

Fig. 1: Example screenshot: meteorological application with forecasted parameters.



Fig.2: Example screenshot: Water quality, waves and meteorological data from different locations shown on a location map.

Datasheet

OMC-4035 OMC-Data-Online

OMC-Data-online is a software package that allows you to collect data from all your monitoring sites into a single data base. The data can subsequently be viewed in tables, graphs and reports in a very user-friendly way. In addition to directly viewing the data, it is also possible to perform calculations on the data, test for (complex) alarm conditions, and so on. Finally, OMC-Data-Online allows you to view the data with a normal browser from any computer.

Application areas

Several organizations use OMC-DOL to monitor the data from all meteorological and hydrological measurement stations in their region. Companies involved in marine engineering, off-shore or dredging use OMC-DOL to combine all their environmental measurements (including water quality, waves, wind) into it a single overview. Wave and weather forecast can be integrated, as described further down.

Features

- Collects data from multiple stations.
- Accepts data received by email, TCP, FTP, RS232, ModBus, file import and many more.
- Validates incoming data (range check).
- Supports data formats from all Observator loggers as well as standards like NMEA and Modbus.
- Organizes measurements by location in a hierarchical structure, similar to folders in Windows.
- Presents the data in tables, graphs and graphics with numerous options ranging from a simple graph to 3D surface graphs, pie-charts and so on.
- Automatic and on-demand generation of reports.
- Reports are customizable and can present overviews in .csv, HTML, XML and many more.
- Drag and drop interface on monitoring sites, graphs, reports and so on.
- Dynamic display of moving objects on a map together with measurement data and status.
- Web based interface and password protected multi-user access control.

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User-friendly and flexible

OMC-Data-Online has a user-friendly graphical interface that will immediately be familiar to Microsoft Windows users. No programming experience is needed to configure and customize the system to your needs. Even basic calculations on multiple parameters can be 'clicked together'. Users with programming experience can include their own JavaScript and XSLT code giving almost unlimited flexibility. Of course, Observator can assist with this!

Small system example

The smallest possible system is shown in figure 3; it consists of a single sensor connected directly to a PC. The connection can be, for example, RS232/USB or Modbus. The PC runs the OMC-DOL software to collect and view the data. This setup can use the light version of OMC-DOL (OMC-DOL-LT).

Typical system example

A larger system is shown in figure 4. Multiple measurement stations send their data through internet to a server computer. The connection can include a mix of GPRS (mobile phone network), satellite and radio links. A server collects the data and puts it into a data base, using OMC-DOL collector software. Computers having access to this data base (typically computers on the same LAN) can use OMC-DOL software to view and manage the data. Using the optional OMC-DOL web server software, computers anywhere on the internet can also view the data.

Data collector

The 'data collector' is a software process that collects data received by email, TCP, FTP, RS232, ModBus, file import or otherwise. The data is entered into a data base. Microsoft Access is delivered with OMC-DOL, but Oracle and other SQL data base programs are equally well supported.

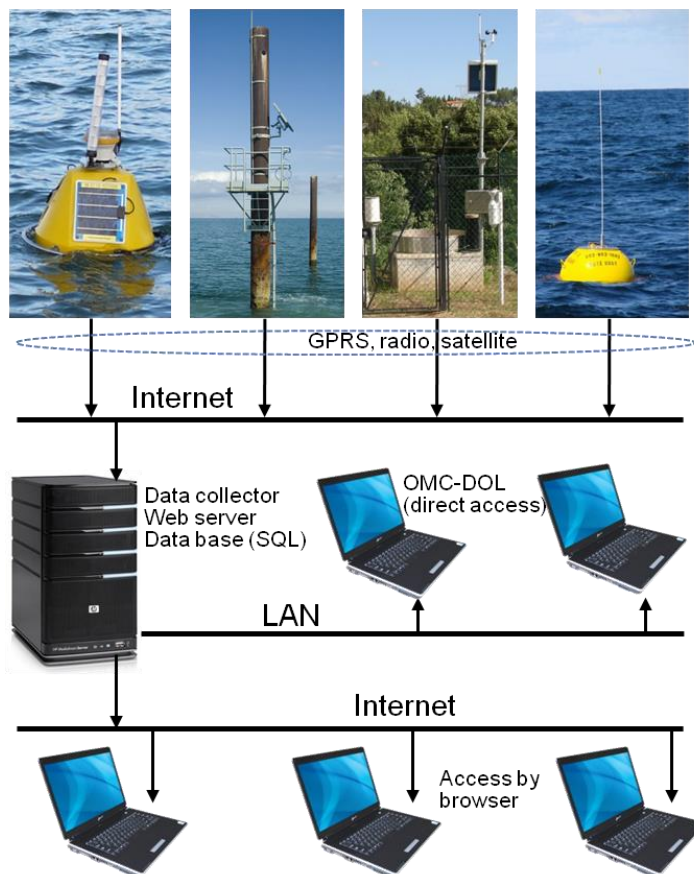
Wave and Weather forecast

Thanks to a cooperation with MeteoConsult (Europe's largest private and independent weather organization) OMC-DOL can collect extremely accurate local wave and weather forecasts. The forecasting is done by MeteoConsult, based on on-site measurement data from the OMC-DOL data base, augmented with global weather information. The forecasts are constantly calibrated with the measured waves and weather. This results in a highly accurate forecast for a specific location.

Fig. 3: Smallest possible system with OMC-DOL: One sensor connected directly to a PC running OMC-DOL.



Fig. 4: Typical OMC-DOL application: Multiple stations send data via internet to a server running OMC-DOL. Computers on the LAN can directly access the data. Computers elsewhere in the internet can access the data through a web server.



Graphical user interface

OMC-DOL allows multiple users to view the data from the data base. This 'view' is fully customizable within a framework (figure 5). On the left side of this figure, a tree-structure represents the monitoring sites. The top-level folders can, for example, present countries; the level below then

presents regions within a country; and the level below that can represent the individual monitoring sites. For each site, access rights for different users can be defined. You can drag & drop in this window.

The right side of figure 5 shows a number of tabs (bottom) for the selected location. These tabs are described below.

Tags

The measured parameters (called ‘tags’) are listed under the ‘tags’-tab. You can assign names and descriptions to each tag; define ranges and alarm levels; perform unit conversions; perform calculations on one or multiple tags; transform values with (pre-defined) look-up tables; define derived tags, and so on. Many standard calculations can be simply ‘clicked together’ without the need for programming. Programmers can insert their own JavaScript code and data base (SQL) queries.

Map

The ‘map’-tab is very suitable as a ‘home page’ for a particular location. It is a fully customizable graphical overview of the location. The background can be a map, a picture, or a drawing. Graphical overlays show the values of measured parameters. Figures 1 and 2 are examples of a ‘map’ page. Figure 6 shows a map page in which the current position of a moving object (in this case a buoy, but a dredging vessel would also be possible) is shown in real-time. Figure 7 shows some of the available graphical symbols to use on the map page. Charts (see below) can also be placed on the map page.

Recent

The ‘recent’-tab shows the most recent values of all measured and derived tags. Values that are out of range or exceed threshold values can immediately be spotted.

Player

Shows an animation of measured data over a selected period of time.

Charts

To view and create charts (graphs). The charts can be designed from a large collection of graphical symbols (single- or multi-dimensional graphs, bar- or pie-charts, thermometers, bars and so on). Ranges of axis can be defined, colors of lines can be defined; labels can be added and so on.

Fig. 5: Example screenshot. The left pane shows how sites are hierarchically organized. The right pane shows the selected location in a number of tabs. The ‘map’-tab shows the location of a data buoy (OS-TR1).

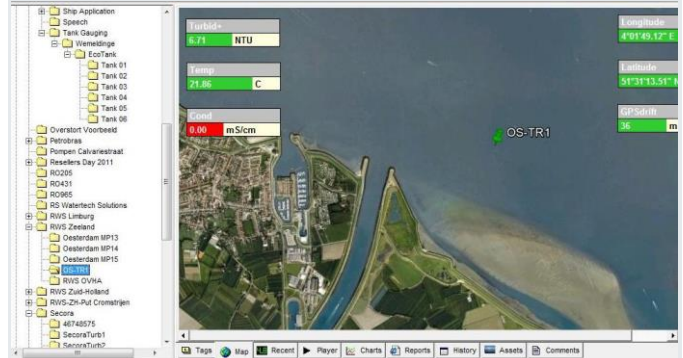


Fig. 6: This map page shows the current location of a buoy together with its recent trajectory.

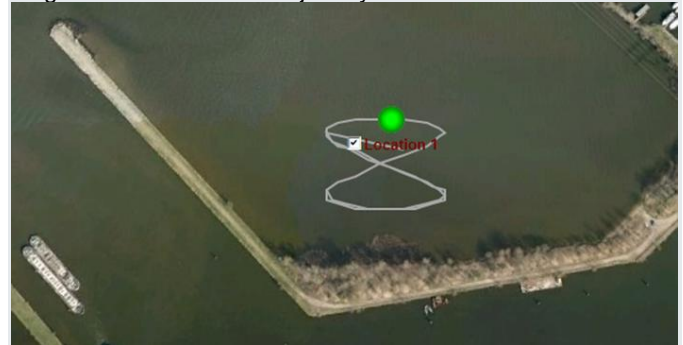


Fig. 7: Some of the available graphical symbols that can be used in reports and on the map page.



Reports

A report shows the measured data in one of many forms like HTML, txt, csv or XML. Several report types are predefined, but the user can easily define his own type of report, using charts and graphics as described before. Once a report type is defined, the user can fill the report with data with a simple mouse-click.

Report Scheduler (option)

Reports can be generated (filled) automatically, for example once a day, and be send by email, ftp or text.

Alarm handling (messenger option)

The messenger allows recipients to receive an alarm message if an alarm condition arises. A 'recipient' is a mail address or a mobile phone number for receiving text (SMS) messages. Alarm conditions can range from a simple threshold-crossing to a complex combination of parameters and conditions.

Web server (option)

The web server allows any computer with a web browser to view the data from the data base. This is password protected. The web interface is fully customizable and can be made to look like your company web site. Browser access is supported for all major browsers on PC, smart phone and tablet.

System requirements

OMC DOL runs on any Microsoft Windows 200X, XP, 7 or higher computer. Other OS are not supported. For a simple system an ordinary laptop or PC suffices. For a larger system, it is recommended to run the data collector and the data base on a server computer. This can very well be a server operating in the cloud. The viewer can run on any windows computer.

Hosting

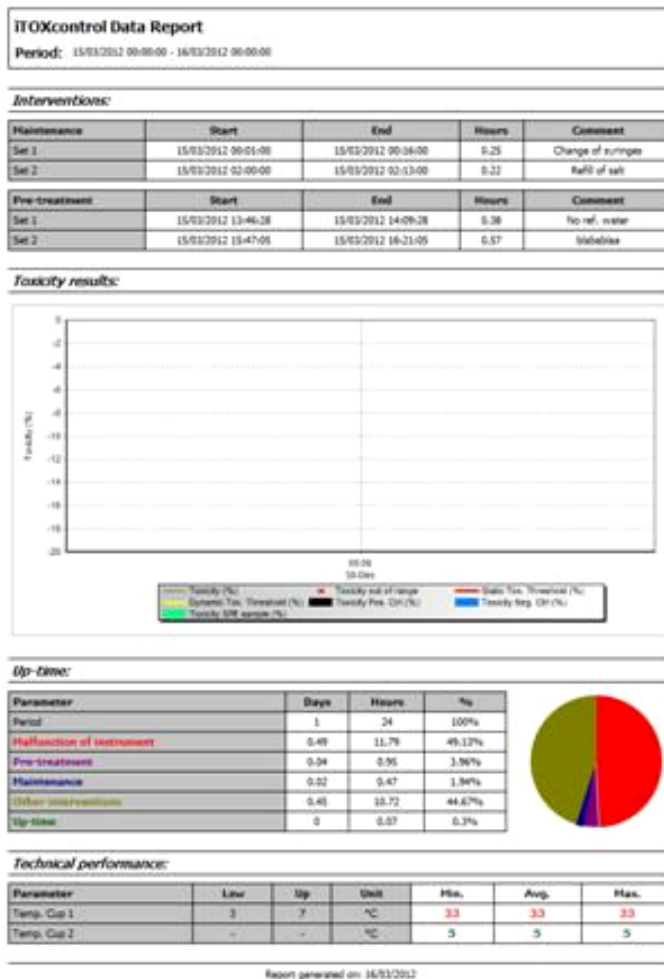
Instead of operating your own server, Observator can also provide a hosting service.

Available packages

OMC-DOL is available in several packages. Ask Observator for the details.

- OMC-DOL-LT (light): This is a free version, without support and without the possibility to add options.
- OMC-DOL-BS (Basic): Suitable for most (multi-station) networks that do not need a web interface.
- OMC-DOL-WB (Web): Suitable for most (multi-station) networks that do need a web interface.
- OMC-DOL-PRO (professional): Suitable for supporting multiple networks and for supporting OMC-DOL hosting services.

Fig. 8: Example of a custom made report.



Options

For each package, several options are available:

- OMC-DOL-USER: Additional 4 user groups
- OMC-DOL-REP: Report scheduler
- OMC-DOL-MOD: Modbus server (slave)
- OMC-DOL-MESS: Additional 4 alarm recipients
- OMC-DOL-FC: Forecast from MeteoConsult

Related products: (refer to our website)

- OMC-DOL-HMS Helideck Monitoring System.
- OMC-040, -042, -045 Range of GPRS data loggers.
- OMC-7006, -7012 Data buoys.

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oriented company with a worldwide distribution network and offices in Australia, Germany, the Netherlands, Singapore and the United Kingdom.

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