Setup Guide

Field and Software Tools

AquaMaster SMS Logger





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1 Installing and Configuring SMS Software

Installation and configuration of the SMS Software comprises the stages below.

Follow the instructions for each stage carefully:

- Configure the SQL security mode, install an SQL database and create a login see Section 1.2, page 4.
- Configure a DNS connection see Section 1.2.4, page 9.
- Install prerequisite software see Section 1.3, page 15.
- Install and configure the ABB SMS Logger Server see Section 1.4, page 17.
- Install and configure an SMS gateway:
 - ABB Gateway (recommended) see Section 1.5, page 24
 - GPA Gateway (replaced by ABB gateway) see Section 1.6, page 29
- Configure the AquaMaster see Section 2, page 32.
- Follow troubleshooting procedures see Section 3, page 36.

1.1 Hardware Requirements

The hardware requirements differ between SQL server, SMS Logger Server and the gateway.

All three products can be installed on the same server or separate servers.

| SMS Logger Server & Gateway | | |
|---|-----------|--|
| Sind Logger derver a dateway | Minimum | Recommended |
| CPU | Pentium 3 | Pentium 4 |
| Memory | 1 Gb | 1 Gb |
| Hard disk (available to install applications) | 1 Gb | 1 Gb |
| GSM modem | - | Siemens TC35 |
| SIM card (for GSM modem) | - | Review SIM and local providers to obtain best rates and network coverage |

Note. The SMS Logger Server and gateway are not resource intensive. Ensure the server has enough space to install the operating system and both applications.

| Microsoft SOL Server | | |
|---|------------------------------|---|
| | Minimum | Recommended |
| CPU | Pentium 4 | Latest specification server |
| Memory | 3 Gb | Maximum server capacity |
| Hard disk (available for SQL server/MeterData database) | 40 Gb (see note below) | 250 Gb 'Raid' disk system (see note below) |

Note. Microsoft SQL server can be very resource intensive. Ensure the processor is to the latest specification and install the server with the maximum memory it can accommodate. Ideally, use a raid system to protect customer data and reduce the risk of data loss. The size of the disk array needed depends on the quantity of data to be stored in the database. The quantity of data is determined by total meters, number of reports (totalizer, flow, pressure) and retention period. The 250 Gb recommended capacity is sufficient for most applications.

Caution. Although the raid system helps prevent data loss due to disk failure, the system still requires a backup system.

1.2 Configuring the SQL Server and DSN

This guide assumes the user is familiar with SQL Server and the basic administration tasks. The sections below show some SQL Server and Windows configurations specific to the SMS Logger Server system.

1.2.1 SQL Server Security Configuration (Mixed Mode)

SQL Server has two security modes: trusted logins only and mixed mode security.

Note. To use SQL logins (required by SQL Logger Server) the server must be in mixed mode security.

To configure mixed mode:

1. From Enterprise Manager right-click on the server and select 'Properties' (A).



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 Select the 'Security' tab (B) and ensure the 'Authentication' option is set to 'SQL Server and Windows'. (C).



1.2.2 SMS Logger Server Database

A database must be created with a specific table structure, fields and attributes. The following options can be used to create the database used by SMS Logger Server:

- Recommended attach a blank database (provided on the SMS Logger Server installation supplement CD).
- Manual creation of the database using the structure shown in the logger server documentation (expert users only, not recommended).
- Use the SQL script files from the logger server CD (expert users only).

To attach the standard MeterData.MDF database (SMS Logger Server installation supplement CD):

- 1. Copy the MeterData.MDF file into the Microsoft SQL server data directory.
- 2. Right-click on the 'Database/All Tasks/Attach Database' menu (A).



 Select the MeterData.MDF file using the browse button '...' on the 'Attach Database' dialog (B).

| , | Attach Database - (local) | × |
|----|---|--------------------------|
| B | <u>M</u> DF file of database to attach: D:\MeterData.MDF | Jeniy |
| | Original File Name(s) | Current File(s) Location |
| ©- | | |
| 6 | Attach as: | MeterData |
| Ur | Specify detabase owner: | ABB |
| | | OK. Cancel Help |

- 4. Type the name of the database (MeterData) in the 'Attach as' text field (C).
- 5. Click 'OK' (D).

Note. The steps above ensure the 'MeterData' database is available under the database folder in 'Enterprise Manager'.

1.2.3 Configuring an SMS Logger Server SQL Account

To attach the standard MeterData.MDF database provided on the logger server installation CD:

 In 'Enterprise Manager', expand the security folder and select a new login by right-clicking the 'Logins' option (Å).



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2. A dialog similar to (B) is displayed:

| B | SQL Server Login Properties - New Login |
|---------|---|
| | |
| ©- D | Authentication |
| (E) | SQL Server Authestication Password: Defaults Specify the default language and database for this login. Defaults Database: MeterData Language: |
| | OK Cancel Help |

- 3. Type 'ABB' in the 'Name' field (C).
- 4. Type a password in the 'SQL Server Authentication' field (D).
- 5. Select the 'MeterData' database (as configured in Section 1.2.2, page 5) as the default database from the 'Database' dropdown (E).
- 6. select 'English' from the 'Language' dropdown (F).

Note. This user account is only used by the SMS Logger Server to connect to SQL server and SMS Logger Server requires English language.

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7. Click the 'Database Access' tab (G):

| 6 | SQL Serve | r Login Pr | operties - N | lew Login | | × |
|------------|-----------|-------------------|-----------------|----------------|-----------------|----------|
| 0- | General | Server no | 🚗 Databa: | se Access | | |
| | 6 | <u>S</u> pecify v | vhich databa: | ses can be acc | essed by this l | ogin. |
| | ~ | Permit | Database | User | | <u>▲</u> |
| (H)- | | | LOGITI | | | |
| \bigcirc | | → 🗹 💼 | MeterData | ABB | | |
| | | | Northwind | | | |
| | | | master | | | |
| | | | model | | | |
| | | | msdb | | | |
| | | | . . | | | - 11 |
| \sim | | <u>D</u> atabase | e roles for 'Me | eterData': | | |
| \bigcirc | | Permit in | Database R | ole | | ▲ |
| | | 🍽 🗹 😰 P | ublic | | | |
| \sim | | • 🗹 🔮 🛛 | b_owner | | | |
| U | | 🗆 🖸 🖉 d | b_accessadr | nin | | |
| | | 🗆 🖸 d | b_securityad | min | | |
| \sim | | 🗆 💱 d | b ddladmin | | | <u> </u> |
| (K)~ | | | | | Er | operties |
| | | | | | | |
| | | | | ОК | Cancel | Help |

Note. The database roles can now be selected.

- Ensure the 'MeterData ABB' database (H) is ticked the 'public' role (1) is selected by default).
- Confirm the 'db_owner role' (J) is selected this ensures the ABB user has full access to the 'MeterData ABB' database.
- 10. Click 'OK' (K).

The 'Confirm Password' dialog (L) is displayed:

| | Confirm Password ? 🗙 |
|------------|----------------------------------|
| <u>M</u> - | Old nassword: |
| | Confirm new password: |
| N- | Blank Password (not recommended) |
| | 0K Cancel |

 Confirm the password (M) selected for the ABB user in step 4 and click 'OK' (N). The ABB user is configured successfully.

1.2.4 ABB SMS Logger Server Database DSN Connection to SQL Server

A DSN connection is used to enable ABB SMS Logger Server to communicate to an external database.

The following configuration shows how to configure the DSN connection used by the logger server in later configuration sections.

1. Open the 'ODBC Data Source Administrator' (A) from 'Administrative Tools':



2. Click 'Add' (B).

| The 'Create | New Data | Source' | dialog (C) | is displayed: |
|-------------|----------|---------|------------|---------------|
| | | | | |

| | Create New Data Source Select a driver for which you want to set | up a data source. |
|---------|--|--|
| \odot | Name | V 🔺 |
| D- | Microard FoxPov VFP Druver ("ddi) Microard Paradow Driver ("ddi) Microard Paradow Driver ("dd) Microard Paradow Driver ("dd) Microard Faradow Traber ("dd) M | 1. 2. 4. 4. 4. 1. 1. 2 ¹ ▼ |
| E- | < Back Finish | Cancel |

- 3. Select the 'SQL Server' driver (D).
- 4. Click 'Finish' (E).

The 'Create a New Data Source to SQL Server' dialog (F) is displayed:

| | Create a New Data Sour | ce to SQL Server X |
|------------|------------------------|--|
| F | Select a diver to | This wizard will help you create an ODBC data source that you can use to connect to SQL Server. |
| (G)- | me Access I | What name do you want to use to refer to the data source? |
| (H)- | soft Excel I | Name: Materiala |
| \bigcirc | Cond Par | Description MeterData |
| 0- | SQL Serv | \u/hich SQL Server do you want to connect to? |
| | | Server: gb-s-yvz0051 |
| (J)- | | |
| 0 | | |
| | | Finish Next > Cancel Help |

- 5. Type the name of the 'DataSource' (MeterData) in the 'Name' field (G).
- 6. Type a description for the connection in the 'Description' field (H).
- 7. Type the name of the SQL Server in the 'Server' field (1).
- 8. Click 'Next' (J).

The 'Create a New Data Source to SQL Server' security settings dialog (K) is displayed:

| , | Create a New Data Sour | ce to SQL Server | | × |
|------|----------------------------|--|-------------------------------------|---|
| | Select a driver row | How should SQL Server verify the | authenticity of the login ID? | |
| K | are solt Access I | ○ <u>W</u> ith Windows NT authenti | cation using the network login ID. | |
| | Soft Excel I | With <u>SQL</u> Server authentication of the user. | ation using a login ID and password | |
| | Prototi 0006 Costi Pase | To change the network library use click Client Configuration. | d to communicate with SQL Server, | |
| | SQL Serv | | Client Configuration | |
| (L) | | Connect to SQL Server to obta additional configuration options | ain default settings for the s. | |
| (M)- | and the second | Login ID: ssmart | | |
| 0 | | Passworu: | | |
| (N)- | | | | |
| | | < Back Next > | Cancel Help | |

Note. This dialog is used to enter the login ID and user password.

- 9. Type the login ID (user name) in the 'Login ID' field (L).
- 10. Type the ABB user account password in the 'Password' field (M).
- 11. Click 'Next' (N).

The 'Create a New Data Source to SQL Server' database settings dialog (O) is displayed:

| , | Create a New Data Source to SQL Server | × |
|--------|--|---|
| ୍ | Subert a diriter to | |
| P | Attach database filename: | |
| 0 | Create temporary stored procedures for prepared SQL statements and drop the stored procedures: | |
| | Converted Service When you disconnect. | |
| | 🔽 🚺 🖉 Use ANSI quoted identifiers. | |
| | Use ANSI nulls, paddings and warnings. | |
| _ | Use the failover SQL Server if the primary SQL Server is not available. | |
| (R)- | | |
| \sim | • | |
| | < Back Next > Cancel Help | |

Note. This dialog is used to define default database settings.

- 12. Tick the 'Change the default database to:' checkbox (P).
- From the dropdown field (Q), select the name of the default database ('MeterData'). Logger server information is posted to this database.
- 14. Click 'Next' (R).

The 'Create a New Data Source to SQL Server' default settings dialog $\overline{(S)}$ is displayed:

| , | Create a New Data Sour | ce to SQL Server | × |
|--------|--|---|---|
| S T | Select a divide the Select a divide the and off country off countr | Change the language of SQL Server system messages to English Use strong enception for data Ventors transition for character data Use regional settings when outputting currency, numbers, dates and Use regional settings when outputting currency. | 1 |
| 0- | | Save long numing queries to the log file: C:YTemp1QUERY_LOG Long query time (milliseconds) COUDERY_LOG Log gDBC driver statistics to the log file: C:YTemp1STATS_LOG Progree | |

Note. This dialog is used to select the language for SQL Server system messages.

- 15. Confirm the selected language (T) is set to 'English'.
- 16. Click 'Finish' (U).

The 'ODBC Miscrosoft SQL Server Setup' dialog (V) is displayed:

| | Create a New Data Sour | ce to SQL Serve | DDBC Microsoft SQL Server Setup | x |
|----|------------------------|---|---|---|
| | Seloci a diver in | □ Change the | A new ODBC data source will be created with the following configuration: | |
| V | | English Use strong Eefform trai Eefform trai Eseregion- times. Save long i C.\Temp\M Log_DDBC C.\Temp\M | Microard SQL Sarver ODBC Driver Version 02.85 1117 Data Souce Decomposition Metal Data Data Souce Decomposition Metal Data Database MeetData Language (Delar) Translet Desate (Data Yes) Language (Delar) Language | 4 |
| ₩- | | < <u>B</u> a | Test Data Source OK Canc | e |
| No | te. This dialo | q is used | d to test the connection. | |

17. Click 'Test Data Source...' (W).

If the system is setup correctly, the following 'SQL Server ODBC Data Source Test' screen is displayed:

| SQL | Test Results | |
|-----|---|-------------------------|
| | Microsoft SQL Server ODBC Driver Version 03.85.1117 | |
| | Running connectivity tests | |
| | Attempting connection Connection established Verifying option settings Disconnecting from server | |
| | TESTS COMPLETED SUCCESSFULLY! | |
| | | |
| | | |
| | | |
| | | |
| | 1 | $\overline{\mathbf{v}}$ |
| | | |
| | OK | |

18. Click 'OK' (X).

The 'ODBC Data Source Administrator' dialog (Y) is displayed:

| | ODBC Data Source Administrator | × |
|----------------|---|---|
| ٢ | User DSN System DSN File DSN Drivers Tracing Connection Pooling About | |
| \odot | System Data Sources: | |
| | Name Driver Add | |
| | MeterData SQL Server Remove | |
| \overline{Z} | Configure | |
| \bigcirc | | |
| | | |
| | | |
| | | |
| | An ODBC System data source stores information about how to connect to the indicated data provider. A System data source is visible to all users | |
| | on this machine, including NT services. | |
| | OK Cancel Apply Help | |
| | | |
| No | te. This dialog confirms the new connection $\overline{(Z)}$. | |
| | | |

19. Click 'OK' to finish ODBC setup.

1.2.5 Windows 2003 Server Regional Settings

The ABB SMS Logger Server is designed to use UK English formats for time, date and decimal point separation. The Windows 2003 Server regional settings must be set to English to ensure the Logger Server correctly interprets the data formats.

Configure regional settings as follows:

1. Select 'Start', 'Settings', 'Control Panel', 'Regional and Language Options'. The following dialog is displayed:

| Regional and Lar | nguage Options | ? × | | | |
|---|---|-----|--|--|--|
| Regional Options | Languages Advanced | | | | |
| Standards and This option af | Standards and formats This option affects how some programs format numbers, currencies, | | | | |
| Select an Iten your own for | ie. n to match its preferences, or click Customize to choose mats: | | | | |
| English (Unit | ed kingdom) 💌 Customize | | | | |
| Samples | | | | | |
| Number: | 123,456,789.00 | 1 | | | |
| Currency: | £123,456,709.00 | | | | |
| Time: | 09:55:16 | | | | |
| Short date: | 01/09/2008 | | | | |
| Long date: | 01 September 2008 | 1 | | | |
| Location To help servic weather, sele United Kingd | as provide you with local information, such as news an all your present locations com | • | | | |
| | OK Cancel App | ₩ | | | |

- On the Regional Options tab, ensure 'Standards and formats' is set to 'English (United Kingdom)' and 'Location' is set to 'United Kingdom'.
- 3. Select the Advanced tab. The following dialog is displayed:



4. Ensure 'Language for non-Unicode programs' is set to 'English (United Kingdom)'

1.3 Installation Prerequisites

The following prerequisite items are required by the ABB SMS Logger Server system.

- Application server (component)
 - Microsoft message queue
 - Microsoft IIS
 - ASP.NET
- Microsoft .Net1.1 framework
- Microsoft .Net2 framework

1.3.1 Installing Components

To install components:

1. Launch 'Add/Remove Programs' from the Windows 'Control Panel' or type *appwiz.cpl* in the Windows 'Start' menu 'Run' command (Start/Run/appwiz.cpl).

| The Windows | 'Add/Remove | Programs' | dialog | (A) is | displayed: |
|-------------|-------------|-----------|--------|--------|------------|
|-------------|-------------|-----------|--------|--------|------------|

| , | 🙀 Add/Remov | e Programs | | _ 🗆 × | : |
|--------|-----------------------|---|---------------|--------------|---|
| / | 12 | Currently installed programs: | Sort by: Name | • | |
| Ś | Change or | 📑 ABB Service Port Splitter | Size | <u>744KB</u> | |
| Q | Programs | Click here for support information. | | | |
| | 2 | To change this program or remove it from your computer, click Change or Remove. | ⊆hange | Remove | |
| | Add New | ig Able Graphic Manager 2.4 | Size | 5.69MB | |
| | Programs | Adobe Acrobat 6.0 Professional | Size | 405MB | |
| | 1 | Adobe Acrobat and Reader 6.0.3 Update | Size | 1.00MB | |
| | Add/Remove | Adobe Acrobat and Reader 6.0.4 Update | Size | 492KB | |
| \sim | Windows Components | Real Adobe Flash Player 9 ActiveX | | | |
| (B) | | Adobe Flash Player 9 ActiveX | Size | 2.33MB 🖵 | |
| - | i Car | | | | |

2. Select 'Add/Remove Windows Components' (B).

The 'Windows Components Wizard' dialog (similar to (C)) is displayed:

| ļ | Windows Components Wizard |
|--------|--|
| 6 | Windows Components You can add or remove components of Windows. |
| 0 | To add or remove a component, click the checkbox, A shaded box means that only part of the component will be installed. To see what's included in a component, click Details. Components: |
| M | Accessories and Utilities 4.9 MB |
| U | Application Server 27.4 MB |
| | Ertilicate Services 1.8 MB |
| | E-mail Services 1.1 MB |
| | J Gél Fax Services Z 9 MB |
| (E)- | Description: Includes ASP.NET, Internet Information Services (IIS), and the |
| \sim | Tavel Adv. Server Lonsole. |
| | Space available op disk: 1729951 MB |
| | |
| | |
| | |
| | <back next=""> Cancel Help</back> |
| | |

3. Tick the 'Application Server' checkbox (D).

- 4. Highlight the 'Application Server' item (D).
- 5. Click 'Details' (E)
- 6. The 'Application Server' dialog (F) is displayed:



- Ensure the default options 'ASP.NET, 'Enable network COM+ access', 'Internet Information Services (IIS)' and 'Message Queing' are ticked.
- 8. Click 'OK' (G).

Installation of the components is complete.

1.3.2 Installing Microsoft Framework

Note. The logger server requires Microsoft .Net version 1.1 framework and the gateway requires Microsoft .Net version 2 framework. These must be installed before installing the applications.

To install Microsoft .Net 1.1 and Microsoft .Net2:

- 1. For Microsoft .Net 1.1, install *dotnetfx.exe* from the '\Microsoft .Net Framework' directory on the logger server CD.
- For Microsoft .Net2, install dotnetfx.exe from the '\ABB Gateway\dotnetfx' folder on the gateway CD.

1.4 Installing the ABB SMS Logger Server

Note. Before starting the installation below, ensure the USB dongle is connected to the system.

After launching the logger server CD the installation starts automatically. If the software does not launch:

- 1. Launch the 'setup.exe' file on the CD.
- 2. If Microsoft .Net 1.1 is not installed the 'Windows Installer Loader' screen (A) is displayed:

| | Windows | Installer Loader |
|----|---------|---|
| A | 2 | Setup cannot continue, Microsoft .NET Framework is not installed on your system. Click Yes to exit. Install .NET framework and restart setup. |
| B- | | Yes No |
| | | |

Note. To install Microsoft .Net 1.1, click 'Yes' (B) to exit and refer to Section 1.3.2, page 16.

 If the prerequisite components are installed correctly, screen (A) is not displayed and the 'ABB SMS Logger Server' dialog (C) is displayed to prompt MSDE installation:



4. Click 'Yes' (D).

The 'Microsoft SQL Server Desktop Engine' message (E) is displayed showing the MSDE installation status (F).

| ۶ | Microsoft SQL Server Desktop Engine | |
|---|---|----------|
| E | Please wait while Windows configures Microsoft SQ | L Server |
| E | Gathering required information | Cancel |

5. When the installation has finished, the 'Microsoft SQL Server Desktop Engine' message closes automatically and the 'MSDE Complete' message (G) is displayed:



6. Click 'Next' (H).

The 'ABB SMS Logger Server' splash screen (I) is displayed:

| | ABB SMS Logger Server | | | _ 🗆 X |
|----------|-----------------------|--------|--------|-------|
| | ABB | | 4 | |
| | | | | |
| | SMS | LOGGER | SERVER | |
| _ | | | | |
| C · | | | | |
| | | Cancel | < Back | lext> |

7. Click 'Next' (J).

The 'ABB SMS Logger Server' information screen (K) is displayed:



8. Click 'Next' (L).

The 'ABB SMS Logger Server' server installation folder (M) is displayed:

| | 决 ABB SMS Logger Server | _ 🗆 X |
|------------|---|-----------------------|
| M | Select Installation Folder | ABB |
| - | 5 11 5 | LOGGER SERVER |
| | The installer will install ABB SMS Logger Server to the following folder. | |
| | To install in this folder, click "Next". To install to a different folder, enter it below | ow or click "Browse". |
| | 5.Hz | |
| ~ | Eloider: | Browse |
| (N)~ | | Disk Cost |
| 0- | Install ABB SMS Logger Server for yourself, or for anyone who uses this co | omputer: |
| \bigcirc | C Everyont | |
| | Just me | |
| | Cancel < Back | Next > |

9. Accept the default directory location shown in the 'Folder' field (N) (recommended).

^{10.} Click 'Next' (O).

The 'ABB SMS Logger Server' 'Confirm Installation' screen (P) is displayed:



11. Click 'Next' Q.

The 'ABB SMS Logger Server' 'Installation Complete' screen (R) is displayed:

| | 🖟 ABB SMS Logger Server |
|---|--|
| R | Installation Complete |
| U | SMS LOCCER SERVER |
| | ABB SMS Logger Server has been successfully installed. Click "Close" to exit. |
| S | Please use with deale to check for any critical updates to the .NET Framework. |

12. Click 'Close' (S) to close the window.

Installation is now complete.

1.4.1 Configuring the ABB SMS Logger Server

The ABB SMS Logger Server is configured via the 'Configuration' menu (A):

| | 🔄 ABB SM9 | 5 Logger Serv | ver - [Flo | w Meter | r Administr |
|------------|-----------|---------------|-------------|---------|-------------|
| A - | File View | Configuration | Request | Help | |
| 0 | ا ا ا ا | External Da | tabase Ct | rl+B | |
| | | Advanced S | ettings Ct | rl+A | <u> </u> |
| | | External Clie | ents Ct | rl+U | |
| | | | | | · |
| | | | | | |

Note. The configuration contains an external database, advanced settings and external clients.

To configure the ABB SMS Logger Server external database settings:

1. From the 'Configuration' menu select 'External Database'.

The 'Configure External Database' dialog (B) is displayed:

| \sim | Configure External Database | ?× |
|--------|-----------------------------|--|
| ഀ | DSN | Client Database Table - Column Mapping |
| | System DSN MeterData | TableName |
| ©- | User Name DBloguser | Column Name |
| D | Password ******* | Database Output Format |
| E | Test Connection Clear | Relational Tables |
| (F)- | | C Single table XML data |
| | | OK Cancel |
| | | |

Note. The 'Configure External Database' dialog (B) enables settings relating to database connectivity to be changed. The system DSN (C), user name (D) and password (E) details entered at this dialog are dependent on the configurations in the DSN and SQL server setups.

- 2. Type the system DSN in the 'System DSN' field (C).
- 3. Type the user name in the 'User Name' field (D).
- 4. Type the password in the 'Password' field (E).
- 5. Click 'OK' (F).

To configure the ABB SMS Logger Server advanced settings:

- 1. From the 'Configuration' menu select 'Advanced Settings'.
 - The 'Advanced Settings' dialog $\widehat{(G)}$ is displayed:

| <u>_</u> | Advanced Settings | ?× |
|------------|---------------------------------------|--|
| G | Event Log History Limit | Default Flow Meter Password |
| | History Limit | Default Password am2k |
| θ- | Positive Time Difference | |
| | Positive Time Difference | •SMS Gateway Uld http://localboot.2080 |
| | | |
| | Update License | Automatic Time Adjustment |
| | Existing License : 1000 | C Enable |
| \bigcirc | Customer Name | Disable |
| | License Key | |
| J— | Liperad | OK Cancel |
| | | |
| | | |
| Note | e. The 'Advanced Settings' dialog cor | ntains two important configuration settings: |
| | the address of the SMS gateway (| SMS Gateway Url') (H) |
| | the 'License Key' information (1) | |

Refer to original documentation from ABB or contact an ABB representative to obtain a licence key.

2. Click 'OK' (J).

To configure the ABB SMS Logger Server external clients:

1. From the 'Configuration' menu select 'External Clients'.

The 'External Clients' dialog (K) is displayed:



Note. External clients are used to access the logger server web page to request DIB or data from the meters. Add a 'User Name' L and a 'Password' M to this dialog as required.

2. Click 'OK' (N).

1.5 Installing the ABB Gateway

The ABB Gateway can be started by launching the 'setup.exe' file on the gateway installation CD. The Microsoft .Net 2 runtime is needed to install the ABB gateway (see Section 1.3, page 15).

If Microsoft .Net 2 runtime is not installed, the gateway installation wizard installs .Net 2 from the installation CD.

1. After the initial launch click 'Next' (A):



The 'ABB Gateway', 'Select Installation Folder' dialog (B) is displayed:

| | 侵 ABB Gateway | × |
|------------|--|-------------------------|
| B | Select Installation Folder | |
| | The installer will install ABB Gateway to the following folder. | |
| | To install in this folder, click "Next". To install to a different folder, enter it be | elow or click "Browse". |
| (C)- | Eolder: | |
| \bigcirc | C:\Program Files\ABB\ABB Gateway\ | Browse |
| | | Disk Cost |
| _ | Install ABB Gateway for yourself, or for anyone who uses this computer: | |
| D- | 1 A Marcane | |
| | C Just me | |
| | Cancel < Back | Next> |

Note. This dialog is used to specify directory location for the installation.

- 2. Accept the default directory location (C) (recommended).
- 3. Click 'Next' (D).

The 'Confirm Installation' dialog (E) is displayed:

| | 🛃 ABB Gateway |
|------|---|
| _ | Confirm Installation |
| (E) | The installer is ready to install ABB Gateway on your computer. |
| | Click "Next" to start the installation. |
| | |
| | |
| | |
| | |
| (F)- | |
| O | |
| | |
| | Cancel < Back Next > |
| | |

4. Click 'Next' (F).

When the installation is completed the 'Installation Complete' dialog (G) is displayed:

| | 🕼 ABB Gateway | _ 🗆 🗙 |
|-----|---|-------|
| / | Installation Complete | |
| G | ABB Gateway has been successfully installed. | |
| | Click "Close" to exit. | |
| | | |
| | | |
| | | |
| | | |
| (H) | | |
| 0 | Please use we we used to check for any critical updates to the .NET Framewood | k. |
| | | |
| | Cancel < <u>B</u> ack | Close |

5. Click 'Close' (H).

The installation is complete.

1.5.1 Configuring the ABB Gateway

The ABB Gateway runs as a service and is not in a started (running) state after initial installation. Before starting the service the gateway must to configured.

Configuration options are stored in the 'ABBGateway.xml' file, shown in the following table.

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
 <section name="Main">
    <setting name="IsURL"
value="http://localhost:80/LoggerServer/GatewayHttpHandler.aspx" />
    <setting name="listenerURL" value="http://localhost:8080/" />
   <setting name="NumberSendAttempts" value="4" />
    <setting name="NumberReceiveAttempts" value="4" />
 </section>
 <section name="Modems">
    <setting name="NumberOfModems" value="1" />
 </section>
 <section name="Modem1">
    <setting name="modemActive" value="True" />
    <setting name="portName" value="COM1" />
    <setting name="portBaudRate" value="9600" />
    <setting name="portDataBits" value="8" />
    <setting name="portParity" value="Even" />
    <setting name="portStopbits" value="1" />
    <setting name="portHandshake" value="None" />
    <setting name="modemTimeOut" value="5" />
    <setting name="modemSleepTime" value="500" />
    <setting name="checkResponse" value="AT" />
    <setting name="cmdEchoOff" value="ATE0" />
    <setting name="cmdEchoOn" value="ATE1" />
    <setting name="cmdPDUMode" value="AT+CMGF=0" />
    <setting name="cmdTermination" value="\r\nOK" />
    <setting name="lineTermination" value="\r\n" />
    <setting name="messageHeader" value="\r\n+CMGL:" />
    <setting name="cmdError" value="ERROR" />
    <setting name="cmdTextMode" value="AT+CMGF=1" />
    <setting name="cmdReadAllMessages" value="AT+CMGL=4" />
    <setting name="cmdServiceCentre" value="AT+CSCA=X" />
    <setting name="cmdlncomingSMS" value="AT+CNMI=1,0,0,0" />
    <setting name="cmdSignalStrength" value="AT+CSQ" />
    <setting name="cmdMsgDelete" value="AT+CMGD=X" />
    <setting name="cmdMsgSend" value="AT+CMGS=X" />
    <setting name="cmdMemorySelect" value="AT+CPMS=SM, SM, SM" />
    <setting name="cmdServiceCentreNumber" value="+44973100973" />
 </section>
 /configuration>
```

The configuration file is located in the ABB gateway directory chosen during installation. The majority of default options are specific to the modem used. Default settings are defined for a TC35 modem. These settings require change only if a different modem is used.

Assuming the TC35 is used, two items that may require change are the SIM provider service centre address (SMSC) and the communication port number of the connected modem.

1.5.2 Changing the Configuration

To change the configuration:

1. Open the 'ABBGateway.xml' file with a text editor and change the 'portName' and 'cmdServiceCentreNumber' value to the correct setting.

The SIM provider is able to provide the latest SMSC address for a SIM. The communications port can be tested by using Windows HyperTerminal to ensure the modem is communicating correctly on that port number.

If this test is successful, use the communication port number for the configuration file.

Note. Future releases of the gateway contain a configuration tool for editing this file.

2. After the configuration is complete the gateway can be started.

Start the service (A) by rebooting the PC or starting the service manually from the Windows 'Services' dialog:

| 🍇 Services | | | | _ | |
|------------------|---|-----------------------|--------------|---------|----|
| File Action View | Help | | | | |
| | 3 2 → → = = = → | | | | |
| Services (Local) | Services (Local) | | | | |
| | Select an item to view its description. | Name 🛆 | Description | Status | |
| | | 🇠 .NET Runtime Optim | Microsoft | | |
| | | 🆏 ABB Gateway | | | _ |
| | | 🎭 Alerter | Notifies sel | | |
| | | 🆓 Application Layer G | Provides s | Started | |
| | | 🆓 Application Manage | Provides s | | |
| | | 🆓 ASP NET State Serv | Provides s | | |
| | | 🎨 Ati HotKey Poller | | Started | |
| | | 🆏 Automatic Updates | Enables th | Started | |
| | | 🎭 Background Intellig | Transfers | Started | |
| | | Bluetooth Support S | | Started | |
| | | 🆓 Bytemobile Web Co | Configures | Started | |
| | | 🆓 Cisco Systems, Inc | | Started | |
| | | 🎭 ClipBook | Enables Cli | | |
| | | 🆏 COM+ Event System | Supports S | Started | |
| | | 🗞 COM+ System Appli | Manages t | Started | - |
| | | 4 - · · · | | | ЪĒ |
| | Extended Standard | | | | |
| 1 | (Extended // Etanderd / | | | | |

1.5.3 Changing the Gateway Event Log Settings

The ABB Gateway logs events into the Gateway event log. The ABB Gateway service creates two events during startup with descriptions 'Gateway started successfully' and 'Httpserver started successfully'. The Gateway event log is created the first time ABB Gateway service writes the events during start-up.

The following settings configure the gateway event log to ensure events can be overwritten as needed and the latest event can be added to the log.

1. Open the 'Event Viewer' from 'Administrative Tools'.

| 😽 Event | Viewer | | | | | | |
|-------------------------------|------------------|-------|-------------------|--------------|----------|------------|------|
| File Ac | tion View Help | | | | | | |
| $\Leftrightarrow \Rightarrow$ | 🗈 📧 🖻 🖻 🖻 | - 6 | ? 💵 | | | | |
| Event | Viewer (Local) | 1 | Gateway 1,28 | 6 event(s) | | | |
| A | Save Log File As | | Туре | Date | Time | Source | Ca ▲ |
| | New Log View | | Information | 18/03/2009 | 10:52:56 | GsmGateway | Nc |
| - 🕅 🖥 | Clear all Events | | | 18/03/2009 | 10:52:50 | GsmGateway | Nc |
| - B Ir | | | Information | 18/03/2009 | 10:52:44 | GsmGateway | Nc + |
| - 🛄 Li | View | | 1 | 10 100 10000 | 10 50 00 | ~ ~ ` | ř, |
| , Opens the | Rename | e | urrent selection. | | | | |
| | Refresh | E | | | , | | |
| | Export List | | | | | | |
| | Properties | | | | | | |
| | Help | | | | | | |

 Right-click the 'Gateway' log and select 'Properties'. The 'Gateway Properties' dialog is displayed.

| Gateway Propertie | es 📕 | ? × |
|------------------------------|--|-----|
| General Filter | | _ |
| Display name: | Gateway | |
| Log name: | C:\WINDOWS\System32\config\Gateway.evt | - |
| Size: | 512.0 KB (524,288 bytes) | |
| Created: | 03 July 2007 15:39:35 | |
| Modified: | 11 March 2009 08:37:44 | |
| Accessed: | 11 March 2009 08:37:44 | |
| Log size | | |
| Maximum log s | ize: 512 💉 KB | |
| When maximum | m log size is reached: | |
| Overwrite a | events as needed | |
| O Overwrite e | events older than 🛛 📮 days | |
| C Do not ove (clear log n | erwrite events nanually) Restore Defaults | |
| Using a low-sp | beed connection Clear Log | |
| | OK Cancel Apply | |

 Set 'Maximum log size' to '512' Kb and select the 'Overwrite events as needed' radio button. Click 'OK' to complete the log file configuration changes.

1.6 Installing the GPA Gateway

To install the GPA gateway, follow the GPA gateway installation instructions provided by GPA.

1.6.1 Configuring the GPA Gateway

The following sections must be configured in the GPA gateway to ensure it works with the ABB SMS Logger Server system.

Access these communication and HTTP settings as follows:

1. Select the GPA gateway 'Settings/HTTP Setting' menu (A):



The GPA gateway 'HTTP Setting' dialog is displayed (B):

| Host / Port 127.0.0.1 0000 Message Submission Allow XML POST submission Allowed IP Addresses Blocked IP Addresses Allowed IP Addresses H H H H H H H H H H H H H |
|---|
| Message Submission Allow XML POST submission Allow XML POST submission Allowed IP Addresses Blocked IP Addresses Blocked IP Addresses Allowed IP Addresses Blocked IP Addresses Allowed IP Addresses Blocked IP Addresses Allowed IP Addresses Blocked IP Addresses |
| Message Reception Enable XML POST forwarding Image: State of the state of t |
| Enable XML POST forwarding Interval 5 (Secs/ Timeout 5 (Secs/ URL http://localhost.80/LoggerServer/GatewayHttpHandler.aspx |
| URL http://localhost:80/LoggerServer/GatewayHttpHandler.aspx |
| |
| User ID Password |

2. Select the gateway 'Communication Setting dialog \bigcirc :

| Communications Port | Service Centre Address |
|---|---|
| COM Port Number 1 | ✓ Include in TPDU |
| Speed C 2400 C 14400 C 56000 | +44973100973 |
| C 4800 @ 19200 C 57600 C 9600 C 38400 C 115200 | Network Interface Type ETSI PDU Mode Settings |
| Flow Control NONE | C ETSI 07.05 Block Mode PIN Code New message indication mode |
| Retransmission attempts 3 | © ETSI 07.05 PDU Mode (mt) (ds) (ds) (ds) (ds) (ds) (ds) (ds) (ds |
| Timeout (Seconds) 45 Transmit pacing (Seconds) 0 | ETSI Block Mode Settings Enter Block Mode Command SM SM SM |
| Interface Initialization strings | Check Received Signal 20 |
| #1 Z | Auto Connect to Mobile Terminal |
| #2 E0 | Auto Reconnect on loss of DSR |
| #3 | Auto Reconnect on loss of CD |

1.6.2 Testing the GPA Gateway

Test the logger server by sending a test registration message through the system.

The test message dialog is initiated through the GPA gateway menu (A).

To test the GPA gateway:

1. Select 'Help/Send Test Message' (A).

| | 🔡 s | MS_GA~ | 1.EXE | | |
|----|--------------------|--------------------|------------------|-----------------|--------|
| | File | Settings | Mode | Help | |
| Â) | | <u></u> | | About | Ctrl+A |
| | | Mobile Terminal In | formation | | |
| | Message Send Queue | | Send Test Messar | | |
| | 9 | itatus | tp-opt | Sond resemessay | |
| | | | | | |

| The 'Send Message' dialog (| B |) is displayed: |
|-----------------------------|---|-----------------|
|-----------------------------|---|-----------------|

| , | Send Message |
|----|--|
| ₿ | Destination(s) +0000000000 Loop |
| D | Message [67] |
| ©- | AquaMaster;TestMeter; DIB; SUP=7; BOR=15; PHO=0; CC=TestLocation; |
| E | |
| E | |
| | Send 🚡 Cancel |

2. Click 'Loop' (C). This adds '+00000000000' into the destination text field (D).

Note. If a test message is sent with the number '+000000000000', the gateway sends the message via the HTTP interface to the logger server rather than to the modem for transmission. This enables a loopback test to be performed to test the system.

- 3. Enter the registration message for meter 'TestMeter' as shown in the message text field (E).
- 4. Click 'Send' (F).
 - The meter 'TestMeter' is registered in the logger server.
 - The TestMeter record is also listed in the database 'FlowMeters' table.
- 5. After following the procedure above for sending a test message, check the logger server send and receive logs.

The send log should contain a DAK message attempting to respond to the DIB registration request.

Note. If there is a problem with any of these, steps, refer to Troubleshooting – see Section 3, page 36.

2 Configuring the AquaMaster for SMS using WAJC0041

When configuring an Aquamaster, ensure the flowmeter is renamed from the default underscore value '_'. The meter name *MUST* be greater than 4 characters and *CANNOT* contain any underscores '_'.

ABB recommend the customer uses a meter naming convention such that the meter name is unique to its installed location to ensure that the meter name does not change in the future.

It is possible to change a meter name but the meter **must** then be re-registered with the Logger Server **before** any new data is recorded in the SQL database. This ensures that all data before the name change is still referenced under the old name in the SQL database and new data post re-registration is recorded under the new meter name.

The AquaMaster GSM/SMS flow meter is supplied with the main parameters set. The steps below show the basic configuration necessary to setup and configure the AquaMaster to send SMS messages to a dedicated modem connection system.

Note. This software is used in association with the Quick Reference Guide IM/AMG/QRG.

2.1 General Setup

To perform a general setup:

- 1. Run the software and select the communication port.
- 2. Click 'Upload' to upload the configuration settings currently stored in the AquaMaster.
- Check that the software version =>2v41. If the software version is incorrect, contact the Factory technical support for upgrade software.



4. Click the 'General' tab (A).

This screen identifies Factory (default) settings and user-configurable options:

Note. For user-configurable instructions refer to the Quick Reference Guide $\ensuremath{\mathsf{IM}}\xspace/\mathsf{QRG}.$

2.2 GSM Prerequisites

Populate the following fields to ensure the system returns messages that are not 'blacklisted' by the logger server software.

| Note. The internal loggers are preset by the Factory. | | | |
|---|--|--|--|
| | | | |
| >166=900 | Low resolution logger used for GSM (15 minute reporting, sends 1 report a day for flow, pressure). | | |
| >168=60 | High resolution logger (1 minute reporting, sends 15 reports a day). | | |

The GSM has a separate 'Download GSM Config' button (A) – clicking this downloads only the information on the GSM tab page.



Note. If changes are made to the 'General' tab, they can be downloaded by selecting the download button. This downloads all parameters indicated on the General/GSM/GSM Menu 12, GSM Menu 13).

2.3 GSM Status and Periodic Wakeup Time

The 'Upload Status' button (A) displays default GSM settings from the network the AquaMaster is connected to (via the inserted SIM card).

To update GSM status and download 'Wakeup' settings:

- 1. Click 'Upload Status' (A) to update of the status of the GSM engine and network activity as a continuous routine.
- To download the wakeup settings and manually initiate SMS logger report(s) to the selected modern number, insert '1' in the 'Manual GSM Selection' field (B).



2.4 SMS Reporting Setup Menu

This menu is user-configurable.

- 1. Populate all fields with the appropriate selection.
- 2. The following screen shows a general setting for standard use. Numbers (A) in brackets (#) indicate the numeric value that could be entered.

| SMS Services | Text Auto Reports | Totaliser Auto Reports | Alarm Auto Reports | | | |
|--|--|--|--|--|--|--|
| Auto Report Phone No. 1 (362) (0) 07712345677 | (1) Phone 2 | Destination [Totaliser] (400) (0) Phone 1 | Destination [Alarm] (401) (2) Phone 3 | | | |
| Auto Report Phone No. 2 (382) | Text Report Schedule (361) (5) Weekly | Totaliser Report Schedule (399) (1) Dafy | Alarm Reports Enabled (402) (1) YES | | | |
| Auto Report Phone No. 3 (391) (2) 07712345679 | Command String (363) FLW;TOF;ALM | | | | | |
| Flow / Pressure | Flow / Pressure Log | | | | | |
| Destination [F/P] (395) (0) Phone 1 | Pressure Report Schedule (389) 0) Off | | | | | |
| Flow Report Schedule (388) (4) Daily | Pressure Report Units (386) (0) Bar | Download SMS Config | | | | |
| Flow Report Units (385) (3) m^3/h | | | | | | |
| | | | | | | |

Note. All selections above are shown in the Quick Reference Guide IM/AMG/QRG.

3 Troubleshooting

Note. Error messages are triggered by licence issues and HTTP Handlers errors.

| Problem | Comment & Resolution |
|-------------------|---|
| Licence Issue (A) | Comment This error is displayed because the ABB SMS Logger Server cannot find a valid USB dongle licence. ABB SMS Logger Server Licence Key S Error 7: USB Licence Key not found. OK Besolution |
| | Ensure a valid USB dongle is connected to the machine. If a valid USB dongle is not available, contact an ABB sales representative. |

Field and Software Tools AquaMaster SMS Logger

| Problem | Comment & Resolution | | |
|------------------------------------|---|--|--|
| HTTP Handler Creation Error (B) | Comment This error can occur on initial launch of the ABB SMS Logger Server application. | | |
| | B Http Handlers Creation Error K K K K K K K K K K K K K K K K K | | |
| | Checking for Meter Database connectivity | | |
| | Resolution | | |
| | Ensure the prerequisite components (IIS and ASP.NET) are installed – see Section 1.3.1, page 15. | | |
| | If the prerequisite items are installed correctly, follow the steps below to initialize the .Net runtime. | | |
| | a. Open a command prompt (Start/Run/cmd). | | |
| | b. Type 'c:' then press <enter>.</enter> | | |
| | c. Type 'cd\Windows\Microsoft.NET\Framework\v1.1.4322' (note some windows installations use WINNT directory instead of Windows) then press <enter>.</enter> | | |
| | d. Type 'aspnet_regiis -i' then press <enter>.</enter> | | |
| | e. Type 'iisreset' then press <enter>.</enter> | | |
| Logger server doesn't_ | Comment | | |
| show decimal place C | If the data values displayed in SMS Logger Server are much larger than expected, the logger server may have a regional settings configuration problem, preventing the Logger Server from displaying returned flow values with a decimal point. Example: | | |
| | Totalizer value of 12.0000 l/s displayed as 120000 l/s | | |
| | Resolution | | |
| | Ensure the regional settings are configured correctly – see Section 1.2.5, page 14. | | |

Appendix A Menu Commands, Passwords and Message Types

A.1 AquaMaster Menu Commands

| Action | Command |
|---|---------------------------------|
| Scroll through menus | ТАВ |
| Scroll through menu items one at a time | ENTER |
| Scroll through all items in a menu | М |
| Change a menu item | SPACE |
| Go to a menu | Type menu number then click TAB |
| View a specific item value | >item ENTER |
| Change a specific item value | >item=value ENTER |

A.2 AquaMaster Password Levels

| Level | Password |
|-------------------------|----------|
| 2 (menu 1-7) | setup |
| 4 (menu 1-13) | am2k |
| 5 (ABB internal access) | - |
| 7 (ABB internal access) | - |

A.3 AquaMaster Message Types

| Message Header | Description |
|----------------|-------------------|
| 00 | Flow message |
| 01 | Pressure message |
| 02 | Totalizer message |

PRODUCTS & CUSTOMER SUPPORT

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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.

United Kingdom

ABB Limited Tel: +44 (0)1453 826661 Fax: +44 (0)1453 829671

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.
- Copies of all storage, installation, operating and maintenance records relating to the alleged faulty unit.

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