



## The Company

We are an established world force in the design and manufacture of instrumentation for industrial process control, flow measurement, gas and liquid analysis and environmental applications.

As a part of ABB, a world leader in process automation technology, we offer customers application expertise, service and support worldwide.

We are committed to teamwork, high quality manufacturing, advanced technology and unrivalled service and support.

The quality, accuracy and performance of the Company's products result from over 100 years experience, combined with a continuous program of innovative design and development to incorporate the latest technology.

The UKAS Calibration Laboratory No. 0255 is just one of the ten flow calibration plants operated by the Company and is indicative of our dedication to quality and accuracy.

EN ISO 9001:2000



Cert. No. Q 05907

EN 29001 (ISO 9001)



Lenno, Italy – Cert. No. 9/90A

Stonehouse, U.K.



## Electrical Safety

This equipment complies with the requirements of CEI/IEC 61010-1:2001-2 'Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use'. If the equipment is used in a manner NOT specified by the Company, the protection provided by the equipment may be impaired.

## Symbols

One or more of the following symbols may appear on the equipment labelling:

	<b>Warning</b> – Refer to the manual for instructions		Direct current supply only
	<b>Caution</b> – Risk of electric shock		Alternating current supply only
	Protective earth (ground) terminal		Both direct and alternating current supply
	Earth (ground) terminal		The equipment is protected through double insulation

Information in this manual is intended only to assist our customers in the efficient operation of our equipment. Use of this manual for any other purpose is specifically prohibited and its contents are not to be reproduced in full or part without prior approval of the Technical Publications Department.

### Health and Safety

To ensure that our products are safe and without risk to health, the following points must be noted:

1. The relevant sections of these instructions must be read carefully before proceeding.
2. Warning labels on containers and packages must be observed.
3. Installation, operation, maintenance and servicing must only be carried out by suitably trained personnel and in accordance with the information given.
4. Normal safety precautions must be taken to avoid the possibility of an accident occurring when operating in conditions of high pressure and/or temperature.
5. Chemicals must be stored away from heat, protected from temperature extremes and powders kept dry. Normal safe handling procedures must be used.
6. When disposing of chemicals ensure that no two chemicals are mixed.

Safety advice concerning the use of the equipment described in this manual or any relevant hazard data sheets (where applicable) may be obtained from the Company address on the back cover, together with servicing and spares information.

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# 1 Introduction

## 1.1 Introduction

DataManager is a Microsoft® Excel add-in designed to enable the analysis and validation on a PC of the data archives generated by the C1300 and SM Series Recorders and the Navigator series Analytical Instruments.

**Note.** A selection of data archives are included on the installation CD in the folder entitled '**Sample Data**' to enable familiarization with DataManager. The '**Sample Data**' folder is not copied to the hard drive during installation of DataManager therefore insert the installation CD in the CDROM drive to access the data.

## 1.2 DataManager Toolbar – Fig. 1.1

DataManager creates a new Excel toolbar and places it with the other in-view toolbars at the top of the screen. However, the toolbar can be dragged to any position in the window. If the DataManager toolbar does not appear, select *DataManager++* from the *View / Toolbars* menu. Position the mouse pointer over each of the buttons to view a description of the button – see Fig. 1.1.

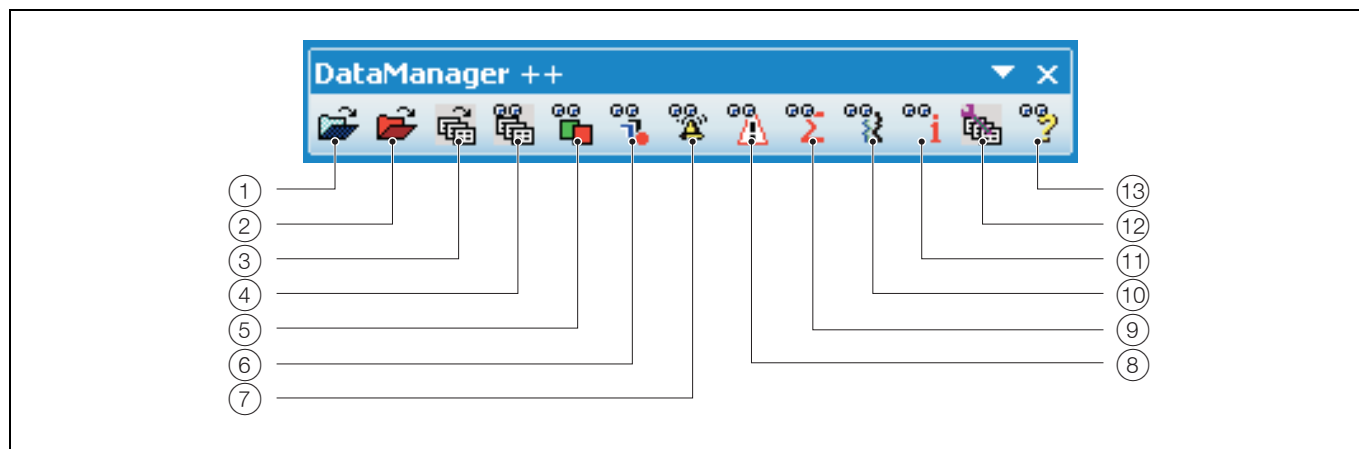


Fig. 1.1 DataManager Toolbar

- |   |                            |   |
|---|----------------------------|---|
| ① | Open CSV and Log Files     | opens comma separated values (CSV) channel data files and log files in a spreadsheet format – see Section 3.1, page 4   |
| ② | Open Binary Files          | opens binary archive files in a spreadsheet format – see Section 3.2, page 5  |
| ③ | Import to Database         | imports archive files into the DataManager database – see Section 3.3, page 7   |
| ④ | Display Database Data      | opens a dialog box that displays archive files from a selected instrument and process group – see Section 3.3.1, page 8   |
| ⑤ | Display Batch Data         | opens a dialog box that displays <b>all</b> the batches imported into the database – see Section 3.3.2, page 11   |
| ⑥ | View Channel Data Files    | selects and displays each of the open Channel Data files in turn – see Section 3.5, page 14   |
| ⑦ | View Alarm Event Log Files | selects and displays each opened Alarm Event Log file in turn – see Section 3.8, page 19  |
| ⑧ | View Audit Log Files       | selects and displays each opened Audit Log file in turn – see Section 3.9, page 20  |
| ⑨ | View Totalizer Log Files   | selects and displays each opened Totalizer Log file in turn – see Section 3.10, page 21   |
| ⑩ | View Chart                 | opens a window containing a graphical representation of the channel data, similar in appearance to the chart view of the recorder from which the data originated – see Section 3.7, page 15                               |
| ⑪ | View Properties            | unhides or hides the first rows of the currently selected file. These rows contain information such as the instrument tag, process group tag and channel set up, depending on the type of file – see Section 3.6, page 14 |
| ⑫ | Database Administration    | initiates the database administration functions – see Section 3.4, page 12  |
| ⑬ | View Aboutbox              | displays the DataManager version number – see Section 3.11, page 21   |

## 2 Getting Started


The easiest and most efficient method of managing archive data from any of ABB's C1300, SM or Navigator Series instruments is to import it into DataManager's database feature.

The database feature safely stores and organizes data files from multiple instruments on the hard disk of a PC. Retrieving and viewing data stored in DataManager's database is far simpler than handling the data files manually.



All files in the database can be viewed and analyzed as required using the buttons on the DataManager toolbar – see Fig. 1.1.

To get started with the database feature, follow these two simple steps:

### 1. Import data

Click the **Import to Database** button () to open the 'Select files to import' dialog box – see Section 3.3, page 7.

### 2. Display data

Click the **View Database Data** button () to open the 'Display database data' dialog box or click the **View Batch Data** button () to open the 'Display batch data' dialog box.

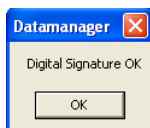
## 3 Using DataManager

### 3.1 Opening CSV and Log Files

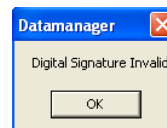
Click the **Open CSV and Log Files** button (📁) to open individual comma separated values (CSV) channel data files and log files in a spreadsheet format. When the dialog box appears, navigate to the location of the Archive Files and select a file to open. By default, the file types listed are the Channel Data Files, identified by the \*.D\*\* extension. To open Alarm Event Log, Totalizer Log and Audit Log files, open the *Files of type* : drop-down menu and select the appropriate file type. An overview of file types and their extensions is shown in Table 3.1.

**Note.** DataManager is able to open and analyze the archive files directly from the medium on which they were saved, e.g. Compact Flash Card or Smart Media Card. However, it is recommended that the files are copied to the computer's hard disk drive. *It is very important to ensure that ALL files are copied, especially the Digital Signature Files (identified by the extension \*.S\*\*) which are used to validate the archive files.*

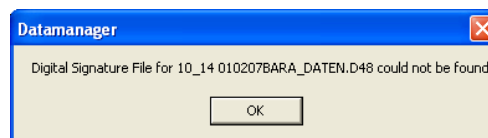
Select a Channel Data File and open it. DataManager opens the file and compares its content to the Digital Signature File. If the content is validated successfully, the 'Digital Signature OK' box is displayed. Click **OK** to continue.



If validation is not successful, the 'Digital Signature Invalid' warning box is displayed to indicate that the data is either corrupt or has been tampered with. Click **OK** to continue.



If the Digital Signature File is missing, the 'Digital Signature File Missing' warning box is displayed. It is likely that the file was not copied from the archive medium to the same folder as the Channel Data File. Click **OK** to continue, close the Channel Data View window, minimize Excel and ensure the Digital Signature File has been copied to the same folder as the Channel Data File. Maximize Excel and open the Channel Data File again.



Clicking on the **OK** buttons in all 3 warning boxes causes DataManager to reformat the displayed data and add header rows.

**Note.** When working with CSV channel data and log files (\*.D\*\*, \*.A\*\*, \*.E\*\* and \*.T\*\*), ensure that the date format setting of the PC running DataManager matches the date format setting of the instrument from which the CSV files have come – see Table 3.2. The PC date format setting is found under Settings/Control Panel/Regional Settings.

Binary data files do not need to have a matching instrument and PC date format.


File Types	Extension	Contents
Channel data files	*.D**	Recording channel data for a process group in comma separated values (CSV) format.
Binary channel data files	*.B**	Binary encoded recording channel data.
Alarm event log files	*.E**	Alarm messages associated with the recording channels of a process group plus operator messages and electronic signatures.
Totalizer log files	*.T**	Totalizer values associated with the recording channels of a process group.
Audit log files	*.A**	System activity associated with the Recorders.
Digital signature files	*.S**	Digital signature file for the corresponding CSV format recording channel data file.
Batch channel data files	*.V**	Binary encoded batch recording channel data.
Batch log files	*.X**	Batch information associated with a process group.

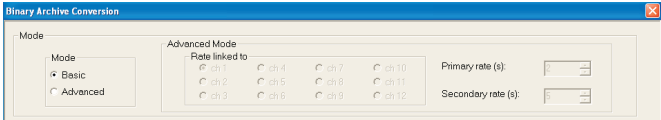
Table 3.1 Overview of File Types and their Extensions

Instrument Date Format	PC Date Format
ddmmyy	ddmmyy
mmddyy	mmddyy
ddmmyy	ddmmyy or mmddyy

Table 3.2 Date Formats

### 3.2 Opening Binary Files

Click the **Open Binary Files** button (  ) to open binary archive files in a spreadsheet format. The 'Binary Archive Conversion' dialog box appears:



#### Mode Selection

Select the mode in which to create the spreadsheet:

- Basic** – (Default setting). The spreadsheet is created using the sample rate settings of the data stored in the file selected in the **Archive Files – 1** field.
- Advanced** – The spreadsheet is created using the primary and secondary rate set in this dialog box. The selected primary or secondary rate(s) can be linked to any of the archive files to be imported. When the data stored in the imported file changes between primary and secondary rate, the rate used in the spreadsheet being created automatically changes between the primary and secondary rates set in this dialog box.

**Note.** The spreadsheet contains data only for the time stamps where the linked channel (or archive file 1 in Basic mode) contains data.

#### Title

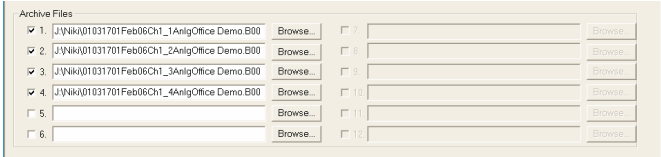
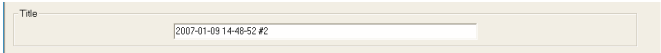
The spreadsheet file created is automatically given a unique title in the format **<Start date and time> Datan** (where **n** increments for each spreadsheet opened in any one session). This title may be changed by the user.

#### Archive Files

Select the checkbox of each channel to be viewed in the spreadsheet.

Use the **Browse...** button to find the required file.

**Note.** Binary archive files from different instruments and process groups may be selected if required.



Times

Use the relevant slider control to set the start and end times of the range of data to be viewed.

If the data was archived whilst daylight saving time is active on the recorder '\*\*' is displayed at the end of the time/date.

Click the **Adjust** button next to the start or end time and enter the precise start (or end) time and date in the dialog box that appears.

Create Spreadsheet

Click this button to create the spreadsheet containing the selected data. The integrity of each block of data is checked using the binary file built-in encoded error detection. If the integrity of any of the data cannot be verified, filling of the spreadsheet stops and a warning message is displayed. Only data whose integrity has been verified is displayed in the spreadsheet.

**Note.** The maximum amount of data that can be viewed at one time is equivalent to 3 sheets worth of data (approximately 195,000 samples). If the selected time period contains more data than this, only the data up to the maximum amount is displayed. A warning indicating what data is displayed is shown. In order to display data over a larger time span, set **Mode** to **Advanced** and select slower primary and secondary sample rates than those stored in the data files.

Recorder Model	File Types	Software Revision (where applicable)
SM2000	CSV encoded channel data files	SM2000 2001/12 and above
SM2000	Log data files	SM2000 2001/14 and above
SM1000	CSV encoded channel data files	SM1000 2001/9 and above
SM1000	Log data files	SM1000 2001/11 and above

Table 3.3 Database Archive File Types




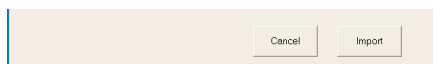
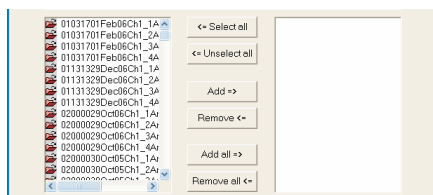
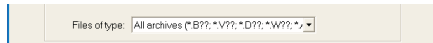
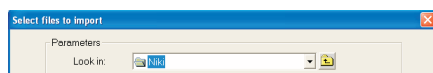
### 3.3 Archive File Database

An archive file database facility is provided to manage the storage and retrieval of archive data files. The database management facility:

- Organizes data automatically according to instrument tag, instrument serial number and process group.
- Manages files from any combination of C1300, SM Series and Navigator Series Recorders.
- Checks data integrity during database importing and displaying of database data.
- Enables a user to create and select different databases and database locations.
- Enables a user to back-up a complete database to another location.
- Enables a user to remove unwanted data from a database based on the age of the data.
- Enables a user to protect a database with a username and password.
- Enables a user to retrieve data easily for the creation of spreadsheets or charts.

**Note.** The archive file database facility works only with the archive files listed in Table 3.3 on page 6.

Click the **Import to Database** button (  ) to open the 'Select files to import' dialog box:



#### Look In

Select the directory containing the archive data files to be imported.

**Note.** When importing CSV format channel data files (extension \*.D\*\*), the digital signatures files (extension \*.S\*\*) **must** be located in the same directory as the data files.

#### Files of Type

Select the type of file to be imported.

**Note.** Refer to Table 3.1 on page 4 for an explanation of file types and their contents.

#### Select Data to Import

Select the archive data files to be imported from the list box on the left hand side. To select consecutive files, click and drag. To select a number of non-consecutive files, press and hold the **Ctrl** key while clicking on each new file.

Click the **Add** button to add selected files to the list of files to be imported.

Use the **Select all** and **Unselect all** buttons to select and deselect all files in the left hand side list box. Use the **Add all** button to transfer all files from the left hand side list box to the right hand side list box. Use the **Remove** and **Remove all** buttons to remove files from the right hand side list box.

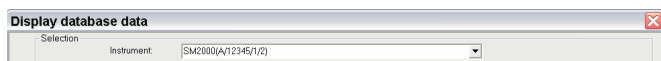
#### Import

Click the **Import** button to import all files in the right hand side list box to the currently selected database – see Section 3.4, Database Administration.


**Note.** The integrity of each data file is checked as it is imported. If the integrity of any of the data cannot be verified, a warning message is displayed. Data identified as corrupted is not imported.

### 3.3.1 Display Database Data

Click the **View Database Data** button (  ) to open the 'Display database data' dialog box:



The 'Display database data' dialog box has a 'Selection' section with an 'Instrument' dropdown menu. The selected instrument is 'SM2000(A/I 2345/I/2)'.



A 'Group' dropdown menu showing 'Process Group 1'.



A dialog box for selecting a batch. It includes 'Instrument' (SM2000(A/I 2345/I/2)), 'Group' (Process Group 1), and 'Batch selected:' (None). A 'Select Batch' button is on the right.

**Display Batch Data**

Start	End	Instrument	Group	Batch No.	Batch ID
2006-11-06 16:41:31	2006-11-06 16:44:51	SM2000(A/I 2345/I/2)	Process Group 1	1	ASTRA
2006-11-06 16:45:14	2006-11-06 16:51:14	SM2000(A/I 2345/I/2)	Process Group 1	2	ASTRA
2006-11-06 16:52:53	2006-11-06 16:54:56	SM2000(A/I 2345/I/2)	Process Group 1	3	SAVO
2006-11-06 16:58:32	2006-11-07 10:31:57	SM2000(A/I 2345/I/2)	Process Group 1	4	SAVO
2006-11-07 10:34:14	2006-11-07 10:36:32	SM2000(A/I 2345/I/2)	Process Group 1	5	SAVO
2006-11-07 10:36:11	2006-11-07 10:36:56	SM2000(A/I 2345/I/2)	Process Group 1	6	SAVO
2006-11-07 10:38:53	2006-11-07 10:43:38	SM2000(A/I 2345/I/2)	Process Group 1	7	ESCORT
2006-11-07 10:44:55	2006-11-07 10:48:36	SM2000(A/I 2345/I/2)	Process Group 1	8	COROLLA
2006-11-07 10:48:54	2006-11-07 10:49:18	SM2000(A/I 2345/I/2)	Process Group 1	9	COROLLA
2006-11-07 10:49:24	2006-11-07 10:49:51	SM2000(A/I 2345/I/2)	Process Group 1	10	COROLLA
2006-11-07 10:50:12	2006-11-07 10:50:33	SM2000(A/I 2345/I/2)	Process Group 1	11	COROLLA
2006-11-07 13:56:57	2006-11-07 13:57:38	SM2000(A/I 2345/I/2)	Process Group 1	12	COROLLA
2006-11-07 14:00:44	2006-11-07 14:01:22	SM2000(A/I 2345/I/2)	Process Group 1	13	COROLLA
2006-11-07 14:01:36	2006-11-07 14:02:25	SM2000(A/I 2345/I/2)	Process Group 1	14	COROLLA
2006-11-07 14:04:11	2006-11-07 14:04:51	SM2000(A/I 2345/I/2)	Process Group 1	15	COROLLA
2006-11-07 14:05:19	2006-11-07 14:06:47	SM2000(A/I 2345/I/2)	Process Group 1	16	COROLLA
2006-11-07 14:06:34	2006-11-07 14:06:58	SM2000(A/I 2345/I/2)	Process Group 1	17	COROLLA
2006-11-07 14:07:38	2006-11-07 14:08:14	SM2000(A/I 2345/I/2)	Process Group 1	18	COROLLA
2006-11-07 14:08:52	2006-11-07 14:09:34	SM2000(A/I 2345/I/2)	Process Group 1	19	COROLLA
2006-11-07 14:09:52	2006-11-07 14:10:33	SM2000(A/I 2345/I/2)	Process Group 1	20	COROLLA
2006-11-07 14:10:47	2006-11-07 14:11:21	SM2000(A/I 2345/I/2)	Process Group 1	21	COROLLA
2006-11-07 14:11:39	2006-11-07 14:12:11	SM2000(A/I 2345/I/2)	Process Group 1	22	COROLLA

Search Utility: Search By: Text In Start Time Search Clear Filter OK Cancel

#### Instrument

Select the instrument whose data is to be viewed. The drop down list contains the instrument tag and serial number of each instrument that has data in the currently selected database.

#### Group

Select the process group in the selected instrument from which data is to be viewed. The drop down list contains the process group tags for each of the groups available in the selected instrument.

#### Select Batch

**Note.** Displayed only if the data from the instrument and group selected above contain data recorded as a batch.

Click the **Select Batch** button to display a list of all batches associated with the selected instrument and group.

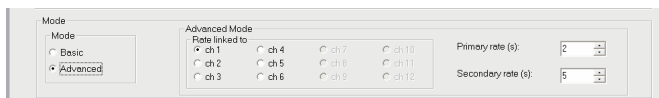
Highlight the batch to be viewed and click the **OK** button.

Use the search utility to filter the entries displayed in the dialog box to aid the retrieval of specific batch information.

Multiple search filters can be applied to narrow down a search. Click the **Clear Filter** button to remove all filters.

Click on a column header (e.g. Start, End, Instrument etc.) to re-order the entries alphabetically and/or numerically by that column.

The start and end times (see the **Times** frame on the next page) are set automatically to the batch start and end times.



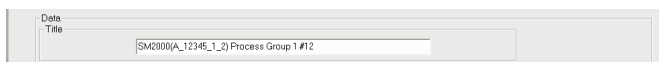
## Mode Selection

Select the mode in which to create the spreadsheet:

- Basic** – (Default setting). The spreadsheet/chart is created using the sample rate settings of the data stored in the file selected in the **Data to display – 1** field.
- Advanced** – The spreadsheet/chart is created using the primary and secondary rate set in this dialog box. The selected primary or secondary rate can be linked to any of the archive files to be imported. When the data stored in the imported file changes between primary and secondary rate, the rate used in the spreadsheet being created automatically changes between the primary and secondary rates set in this dialog box.

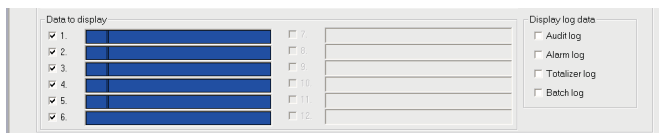
## Notes.

- The spreadsheet/chart contains data only for the time stamps where the linked channel, or the file selected in the **Data to display – 1** field in Basic mode, contains data.
- **Advanced** mode is available only if original files are in binary format.



## Title

The spreadsheet file created is automatically given a unique title in the format **<Instrument tag> <Process group tag> Datan** (where **n** increments for each spreadsheet opened in any one session). This title can be changed by the user.



## Data to Display

Select the checkbox for each channel required for display.

All available channels are selected by default.

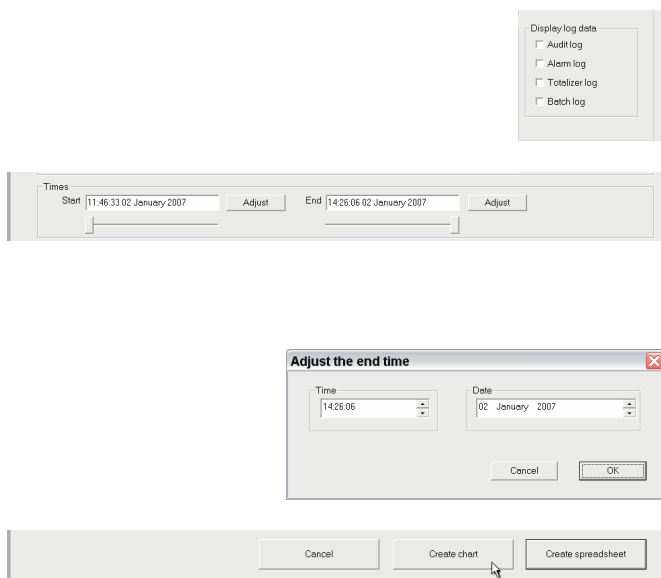
**Note.** If the original files are in CSV format, the first checkbox represents the data for the whole of the process group and all other checkboxes are greyed-out.

Visual indication of the data available is provided in the box next to each channel checkbox.

- Blue bar – A data file for that period of time exists.
- White bar – A data file for that period of time does not exist.
- Black line – Start/End of a file.

As the time adjustment sliders are moved (see the **Times** frame below) the visual indication updates dynamically.

**Note.** The indication of the existence of a data file for a particular time does not guarantee that data was recorded at that time.



## Display Log data

Select the checkboxes of each required log. If log data is available in the database for the selected time period, a spreadsheet is created for each of the log types selected.

## Times

Use the relevant slider control to set the start and end times of the range of data to be viewed.

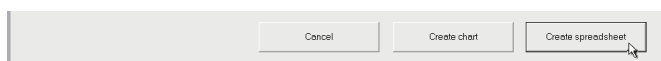
If the data was archived whilst daylight saving time is active on the recorder '\*\*' is displayed at the end of the time/date.

Click the **Adjust** button next to the start or end time and enter the precise start (or end) time and date in the dialog box that appears.

## Create Chart

Click this button to produce a chart containing the selected data – see Section 3.7, page 15 for details of chart functions. If the integrity of any of the data cannot be verified, creation of the chart stops and a warning message is displayed. Only data whose integrity has been verified is displayed on the chart.

**Note.** A maximum of 100,000 samples are shown on the chart. If the selected time period contains more data than this, only the data up to the maximum amount is displayed. A warning indicating what data is displayed is shown. In order to display data over a larger time span, set **Mode** to **Advanced** (available only if original files are in binary format) and select slower primary and secondary sample rates than those stored in the data files.




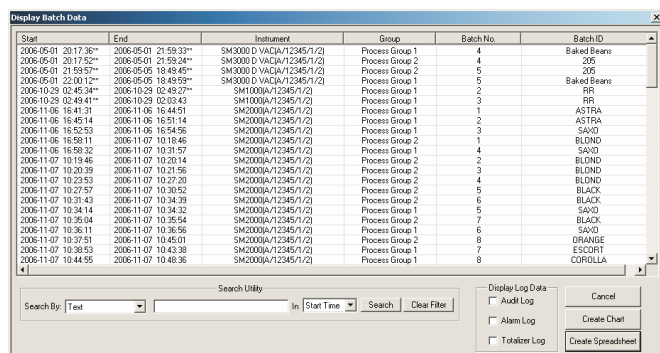
## Create Spreadsheet

Click this button to create a spreadsheet containing the selected data. If the integrity of any of the data cannot be verified, filling of the spreadsheet stops and a warning message is displayed. Only data whose integrity has been verified is displayed in the spreadsheet.

**Note.** The maximum amount of data that can be viewed at one time is equivalent to 3 sheets worth of data (approximately 195,000 samples). If the selected time period contains more data than this, only the data up to the maximum amount is displayed. A warning indicating what data is displayed is shown. In order to display data over a larger time span, set **Mode** to **Advanced** (available only if original files are in binary format) and select slower primary and secondary sample rates than those stored in the data files.

### 3.3.2 Display Batch Data

Click the **View Batch Data** button (  ) to open the 'Display batch data' dialog box:



Start	End	Instrument	Group	Batch No.	Batch ID
2006-05-01 20:17:36**	2006-05-01 21:59:23**	SM3000 D VAC/JA/12345/1/2/	Process Group 1	4	Baked Beans
2006-05-01 20:17:52**	2006-05-01 21:59:24**	SM3000 D VAC/JA/12345/1/2/	Process Group 2	4	205
2006-05-01 21:59:57**	2006-05-05 18:49:45**	SM3000 D VAC/JA/12345/1/2/	Process Group 2	5	205
2006-05-01 22:00:12**	2006-05-05 18:49:59**	SM3000 D VAC/JA/12345/1/2/	Process Group 1	5	Baked Beans
2006-10-29 02:45:34**	2006-10-29 02:48:27**	SM1000A/12345/1/2/	Process Group 1	2	RR
2006-10-29 02:49:41**	2006-10-29 02:53:43	SM1000A/12345/1/2/	Process Group 1	3	RR
2006-11-06 16:41:31	2006-11-06 16:44:51	SM2000A/12345/1/2/	Process Group 1	1	ASTRA
2006-11-06 16:45:14	2006-11-06 16:51:14	SM2000A/12345/1/2/	Process Group 1	2	ASTRA
2006-11-06 16:52:53	2006-11-06 16:54:56	SM2000A/12345/1/2/	Process Group 1	3	SAVO
2006-11-06 16:59:11	2006-11-07 10:18:46	SM2000A/12345/1/2/	Process Group 2	1	BLOND
2006-11-06 16:59:32	2006-11-07 10:31:57	SM2000A/12345/1/2/	Process Group 1	4	SAVO
2006-11-07 10:19:46	2006-11-07 10:20:14	SM2000A/12345/1/2/	Process Group 2	2	BLOND
2006-11-07 10:20:39	2006-11-07 10:21:56	SM2000A/12345/1/2/	Process Group 2	3	BLOND
2006-11-07 10:23:53	2006-11-07 10:27:20	SM2000A/12345/1/2/	Process Group 2	4	BLOND
2006-11-07 10:27:57	2006-11-07 10:30:52	SM2000A/12345/1/2/	Process Group 2	5	BLACK
2006-11-07 10:31:43	2006-11-07 10:34:39	SM2000A/12345/1/2/	Process Group 2	6	BLACK
2006-11-07 10:34:14	2006-11-07 10:34:32	SM2000A/12345/1/2/	Process Group 1	5	SAVO
2006-11-07 10:35:04	2006-11-07 10:35:54	SM2000A/12345/1/2/	Process Group 2	7	BLACK
2006-11-07 10:36:11	2006-11-07 10:36:56	SM2000A/12345/1/2/	Process Group 1	6	SAVO
2006-11-07 10:37:51	2006-11-07 10:45:01	SM2000A/12345/1/2/	Process Group 2	8	ORANGE
2006-11-07 10:38:53	2006-11-07 10:43:38	SM2000A/12345/1/2/	Process Group 1	7	ESCORT
2006-11-07 10:44:55	2006-11-07 10:46:36	SM2000A/12345/1/2/	Process Group 1	8	COROLLA

#### Display Batch Data

The dialog box displays **all** the batches imported into the database.

Click on a column header (e.g. Start, End, Instrument etc.) to re-order the entries alphabetically and/or numerically by that column.

Highlight the batch to be viewed and click the **Create Chart** or **Create Spreadsheet** button to produce a chart or spreadsheet containing the data associated with that batch. Refer to Section 3.7, page 15 for details of chart functions.

#### Search Utility

Use the search utility to filter the entries displayed in the dialog box to aid the retrieval of specific batch information.

Multiple search filters can be applied to narrow down a search. Click the **Clear Filter** button to remove all filters.

#### Display Log Data

Select the relevant **Display Log Data** check box to display Audit, Alarm or Totalizer logs relating to the selected batch.

#### Create Chart

Click this button to produce a chart containing the selected batch data – see Section 3.7, page 15 for details of chart functions. If the integrity of any of the data cannot be verified, creation of the chart stops and a warning message is displayed. Only data whose integrity has been verified is displayed on the chart.


**Note.** A maximum of 100,000 samples are shown on the chart. If the selected time period contains more data than this, only the data up to the maximum amount is displayed. A warning indicating what data is displayed is shown.

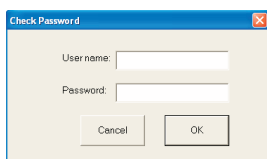
#### Create Spreadsheet

Click this button to create a spreadsheet containing the selected data. If the integrity of any of the data cannot be verified, filling of the spreadsheet stops and a warning message is displayed. Only data whose integrity has been verified is displayed in the spreadsheet.

**Note.** The maximum amount of data that can be viewed at one time is equivalent to 3 sheets worth of data (approximately 195,000 samples). If the selected time period contains more data than this, only the data up to the maximum amount is displayed. A warning indicating what data is displayed is shown.

### 3.4 Database Administration

Click the **Database Administration** button (  ) to initiate the database administration functions:



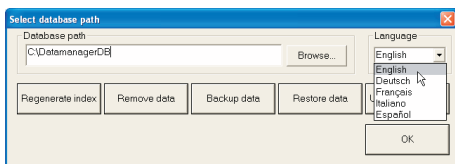
#### Enter Password

The database administration functions are security protected (see **Update Password** below). Enter a valid username and password to gain access.

Default factory settings are:

User name: – Blank

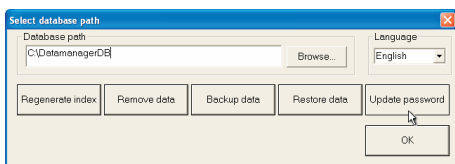
Password: – Blank



#### Select Language

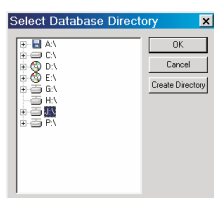
Select the language to be used to display all DataManager windows and menus.

**Note.** This setting does not affect the language setting for Excel – this can be changed only if the Microsoft Office Language Settings facility is installed.



#### Update Password

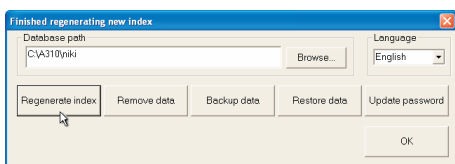
Click this button to password protect the database administration functions or to change an existing user name and password.



#### Database Path

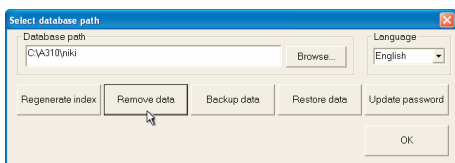
Click the **Browse...** button to locate the required database directory.

Click the **Create directory** button to create a new database directory as required.



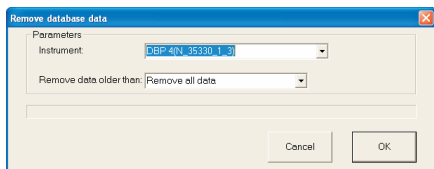
#### Regenerate index

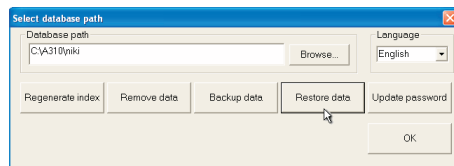
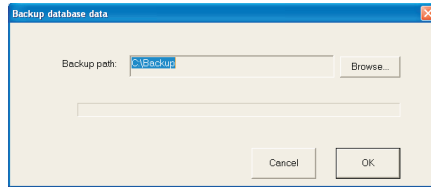
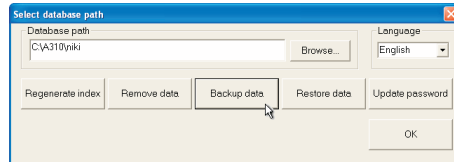
An index file is used by a database to record the details of imported files. If the index file or the database contents are corrupted, click this button to regenerate the index file.



#### Remove Data

Select the instrument and amount of data to be removed from the drop down list boxes.





### Backup Data

Click the **Browse...** button and select a location into which to copy the selected database.

### Restore Data

Select the location of a previously backed up database from which to restore files to the current database.

**Note.** Files in the current database with the same filename as those in the backed up database are overwritten by the restored files.

3.5 View Channel Data – Fig. 3.1

Click the **View Channel Data** button (  ) to select each of the open Channel Data files in turn.

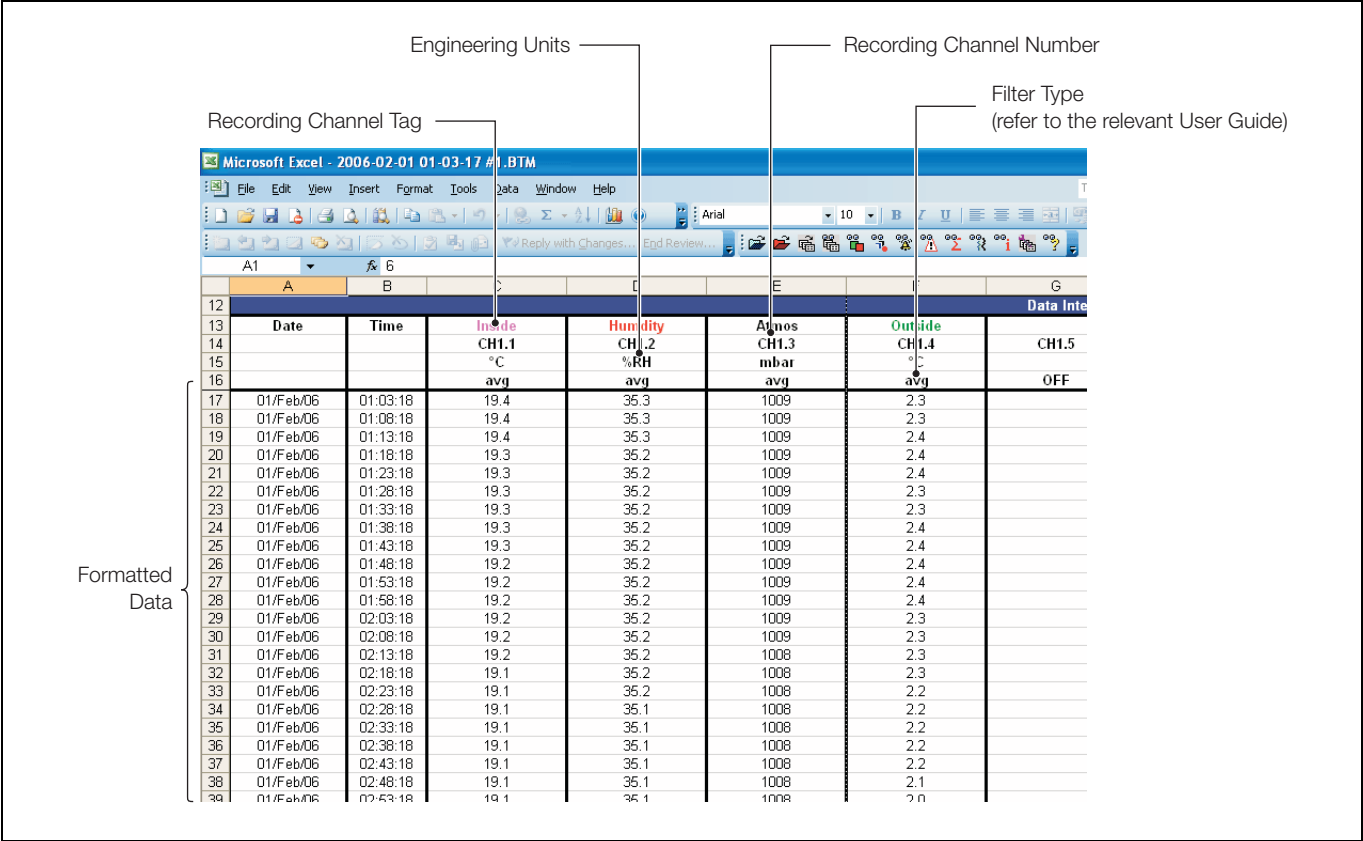



Fig. 3.1 Channel Data View

3.6 View Properties – Fig. 3.2

Click the **View Properties** button (  ) to unhide or hide the first rows of the currently selected file. These rows contain information such as the instrument tag, process group tag and channel set up, depending on the type of file.

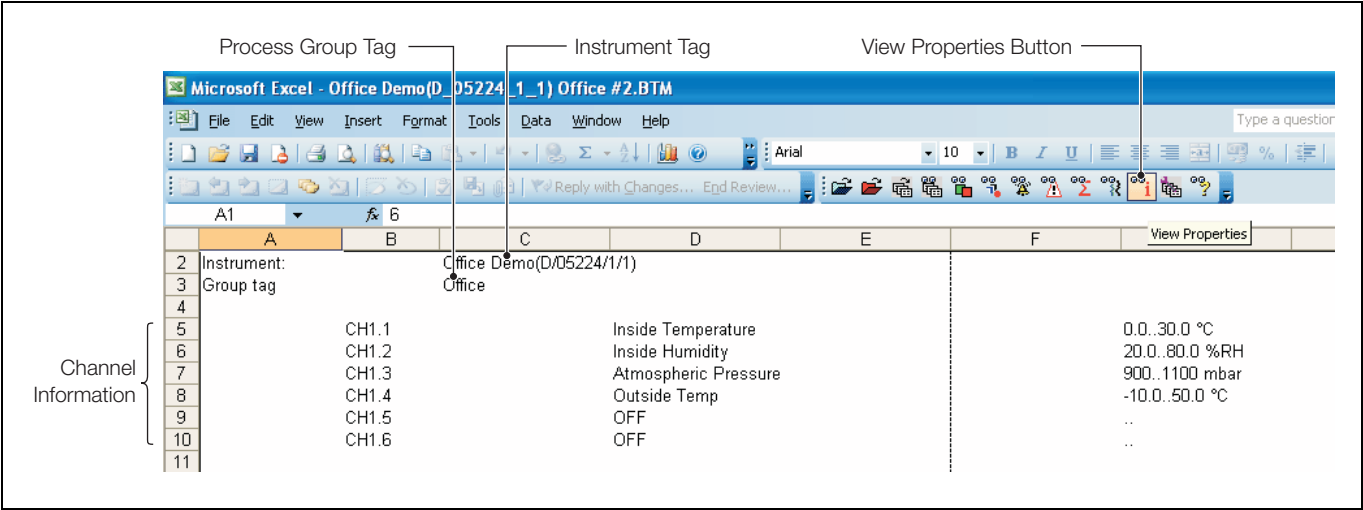


Fig. 3.2 View Properties Display



### 3.7 View Chart – Fig. 3.3

Click the **View Chart** button (📊) to open a new window containing a graphical representation of the channel data, similar in appearance to Chart View on the C1300, SM and Navigator Series Recorders. The chart is plotted from the data contained in the spreadsheet. If the file contains a lot of data, a dialog box (see Fig. 3.4) opens to enable the user to choose to plot all of the data or a part of it.

**Note.** When a Chart View window is open, anything not displayed in that window is disabled.

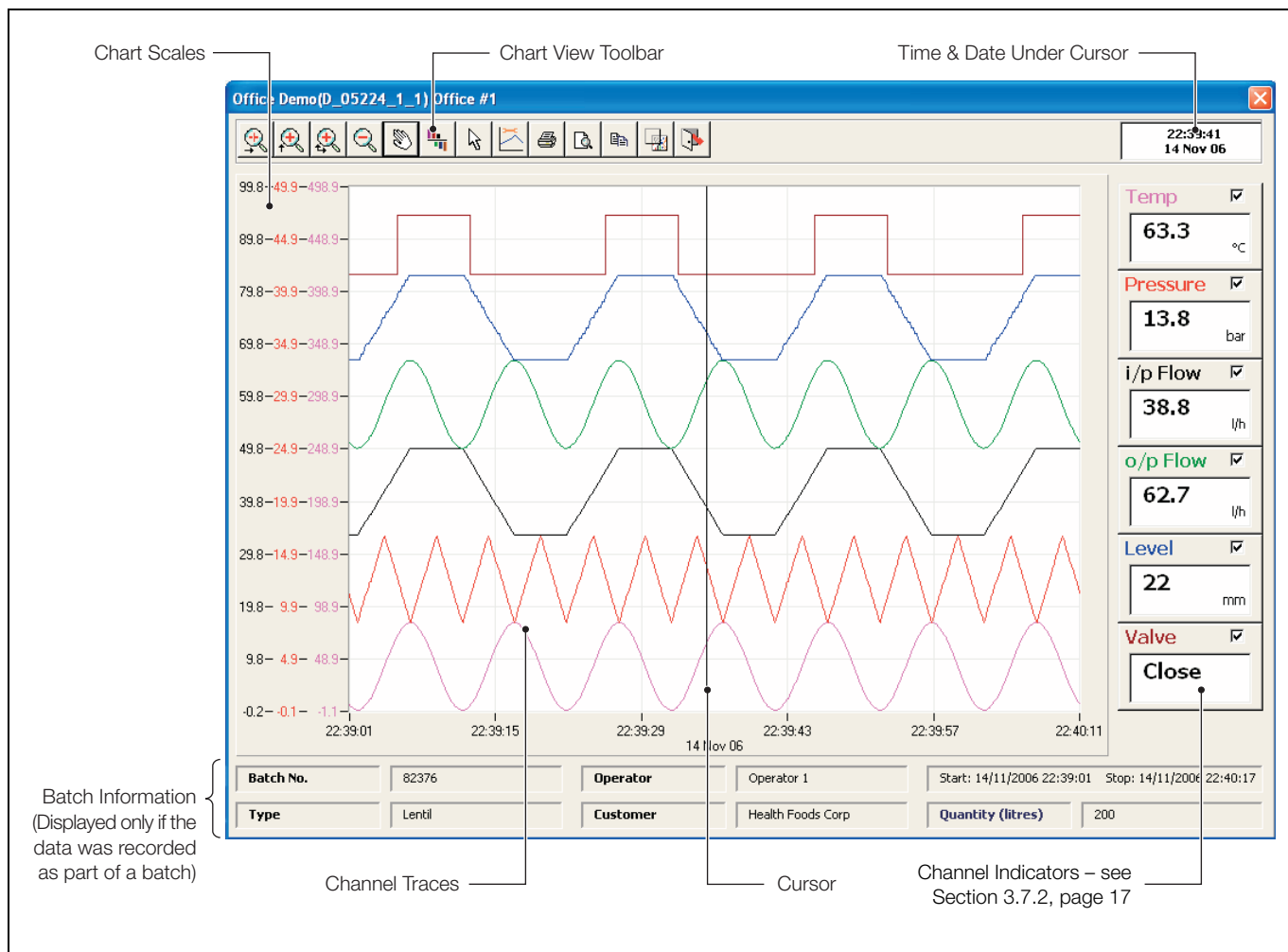


Fig. 3.3 Chart View Window

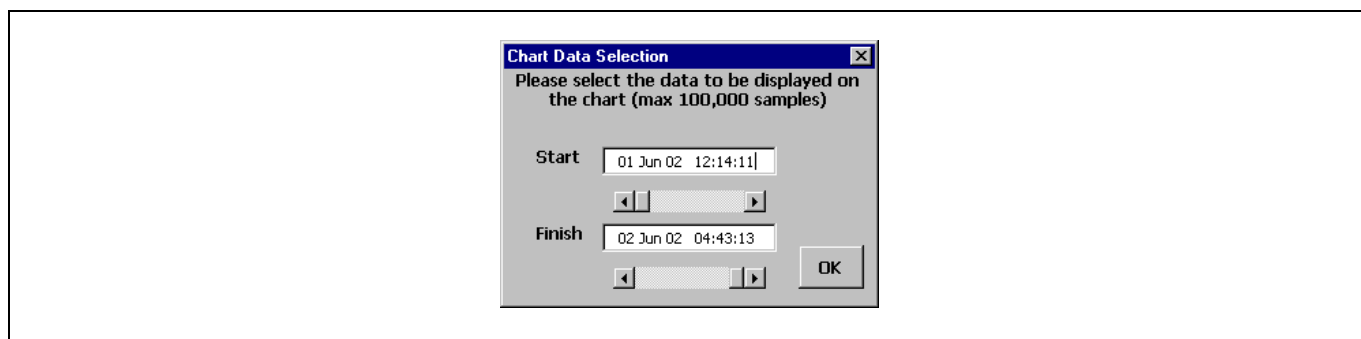


Fig. 3.4 Chart View Data Selector

### 3.7.1 Chart View Toolbar – Fig. 3.5

The Chart View toolbar enables navigation around the chart data.

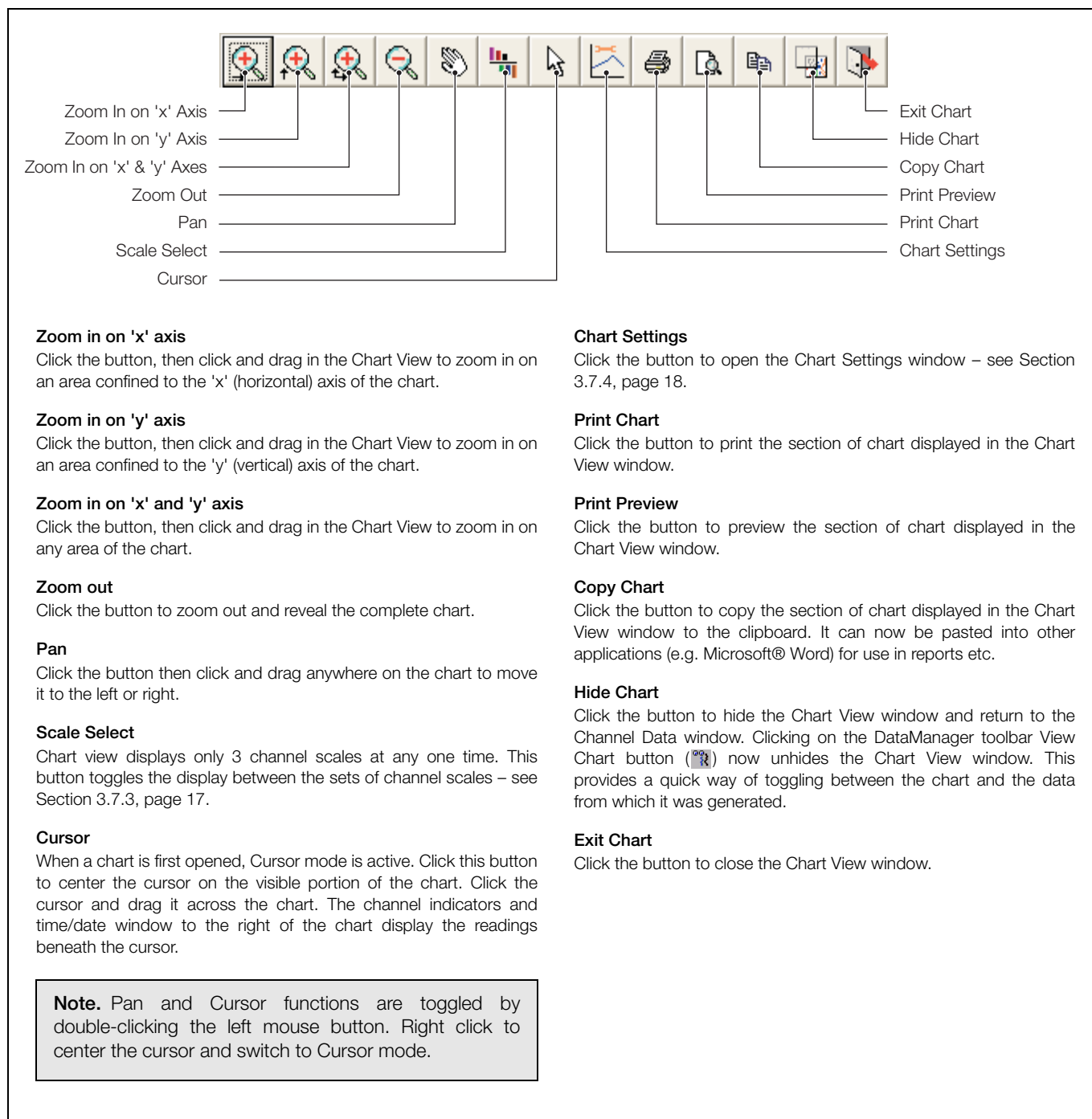


Fig. 3.5 Chart View Toolbar

### 3.7.2 Channel Indicators – Fig. 3.6

The channel indicators display the process conditions at the cursor position. Each indicator shows its Channel Tag in the color of its trace and displays the data in the engineering unit assigned to the channel. A check box on each indicator enables individual traces to be hidden to clarify the Chart View. Above the indicators is a window that shows the time and date at the cursor position.

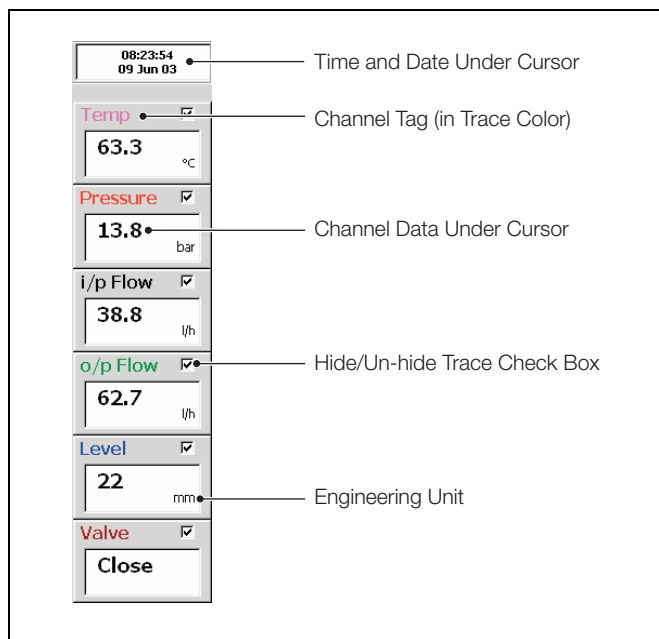


Fig. 3.6 Channel Indicators

### 3.7.3 Chart Scales – Fig. 3.7

Only 3 of the possible chart scales are displayed at any one time in order to maximize the chart area. Click the **Scale Select** button to toggle between the scales shown and the remaining scales.

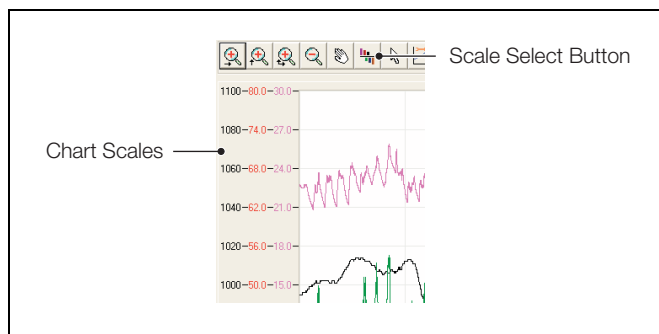


Fig. 3.7 Chart Scales

### 3.7.4 Chart Settings Window – Fig. 3.8

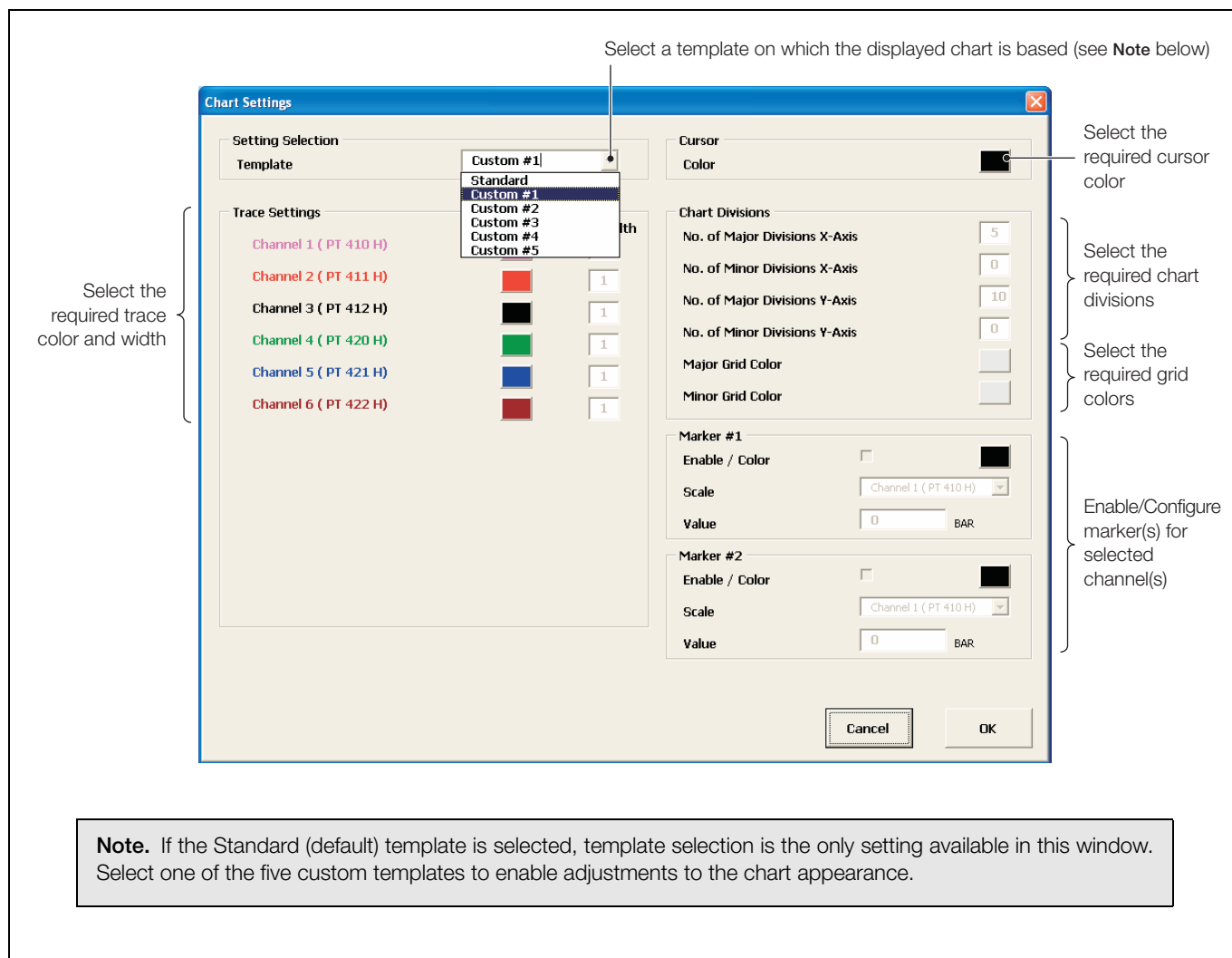


Fig. 3.8 Chart Settings Window

### 3.8 View Alarm Event Log – Fig. 3.9

Click the **Open CSV and Log Files** button (📁) and select 'Alarm Event Log' Files from the *Files of type* : drop-down list. Select a file to open and click **OK**. Alternatively, open an alarm event log file from the database by clicking on the **Display Database Data** button (📊). The file opens and is formatted automatically.

Click the **View Alarm Event Log** button (🔍) to select and display each opened Alarm Event Log file in turn.

	A	B	C	D	E	F	G	H	I
	Instrument tag								
4	Office Demo(D:\05224\1\1) Office			Data Integrity Verified Successfully					
5	Date	Time	Type	Event tag	Source tag	Trip Value	Units	State	Ack
6									
7									
8	01/Mar/05	12:18:19	Low process	Low Outside Temp	Outside	5	°C	Active	No
9	01/Mar/05	12:36:18	Low process	Low Outside Temp	Outside	5	°C	Inactive	No
10	01/Mar/05	18:35:26	Low process	Low Outside Temp	Outside	5	°C	Active	No
11	02/Mar/05	10:49:09	Low process	Low Outside Temp	Outside	5	°C	Inactive	No
12	02/Mar/05	14:52:24	Low process	Low Outside Temp	Outside	5	°C	Active	No
13	03/Mar/05	04:34:36	Low process	Low Inside Humidity	Humidity	30	%RH	Active	No
14	03/Mar/05	09:26:55	Low process	Low Inside Humidity	Humidity	30	%RH	Inactive	No
15	03/Mar/05	11:13:54	Low process	Low Outside Temp	Outside	5	°C	Inactive	No
16	03/Mar/05	17:40:05	Low process	Low Outside Temp	Outside	5	°C	Active	No
17	03/Mar/05	18:31:01	Low process	Low Inside Humidity	Humidity	30	%RH	Active	No
18	04/Mar/05	10:37:26	Low process	Low Inside Humidity	Humidity	30	%RH	Inactive	No
19	04/Mar/05	10:45:57	Low process	Low Outside Temp	Outside	5	°C	Inactive	No
20	04/Mar/05	18:01:14	Low process	Low Outside Temp	Outside	5	°C	Active	No
21	04/Mar/05	23:18:31	Low process	Low Inside Humidity	Humidity	30	%RH	Active	No
22	05/Mar/05	10:14:42	Low process	Low Outside Temp	Outside	5	°C	Inactive	No
23	05/Mar/05	17:28:12	Low process	Low Outside Temp	Outside	5	°C	Active	No

Click on the arrow to filter the data by the criteria listed in the drop-down menu:

- (All) – select to display all rows
- (Top 10...) – has no effect on the data displayed (functions correctly only with numerical data)
- (Custom...) – select to open the Custom AutoFilter dialog box:

Use the Custom AutoFilter to apply two criteria values within the current column or to use comparison operators other than AND (the default operator)

- (Blanks) – select to display all rows containing a blank cell in the column
- (NonBlanks) – select to display all rows containing a value in the column

**Note.** (Blanks) and (NonBlanks) are displayed only if the column contains blank or non-blank cells.

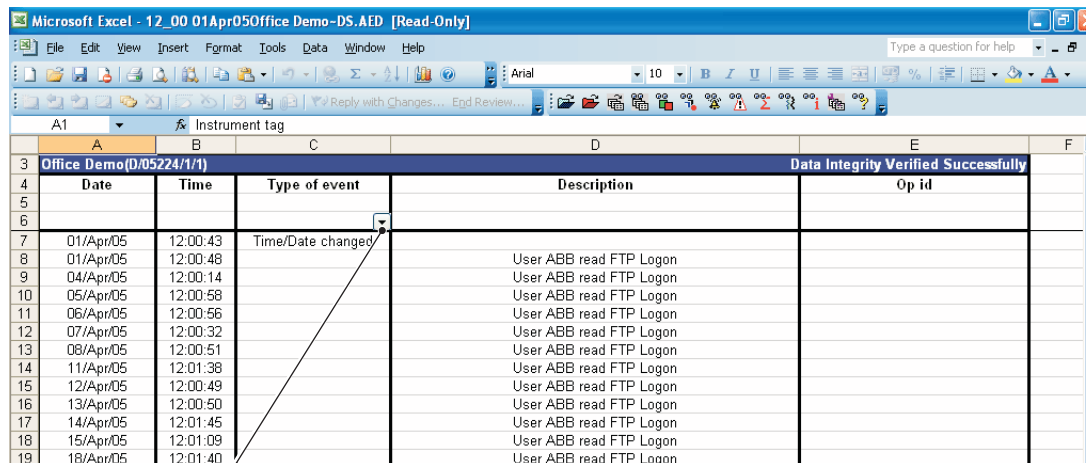
Select any other value listed to display only rows containing that value

Fig. 3.9 Alarm Event Log View

### 3.9 View Audit Log – Fig. 3.10

Click the **Open CSV and Log Files** button (📂) and select 'Audit Log' Files from the *Files of type* : drop-down list. Select a file to open and click **OK**. Alternatively, open an audit log file from the database by clicking on the **Display Database Data** button (📊). The file opens and is formatted automatically.

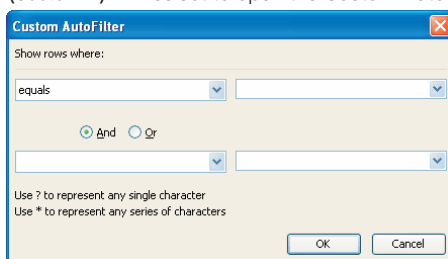
Click the **View Audit Log** button (🔍) to select and display each opened Audit Log file in turn.



Office Demo(D:05224/1/1)				
Date	Time	Type of event	Description	Op id
01/Apr/05	12:00:43	Time/Date changed		
01/Apr/05	12:00:48		User ABB read FTP Logon	
04/Apr/05	12:00:14		User ABB read FTP Logon	
05/Apr/05	12:00:58		User ABB read FTP Logon	
06/Apr/05	12:00:56		User ABB read FTP Logon	
07/Apr/05	12:00:32		User ABB read FTP Logon	
08/Apr/05	12:00:51		User ABB read FTP Logon	
11/Apr/05	12:01:38		User ABB read FTP Logon	
12/Apr/05	12:00:49		User ABB read FTP Logon	
13/Apr/05	12:00:50		User ABB read FTP Logon	
14/Apr/05	12:01:45		User ABB read FTP Logon	
15/Apr/05	12:01:09		User ABB read FTP Logon	
18/Apr/05	12:01:40		User ABB read FTP Logon	

Click on the arrow to filter the data by the criteria listed in the drop-down menu:

- (All) – select to display all rows
- (Top 10...) – has no effect on the data displayed (functions correctly only with numerical data)
- (Custom...) – select to open the Custom AutoFilter dialog box:



Custom AutoFilter

Show rows where:

equals

And Or

Use ? to represent any single character  
Use \* to represent any series of characters

OK Cancel

Use the Custom AutoFilter to apply two criteria values within the current column or to use comparison operators other than AND (the default operator)

- (Blanks) – select to display all rows containing a blank cell in the column
- (NonBlanks) – select to display all rows containing a value in the column

**Note.** (Blanks) and (NonBlanks) are displayed only if the column contains blank or non-blank cells.

Select any other value listed to display only rows containing that value in the column

Fig. 3.10 Audit Log View

### 3.10 View Totalizer Log – Fig. 3.11

Click the **Open CSV and Log Files** button (📂) and select 'Totalizer Log' Files from the *Files of type* : drop-down list. Select a file to open and click **OK**. Alternatively, open a totalizer log file from the database by clicking on the **Display Database Data** button (📊). The file opens and is formatted automatically.

Click the **View Properties** button (🔍) to reveal the properties information contained in the first rows of the view.

Click the **View Totalizer Log** button (📋) to select and display each opened Totalizer Log file in turn.

SM2000(D/05224/1/1) Boiler No 1									
Date	Time	Totalizer Tag	Source tag	Batch Total	Total units	Max value	Min value	Average	U
22/Dec/03	14:00:00	Input Flow Total	i/p Flow	7691273	Litres	50	33.3	5.8	
22/Dec/03	14:00:00	Output Flow Total	o/p Flow	10767644	Litres	66.7	50	11.7	
22/Dec/03	14:00:00	Valve	Valve	76620	Cycles	0	0	0	
22/Dec/03	15:00:00	Input Flow Total	i/p Flow	7692774	Litres	50	33.3	5.8	
22/Dec/03	15:00:00	Output Flow Total	o/p Flow	10769743	Litres	66.7	50	11.7	
22/Dec/03	15:00:00	Valve	Valve	76635	Cycles	0	0	0	
22/Dec/03	16:00:00	Input Flow Total	i/p Flow	7694275	Litres	50	33.3	5.8	
22/Dec/03	16:00:00	Output Flow Total	o/p Flow	10771842	Litres	66.7	50	11.7	
22/Dec/03	16:00:00	Valve	Valve	76650	Cycles	0	0	0	
22/Dec/03	17:00:00	Input Flow Total	i/p Flow	7695775	Litres	50	33.3	5.8	
22/Dec/03	17:00:00	Output Flow Total	o/p Flow	10773942	Litres	66.7	50	11.7	

Click on the arrow to filter the data by the criteria listed in the drop-down menu:

- (All) – select to display all rows
- (Top 10...) – has no effect on the data displayed (functions correctly only with numerical data)
- (Custom...) – select to open the Custom AutoFilter dialog box:

Use the Custom AutoFilter to apply two criteria values within the current column or to use comparison operators other than AND (the default operator)

- (Blanks) – select to display all rows containing a blank cell in the column
- (NonBlanks) – select to display all rows containing a value in the column

**Note.** (Blanks) and (NonBlanks) are displayed only if the column contains blank or non-blank cells.

Select any other value listed to display only rows containing that value in the column

Fig. 3.11 Totalizer Log View

### 3.11 View Aboutbox

Click the **View Aboutbox** button (📄) to display the DataManager version number.

### 3.12 Setting Up FTP Access – Figs. 3.12 to 3.15

DataManager can be used with FTP to access data files that have been archived onto the storage card of a remote Recorder:

**Note.** Steps 1 to 5 are applicable only if using Windows XP with SP2.

To set up FTP access:

1. Start Microsoft Internet Explorer.
2. Select 'Internet Options' from the 'Tools' menu.
3. Click the 'Advanced' tab
4. Under the heading 'Browsing', ensure:
  - 'Enable folder view for FTP sites' is ticked – see Fig. 3.12.
  - 'Use Passive FTP (for firewall and DSL modem compatibility) is **not** ticked – see Fig. 3.13.

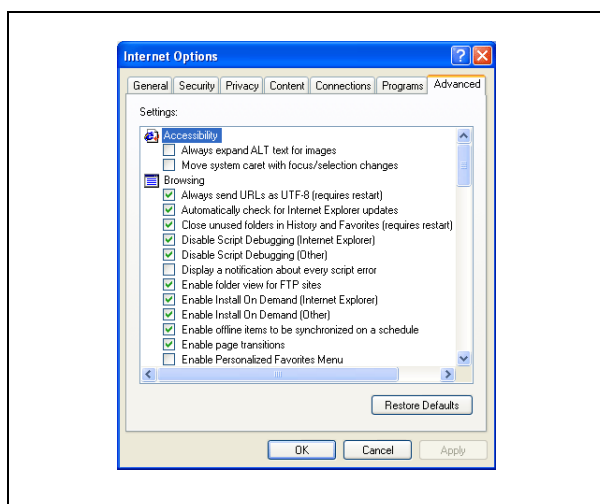


Fig. 3.12 'Enable Folder View for FTP Sites' Setting

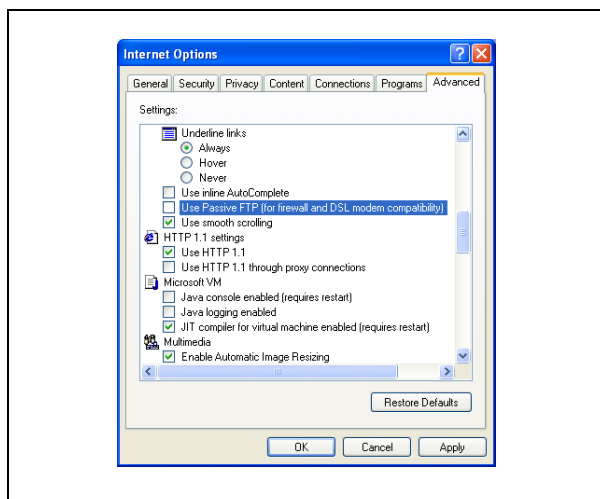


Fig. 3.13 'Use Passive FTP' Setting

5. Click the **OK** or **Apply** button and close Microsoft Internet Explorer.

6. Start Microsoft Excel with the DataManager add-in.
7. Click the **Open CSV and Log Files** button (📁) on the toolbar.
8. Open the *Look in:* drop-down menu and select 'Add/Modify FTP Locations' – see Fig. 3.14. The Add/Modify FTP Locations dialog box is displayed – see Fig. 3.15.

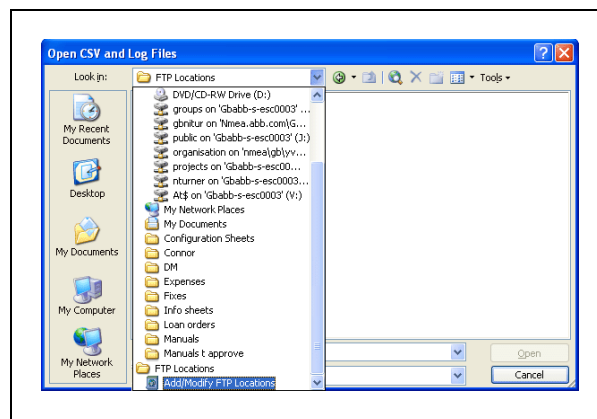


Fig. 3.14 'Look in:' Drop-Down Menu

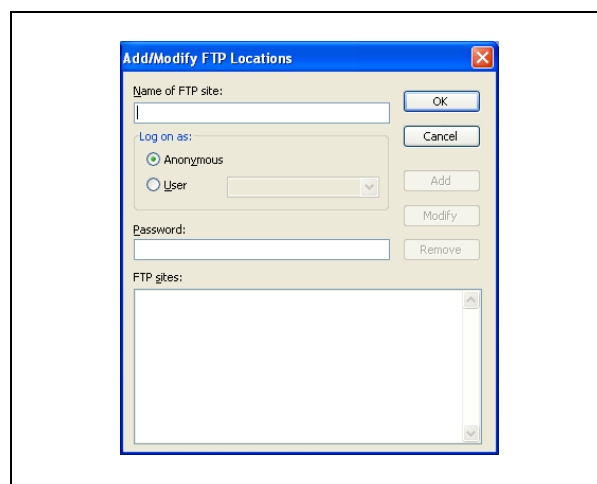


Fig. 3.15 Add/Modify FTP Locations Dialog Box

9. Enter the IP address of the remote Recorder in the 'Name of FTP site' field.
10. Select the 'User' radio button in the 'Log on as:' area.
11. Enter the 'User' name and 'Password:' for the remote Recorder (refer to the relevant User Guide) and click the **Add** button.
12. Click the **OK** button to return to the 'Open' dialog box.
13. Repeat steps 8 to 13 to add more Recorders as required.



### 3.13 Using FTP Access – Fig. 3.16

To use FTP access:

1. Start Microsoft Excel with the DataManager add-in.
2. Click the **Open CSV and Log Files** button (📁) on the toolbar.
3. Open the *Look in:* drop-down menu and select the FTP address of the remote Recorder. The 'FTP Log On' dialog box is displayed – see Fig. 3.16.

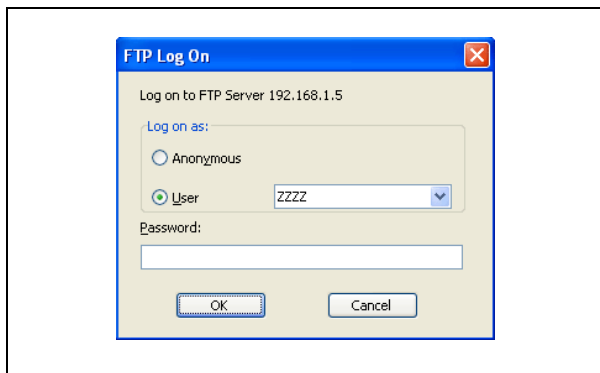


Fig. 3.16 FTP Log on Dialog

4. Select the 'User' radio button in the 'Log on as:' area.
5. Enter the 'User' name and 'Password:' for the Remote Recorder (refer to the relevant User Guide) and click the **OK** button. A set of folder icons are displayed.
6. Open the 'Storage\_Card' folder and double click the data file to be viewed by DataManager.

**Note.** To ensure that the latest data file is viewed, the browser must be set to check for newer versions of stored pages on every visit to a page. If this check is not performed, the browser may use data stored in the cache of the local PC rather than retrieve current data over the network from the remote device. If using Microsoft Internet Explorer:

1. Select 'Internet Options' from the 'Tools' menu.
2. Click the 'Settings' button in the 'Temporary Internet Files' grouping in the 'General' tab of the displayed dialog box.
3. Select 'Every visit to the page' from the options for 'Check for newer versions of stored pages:' and click **OK**.

## 4 Uninstalling DataManager

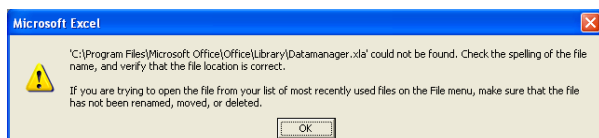
DataManager is uninstalled in two stages – the program is first uninstalled using the Windows uninstall procedure; the toolbar is then removed from Excel.

To uninstall DataManager:

1. Ensure Excel is not running.
2. Click the 'Start' button, then select 'Settings' followed by 'Control Panel'.
3. Click 'Add or Remove Programs'.
4. Select 'DataManager' and click the 'Remove' button.

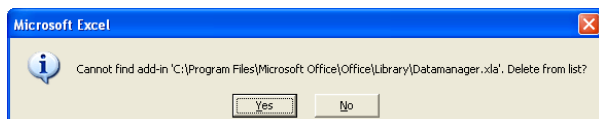
To remove DataManager's toolbar from Excel:

1. Start Excel.
2. The following error message is displayed:



Click the **OK** button.

3. Select 'Tools', 'Add-Ins...'. The Add-Ins window is displayed.
4. Click the tick next to the 'Datamanager' add-in to deselect it. The following message is displayed:



Click the **Yes** button.

5. Click the **OK** button to close the Add-Ins window.
6. Select 'View', 'Toolbars', 'Customize...'.- 7. Select 'DataManager +' and click the 'Delete' button.

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  - Metals and Minerals
  - Oil, Gas & Petrochemical
  - Pulp and Paper

### Drives and Motors

- AC and DC Drives, AC and DC Machines, AC Motors to 1kV
- Drive Systems
- Force Measurement
- Servo Drives

### Controllers & Recorders

- Single and Multi-loop Controllers
- Circular Chart and Strip Chart Recorders
- Paperless Recorders
- Process Indicators

### Flexible Automation

- Industrial Robots and Robot Systems

### Flow Measurement

- Electromagnetic Flowmeters
- Mass Flowmeters
- Turbine Flowmeters
- Wedge Flow Elements

### Marine Systems & Turbochargers

- Electrical Systems
- Marine Equipment
- Offshore Retrofit and Refurbishment

### Process Analytics

- Process Gas Analysis
- Systems Integration

### Transmitters

- Pressure
- Temperature
- Level
- Interface Modules

### Valves, Actuators and Positioners

- Control Valves
- Actuators
- Positioners

### Water, Gas & Industrial Analytics Instrumentation

- pH, Conductivity and Dissolved Oxygen Transmitters and Sensors
- Ammonia, Nitrate, Phosphate, Silica, Sodium, Chloride, Fluoride, Dissolved Oxygen and Hydrazine Analyzers
- Zirconia Oxygen Analyzers, Katharometers, Hydrogen Purity and Purge-gas Monitors, Thermal Conductivity

## Customer Support

We provide a comprehensive after sales service via a Worldwide Service Organization. Contact one of the following offices for details on your nearest Service and Repair Centre.

### UK

ABB Limited

Tel: +44 (0)1480 475321

Fax: +44 (0)1480 217948

### USA

ABB Inc.

Tel: +1 215 674 6000

Fax: +1 215 674 7183

### Client Warranty

Prior to installation, the equipment referred to in this manual must be stored in a clean, dry environment, in accordance with the Company's published specification.

Periodic checks must be made on the equipment's condition. In the event of a failure under warranty, the following documentation must be provided as substantiation:

1. A listing evidencing process operation and alarm logs at time of failure.
2. Copies of all storage, installation, operating and maintenance records relating to the alleged faulty unit.

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