MyRemoteCare
Operation Manual
Copyright

This document and parts thereof must not be reproduced or copied without written permission from ABB, and the contents thereof must not be imparted to a third party, nor used for any unauthorized purpose.

The software or hardware described in this document is furnished under a license and may be used, copied, or disclosed only in accordance with the terms of such license.

Trademarks

ABB and Relion are registered trademarks of ABB Group. All other brand or product names mentioned in this document may be trademarks or registered trademarks of their respective holders.

Warranty

Please inquire about the terms of warranty from your nearest ABB representative.

ABB SPA
PPMV Service
IT-24044 Dalmine, Italy
Telephone: +39 035 695 2600
Facsimile: +39 035 695 2792
Disclaimer

The data, examples and diagrams in this manual are included solely for the concept or product description and are not to be deemed as a statement of guaranteed properties. All persons responsible for applying the equipment addressed in this manual must satisfy themselves that each intended application is suitable and acceptable, including that any applicable safety or other operational requirements are complied with. In particular, any risks in applications where a system failure and/or product failure would create a risk for harm to property or persons (including but not limited to personal injuries or death) shall be the sole responsibility of the person or entity applying the equipment, and those so responsible are hereby requested to ensure that all measures are taken to exclude or mitigate such risks.

This document has been carefully checked by ABB but deviations cannot be completely ruled out. In case any errors are detected, the reader is kindly requested to notify the manufacturer. Other than under explicit contractual commitments, in no event shall ABB be responsible or liable for any loss or damage resulting from the use of this manual or the application of the equipment.
# Table of contents

1. Introduction ........................................................................................................................................ 3  
   Intended audience .......................................................................................................................... 3  
   Product documentation set ........................................................................................................... 3  
   Revision history ............................................................................................................................ 4  
   Related documentation .................................................................................................................. 4  
   Symbols ......................................................................................................................................... 5  

2. MyRemoteCare overview .................................................................................................................. 7  
   Overview ....................................................................................................................................... 7  
   Data collection platform ................................................................................................................. 8  
   Web-based Access .......................................................................................................................... 9  
   Data security and privacy .............................................................................................................. 10  

3. Using the Web HMI ......................................................................................................................... 11  
   MyRemoteCare web portal ............................................................................................................ 11  
   MyRemoteCare client ..................................................................................................................... 11  
   Logging in ..................................................................................................................................... 12  
   Main Page .................................................................................................................................... 12  
   Logging out ................................................................................................................................... 13  

4. Operating procedures ..................................................................................................................... 15  
   Monitor plant equipments ............................................................................................................ 15  
   Plants tree .................................................................................................................................... 16  
   Plant Details ................................................................................................................................. 18  
   Plant: Breaker Status ..................................................................................................................... 21  
   Event handling ............................................................................................................................. 23  
   Maintenance handling ................................................................................................................... 25  

5. Archives ......................................................................................................................................... 27  
   Diagnostics Archive ....................................................................................................................... 27  
   Events Archive ............................................................................................................................. 28  
   System Events Archive ................................................................................................................ 30  
   Maintenance Request Archive ..................................................................................................... 31  
   Configurations Archive ............................................................................................................... 33  
   Concentrator Configuration Archive ......................................................................................... 35
6. GUI Client settings ........................................................................................................... 37
   Page layout ......................................................................................................................... 37
   Password ............................................................................................................................. 38

7. MyRemoteCare Client Html5 .......................................................................................... 39
   Logging in ........................................................................................................................... 39
   Main Page ........................................................................................................................... 40
   Logging out .......................................................................................................................... 40
   Language Settings ............................................................................................................. 40

8. Operating procedures ....................................................................................................... 41
   Monitor plant equipments ................................................................................................. 41
   Plants tree ......................................................................................................................... 43
   Plant Details ....................................................................................................................... 45
   Plant: Breaker Status .......................................................................................................... 47
   Charts ................................................................................................................................. 53
   Event handling .................................................................................................................... 56
   Service Tasks handling ....................................................................................................... 59
   Asset List ............................................................................................................................ 61

9. Archives ........................................................................................................................... 62
   Remote connection messages Archive ............................................................................... 62
   Events Archive .................................................................................................................... 62
   Service Tasks Archive ........................................................................................................ 63
   Service System Messages Archive ...................................................................................... 63
   Measure Archive ............................................................................................................... 63

10. Troubleshooting ............................................................................................................... 65
    MyRemoteCare connection problems ............................................................................... 65

11. System Requirements ..................................................................................................... 66
    Hardware requirements ....................................................................................................... 66
    Supported operating systems ............................................................................................ 66
    Required software and libraries ......................................................................................... 66
    Java web start technology overview .................................................................................. 66

12. Glossary ............................................................................................................................ 68
1. Introduction

The operation manual contains instructions on how to operate MyRemoteCare software platform (later called only MyRemoteCare), once the system is installed, and once the plants under monitoring have been commissioned. The manual provides instructions for monitoring connected plants using MyRemoteCare.

Intended audience

This manual addresses the operator (service personnel) who operates with MyRemoteCare.

The operator must be trained in and have a basic knowledge of how to operate the MyRemoteCare diagnostic system. The manual contains terms and expressions commonly used to describe this kind of equipment.

Product documentation set

![Diagram of manual use in different lifecycles]

*Figure 1: The intended use of manuals in different lifecycles*

The Installation manual contains instructions on how to install MyRemoteCare system. The manual provides procedures for software installation for ABB personnel only. The chapters are organized in chronological order in which the software should be installed.
The Operation manual contains instructions on how to operate MyRemoteCare portal once it has been commissioned. The manual provides instructions for monitoring the plants, and setting on the software. The manual also describes how to identify errors or problems to determine the cause of a fault.

The Administration manual contains instructions on how to service and maintain the software platform. It contains all the application and functionality descriptions.

The Technical manual contains all the functional and implementation details of MyRemoteCare platform.

Some of the manuals are not available yet.

Revision history

<table>
<thead>
<tr>
<th>Document revision/date</th>
<th>Product series version</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-06-30</td>
<td>1.0</td>
<td>First release</td>
</tr>
<tr>
<td>2014-03-15</td>
<td>1.0</td>
<td>Update functionalities</td>
</tr>
</tbody>
</table>

Download the latest documents from the ABB web site

Related documentation

Product series- and product specific manuals can be downloaded from the ABB web site.
Symbols

- The electrical warning icon indicates the presence of a hazard which could result in electrical shock.

- The warning icon indicates the presence of a hazard which could result in personal injury.

- The caution icon indicates important information or warning related to the concept discussed in the text. It might indicate the presence of a hazard which could result in corruption of software or damage to equipment or property.

- The information icon alerts the reader of important facts and conditions.

- The tip icon indicates advice on, for example, how to design your project or how to use a certain function.

Although warning hazards are related to personal injury, it is necessary to understand that under certain operational conditions, operation of damaged equipment may result in degraded process performance leading to personal injury or death. Therefore, comply fully with all warning and caution notices.
2. MyRemoteCare overview

Overview

ABB proposes a condition-based maintenance approach by the on-line equipment monitoring. The infrastructure is dedicated to this task and decoupled from any control system.

The relevant ABB specialists take care of the equipment:

- Monitoring on-line the real condition
- Managing and evaluating wear and performance level
- Defining the proper maintenance at the right time based on the analysis of operating parameters trends

ABB MyRemoteCare solution therefore brings many advantages:

- Reduce operational costs optimizing maintenance, scheduled only when needed
- Reduce downtime and increase production
- Reduce failure risk by the generation of warning messages at early stage
- Increase plant availability, reliability and safety
- Professional operation maintenance assistance

ABB MyRemoteCare solution allows a worldwide remote monitoring of your equipments. The remote connection is guaranteed by mobile network connections, which shall be present on the plant.

Every connected plant has its own MyRemoteCare Gateway already provided with a Private SIM card, which guarantees a secure connection to the ABB Data Center (Remote Service Centre).

ABB considers carefully all the cyber security details securing the communication channel between plants and server.
Data collection platform

MyRemoteCare system is based on a modular, flexible, scalable, and high-availability data-collection architecture.

A data-collection architecture is composed by remote nodes which push data to a database, on schedule or event. This concept, in a WAN scope with IP-based connection, simplifies a lot the infrastructure, bandwidth needs, and improves the scalability.

Every component of the architecture is an independent module able to survive in case of failure of other modules, without losing data. After a restore, the data synchronize automatically.

Looking at Figure 2, each MyRemoteCare gateway monitors its plant (or part of it), pushing to MyRemoteCare servers relevant data and events.

MyRemoteCare server stores the historical data into a database for further analysis. Moreover it is able to react in case of special events. The plant information stored can be seen by authorized ABB service personnel in charge of it, and by the customer server responsible.
The ABB MyRemoteCare service center is composed of many servers designed in a multi-tiered and modular architecture, in order to improve the total availability of the system, and avoid as much as possible data-loss. The service center architecture is easily and fully scalable in order to follow the plants under monitoring.

**Web-based Access**

MyRemoteCare is a web-based application, therefore in order to use it, is required an internet connection. This technology, against a standalone application brings many advantages:

- No installation and updating on his PC
- Access from everywhere with internet connection (even with other PC)
- Data is stored and secured in the ABB data center
- Cross-platform compatibility (and ready for mobile application)

Moreover, as described later the web-based application is based on Java technology, which enhances a better user experience.
Data security and privacy

MyRemoteCare infrastructure has been designed to secure completely the data flow between plants and ABB service center, using the state-of-the-art of ICT (Information and Communication Technology) market.

The user’s access to the data on the server is restricted by authorization levels, and the connection is secured and encrypted (SSL technology). Therefore, the data is strictly visible on to authorized personnel.

ABB does not collect and store any information about energy production or consumption. MyRemoteCare system tracks only the life of certain equipments applying predictive-maintenance algorithms.
3. Using the Web HMI

MyRemoteCare web portal

MyRemoteCare is accessible starting from ABB web page (search “MyRemoteCare” or browse the Service solutions).

Figure 3: MyRemoteCare web page (example)

Click the link in order to launch the MyRemoteCare client. It is a Java client.

MyRemoteCare client

Using Java Web Start technology, standalone Java software applications can be deployed with a single click over the network. Java Web Start ensures the most current version of the application will be deployed, as well as the correct version of the Java Runtime Environment (JRE).

MyRemoteCare client runs everywhere, and automatically check and apply updates, since it is a web application. Since it runs as an application on the PC, it provides a full-user experience.
Logging in

Once the first installation procedure ends MyRemoteCare application can be launched using the icon on the desktop.

A login mask will show up asking for “User ID” and “Password”.

Pushing the confirmation button the system authenticates the user.

In case of successful authentication MyRemoteCare displays his main window interface otherwise (wrong User ID or Password or both cases) a failure pop-up will show up.

![Login page](image)

*Figure 4 Login page*

Main Page

Once the user is connected to the system, a main page is shown. From this page is possible to monitor plants, events, maintenance activities, and historical information.
Logging out

In order to logout and close the session, there are several options:

- Click on [Logout] button, after a confirmation dialog a new login is requested
- Click on [EXIT] button, after a confirmation dialog, the client closes.
- Click on [ ] button, after a confirmation dialog, the client closes.
4. Operating procedures

This chapter describes all the functions available for the operator on MyRemoteCare client.

Monitor plant equipments

Main page is composed of the following areas:

- Main menu: composed of buttons, it collects the available functions
- Plant summary: brief indication on alarms/events, plant connected, and equipments alive
- Plants tree view: to browse the plants and plant equipments
- Events Manager: events and alarms views
- Maintenance Manager: planned maintenance activities
- GIS: geographical representation of plant status and localization
- Diagnostic Manager: system and equipments information

Figure 6: Main page, areas description
Based on user access rights some menus and functionality might be disabled or hidden. Please contact the system administrator or your responsible person in case of further questions.

Plants tree

The plants are organized in the following geographical structure:

- Countries
  - Clients (e.g. customer/company name)
    - Plants (e.g. Site name)
    - Substations (e.g. identification number of the substation, distribution unit into the plant)

According to international standard (see IEC 61850) a substation or distribution unit is composed of different bays (functions). Each bay might have functions related to high, medium or low voltage equipments (breakers), and transformer units.

Each equipment node has an associated symbol representing the type and the communication state toward MyRemoteCare system.
The equipment communication state is represented with one of the following icons:

- The communication with equipment is established.
- The communication with the equipment cannot be established: status “Out of Order” or “Induced Out of Order”.
- The communication with a subset of equipment nodes cannot be established: status “Anomaly”.

If none of these symbols appear on the node it represents that the Gateway collecting and pushing data to the MyRemoteCare system is not able to connect at all.

Equipments, on the other hand, can be represented with following symbols:

- : means that the communication has been established
- : means the communication cannot be established

Moreover next to each node two boxes containing a counter can be shown. The first box contains the critical events count associated to the node and its children. The second box, instead, contains the sum of all warning events associated to the node and its children.

Finally the symbol underlines a node where there are not yet acknowledged events associated to the specific node or its children.
The Gateway status is updated every 4 hours; in case of missed communication, MyRemoteCare system sets it out of order ( ), thus meaning that if the communication is established again in the meanwhile, the status will be updated to functioning ( ) when the next check is performed (i.e. after 4 hours since the last check).

**Plant Details**

Double clicking on a tree node (or right clicking on the node and choosing “Details” form menu) the plant details will appear.

![Plant details window](Figure 9: Plant details window)

The tree on the left represents the plant or substation structure:

- The plant structure shows the underlying substations.
- The substation structure shows also the connected Gateways

The rest of the page shows the properties of the selected node, and the live data (status, events, maintenance activities, etc).
The properties of a plant are the following:

- Name
- Id: it is a unique identifier of the plant.
- Localization (latitude and longitude)
- Note
- Contract

Selecting a gateway device, the following information is shown:

![Gateway information](image)

*Figure 10: Gateway information*

Each gateway has some additional properties:

- IP Address: LAN address
- WAN IP Address: it is the second router IP network. It can be the mobile network IP address
- Signal Level: mobile network signal, between 1 to 31
- Up Time

On the bottom part of the page, the following tabs are shown:

- Events came from the selected equipment.
- The second tab will show all event active now associated with the selected equipment.
- The third tab will show all the Maintenance Request associated with the selected equipment.
A circuit breaker has the following properties:

- Brand
- Model
- Last update time
- Address (ipaddress or modbus slave id)
- Year

Next to the properties there will be a switch image.

On the bottom a tab based mask will be shown.
Plant: Breaker Status

This tab shows a chart representing the switch status based on the last measures read from the field. Moreover each variable is associated with a LED, which shows its state (Alarm/Warning/normal).

![Breaker status information](image)

Figure 12: Breaker status information

At the end a semaphore displays the global switch state.
Plant: Monitored variables

This tab shows all the monitored variables for the specific breaker.

Figure 13: Breaker detailed status information

For each of these variables the system must provide a slider, showing the alarm threshold as in figure:

The plant-monitored variables can be seen only by ABB granted service personnel only.
Event handling

MyRemoteCare server identifies every event that comes from the field. All of these data will be collected and stored inside the remote server.

The events are showed in the main client page as table records.

![Figure 14: Plant, events view](image)

Each of these events must be verified by an operator that can decide how to handle the information.

![Figure 15: Events, active events and acknowledge](image)

The incoming events could turn on or off the alarm status of each device. MyRemoteCare system calls the event which represents an alarm status “Active events”. User must
acknowledge all the events. From the “Active events” tab it is possible to see only the events which represents still existing alarms on the device (both acknowledged or not).

Double clicking on a row will show the event details.

Figure 16: Plant, event detail

Some users might not be able to see all the event details due to access rights restrictions.

Each event could be associated to a maintenance request. This is not mandatory and it is up the ABB maintenance responsible person to create a maintenance activity based on the event.

Acknowledge events and create maintenance task can be performed only by ABB granted service personnel only.
**Maintenance handling**

A Maintenance Request identifies a situation that has to be handled in the future. A request is generated from an operator in order to face a problem that comes from the field as an event.

MyRemoteCare allows generating maintenance request in two modes: starting from an event, or directly simply, using the “Maintenance” menu, selecting “New Maintenance Request”.

A maintenance request can have the following statuses: OPEN or CLOSE. When created, the maintenance task can be assigned to a severity: CRITICAL, MEDIUM or LOW. This affects the color of the maintenance on the main page (red, yellow, green).

In order to close the maintenance task, it is possible to use the “acknowledge” button.

![Maintenance Request dialog](image)

**Figure 17: Maintenance request dialog**

Maintenance Request Properties:

- Type (mandatory):
  - Time based maintenance (has not and associated severity)
  - Condition based maintenance (has an associated severity)
- Generic (has an associated severity)
  - Severity (mandatory)
  - Open Date and Time (mandatory).
  - Expiration Date and Time: it is the last date to perform the maintenance task (mandatory).
  - Maintenance Request Type: Condition maintenance, Generic maintenance, Time-based maintenance
  - Description
  - Country, Customer, Plant, Substation, Equipment (mandatory)
  - Maintenance Activities: into the system there is a list of preconfigured activities, but also a manual insertion is available. Each Action has the following properties: Description, Note and a flag (executed or not). When all actions will be executed the Maintenance Request will be closed automatically by the system.
  - Personnel in charge
  - Notes

An overview of the maintenance requests can be access using the Maintenance Request table on the client. This table shows just the maintenance request that will expire in the next 30 days.

![Maintenance Request Table](image)

*Figure 18: Maintenance request table*

Double clicking on a row the Maintenance request details will appear.
5. Archives

Diagnostics Archive

Pushing <Archives> on toolbar, select “Diagnostics Archive” from pop-up menu to display “Archive Diagnostics” window.

![Diagnostics Archive Window](image)

*Figure 19 Diagnostic Archive window*

Use the “Search Filters” to find specific diagnostics information. On each diagnostic item, it is possible to <View> its “Details Diagnostics” window.
Events Archive

Push <Archives> on toolbar and select “Events Archive” option from pop-up menu to display “Events Archive” window.
Use the “Search Filters” to find specific events information. On each event item, it is possible to <View> its “Event Detail” window.

Figure 22 Event Archive detail
System Events Archive

Push <Archives> in toolbar and select “System Events Archive” option from pop-up menu to display “Events Archive System” window.

![System Event archive window](image)

*Figure 23 System Event archive window*

Use the “Search Filters” to find specific events information. On each event item, it is possible to <View> its “System Event Detail” window.

![System Event Details](image)

*Figure 24 System Event archive detail*
Maintenance Request Archive

Push <Archives> on toolbar and select “Maintenance Request Archive” option from pop-up menu to display “Maintenance Request Archive” window.

![Maintenance Request Archive Window](image)

*Figure 25 Maintenance request archive window*

Use the “Search Filters” to find specific events information. On each event item, it is possible to <View> its “Archived Event Details Maintenance Request” window.
Figure 26 Maintenance request detail
**Configurations Archive**

The configuration archive keeps track of any change on any item into the system.

Push `<Archives>` on toolbar and select “Configuration Archive” option from pop-up menu to display “Archive Configuration Objects” window.

![Configuration archive window](image)

*Figure 27 Configuration archive window*

Use the “Search Filters” to find specific events information. On each event item, it is possible to `<View>` its “Configuration Details” window.
Figure 28 Configuration detail

The Changes list shows the properties/parameters of the selected object and highlights which changes have been applied, and who did the change.
Concentrator Configuration Archive

This archive collects configuration changes on the concentrator (also called gateway).

Push <Archives> on toolbar and select “Concentrator Configuration Archive” option from pop-up menu to display “Archive Configuration Objects” window.

![Concentrator configuration archive window](image)

*Figure 29 Concentrator configuration archive window*

Use the “Search Filters” to find specific events information. On each event item, it is possible to <View> its “Configuration Details” window.
The window shows the main info of the concentrator and the list of devices connected and configured. The address field of each device could be an IP address or the serial bus address.

The “Active” flag is checked when the shown configuration is the last and active one. It means that it is possible to update the concentrator configuration and the configurations are always tracked by MyRemoteCare system.

The “Valid” flag is checked whenever the user enables and validates the actual configuration.

All the “Active” configurations are also “Valid”. Therefore a configuration which is not yet validated cannot be the active one.
6. GUI Client settings

Page layout

MyRemoteCare client allows main window layout customization. In order to configure a custom layout follow these instructions:

- Open the main client window.
- Drag&Drop the tabs in order to reach the desired layout.
- Save the layout in one of the three layout pre-sets allowed using the top menu <Layout>.

Move the panels according to your needs and on you monitor settings.

Click on the arrow button on each panel, it is possible to detach the panel into an independent window. For instance, in a dual monitor setup it is possible to move into a second monitor the GIS window or the event window.

![Client layout example 1](image)

Figure 31: Client layout example 1
Password

In order to change password select the “Change password” on the main client menu “Members”.

Enter the old password and the new one (two times). Press <Confirm> button.
7. MyRemoteCare Client Html5

Logging in

A login mask will show up asking for “User ID” and “Password”.

Pushing the confirmation button the system authenticates the user.

In case of successful authentication MyRemoteCare displays his main window interface otherwise (wrong User ID or Password or both cases) a failure message (“Wrong Username or Password”) will show up.

Figure 334: Login page
Main Page

Once the user is connected to the system, a main page is shown.

This page shows the Plant tree-view to monitor plants, the **Dashboard**, which is the main tab, and other three tabs (**Event Manager**, **Service Tasks** and **Asset List**).

![Figure 335: MyRemoteCare client, main page](image)

The Dashboard gives summary information about active events, planned services, gateways and assets online. It contains also the GIS.

On the left of the Plants tree-view there is a Toolbar with three icons. These icons represent:

- **Archives**,
- **Settings**, and
- **Information**.

Logging out

In order to logout and close the session, click on **Logout** button.

Language Settings

In order to change Language, click on **Settings** icon and choose “Language Settings”. A new window shows up with a combo in order to choose the required language.
8. Operating procedures

This chapter describes all the functions available for the operator on MyRemoteCare client.

Monitor plant equipments

Main page is composed of the following areas:

- Plants tree view: to browse the plants and plant equipment
- Dashboard Tab:
  - Pie-Chart: to represent Assets online (red is alarmed, yellow is warned, green is without alarm or warning) and Assets offline (grey).
  - 7 Stacked-Chart: to represents the monthly trend of Assets.
  - 4 Counters: brief indication on active events, planned services, gateways online and assets online.
  - GIS: geographical representation of plant status and localization.
    - GIS functionalities:
- clicking on the gear icon in the upper left corner of the GIS will show the search box and available cartographies combo:

- write a search string with reference to plant names: if a plant has that name or its name contains the search string, the map will be centered on it

- select a cartography from the list to change the map visualization

- click on the save icon to save either the selected cartography, the current position or both (on next login the map will be shown accordingly to the last save)

- Other tabs:
  - Events Manager: events and alarms views
  - Service Tasks: planned maintenance activities
  - Asset List: assets view
Plants tree

![Plants tree](image)

*Figure 337: Main page, plants tree*

The plants are organized in the following geographical structure:

- Countries
  - Clients (e.g. customer/company name)
    - Plants (e.g. Site name)
      - Substations (e.g. identification number of the substation, distribution unit into the plant)

The equipment communication state is represented with one of the following icons:

- The communication with equipment is established.
The communication with the equipment cannot be established: status “Out of Order” or “Induced Out of Order”.

The communication with a subset of equipment nodes cannot be established: status “Anomaly”.

If none of these symbols appear on the node it represents that the Gateway collecting and pushing data to the MyRemoteCare system is not able to connect at all.

Equipments, on the other hand, can be represented with following symbols:

- : means that the communication has been established
- : means the communication cannot be established

The Gateway status is updated every 4 hours; in case of missed communication, MyRemoteCare system sets it out of order ( ), thus meaning that if the communication is established again in the meanwhile, the status will be updated to functioning ( ) when the next check is performed (i.e. after 4 hours since the last check)
Plant Details

Double clicking on a tree node that represents a plant (or right clicking on the node and choosing “Details” form menu) the plant details will appear in a new tab.

The page shows the following tabs:

- The first tab will show a general overview about the plant: client, site id, id, component name, note, contract, contact and localization (latitude and longitude, country, city).
- The second tab came from the selected equipment.
- The third tab will show all the active events associated with the selected equipment.
- The fourth tab will show all the maintenance requests associated with the selected equipment.
- The fifth tab will show the reports associated with the selected equipment by selecting “Type”, “Month” and “Back from” and by clicking on the <Get report> button.
The sixth tab will show the Events Archive associated with the selected equipment.

The seventh tab will show the Service Task Archive associated with the selected equipment.

The eighth tab will show the Measure Archive associated with the selected equipment.

All detail panels for all type of object show in the upper right corner a refresh button:

Clicking on the icon will refresh the content of all the tabs in the detail panel.
Plant: Breaker Status

Double clicking on a tree node that represents a breaker (or right clicking on the node and choosing “Open Details” form menu) the breaker details will appear in a new tab.

![Breaker details window](image)

**Figure 40: Breaker details window**

The page shows the following tabs:

- The first tab shows a general Overview of the breaker: client, site id, S/N, installation id, component name, note, brand, model, type, connected since and last update.

![Breaker detailed - Status information](image)

**Figure 41: Breaker detailed - Status information**

- The second tab shows a chart representing the switch status based on the last measures read from the field. Moreover each variable is associated with a LED, which shows its state (Alarm/Warning/normal). Below the chart there are other
blocks representing “not quality” variable measure and “temperature” measure (if the breaker supports these measures). Beside the chart, a semaphore displays the global switch state.

![Figure 42: Breaker detailed – Monitored variables](image)

- The third tab shows all the monitored variables for the specific breaker. For each of these variables the system must provide a slider, showing the alarm threshold as in figure:

![Figure 43: Monitored variables: info button](image)

Beside certain variables a button labeled **info** may be displayed:

By clicking on the **info** button, more details related to the specific variable will be shown below the slider:
With reference to the **Spring Charging Quality** variable, one up to four detail values may be shown depending on the breaker configuration.

The plant-monitored variables can be seen only by ABB granted service personnel only.

- The fourth tab shows all the operations, everyone identified by and id, a date/time and the type (CLOSE or OPEN).

Right clicking on a row of this table and choosing “Open Details” the operation details window will appear and will show charts.
Figure 46: Breaker detailed – Operation tabs

- The next two tabs show information about events for the specific breaker.

Figure 47: Breaker detailed – Events tab

Figure 48: Breaker detailed – Active events
• The following tab shows an overview of the maintenance requests.

![Figure 49: Breaker detailed – Maintenance requests tab](image)

• The eight tab represents the Chart tab. Right clicking on the node that represents a breaker and choosing “Open Charts” form menu you obtain the same view (for more details see the next paragraph Chart).

![Figure 50: Breaker detailed – Chart tab](image)

• The ninth tab shows the Archive Events (for more details see Chapter 9 Archive).
The next tab shows the Service Task Archive (for more details see Chapter 9 Archive).

The last tab represents the Measure Archive for the selected equipment (for more details see Chapter 9 Archive).
Charts

Right clicking on the node that represents a breaker and choosing “Open Charts” form menu, a table will appear and will show some variables that can be used to create a graph.

**Figure 54: Breaker charts**

It is possible to select an undefined number of variables among that ones are showed and it is also possible to choose a specific period.

**Figure 55: Breaker charts**
The result shows the graph for the chosen period and the possibility to restrict the view only to one specific time period by selecting this in the upper part of the graph or simply by underlining and clicking on it.

![Figure 56: Breaker charts](image)

When the view is restricted to one month some points will appear.

These points indicate the average value or the last measure of the day, depending on the type of the selected variable.

Clicking in a single point, it is possible to change the view. The new one will show only the values that the variable gets in one day.

![Figure 57: Breaker charts](image)
In order to restrict still more the view, it is possible to select one more small time period by selecting this in the upper part of the graph or simply by underlining and clicking on it. As in the previous case, some points will appear.

Figure 58: Breaker charts

Clicking in a single point, it is possible to change the view. Even in this case, the new one will show only the values that the variable gets in five minutes.

Figure 59: Breaker charts

Clicking on “Save CSV” button it is possible to save a csv file regarding the charts.
Event handling

MyRemoteCare server identifies every event that comes from the field. All of these data will be collected and stored inside the remote server.

The events are showed in the main client page in the Events Manager tab as table records.

Figure 60: Events Manager view

Each of these events must be verified by an operator that can decide how to handle the information.

Figure 61: Events, active events and acknowledge
The incoming events could turn on or off the alarm status of each device. MyRemoteCare system calls the event which represents an alarm status “Active events”. User must acknowledge all the events. From the “Active events” tab it is possible to see only the events which represents still existing alarms on the device (both acknowledged or not).

Right clicking on a row and choosing “Open Event Detail” from menu the event details will appear.

![Event Detail](image)

**Figure 62: Events Manager, event detail**

Right clicking on a row and choosing “Acknowledge” from menu, a pop up (see Figure 61) shows up asking if the user would like to create a new maintenance request before acknowledge.

![Acknowledge Pop Up](image)

**Figure 63: Events Manager, Acknowledge pop up**

Some users might not be able to see all the event details due to access rights restrictions.
Each event could be associated to a maintenance request. This is not mandatory and it is up the ABB maintenance responsible person to create a maintenance activity based on the event.

Acknowledge events and create maintenance task can be performed only by ABB granted service personnel only.
Service Tasks handling

An overview of the maintenance requests can be accessed using the table inside the Service Tasks tab in the main client page. This table shows just the maintenance request that will expire in the next 30 days.

<table>
<thead>
<tr>
<th>Expiration Date</th>
<th>Request ID</th>
<th>Country</th>
<th>Customer</th>
<th>Plant</th>
<th>Substation</th>
<th>Bay</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>30/07/2019 05:00:00</td>
<td>20215</td>
<td>Peru</td>
<td>ABB Peru</td>
<td>Demo Box</td>
<td>Demo Box</td>
<td>Bay</td>
<td>1</td>
</tr>
<tr>
<td>30/05/2019 05:00:00</td>
<td>30015</td>
<td>Peru</td>
<td>ABB Peru</td>
<td>Demo Box</td>
<td>Demo Box</td>
<td>Bay</td>
<td>1</td>
</tr>
<tr>
<td>10/04/2019 22:00:00</td>
<td>102015</td>
<td>United Arab Emirates</td>
<td>ABB UAE</td>
<td>Learning Zone</td>
<td>UniGear ZSI</td>
<td>Demo</td>
<td>1</td>
</tr>
<tr>
<td>15/12/2019 23:00:00</td>
<td>62014</td>
<td>Italy</td>
<td>ABB Italy</td>
<td>ABB Damme</td>
<td>DEMO BOX 3</td>
<td>BAY DEMO</td>
<td>DEMO CB 3</td>
</tr>
<tr>
<td>14/11/2019 05:00:00</td>
<td>52014</td>
<td>Italy</td>
<td>ABB Italy</td>
<td>ABB Damme</td>
<td>DEMO BOX 3</td>
<td>BAY DEMO</td>
<td>DEMO CB 3</td>
</tr>
<tr>
<td>29/10/2019 23:00:00</td>
<td>32014</td>
<td>Italy</td>
<td>ABB Italy</td>
<td>ABB Damme</td>
<td>DEMO BOX 2</td>
<td>BAY 1</td>
<td>DEMO CB 2</td>
</tr>
<tr>
<td>11/10/2019 22:00:00</td>
<td>42014</td>
<td>Italy</td>
<td>ABB Italy</td>
<td>ABB Damme</td>
<td>DEMO BOX 3</td>
<td>BAY DEMO</td>
<td>DEMO CB 3</td>
</tr>
<tr>
<td>26/09/2019 22:00:00</td>
<td>22014</td>
<td>Italy</td>
<td>Tenaris Damme</td>
<td>Damme</td>
<td>Cab52</td>
<td>P4</td>
<td>P4_1</td>
</tr>
<tr>
<td>14/03/2019 23:00:00</td>
<td>12014</td>
<td>India</td>
<td>ABB India</td>
<td>ABB Fair</td>
<td>Electraria</td>
<td>Bay 1</td>
<td>HD4</td>
</tr>
<tr>
<td>30/12/2013 23:00:00</td>
<td>7013</td>
<td>Italy</td>
<td>ABB Italy</td>
<td>ABB Damme</td>
<td>Training Lab</td>
<td>Feeder 1</td>
<td>HD4_01</td>
</tr>
<tr>
<td>16/12/2013 23:00:00</td>
<td>6013</td>
<td>Italy</td>
<td>Tenaris Damme</td>
<td>Damme</td>
<td>Cab52</td>
<td>P4</td>
<td>P4_1</td>
</tr>
<tr>
<td>30/09/2013 22:00:00</td>
<td>42013</td>
<td>Italy</td>
<td>ABB Italy</td>
<td>ABB Damme</td>
<td>Test Lab</td>
<td>Travo</td>
<td>HA0</td>
</tr>
<tr>
<td>22/09/2013 22:00:00</td>
<td>52013</td>
<td>Italy</td>
<td>Tenaris Damme</td>
<td>Damme</td>
<td>Cab52</td>
<td>P4</td>
<td>P4_1</td>
</tr>
<tr>
<td>14/08/2013 22:00:00</td>
<td>22013</td>
<td>Italy</td>
<td>Tenaris Damme</td>
<td>Damme</td>
<td>Cab52</td>
<td>P4</td>
<td>P4_1</td>
</tr>
<tr>
<td>30/07/2013 22:00:00</td>
<td>32013</td>
<td>Italy</td>
<td>ABB Italy</td>
<td>ABB Damme</td>
<td>Test Lab</td>
<td>Travo</td>
<td>HA0</td>
</tr>
<tr>
<td>21/06/2013 23:00:00</td>
<td>12013</td>
<td>Italy</td>
<td>ABB Italy</td>
<td>ABB Damme</td>
<td>Test Lab</td>
<td>Travo</td>
<td>HA0</td>
</tr>
<tr>
<td>27/12/2012 23:00:00</td>
<td>12012</td>
<td>Italy</td>
<td>ABB Italy</td>
<td>ABB Damme</td>
<td>Smart Lab</td>
<td>U51</td>
<td>VD4</td>
</tr>
</tbody>
</table>

Figure 64: Service Tasks tab

Right clicking on a row and choosing “Open Maintenance Request” form menu, details will appear.

Figure 65: Maintenance request dialog
The first tab will show:

- **Status:** OPEN or CLOSE. Type (mandatory):
  - Time based maintenance (has not and associated severity)
  - Condition based maintenance (has an associated severity)
  - Generic (has an associated severity)
- **Severity** (mandatory): CRITICAL, MEDIUM or LOW. This affects the color of the maintenance on the main page (red, yellow, green).
- **Open Date and Time** (mandatory).
- **Expiration Date and Time:** it is the last date to perform the maintenance task (mandatory).
- **Maintenance Request Type:** Condition maintenance, Generic maintenance, Time-based maintenance
- **Description**
- **Country, Customer, Plant, Substation, Equipment** (mandatory)
- **Notes**

The second tab will show personnel in charge.

The third tab will show "Maintenance Activities": into the system there is a list of preconfigured activities, but also a manual insertion is available. Each Action has the following properties: Description, Note and a flag (executed or not). When all actions will be executed the Maintenance Request will be closed automatically by the system.

It is possible to open a “New Maintenance Request” directly from the Toolbar clicking on the Settings icon.

![New Maintenance Request from Toolbar](image)

*Figure 66: New Maintenance Request from Toolbar*
Asset List

The assets are showed in the main client page in the Asset List tab as table records.

<table>
<thead>
<tr>
<th>Country</th>
<th>Client</th>
<th>Plant</th>
<th>Substation</th>
<th>Bay</th>
<th>Equipment</th>
<th>Connection</th>
<th>Status</th>
<th># Events</th>
<th># Service Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>ABB</td>
<td>Italy</td>
<td>test</td>
<td>Bay1</td>
<td>MISC</td>
<td>Offline</td>
<td>Warning</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Italy</td>
<td>ABB</td>
<td>Italy</td>
<td>test</td>
<td>Bay1</td>
<td>MISC</td>
<td>Offline</td>
<td>Warning</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Italy</td>
<td>ABB</td>
<td>Italy</td>
<td>test</td>
<td>Bay1</td>
<td>MISC</td>
<td>Offline</td>
<td>Warning</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Italy</td>
<td>ABB</td>
<td>Italy</td>
<td>test</td>
<td>Bay1</td>
<td>MISC</td>
<td>Offline</td>
<td>Warning</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>China</td>
<td>ABB</td>
<td>China</td>
<td>test</td>
<td>Bay1</td>
<td>MISC</td>
<td>Offline</td>
<td>Normal</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Italy</td>
<td>ABB</td>
<td>Italy</td>
<td>test</td>
<td>Bay1</td>
<td>MISC</td>
<td>Offline</td>
<td>Normal</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Italy</td>
<td>ABB</td>
<td>Italy</td>
<td>test</td>
<td>Bay1</td>
<td>MISC</td>
<td>Offline</td>
<td>Normal</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Italy</td>
<td>ABB</td>
<td>Italy</td>
<td>test</td>
<td>Bay1</td>
<td>MISC</td>
<td>Offline</td>
<td>Normal</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

![Figure 67: New Maintenance Request from Toolbar](image)

Right clicking on a row and choosing “Details” form menu, the breaker status tab associated with the selected row will appear.
9. Archives

Pushing on Archive icon 📊 of the Toolbar, a pop-up menu will show up. This pop-up menu contains all the Archives that is possible to display.

For each Archive window, define the filter to use and then push the <Run> button in order to show the table in the section below.

**Remote connection messages Archive**

Select “Remote connection messages Archive” option from pop-up menu to display “Remote connection messages Archive” window.

![Remote connection messages Archive window](image)

**Events Archive**

Select “Events Archive” option from pop-up menu to display “Events Archive” window.

![Event Archive window](image)
Service Tasks Archive

Select “Service Tasks Archive” option from pop-up menu to display “Service Tasks Archive” window.

Figure 70: Service Tasks Archive window

Service System Messages Archive

Select “Service System Messages Archive” option from pop-up menu to display “Service System Messages Archive” window.

Figure 71: Service System Messages Archive window

Measure Archive

Select “Measure Archive” option from pop-up menu to display “Measure Archive” window.
Right clicking on a single row and selecting “Open Detail” form menu, it is possible to open the required Measure Details window.
10. Troubleshooting

**MyRemoteCare connection problems**

In case of connection error launching the web client application or during normal use, verify the communication towards MyRemoteCare system. A simple way is to connect with a browser to MyRemoteCare web portal.

Consider that the client is doing traffic on TCP 80 (http) and TCP 443 (https).
11. System Requirements

Hardware requirements

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Minimum</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>1 GHz</td>
<td>&gt; 1GHz</td>
</tr>
<tr>
<td>RAM</td>
<td>1 GB</td>
<td>&gt; 1GB</td>
</tr>
<tr>
<td>Free hard disk space</td>
<td>1 GB</td>
<td>&gt; 1GB</td>
</tr>
<tr>
<td>Monitor</td>
<td>1024 x 768</td>
<td>1280 x 1024</td>
</tr>
<tr>
<td>Internet connection</td>
<td>Required, 100 kbps</td>
<td>Required, DSL connection</td>
</tr>
</tbody>
</table>

Supported operating systems

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows XP Professional 32-bit</td>
<td>SP3 or later</td>
</tr>
<tr>
<td>Microsoft Windows Vista Professional 32-bit</td>
<td>SP2 or later</td>
</tr>
<tr>
<td>Microsoft Windows 7 Professional 32-bit</td>
<td>SP1</td>
</tr>
<tr>
<td>Microsoft Windows 7 Professional 64-bit</td>
<td>SP1</td>
</tr>
<tr>
<td>Microsoft Windows Server 2003 32-bit</td>
<td></td>
</tr>
<tr>
<td>Microsoft Windows Server 2008 R2 64-bit</td>
<td></td>
</tr>
</tbody>
</table>

Required software and libraries

<table>
<thead>
<tr>
<th>Required software</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java Runtime Environment</td>
<td>7.0 or later</td>
</tr>
</tbody>
</table>

Java web start technology overview

Java Web Start is an application-deployment technology that gives you the power to launch full-featured applications with a single click from your Web browser. You can now download and launch applications, such as a complete spreadsheet program or an Internet chat client, without going through complicated installation procedures.

Java Web Start includes the security features of the Java™ platform, so the integrity of your data and files is never compromised. In addition, Java Web Start technology enables you to use the latest Java SE technology with any browser.
With Java Web Start, you launch applications simply by clicking on a Web page link. If the application is not present on your computer, Java Web Start automatically downloads all necessary files. Then it caches the files on your computer so the application is always ready to be re-launched anytime you want either from the icon on your desktop or from the browser link. In both cases, the latest version of the application is executed.
12. Glossary

ARP  Address Resolution Protocol
CAT 5  A twisted pair cable type designed for high signal integrity
CPU  Central processing unit
CT  Current transformer
DHCP  Dynamic Host Configuration Protocol
EMC  Electromagnetic compatibility
Ethernet  A standard for connecting a family of frame-based computer networking technologies into a LAN
Firmware  System software or hardware that has been written and stored in a device’s memory that controls the device
HMI  Human-machine interface
HW  Hardware
IEC  International Electrotechnical Commission
IEC 61850  International standard for substation communication and modeling
IED  Intelligent electronic device
IP  Internet Protocol
IP address  A set of numbers between 0 and 255, separated by periods. Each server connected to the Internet is assigned a unique IP address that specifies the location for the IP protocol.
JRE  Java Runtime Environment
JWS  Java Web Start
LCD  Liquid crystal display
LCP  Liquid crystal polymer
LED  Light-emitting diode
LHMI  Local human-machine interface
Modbus  A serial communication protocol developed by the Modicon company in 1979. Originally used for communication in PLCs and RTU devices.
<table>
<thead>
<tr>
<th><strong>Modbus RTU</strong></th>
<th>Modbus link mode. Character length 11 bits.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Modbus TCP/IP</strong></td>
<td>Modbus RTU protocol which uses TCP/IP and Ethernet to carry data between devices</td>
</tr>
<tr>
<td><strong>PA</strong></td>
<td>Polyamide</td>
</tr>
<tr>
<td><strong>PBT</strong></td>
<td>Polybutylene terephthalate</td>
</tr>
<tr>
<td><strong>PC</strong></td>
<td>Personal computer; Polycarbonate</td>
</tr>
<tr>
<td><strong>PCM600</strong></td>
<td>Protection and Control IED Manager</td>
</tr>
<tr>
<td><strong>RJ-45</strong></td>
<td>Galvanic connector type</td>
</tr>
<tr>
<td><strong>RoHS</strong></td>
<td>Restriction of the use of certain hazardous substances in electrical and electronic equipment</td>
</tr>
<tr>
<td><strong>RS485</strong></td>
<td>Serial link according to EIA standard RS485</td>
</tr>
<tr>
<td><strong>STP</strong></td>
<td>Shielded twisted-pair</td>
</tr>
<tr>
<td><strong>SW</strong></td>
<td>Software</td>
</tr>
<tr>
<td><strong>TCP/IP</strong></td>
<td>Transmission Control Protocol/Internet Protocol</td>
</tr>
<tr>
<td><strong>VT</strong></td>
<td>Voltage transformer</td>
</tr>
<tr>
<td><strong>WAN</strong></td>
<td>Wide Area network</td>
</tr>
<tr>
<td><strong>WHMI</strong></td>
<td>Web human-machine interface</td>
</tr>
</tbody>
</table>
Contact us

ABB SPA
Medium Voltage Service
IT-24044 Dalmine, Italy
Phone +39 035 695 2600
Fax +39 035 695 2792