



ObSys Manual – Part 2



ObSys is a suite of applications for Windows PCs, consisting of a controller application called ObServer and a range of viewing applications including ObView, AlarmManager, and DataManager.

ObServer contains North's interface technology, block-based programming language, and easy-to-use information services. ObServer can work as a stand-alone controller, or alongside other North controllers and display systems to create a larger control or monitoring solution.

ObSys Manual – Part 2 covers the range of viewing applications.

This document relates to ObServer Version 2.0, part of ObSys

Please read the *ObSys Tutorial – Part 2* alongside this document, available from www.northbt.com

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What is ObSys?

ObSys is a suite of applications that run in Microsoft Windows, which in turn runs on PC hardware. It consists of the following main applications:

ObServer

A building controller containing North's interface technology, block-based programming language, and easy-to-use information services, including WebView.



ObView

A viewing application that communicates to, and through, ObServer. ObView is used for our Engineering Software. The engineer can make new views of their site and equipment.



Alarm Manager

An alarm viewing application that communicates to, and through ObServer. Alarm Manager allows multi-user viewing of alarm lists, including acknowledgments.



Data Manager

A logging application that communicates to, and through, ObServer. Data Manager stores logs in CSV files and can analyse values to determine averages and standard deviations.



Password Authentication

A user authentication application that provides security to other ObSys applications.



The document *ObSys Manual - Part 1* covers the use of ObServer.

This document *ObSys Manual - Part 2* covers the use of ObView, Alarm Manager, Data Manager and other ObSys applications.

Organisation of this Manual

The following chapters in this manual describe the applications within ObSys. Each application contains functional areas that appear as sub-objects to ObServer within the object engineering software, ObView.

Refer to *ObSys Tutorial – Part 2* for more help in starting and using the applications, including full examples.

Later, the chapter *Object Specifications* details the contents to each ObSys application's container objects. It lists each of the fixed and variable container objects and describes the type and attributes of each value object.

Command-line Parameters describes the arguments supported when launching an application from a shortcut or command-line.

Configuration Files provides a technical description of the initialization files used by an application.

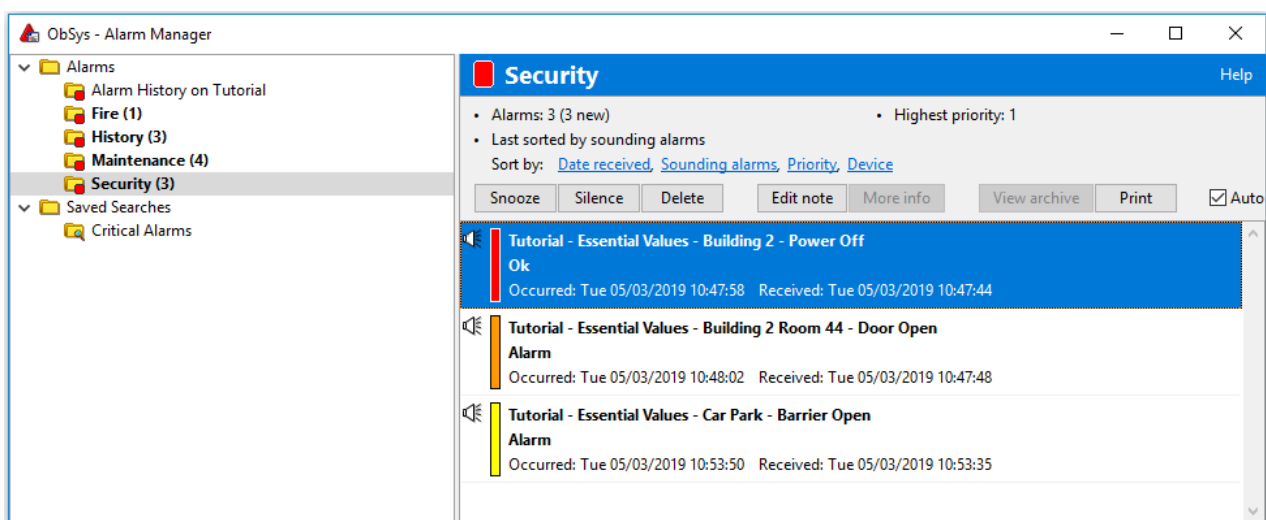
Finally, the chapter *Data Files* describes the data files created by each ObSys application. We have included when this data can be imported into another application.

Alarm Manager

Alarm processing within ObServer is very powerful, with the ability to generate alarm events; translate, prioritize, route and filter them; store them, and so on.

Once alarm events have been delivered to an Alarm Store or Alarm History they need managing by a user. Alarm Manager is an ObSys application that connects to these stores and provides the power to:

- View alarms in Alarm History and Alarm Store from several North devices
- Automatically show the latest alarm events as they occur
- Announce when a new alarm occurs – playing a different sound depending on the highest alarm priority, or triggering an ObView page or indeed any application when particular alarms occur
- Perform basic alarm actions – snooze, silence and delete
- Control access to basic alarm actions using ObSys access security
- Add a note to an alarm event, or manually send to other alarm destinations
- View archived alarms
- Print an alarm list for manual archiving.



Alarm Lists

Alarm Manager connects to multiple alarm lists. A list can be an Alarm History or Alarm Store located within the local ObServer or a remote North device. In total, 20 alarm list connections are available.

Once connected to an alarm list, Alarm Manager imports the label and access security levels, loads all alarm events, then...

For an Alarm History, its rolling record of the last alarm events is displayed.

For an Alarm Store, alarms are presented ready for the end-user to see, action and delete. Changes from one Alarm Manager are immediately reflected in the others with the connected Alarm Store being changed. Once an alarm is deleted, it is removed from the list and archived.

Saved Searches

Filters provide a method to save search criteria for a user can to display a section of alarm events.

By default, Filter 1 searches all alarm lists for the most recent five new (sounding) priority 1 events.

Priorities

Each alarm event has a priority number, with 1 being the highest most important priority.

Alarm Manager uses a colour to indicate an alarm's priority (as shown in the table). An optional label can be set for users with a visual impairment.

Priority	Colour		Meaning
1	Red		Life-critical – someone may get injured
2	Orange		Property-critical – something may be destroyed
3	Yellow		Important – needs some action
4-9	Blue		Information only

One way to alert the user to a new alarm is to use sound. A sound file can be associated with a particular alarm priority. The highest priority sounding alarm then selects which sound to play. Beware of overusing this feature!

Alarm Window

Tailor the Alarm Manager window for specific user requirements:

Inhibit closing to prevent a user accidentally closing the application window and stopping alarm event notifications. The window can also be forced to stay maximised in Full Screen mode.

When alarm archiving is configured in the Alarm Store, deleted alarms are saved to a CSV file. This file includes a record of who silenced and deleted the alarm. You can control the visibility of the View Archive button, which opens the archive file.

Dashboard Mode alters the operation of Alarm Manager. Instead of showing multiple lists of alarm events, it displays only the single most important one, as determined by Filter 1. This mode is designed for help desks; it pulls information from the alarm database for the displayed event and provides a single Accept button to action it.

Engineering Mode

Engineering Mode unlocks useful features within the Alarm Manager application to help with its set up.

These features include:

One-click add alarm list using the Open in Alarm Manager option in the engineering software. This automatically connects the Alarm History or Alarm Store if not previously viewed;

Inline editing of an alarm list's name on the Alarm Manager window;

Additional items are added to the context menu when right-clicking on an alarm:

Copy Alarm Text is useful when configuring ObServer alarm modules, such as for alarm translation or prioritisation.

Locate in Alarm Database creates a folder within the ObSys alarm database for the selected alarm, you can then add related files and actions for a user.

Alarm Database

ObSys contains an alarm database, where actions associated with particular alarms can be stored. The database is a series of folders and files within the main ObSys data folder, 'C:\Program Data\North Building Technologies\ObSys\AlmInfo\'.

Alarm Manager checks the alarm database when a new alarm event is detected from a connected alarm store, or a user selects an alarm.

The System and Point fields of an alarm define the folders within the AlmInfo folder to look for alarm actions.

Actions placed in the '\ObSys\AlmInfo\system\' folder are associated with any alarm received from the *system*.

For example, if an alarm from the system 'Boiler Room' arrived, then actions within the folder '\ObSys\AlmInfo\Boiler Room\' could be triggered.

Actions can also be placed in the '\ObSys\AlmInfo\system\point\' folder. These are associated with any alarm received from the particular *point* within the particular *system*, i.e. '*system – point*'.

For example, if an alarm from *system* 'Zip System' and *point* 'Outside Air Temp' arrived, then actions within the folder '\ObSys\AlmInfo\Zip System\Outside Air Temp\' could be triggered.

If there are actions in both system and point folders, then both sets of actions could be triggered.

This means that the size of the alarm database, and the number of action files associated with an alarm, is limited only by the size of file storage.

Actions

Actions are things that can or must occur when an alarm is received from an alarm list connected to Alarm Manager. Any files within the particular folders are actions that can be triggered – either automatically when Alarm Manager receives a new alarm from an Alarm Store, or manually when the user selects that particular action.

The file type of an action file must be associated with a default application in Windows settings, then when the action is triggered, Alarm Manager will open the action file with that application.

For example, if the action filename is called 'Location Info.txt', and the current application associated with a .txt file type is Notepad.exe, then when Alarm Manager opens 'Location Info.txt' it will open in Notepad.

This means that any kind of file can be used, including shortcuts (lnk), ObView pages (obv), and documents (pdf, doc, txt).

Default Action

Alarm Manager has a **More Info** button, which becomes available when an alarm has an action filename beginning 'DefaultAction'.

Automatic Actions

Any action filename that begins 'AutoTrigger' is automatically triggered by Alarm Manager when a connected Alarm Store first receives a new alarm event.

For example, an action file called 'AutoTrigger Overview.obv' will automatically trigger ObView to open the file and display the information. Similarly, a document called 'AutoTrigger Instruction.pdf' will launch Acrobat Reader to display the instruction document when the alarm occurs.

Manual Actions

If action files are available for an alarm, the user can right-click on the alarm in Alarm Manager and select **Open** from the menu to see a list of all the actions available for the alarm. Select an action to launch it.

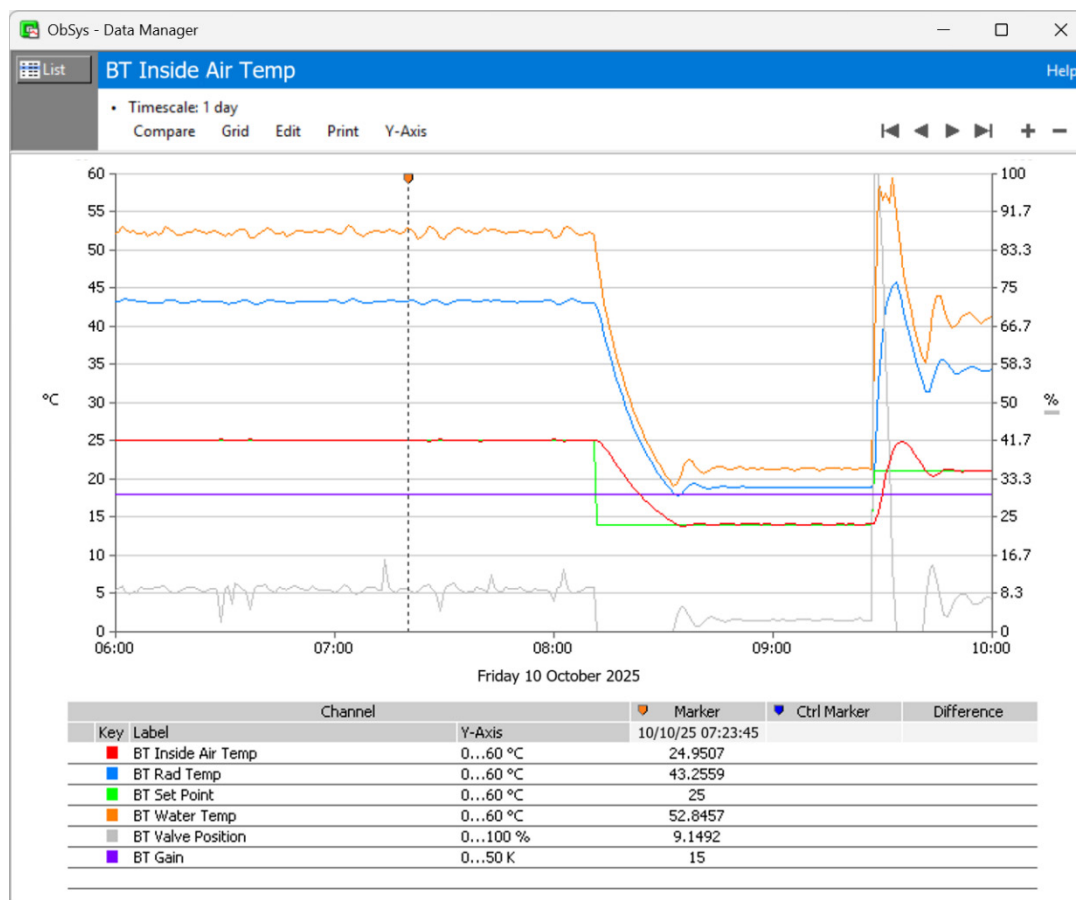
Data Manager

Data Manager is the data-logging and chart-viewing application within ObSys. It is designed to record and analyse object values over time, enabling engineers to monitor system performance and detect anomalies.

Use the application to track how a value changes over time (e.g. room temperature or alarm state); compare performance of actual values against desired setpoints (e.g. heating or cooling targets); and identify trends and exceptions in system behaviour.

Data Manager provides:

- **Multi-channel logging** – Supports up to 4,000 data channels, each capable of recording any object value accessible from ObServer or another North device.
- **Flexible sampling rates** – Each channel can be configured to record at intervals ranging from one minute to one week.
- **Efficient storage** – When a value remains unchanged, only the start and end times are recorded. This technique, known as change-of-value logging, is ideal for tracking alarm states.
- **Accessible data** – Values are saved to comma-separated value files (.csv) on the PC's local storage. These files can be easily imported into other applications, such as Microsoft Excel.
- **Alarm generation** – Alarm events can be triggered when recorded values exceed pre-defined limits.
- **Statistical analysis** – Data Manager can analyse trends and generate alarm events based on exception conditions detected through statistical methods.



Data Channel

Data Manager uses a data channel to manage the recording of an object's value over time.

Up to 4,000 data channels are supported. Create a new channel either directly in the application or by using engineering software.

Reading the Value

For each data channel, the engineer configures a label, a source object to read the value from, a read rate of how often to collect the value, and units. The read rate can be set between one minute and one week.

Remember to consider the time needed to read values, because they do not occur instantaneously. If it takes 1 second to read one channels value from an external system, then it will take 100 seconds to read 100 channel values. Even if you specify the 100 data channels to read every minute, the best that could occur would be every 100 seconds.

Chart Axes

To provide a more consistent log viewing experience, the engineer configures the channel's axes properties with a minimum and maximum value for the y-axis, an appropriate tick mark spacing value, and a default time period (x-axis).

Standard Alarm Limits

A high and low value alarm limit provide a standard acceptable range for the channel's value.

When the value is above the high limit, the alarm state changes to high alarm and the Value High Alarm Count object is incremented. If Send High/Low Alarms is enabled, a 'High value alarm' event is sent.

Similarly, when the channel's value is below the low limit, the alarm state changes to low alarm and the Value Low Alarm Count object is incremented. If Send High/Low Alarms is enabled, a 'Low value alarm' event is sent.

If the channel's source object fails to read, then the alarm state changes to comms fault. If Send Comms Alarms is enabled, a 'Communications fault alarm' event is sent.

The Data Manager window displays the channel's alarm state, and any alarm limits are indicated on the log view window by a shaded area. Alarm counters may be reset from the channel properties window.

Intelligent Alarm Limits

In addition to standard alarm limits, Data Manager's AutoTrack feature can provide powerful statistical analysis of data collected to constantly monitor and learn a data channel's behaviour.

Once AutoTrack has learnt a channel's weekly profile it can use this data intelligently, detecting when a value is either approaching or outside its usual operating range and alerting the user. At least four weeks of data are required before AutoTrack can start to calculate a profile. As more data is collected, the confidence level increases.

The engineer selects a sensitivity level for AutoTrack to calculate intelligent alarm and warning limits. A high sensitivity may detect more alarm conditions, but that may lead to more false positives. A low sensitivity may miss detecting some alarm conditions.

As with standard alarm limits, when the channel's value is outside the intelligent alarm or warning limits, the alarm state changes. If alarm events are enabled, an event is sent.

Data Manager Window

Tailor the Data Manager window for specific user requirements:

Inhibit closing to prevent a user accidentally closing the application window and stopping data collection. The window can also minimise to the system tray.

WebView

ObServer's web server, WebView, can show logs from Data Manager. Enable this using engineering software.

Data Storage

To reduce storage, Data Manager only records values on change. When a value remains unchanged, only the start and end times are recorded. For an analogue value that changes continually consider the read rate, as a value recorded every minute will require more storage than a value recorded every 15 minutes.

Data Manager will continue to store values until the computer's drive becomes full. There are several options to manage the data storage and shrink the amount used. A user could periodically archive a specific data channel, selecting a date to archive values before. Or an engineer can enable Data Manager to auto-delete values older than a specified number of days (from 1 day to five years).

Network Mode

Data Manager typically operates in a standalone mode, where it both collects and displays data.

In network mode, Data Manager does not collect data. Instead it displays data collected by another Data Manager, accessing CSV files across a local Windows network share. This configuration allows one Data Manager to act as a server, with multiple clients displaying the data collected.

ObView

ObView is the application to use for creating and showing the most powerful desktop display system for ObSys.

ObView 'views' can be created in several ways. The easiest is by copy-and-pasting from existing views, so engineers can quickly generate fancy dynamic graphics. The views can be linked together to form a user-navigable display system that appears to the user a single application, although it is possible to have several views displayed on the same PC at the same time.

Each view is usually made up from an optional background image, on top of which are placed items that show remote values.

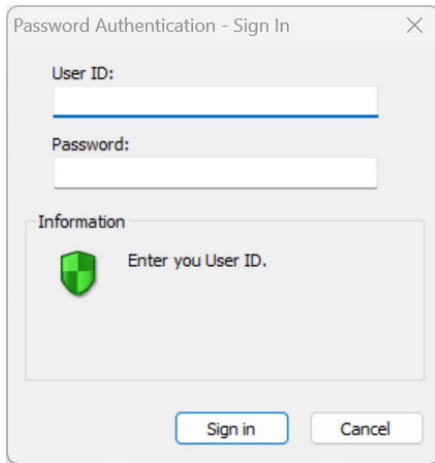
ObView comes with standard and alternative items for each type of remote object; for example the standard item for a float-type object shows its label and value as text, while alternative items can show the same object as a thermometer, or as a raise/lower bar. The standard item for an off-on-type object shows the label and on-off value as text, while the alternative items can show the value as engineer-specified coloured text, one of two icons, or a stationary/rotating fan. Any of these items can be used on a new view.

New alternative items can be created using ObVerse, North's standard cause-and-effect strategy language, and these can be used and re-used on new views as required.

Password Authentication

North products that require user authentication, including ObSys applications, have access to ObServer's Security Server. This server holds information for different users, including their privilege levels.

When an ObSys application needs authentication, the Password Authentication application prompts the user to sign in and validates their credentials with the Security Server.



Enabling authentication

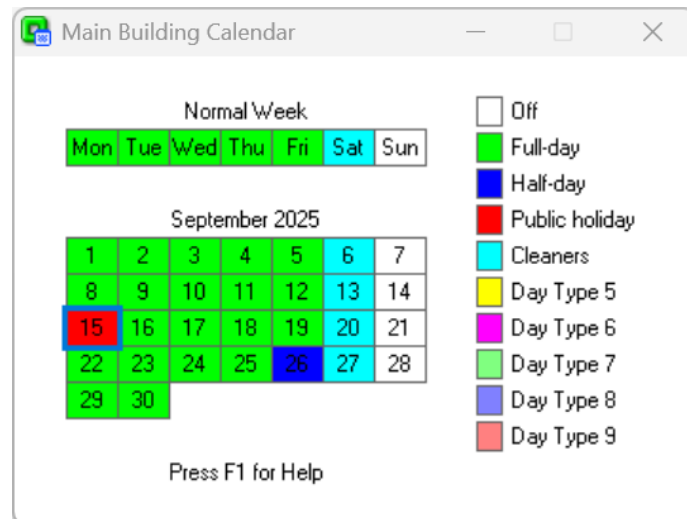
Once users have been added to Security Server, enable authentication for ObSys applications by using Start Engineering. Navigate to ObServer > Configuration > Password Authentication

Refer to each ObSys application for information on setting access security requirements.

Calendar Viewer

The calendar viewer application is used for viewing and modifying day-types within a Time Control Calendar. Days of different types are shown in different colours. The day-type for a particular day of the week or exception date can be set.

For new projects, we recommend using Times and Profile object types within Essential Data or ObVerse Processor.



Window navigation

To set a day-type, right-click on a particular day of the week or exception date.

The current month is displayed, right-click on the month to move to the next or previous.

To navigate using the keyboard, use the cursor keys. Use page-up/page-down keys to jump between calendar and normal week.

Object Specifications

Once ObServer has started, several objects become available within the top-level object of the device. These objects may contain sub-objects (and each of these may contain sub-objects, and so on) – the whole object structure being a multi-layer hierarchy. It is possible to navigate around the objects using the ObSys Engineering Software.

Each object is specified below, along with its sub-objects.

Example Object Reference

An example of a reference to an object within ObServer: the Configuration object (O) contains Alarm Manager (AM), which contains List 1 (L1), containing Label (L) – therefore the complete object reference is ‘O.AM.L1.L’.

ObServer Configuration Object

Object Type: *[ObServer v20]*

When an ObSys application is started, its object is added to the ObServer Configuration object:

Description	Reference	Type
Alarm Manager Used to configure Alarm Manager application, if running	AM	Fixed Container: <i>[AlarmManager v20]</i>
Data Manager Used to configure Data Manager application, if running	DM	Variable Container: <i>[DataManager v12]</i>
Password Authentication Used to configure Password Authentication for other ObSys applications	OP	Fixed Container: <i>[ObPsw v20]</i>
Calendar Window Used to configure Calendar Viewer application	UC1	Fixed Container: <i>[CalendarView v10]</i>

Alarm Manager

Object Type: *[AlarmManager v20]*

The Alarm Manager object contains settings for the ObSys *Alarm Manager* application.

Description	Reference	Type
Highest Priority Sounding Alarm sounding with the highest priority	HP	Obj\Num: 0...9 0: No sounding alarms
Engineering Mode Enables features to assist engineering, including menus: copy alarm text, locate in alarm database; and connect to alarm list	W.EM	Obj\OffOn; Adjustable
Snooze Access Security Area and minimum privilege level required to snooze the alarms. This is the default access security if not specified within List.	AS.R	Obj\Num; Range 0, 10...87; Adjustable
Silence Access Security Area and minimum privilege level required to silence the alarms. This is the default access security if not specified within List.	AS.S	Obj\Num; Range 0, 10...87; Adjustable
Delete Access Security Area and minimum privilege level required to delete the alarms. This is the default access security if not specified within List.	AS.D	Obj\Num; Range 0, 10...87; Adjustable
Alarm Window Alarm Manager window settings	W	Fixed container: <i>[AlarmManager v20\Window]</i>
Priority x Alarm priority x configuration, where x is in the range 1...3. With priority 1 being the highest.	Px	Fixed container: <i>[AlarmManager v20\Priority]</i>
Other Priorities Alarm priority 4 to 9 configuration. Typically used for informational events	P4	Fixed container: <i>[AlarmManager v20\Priority]</i>
List a Alarm list a configuration, where a is in the range 1..20	La	Fixed container: <i>[AlarmManager v20\List]</i>
Filter b Search filter b parameters, where b is in the range 1..10	Fb	Fixed container: <i>[AlarmManager v20\Filter]</i>
Send To Configure alarm Send To destinations	S	Fixed container: <i>[AlarmManager v20\SendTo]</i>
Print Settings Print page settings	PTR	Fixed container: <i>[AlarmManager v20\Print]</i>

Alarm Window

Object Type: [AlarmManager v20\Window]

The Alarm Manager window object contains settings for the ObSys Alarm Manager application window, including close inhibit, mode and font.

Description	Reference	Type
Close Inhibit When set 'Yes', the window close menu is disabled to prevent a user from closing the application	CI	Obj\NoYes; Adjustable
Full Screen Forces window to full screen. Restart application after changing this setting	FS	Obj\OffOn; Adjustable
View Archive Button Shows the 'View archive' button, which opens the CSV archive file when available	HE	Obj\NoYes; Adjustable
More Info Button Label Change text of 'More info' button. This opens the DefaultAction file within the Alarm Database when available	IB	Obj\Text: 15 chars; Adjustable
Display Font Font name and size used for window	FN	Obj\WinFont; Adjustable
Dashboard Mode Changes Alarm Manager operation to high visibility dashboard	DB.M	Obj\OffOn; Adjustable
Dashboard Action In Dashboard Mode, select the action to perform on 'accept'	DB.A	Obj\Enum; Adjustable Values: Silence, Delete

Alarm Priority

Object Type: [AlarmManager v20\Priority]

The Alarm Manager priority object contains settings for alarm events of a particular importance or priority.

Typically, alarm priorities have the following meaning:

Priority	Colour	Meaning
1	Red	 Life-critical – someone may get injured
2	Orange	 Property-critical – something may be destroyed
3	Yellow	 Important – needs some action
4-9	Blue	 Information only

Description	Reference	Type
Label Optional text label for priority. This will be displayed next to an alarm condition	L	Obj\Text: 30 chars; Adjustable
Play Sound File WAV file to plays when this priority is the Highest Priority Sounding	F	Obj\File; Adjustable File type: *.WAV
Repeat Sound (sec) Replays the sound file until silenced	P	Obj\Num: 0...60000; Adjustable 0: No repeat (play once)

Alarm List

Object Type: [AlarmManager v20\List]

The Alarm Manager list object contains settings for an [alarm list](#), including the object reference of a connected Alarm Store or Alarm History to manage alarms from.

Description	Reference	Type
Label Optional text label for list. This will override any label set within the connected Alarm Store or History	L	Obj\Text: 20 chars; Adjustable
Object Reference Object reference of an Alarm Store or Alarm History	O	Obj\Obj; Adjustable
Interrupt User If the Alarm Window is not active or minimised, interrupt user on new alarm by restoring window and flashing title bar	IU	Obj\NoYes; Adjustable
Snooze Access Security Area and minimum privilege level required to snooze alarms in the list. Adjust from connected Alarm Store or History.	AS.R	Obj\Num; Range 0, 10...87
Silence Access Security Area and minimum privilege level required to silence alarms in the list. Adjust from connected Alarm Store or History.	AS.S	Obj\Num; Range 0, 10...87
Delete Access Security Area and minimum privilege level required to delete alarms in the list. Adjust from connected Alarm Store or History.	AS.D	Obj\Num; Range 0, 10...87

Alarm Filter

Object Type: [AlarmManager v20\Filter]

The Alarm Manager filter object contains a saved search criteria to filter alarms from either one or all lists.

Description	Reference	Type
Label Label for filter. Must be set	L	Obj\Text: 20 chars; Adjustable
List Select which List to include in filter. Set either a single list or all lists	LS	Obj\Num: 0...20; Adjustable 0: All lists
Maximum Alarms Maximum number of alarms to display	MR	Obj\Num: 1...100; Adjustable
Sort By Sort order of filtered alarms	SB	Obj\Enum; Adjustable Values: 0=Date received, 1=Sounding, 2=Priority, 3=System & Point
Sounding Alarms Include all alarms or sounding only	NA	Obj\Enum; Adjustable Values: 0=All, 1=Sounding only
Priority: High Highest priority alarm to filter. '1' is the highest priority	PH	Obj\Num: 0...9; Adjustable
Priority: Low Lowest priority alarm to filter. '9' is the lowest priority	PL	Obj\Num: 0...9; Adjustable
Date Received: Start Set a start and end date received to filter alarms from that time period	RS	Obj\DateTime; Adjustable
Date Received: End Set a start and end date received to filter alarms from that time period	RE	Obj\DateTime; Adjustable
Point Contains Filter alarms where system & point field contains this text	PC	Obj\Text: 120 chars; Adjustable
Condition Contains Filter alarms where condition field contains this text	CC	Obj\Text: 120 chars; Adjustable
Note Contains Filter alarms where note field contains this text	NC	Obj\Text: 80 chars; Adjustable

Alarm Send To

Object Type: *[AlarmManager v20\SendTo]*

The Alarm Manager send to object contains destinations for the ‘Send To’ menu.

Description	Reference	Type
Destination <i>d</i> Destination <i>d</i> parameters, where <i>d</i> is in the range 1..10	<i>Dd</i>	Fixed container: <i>[AlarmManager v20\SendTo\Dest]</i>

Alarm Send To Destination

Object Type: *[AlarmManager v20\SendTo\Dest]*

The Alarm Manager send to destination contains an object reference to resend an alarm event. This should be a module that can accept alarm event messages, such as Alarm Email, GSMSMS, ESPA44 pagers, etc.

Description	Reference	Type
Label Label for destination. Used in menu.	L	Obj\Text: 20 chars; Adjustable
Object Reference Compatible Object reference to send North format alarm	O	Obj\Obj; Adjustable

Alarm Manager Print Settings

Object Type: *[AlarmManager v20\Print]*

The Alarm Manager print settings object contains page font and margins for printing a list.

Description	Reference	Type
Print Font Font name and size used for printing	FN	Obj\WinFont; Adjustable Default: Times New Roman 10
Margin Top (mm) Allow extra space for page title	M.T	Obj\Float; Adjustable
Margin Bottom (mm) Allow extra space for page number	M.B	Obj\Float; Adjustable
Margin Left (mm)	M.L	Obj\Float; Adjustable
Margin Right (mm)	M.R	Obj\Float; Adjustable

Data Manager

Object Type: *[ObServer v20\ DataManager v12]*

The *Data Manager* application contains the following objects.

Description	Reference	Type
Information Details of Data Manager current state	I	Fixed Container: [DataManager v12\Info]
Setup Configuration for Data Manager's window, print page setup, and CSV settings	S	Fixed Container: [DataManager v12\Setup]
Channel x Data channel x configuration, where x is in the range 1...1000	Cx	Fixed Container: [DataManager v12\Chan]

Data Manager Information

Object Type: *[ObServer v20\ DataManager v12\Info]*

The Data Manager Information object contains the following.

Description	Reference	Type
Data Channels Number of data channels configured	C.C	Obj\Num
Total Alerts Total number of channels in an alert condition. Including: alarm, warning, or fault	C.T	Obj\Num
Total Alarms Total number of channels in a high or low value alarm condition	C.A	Obj\Num
Total Warnings Total number of channels in a high or low value warning condition	C.W	Obj\Num
Total Faults Total number of channels in a communications fault condition	C.F	Obj\Num
Data Collection Cycle (s) Duration of last sequence to process all data channels	LT	Obj\Num

Data Manager Setup

Object Type: *[ObServer v20\ DataManager v12\Setup]*

The Data Manager Setup object contains the following objects.

Description	Reference	Type
Window Details of Data Manager current state	W	Fixed Container: [DataManager v12\Window]
Print Settings Configuration for Data Manager's window, print page setup, and CSV settings	P	Fixed Container: [DataManager v12\Print]
Advanced Settings Data channel x configuration, where x is in the range 1...1000	A	Fixed Container: [DataManager v12\Advanced]

Data Channel

Object Type: [DataManager v12\Chan]

The *Data channel* object contains the following. All of these object values are also accessible from the application.

On changing the Source Object reference (SO), Data Manager will erase all collected data for the channel.

On changing the AutoTrack Enable (AT.E), Data Manager will erase all AutoTrack data collected for the channel.

Description	Reference	Type
Label Description of data channel. The Label is also used as the CSV filename to store the channel's data	L	Obj\Text; 64 chars; Adjustable
Value Current value of channel	V	Obj\Float; Adjustable
Units	U	Obj\Text; 8 chars; Adjustable
Value last updated	TS	Obj\DateTime
Value Alarm State	S	Obj\Enum Values: 0=Ok, 1=High Warning, 2=Low Warning, 3=High Alarm, 4=Low Alarm, 5=Comms Fault
Value High Alarm Count A count of how often the value has exceeded the Alarm High Limit	V.HC	Obj\Num
Value Low Alarm Count A count of how often the value has exceeded the Alarm Low Limit	V.LC	Obj\Num
Source Object	SO	Obj\Obj; Adjustable
Read Rate	SR	Obj\Enum; Adjustable Values: 0=No Read, 1=1 min, 2=5 mins, 3=15 mins, 4=30 mins, 5=1 hr, 6=6 hrs, 7=12 hrs, 8=1 day, 9=1 week
Value Maximum (Y-axis)	VH	Obj\Float; Adjustable
Value Minimum (Y-axis)	VL	Obj\Float; Adjustable
Value Tickmark spacing	VT	Obj\Float; Adjustable
Time Period (X-axis)	TP	Obj\Enum; Adjustable Values: 0=1 min, 1=15 mins, 2=1 hr, 3=4 hrs, 4=1 day, 5=1 week, 6=1 month, 7=1 year
Alarm High Limit	A.VH	Obj\Float; Adjustable
Alarm Low Limit	A.VL	Obj\Float; Adjustable
Send High/Low Alarms	A.AE	Obj\NoYes; Adjustable
Send Warning Alarms	A.WE	Obj\NoYes; Adjustable
Send Comms Alarms	A.CE	Obj\NoYes; Adjustable
AutoTrack Enable	AT.E	Obj\NoYes; Adjustable
AutoTrack Pause Learning	AT.P	Obj\NoYes; Adjustable
AutoTrack Sensitivity	AT.S	Obj\Enum; Adjustable Values: 0=Low, 1=Medium, 2=High
AutoTrack Confidence	AT.C	Obj\Enum Values: 0= Off, 1=None, 2=Low, 3=Medium, 4=High
More Info Command Configure a document or application to launch when 'More Info' button is pressed	CL	Obj\Text; 100 chars; Adjustable
Data Log	V.LOG	Obj\Log

Alarm Fields

Alarms are sent by any data channel within Data Manager when the Value Alarm State changes. Data Manager places the following information into the North-format fields:

System – ‘Data Manager’

Point – *Data channel label*

Condition – either ‘High value alarm’, ‘Low value alarm’, ‘High value warning’, ‘Low value warning’, ‘Value ok’, ‘Communications fault’, or ‘Communications ok’

Priority – ‘3’ for value alarm and communications fault, ‘4’ for value warning and ok conditions

Date & Time – from PC

Alarm Examples

System	Point	Condition	Priority	Date	Time
Data Manager	Room 1E5 temperature	High value warning	4	23/03/25	13:33:59
Data Manager	Room 1E5 temperature	High value alarm	3	23/04/25	14:01:16
Data Manager	Room 1E5 temperature	Value ok	4	23/04/25	16:15:24

Data Manager Window

Object Type: *[DataManager v12\Window]*

The Data Manager window object contains settings for the ObSys Data Manager application window.

Description	Reference	Type
Close Inhibit When set 'Yes', the window close menu is disabled to prevent a user from closing the application	CI	Obj\NoYes; Adjustable
Minimise to Tray When window is minimised, hides application from taskbar and places in system tray	TY	Obj\NoYes; Adjustable
New/Edit Access Security Area and minimum privilege level required to add or edit data channels	AS	Obj\Text: 2 chars; Adjustable
Primary Colour Primary trace colour	C0	Obj\WinClr; Adjustable
Compare t Colour Compare trace <i>t</i> colour, where <i>t</i> is in the range 1...6	Ct	Obj\WinClr; Adjustable
Warning Colour Auto-track warning limit colour	C7	Obj\WinClr; Adjustable
Alarm Colour Auto-track alarm limit colour	C8	Obj\WinClr; Adjustable

Data Manager Print Settings

Object Type: *[DataManager v20\Print]*

The Data Manager print settings object contains page margins for printing a data channel.

Description	Reference	Type
Margin Top (cm)	M.T	Obj\Float: 0...5.0; Adjustable
Margin Bottom (cm)	M.B	Obj\Float: 0...5.0; Adjustable
Margin Left (cm)	M.L	Obj\Float: 0...5.0; Adjustable
Margin Right (cm)	M.R	Obj\Float: 0...5.0; Adjustable

Data Manager Advanced Settings

Object Type: *[DataManager v12\Advanced]*

The Data Manager advanced settings object contains the following.

Description	Reference	Type
Pause After Read (ms) Adds a delay after each data channel read. Use where successive read requests from Data Manager may prevent other processes from reading the same system.	TP	Obj\Num: 0...60000; Adjustable Default: 0
Auto-Delete CSV After (days) Periodically shrinks each data channel CSV file, removing data older than the days specified – see <i>data storage</i>	AD	Obj\Num: 0, 1...1825; Adjustable 0: Do not delete
Local CSV Folder Set location of data channel CSV files. Changing folder will copy CSV files to new location	CF	Obj\Text; Adjustable Blank: default ObSys Data folder
Network Folder Changes operation to <i>network mode</i> , connects to a remote Data Manager folder	NF	Obj\Text; Adjustable
Debug Enable Records Data Manager activity to the file DM_rec.txt. Only enable when advised by North support.	DE	Obj\NoYes; Adjustable

Password Authentication

Object Type: [ObPsw v20]

A *Password Authentication* object contains the following:

Description	Reference	Type
Authentication Method Enable authentication for ObSys applications. The North Security Server MUST be configured first!	M	Obj\Enum; Adjustable Values: 0=None, 1=North Security Server
Inactivity Timeout (secs) Sign-out a user after a period of inactivity	T	Num: 5...3600; Adjustable
Current Username	U.N	Obj\Text: 20 chars
Perform Action When authentication is enabled, forces specified action. This could be triggered by a button on an ObView window.	S	Obj\Enum; Adjustable Values: 0=None, 1=Sign in, 2=Sign out, 3=Change password

Calendar Window

Object Type: *[CalendarView v10]*

A Calendar Window object contains user-specific settings for a *calendar viewer application*.

Description	Reference	Type
Window Label	L	Obj\Text: 40 chars; Adjustable
Day-type x Label Label for day-type x, where x is in the range 0...9.	Px	Obj\Text: 20 chars; Adjustable
Font Window font name and size	F	Obj\WinFont; Adjustable
Calendar Object	O	Obj\Obj
ObServer Channel	OC	Obj\Num

Command-line Parameters

All ObSys applications are located in the folder 'C:\Program Files (x86)\North Building Technologies\ObSys\'.

Alarm Manager

The command-line for starting AlmManager.exe uses the following optional parameters. If a parameter is not specified, the value configured using objects or when Alarm Manger was last started will be used.

Parameter	Use	Value
X	Window: top left corner x position on screen	Num (screen pixels)
Y	Window: top left corner y position on screen	Num (screen pixels)
W	Window: width	Num (screen pixels)
H	Window: height	Num (screen pixels)
O	In Engineering Mode, object reference of list to add	Obj

Examples

AlmManager.exe

AlmManager.exe O=AS1

AlmManager.exe O=AS1;X=0;Y=300

Data Manager

The command-line for starting DataManager.exe uses the following optional parameters. If a parameter is not specified, the value configured using objects or when Data Manger was last started will be used.

Parameter	Use	Value
X	Window: top left corner x position on screen	Num (screen pixels)
Y	Window: top left corner y position on screen	Num (screen pixels)
W	Window: width	Num (screen pixels)
H	Window: height	Num (screen pixels)
CI	Close Inhibit	Num: 0=No, 1=Yes
O	Object reference of data channel to display or add	Obj
L	If adding data channel, its label	Text

Examples

DataManager.exe

DataManager.exe O=S1.M4.SC.V;L=Room temperature

DataManager.exe CI=1;X=0;Y=0;W=600;H=300

ObView

The command-line for starting ObView.exe with a custom site view, uses the following format:

`ObView.exe view-name;parameter=value;parameter=value`

Only parameters defined within the view file (.obv) are available, which will override any initial value (IV) specified in the file. Parameters may include:

Parameter	Use	Value
L	Label	Text
O	Object reference to view	Obj
G	Grid size	Num:0...20
EE	Edit enable	Obj\NoYes
I	Idle rate	Num:0...1000
OC	ObServer channel	Num 0: automatic (default) 80...89: ObServer Configuration object 90...99: ObServer object
CI	Close inhibit	Num: 0=No, 1=Yes
WX	Window: top left corner x position on screen	Num (screen pixels)
WY	Window: top left corner y position on screen	Num (screen pixels)
WW	Window: width	Num (screen pixels)
WH	Window: height	Num (screen pixels)
WS	Window: state	Enum Values: 0=Normal, 1=Maximised, 2=Minimised, 3=Hidden, 4=Force to front, 5=No border, 6=Full-screen (no border), 7=Pop-up (no border, no menu)

Examples

`ObView.exe`

`ObView.exe Start Engineering`

`ObView.exe Floor plan;O=;OC=90;WS=6`

Save to a Backup

The command-line for starting ObSave.exe uses the following parameters.

The object reference of the object to back-up and save to an object save file (.obs) must be specified.

Parameter	Use	Value
O	Variable-container object reference to read from	Obj (required)
QU	Prompt for filename	Num: 0=No, 1=Yes (default)
FN	Backup filename (.obs)	File
OC	ObServer channel	Num (default: automatic)
A	Silent mode	Num: 0=No (default), 1=Yes
LF	Activity log filename	File

Examples

`ObSave.exe O=0.UD`

`ObSave.exe O=IP.A1;FN=My Device.obs;A=1`

Load from a Backup

The command-line for starting ObLoad.exe uses the following parameters.

The object reference of the object to load from an object save file (.obs) must be specified.

Parameter	Use	Value
O	Variable-container object reference to write to	Obj (required)
QU	Prompt for filename	Num: 0=No, 1=Yes (default)
FN	Backup filename (.obs)	File
OC	ObServer channel	Num (default: automatic)
A	Silent mode	Num: 0=No (default), 1=Yes
LF	Activity log filename	File

Examples

```
ObLoad.exe O=O.UD
```

```
ObLoad.exe O=IP.A1;FN=Unlock.obs;A=1
```

Scan

The command-line for starting ObSearch.exe uses the following parameters.

The object reference of the variable-container object to scan must be specified.

Parameter	Use	Value
O	Variable-container object reference to scan	Obj (required)
L	Window label	Text
OC	ObServer channel	Num (default: automatic)
W	Show window	Num: 0=No, 1=Yes (default)

Examples

```
ObSearch.exe O=0
```

```
ObSearch.exe O=IP.A1;W=0
```

Export to CSV

The command-line for starting ObExport.exe uses the following format:

```
ObExport.exe template-name;parameter=value;parameter=value
```

template-name is an optional export template file (.obexp)

Parameters may include:

Parameter	Use	Value
O	Object reference to export	Obj
T	Object type to export	Text
A	Silent mode	Num: 0=No (default), 1=Yes
F	Export folder	Text

Examples

```
ObExport.exe
```

```
ObExport.exe ObServer Software Summary;O=0;A=1
```

```
ObExport.exe O=0;T=!ObServer v20\Platform v12
```

Calendar Viewer

Calendar viewer provides an edit window for Calendar object types. The command-line for starting Calendar.exe uses the following parameters.

The object reference of the Time Control Calendar object (CalTimer v20\Calendar) must be specified.

Parameter	Use	Value
O	Calendar object reference	Obj (required)
F	Font name and size	Font
L	Window label	Text
OC	ObServer channel	Num 0: automatic (default) 80...89: ObServer Configuration object 90...99: ObServer object

Examples

```
Calendar.exe O=CT.C
```

```
Calendar.exe O=CT.C;OC=80;L=Calendar
```

ObStream

ObStream provides a terminal-style window for Stream object types. The command-line for starting ObStream.exe uses the following parameters.

The object reference of the Stream object (Obj\Stream) must be specified.

Parameter	Use	Value
O	Stream object reference	Obj (required)
RW	Number of rows on terminal window	Num: 5...100 (default: 25)
CL	Number of columns on terminal window	Num: 20...200 (default 80)
F	Font name and size	Font (default: Courier New 11)
T	Text colour	WinClr
B	Window background colour	WinClr
L	Window label	Text
OC	ObServer channel	Num (default: automatic)

Examples

```
ObStream.exe O=S1.011.CONF
```

```
ObStream.exe O=IP.A1;W=0
```

Product Documents

The command-line for starting Helper.exe uses the following optional parameters.

Parameter	Use	Value
/s	Launches search	Search string (in double quotes)
/i	Launches Index tab	
/c	Launches Contents tab (default)	

Examples

```
Helper.exe
```

```
Helper.exe /s "Battery"
```

```
Helper.exe /i
```

Initialization Files

ObSys applications save their initialization parameters using an INI file located within the ObSys data folder, located at: 'C:\Program Data\North Building Technologies\ObSys\'

Alarm Manager

Alarm Manager saves its parameters in a file called 'AlmManager.ini'. All these parameters are set using objects, so the file content is not listed here. The ObServer Site ID, usually 'DefaultSite', is used as a section title within the file.

Data Manager

Data Manager saves its parameters in a file called 'DataManager.ini'. All these parameters are set either from the application or using objects, so the file content is not listed here. The ObServer Site ID, usually 'DefaultSite', is used as a section title within the file.

ObView

ObView saves user options in a file called ObView.ini. These options are typically set from the ObView menu option Tools > User Options...

All options for a user are stored within a section with the user's name. This allows several users to have different option settings.

A '[Default User]' section provides default options for when authentication is not enabled.

The following keys are available within a user section:

Key	Use	Value
FullScreen	Force views to full-screen	Num: 0=No (default), 1=Yes
PreferredView	Preferred view for objects	Text (default: 'North2012')
AutoObjList	Build an Object List view if necessary	Num: 0=No, 1=Yes (default)
EditLevel	Controls type of edit facilities available	Num: 0=User, 1=Basic (default), 2=Advanced
AutoSave	Automatically save any changes to views	Num: 0=No, 1=Yes (default)
Shortcut	Menu: Add to desktop	Num: 0=No, 1=Yes (default)
PrintEnable	Menu: Print	Num: 0=No, 1=Yes (default)
UserOption	Menu: User Options	Num: 0=No, 1=Yes (default)
DataManager	Menu: Data Manager	Num: 0=No, 1=Yes (default)
AlarmManager	Menu: Alarm Manager	Num: 0=No, 1=Yes (default)
MenuDisable	Menu: Disable all menus	Num: 0=No (default), 1=Yes
SingleClick	Mouse: Single or double-click to open an item	Num: 0=Double, 1=Single (default)
DragValue	Mouse: Enable drag-and-drop to copy a value	Num: 0=No, 1=Yes (default)

Calendar Viewer

Calendar viewer saves its parameters in a file called 'Calendar.ini'. These parameters may also be set using objects, when started with the OC command-line parameter.

All options for a user are stored within a section with the user's name. This allows several users to have different option settings.

A '[Default User]' section provides default options for when authentication is not enabled.

The following keys are available within a user section:

Key	Use	Value
DayType0 .. DayType9	Label for day types 0 to 9	Text: 20 chars
Font	Font name and size	Font

Data Files

Alarm Manager

Alarm Manager connects to multiple Alarm Store drivers, which archive alarm events to a comma-separated value (CSV) file. These files can be safely imported into other applications like Microsoft Excel.

The default location of an Alarm Store archive file is the ObSys data folder. For example:
'C:\Program Data\North Building Technologies\ObSys\DefaultSite\AlmManager\Alarm1.csv'

Data Manager

Data Manager stores its data files in the ObSys data folder, within a sub-folder of the ObServer Site ID. For example, 'C:\Program Data\North Building Technologies\ObSys\DefaultSite\'

Values for each data channel are time-stamped and saved in a comma-separated value (CSV) file named '\DataManager\channel-label.csv'. These files can be safely imported into other applications like Microsoft Excel.

The following files are used internally by Data Manager and should not be edited or moved:
'\DataMgr.dat' contains the configured properties for each data channel.
'\DataManager\channel-label.bin' contains learned AutoTrack limits for a data channel.

Save to a Backup

ObSave creates an object save file (.obs). This is a text file containing a list of writable objects and their current values.

The file consists of several lines of text. The simplest entry contains a single object reference and its saved value:

object-reference=value

A container object is represented using several lines. The first line contains only the container object reference. The following lines are each prefixed with a period ('.') and contain the sub-object and its value:

object-reference
.sub-object=value
.sub-object=value

Objects can be nested, with each level of nesting prefixed by an additional period.

Comment lines start with a semi-colon (;).

Here is an example extract from a saved Essential Data object (O.UD). Note how objects are nested to represent the page and object structure of Essential Data.

```
DL=Essential Values
PO=1
P1
.L=Room 1
.RP=S1.U1
.O1
..L=Sensor online
..T=1
..A=0
..U=
..D=0
..VH=1
..VL=0.5
..P=0
..RA=1
```

```

..RO=S
..RR=4
.O2
..L=Battery low
..T=1
..A=0
..U=
..D=0
..VH=0.5
..VL=0
..P=3
..RA=1
..RO=BA
..RR=5
P2
.L=Room 2
.RP=S1.U2
.O1
..L=Sensor online
..T=1
..A=0

```

Load from a Backup

ObLoad writes a list of object values stored in an object save file (.obs). This file is typically created when Saving to a Backup.

In addition, ObLoad also supports a slightly modified file structure, where carriage-return can be replaced with the not character ('¬'). This allows for easier editing in a spreadsheet.

Here's the same example from *Save to a Backup*, with some carriage-returns replaced with '¬' to create columns.

```

DL=Essential Values
P0=1
P1¬.L=Room 1¬.RP=S1.U1¬
.O1¬..L=Sensor online¬..T=1¬..A=0¬..U=¬..D=0¬..VH=1¬..VL=0.5¬..P=0¬..RA=1¬..RO=S¬..RR=4
.O2¬..L=Battery low¬..T=1¬..A=0¬..U=¬..D=0¬..VH=0.5¬..VL=0¬..P=3¬..RA=1¬..RO=BA¬..RR=5
P2¬.L=Room 2¬.RP=S1.U2
.O1¬..L=Sensor online¬..T=1¬..A=0

```

A macro-enabled Excel spreadsheet to edit Essential Data is installed with ObSys, you will find this in the 'Documents\ObSys' folder.

Licence Agreement and Regulatory Information

ObSys is manufactured by North Building Technologies Limited in the UK.

The software is intended for use as a building automation controller and display. It provides monitoring and control of compatible systems using North drivers. It requires installing and configuring by a competent engineer, who has completed at a minimum the North Integration training course.

Product documentation, support, and contact details are available from www.northbt.com/support.

End User Licence Agreement

A copy of the End User Licence Agreement for North Software is available from northbt.link/eula

Support Period

North provides at least five years of security updates from the date of purchase.

Refer to the *Updating ObSys Software* in *ObSys Manual Part 1* for details on how to install the latest update.

Security

North strongly advise that you keep ObSys up to date with the latest software updates. Details of updates and vulnerabilities are available on the release notes page at northbt.link/update.

If you believe you have found a vulnerability please contact us via our disclosure program at northbt.link/security.

ObServer Versions

[illegible]

Next Steps...

If you require help, contact support on 01273 694422 or visit www.northbt.com/support



North Building Technologies Ltd
+44 (0) 1273 694422
support@northbt.com
www.northbt.com

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Author: JF

Checked by: AB

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