / OCom Data Logger for 1 system can open logfiles in both formats.)

Logfile directory:

- directory where logfile is saved. Use **“Change Dir”** button to select the directory.

Chart refresh-time:

- time interval for updating the XY diagram with new measured values in logging mode.

2.2.3. Setup Password



- Use this menu to set a new password required to stop data monitoring and logging. The default password is “omd”.

Fig. IV-10. Setup password

3. Start / Stop menu

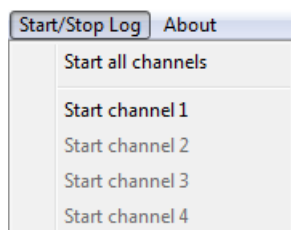


Fig. IV-11 a). Menu Start / Stop Log in SiCOMS / OCom Data Logger for 4 systems

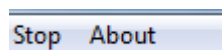
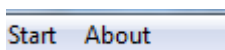


Fig. IV-11 b). Menu Start / Stop in SiCOMS / OCom Data Logger for 1 system

Click **“Start all channels”** or **“Start channel n”** in the menu bar to start monitoring and recording measurement data in log file. Menu caption changes to **“Stop all channels”** or **“Stop channel n”** accordingly. On clicking “Stop” menu items the user is prompted to enter a password to avoid accidental termination of monitoring.

4. Evaluator menu

(Only for SiCOMS / OCom Data Logger version for 1 system)

If the application recognizes a certified SiCOMS / OCom Evaluator on measurement start, additional “Evaluator” menu entry is displayed:

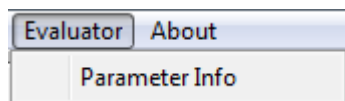
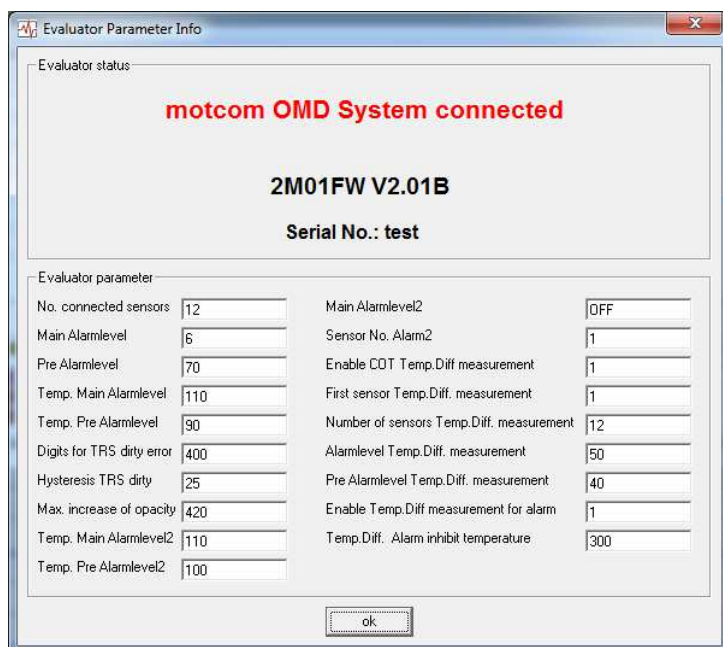


Fig. IV-12. Evaluator menu

“**Parameter Info**” menu item opens a dialog with SiCOMS / OCom Evaluator version information and parameters:



Evaluator version and other parameters can be found in SiCOMS / OCom Data Logger for 4 systems using “Setup / Preferences” menu.

Fig. IV-13. Evaluator parameter info