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Notice 1

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Notice 2

This document complies with the program revision 1.0.2.

Notice 3

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LIB 500 manuals

LIB 500 Configuration Manual	1MRS751880-MEN
LIB 500 Operator's Manual	1MRS751885-MUM

LIB 510 manuals

LIB 510 Configuration	1MRS751886-MEN
LIB 510 MV Process Configuration	1MRS751887-MEN
LIB 510 MV Process Operator's Manual	1MRS751891-MUM
LIB 510 Operator's Manual	1MRS751888-MUM

SMS 510 manuals

SMS 510 Installation and Commissioning	1MRS751897-MEN
SMS 510 Operator's Manual	1MRS751898-MUM

CAP 505 manuals

CAP 505 Installation and Commissioning	1MRS751901-MEN
CAP 505 Operator's Manual	1MRS751902-MUM
Relay Configuration Tool Tutorial	1MRS751903-MEN
Relay Mimic Editor Configuration	1MRS751904-MEN
Relay Configuration Quick Start Reference	1MRS751905-MEN
SPTO Configuration Tool	1MRS751906-MEN
Protocol Editing Tool Operator's Manual	1MRS751982-MUM

CAP 505/LIB 510/SMS 510 common manuals

Tools for Relays and Terminals	1MRS752008-MUM
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CAP 505/SMS 510 common manuals

SM/Gateways Configuration	1MRS751870-MEN
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1. SPTO Configuration Tool

1.1. Overview

The SPTO Configuration Tool gives the relay engineer a powerful tool for monitoring and configuring of the SPTO 1D2, 1D5, 1D6 and 6D3 control modules in the SPAC feeder terminal series.

1.1.1. Description

This Tool is used for Relay units regarding:

- Configuration of the object indication presented on the SPTO LED matrix display.

1.1.2. Target systems

Control modules SPTO 1D2, SPTO 1D5, SPTO 1D6 in SPAC 300 series and SPTO 6D3 in the SPAC 500 and 600 series in the SPACOM range of products.

1.1.3. Communication support

- Serial SPA

1.1.4. Features/options

- Parametrisation
- Upload and download of parameters

1.2. When is the SPTO Configuration tool needed?

The SPTO 6D3 module does not have any built-in status indicator configuration to activate, thus the SPTO Configuration Tool is always needed for configuring the status indication.

You should configure the SPTO 1D2, 1D5, 1D6 in the SPAC 300 series with the SPTO Configuration Tool when you cannot benefit from the built-in factory default setting groups in the module, or whenever you want to make an own configuration.

Activation of the built-in led configuration is done by giving the number of the desired setting group to parameter S100 in the Relay Setting Tool and sending it to the module. When using the SPTO Configuration Tool it is assumed that the user intends to make an own configuration, thus S100 is set to "0" which equals to *free programming mode*.

On the contrary, selecting another default group for S100 in the Relay Setting Tool will replace the configuration made earlier by the SPTO Configuration Tool, unless it is the same of course!

2. Starting and using SPTO Configuration tool

Before the SPTO Configuration Tool can be taken into use, an initial preparation might be required. I.e. a SPAC terminal have to be inserted and configured for use in the Project Structure Navigator and the setup of communication between the relay and the tool has to be performed. Please refer to *SM/SPACOM* part of the *Tools for Relays and Terminals* manual for more detailed information concerning the initial preparations.

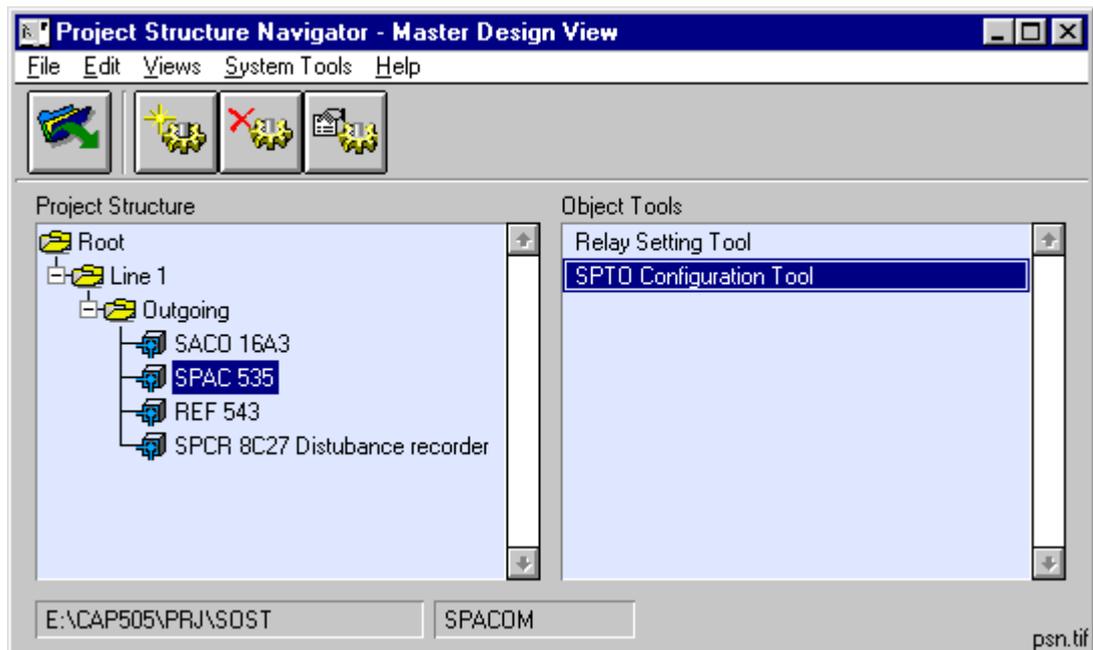


Fig. 2.-1 Starting SPTO Configuration Tool from the Project Structure Navigator

The SPTO Configuration Tool is started by double-clicking on the 'SPTO Configuration Tool' in the Object Tools list box in the Project Structure Navigator. The SPTO Configuration Tool view opens (see Figure 2.1.-1).

The SPTO Configuration Tool is explicitly designed for use with SPTO modules. I.e. when starting the SPTO Configuration Tool for a terminal not containing SPTO modules of the desired kind, an information message is shown, see Figure 2.-2.



Fig. 2.-2 No SPTO module found in the relay

The tool uses a module specific internal parameter file for storing the parameter values. The parameter file is created with the default values by the relay

configuration dialog box when the relay is installed into the project structure. The file is maintained by the SPTO Configuration Tool. The parameter values are updated to the parameter file every time when uploading is performed. All the values displayed by the tool are read from the parameter file. For example, if you upload parameter values, they are first updated to the file and after that read from the file to the tool.

2.1.**SPTO Configuration tool overview**

The tool automatically selects the SPTO control module in the selected terminal.

Explanations to the SPTO Configuration Tool (see Figure 2.1.-1):

1. Menu with three items
2. Toolbar buttons, four pieces
3. Module type
4. Selected object
5. Drop down combo boxes for configuring of the selected indicator

The SPTO Configuration Tool, see Figure 2.1.-1, contains one view with 16 leds, number 1 to 16, in four columns. There are two different column types; thus enabling the use of both red or green colors for indicating closed in both horizontal or vertical direction.

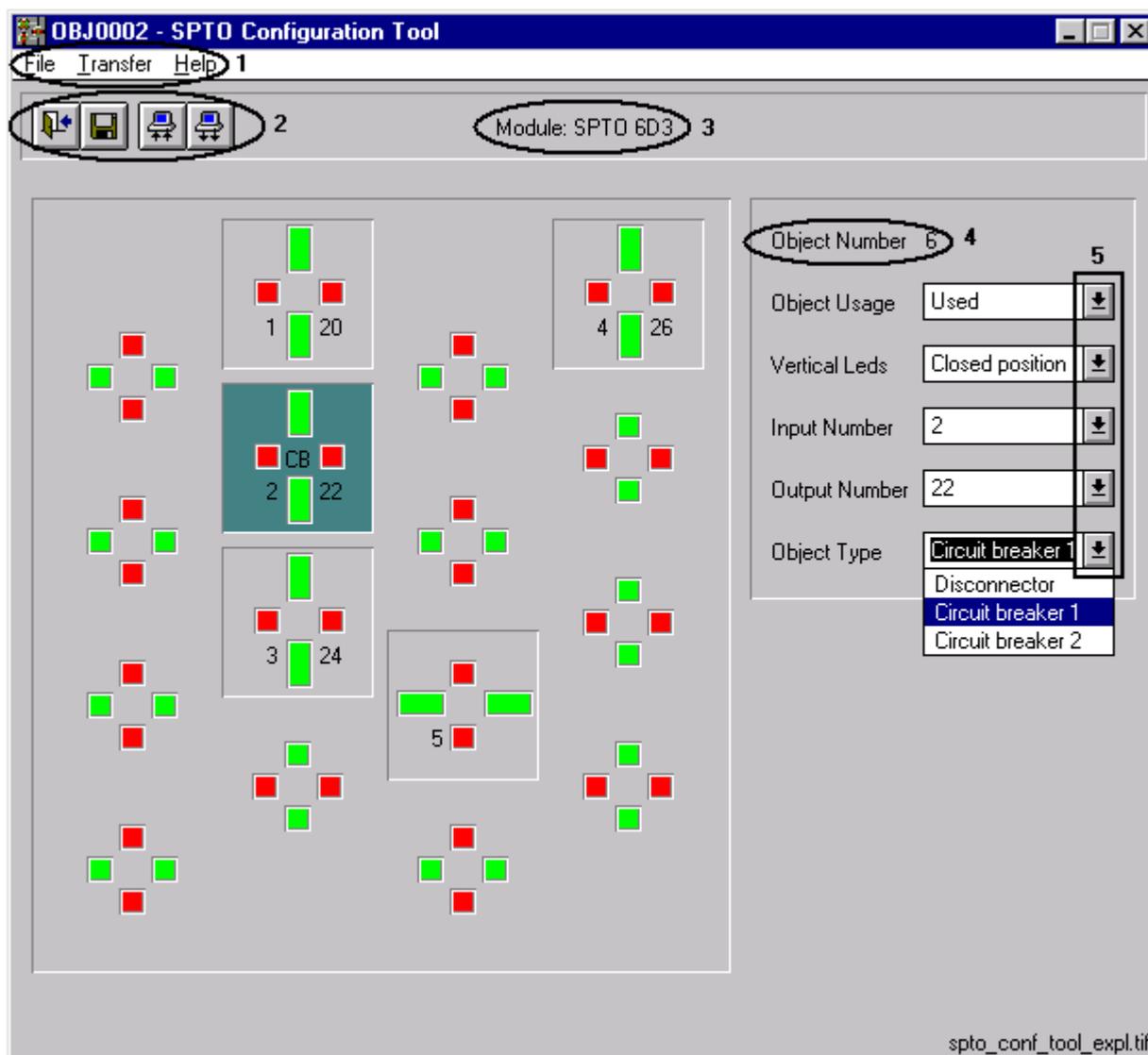


Fig. 2.1.-1 SPTO Configuration Tool main view

2.2. Configuring by means of the SPTO Configuration tool

2.2.1. Introduction

There are several subsets of parameters in a SPTO module. Some of these subsets are related to another subset. Configuring the SPTO status indicators is only one subset. Two tools are needed for a successful configuration of a SPTO control module:

1. SPTO Configuration Tool
2. Relay Setting Tool

The recommended configuration order is to start with the SPTO Configuration Tool, make the led configuration and download the configuration to the module. After this, continue with the Relay Setting Tool and make the rest of the SPTO configuration and the interlocking program.

The configuration can be done both on- and off-line. Sometimes you just upload the current settings from the SPTO module, make the changes and download it again or start from the saved version made earlier or just start from an empty SPTO Configuration Tool.

2.2.2.

Configuring

The configuration of each LED indication is done by selecting the indicator to be configured by a mouse click on it. The selected object is highlighted with a dark background color. Now pick the comboboxes to the right, Figure 2.1.-1 item 5, one by one and make the settings. Open the list by a click at the arrow and select from the list. Continue the same way with the following indication to configure. See also Figure 2.2.2.-1.

The selectable options in the 5 different comboboxes, Figure 2.1.-1 item 5, are selectable according to the SPTO module in question and already selected options. In order to be able to move an indication to another LED location or just delete it, you have to free the configured indication by removing the settings from it and taking it out of use. Now you can configure the new indication. It is also enough to just remove the in-use option, but then the other settings remain visible, but are not sent to the module.



Fig. 2.2.2.-1 Unconfigured and configured indicator

In Figure 2.2.2.-1 the indicator to the left is unconfigured while the one to the right is configured in the following way: In use, which is shown by the surrounding square, it is a controllable switching device of any type but circuit breaker with input 4 and output 26 for OPEN and 27 for CLOSE commands and finally vertical green leds indicates closed status.

The configuration can be downloaded to the SPTO module any time. If the changes have not been saved or downloaded when exiting the tool, the tool asks whether the changes are to be saved or discarded.

The configuration possibilities of the SPTO leds are depending on type. The SPTO Configuration Tool is taking the selected SPTO module into consideration and the available setting ranges adopted to present module, see Table 3.1.1-1 on page 9 and Table 3.1.4-1 on page 10.

2.3.

Menus

There are three menus in the SPTO Configuration Tool view (Figure 2.1.-1 item 1). Descriptions for the functions provided in the menus are presented in the following.

2.3.1.**File menu**

The File menu (see Figure 2.3.1.-1) contains functions for saving of the settings and exiting of the program. These functions are selected by clicking on the appropriate alternative in the File menu.



Fig. 2.3.1.-1 The File menu

2.3.1.1.**Save Ctrl+S**

By selecting this option the configuration is saved.

2.3.1.2.**Exit**

By selecting this option, the program exits the SPTO Configuration Tool and returns to the Project Structure Navigator

2.3.2.**Transfers menu**

Fig. 2.3.2.-1 Transfers menu

The Transfers menu, (see Figure 2.3.2.-1), contains commands used to communicate with the relay module. The desired option may be opened by clicking the relevant field in the Transfers menu with the mouse button.

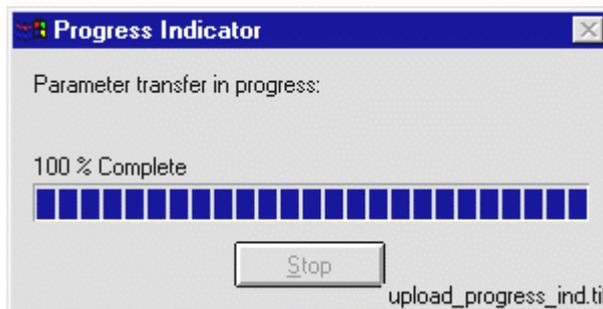
2.3.2.1.**Upload...**

Fig. 2.3.2.1.-1 Upload dialog box

Only parameters concerning the configuration of leds are uploaded, (i.e. read from the SPTO module in question to the SPTO Configuration Tool).

2.3.2.2.**Download...**

Fig. 2.3.2.2.-1 Download dialog box

Parameters are downloaded, (i.e. written to the SPTO control module from the SPTO Configuration Tool). The progress is shown in the Download dialog boxes (see Figure 2.3.2.2.-1). The download operation is automatically carried out in several steps, according to the programming technique of the SPTO module:

1. Setting module in programming mode
2. Clearing leds
3. Transfer of settings
4. Setting module back into run mode, which can be done only when there is an interlocking program in the SPTO module. Use Relay Setting Tool to make necessary interlocking program lines and activate the interlocking program by setting parameter S199.
5. Storing into non-volatile memory
6. The program gives a status report

2.3.3.**Help menu**

Fig. 2.3.3.-1 Help menu

The Help menu (Figure 2.3.3.-1) contains only the About Setting Tool dialog box (see Figure 2.3.3.1.-1).

2.3.3.1.

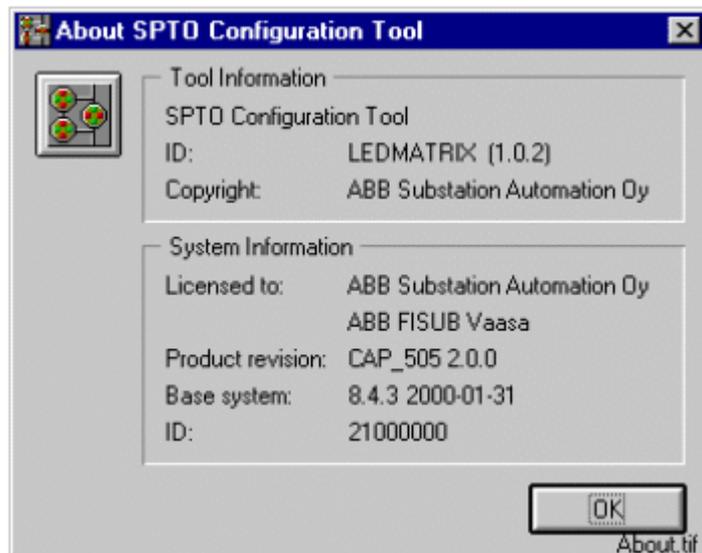
About SPTO Configuration tool

Fig. 2.3.3.1.-1 About SPTO Configuration Tool dialog box

The dialog box About SPTO Configuration Tool, (see Figure 2.3.3.1.-1), contains information concerning the current version of the SPTO Configuration Tool.

2.4.

Toolbar buttons

The toolbar buttons below, (also presented as item 2 in Figure 2.1.-1), provide the same function as the corresponding options in the File menu and in the Transfers menu.

Table 2.4.-1 Toolbar buttons

	Exit to the Project Structure navigator
	Save the configuration
	Upload parameters (data read from the module)
	Download parameters (data sent to the module)

3. Rules for configuring SPTO LEDs

3.1. General for all types of SPTO modules

Following recommendations can be applied onto all SPTO modules concerning the configuration of the leds

- Only make configuration for leds in use
- An input should be used only once
- An output should be used only once
- The same inputs and output codes are also used in the interlocking program.

OPEN/CLOSE are always tied together in pairs, thus only the OPEN code is used in the SPTO Configuration Tool. Because thereby the CLOSE code is known.

3.1.1. SPTO 6D3 LED setting ranges

SPTO 6D3 can be assigned up to seven status indication objects, i.e seven inputs for indication, while controllable outputs up to 6 pieces of which maximum two objects can be circuit breakers.

Table 3.1.1-1 SPTO 6D3 setting ranges for indications

Setting	Alternatives	Explanation
Object usage	Used or not used	If not used the following settings are not necessary to make.
Vertical leds	Open position or closed position	This determines whether the vertical leds are indicating open or closed status of the objects.
Input number	No input 1,2,3,4,5,6,7	The four pole input that is used for the status indication.
Output number	No control 20, 22, 24, 26, 28, 30	The output numbers used for OPEN/CLOSE outputs 1 to 6.
Object type	Disconnecter Circuit breaker 1 Circuit breaker 2	Define whether the object is a circuit breaker or not. All other objects are using the definition "disconnecter".

The input and output numbers in the above table are the logic definitions used in the SPTO control module instead of using to the physical connections on the rear screw terminals of the SPAC terminal. These input and output codes are also used in the interlocking program.

3.1.2. SPTO 6D3 versions

SPTO 6D3 can have maximum two circuit breakers, identified by circuit breaker 1 and circuit breaker 2. From version 055N of the SPTO 6D3 module distinction is made between CB1 and CB2, while older versions use the same identification for both, despite of the fact that they still are presented as CB1 and CB2. The SPTO Configuration Tool reads the module version the first time communication is established.

The easiest way of checking the version is by means of Relay Setting Tool. Upload the parameters in the group Configuration of objects and the version is shown on screen 1, see Figure 3.1.2.-1.

3. Rules for configuring SPTO LEDs Configuration Guide

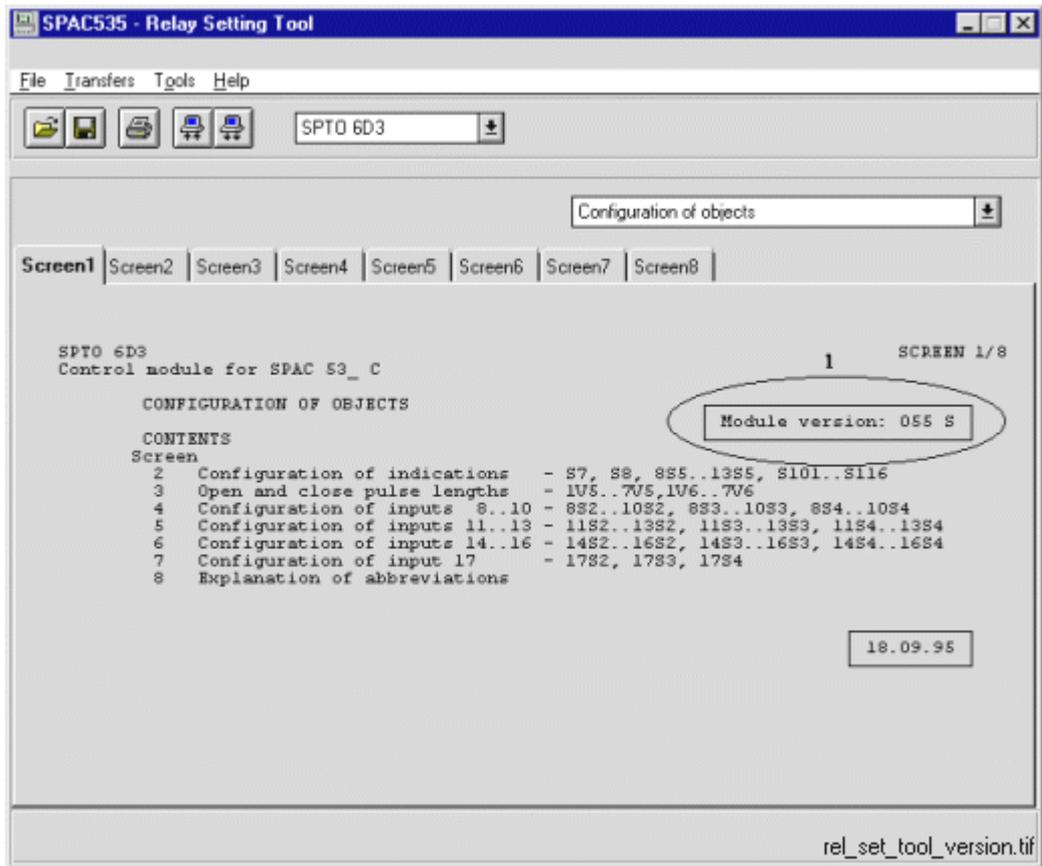


Fig. 3.1.2.-1 Checking the version

3.1.3. SPTO 1D2, 1D5, 1D6 LED setting ranges

SPTO 1D2, 1D5 and 1D6 can be assigned three status indication objects. Three inputs for indication can be used and one output for control of an object. Parallel to Circuit Breaker CB, a definition called Circuit Breaker Truck is also available.

3.1.4. SPTO 1D2, 1D5, 1D6 LED setting ranges

Table 3.1.4-1 SPTO 1D2, 1D5, 1D6 setting ranges for indications

Setting	Alternatives	Explanation
Object usage	Used or not used	If not used the following settings are not necessary to make.
Vertical leds	Open position or closed position	This determines whether the vertical leds are indicating open or closed status of the objects.
Input number	No input 1,2,3	The four pole input that is used for the status indication
Output number	No control 20	The output numbers used for OPEN/CLOSE outputs.
Object type	Disconnector Circuit breaker Truck	Define whether the object is a circuit breaker or not. All other objects are using the definition "disconnector". Note, SPTO 1D6 can also use a definition called "Truck"

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Customer Feedback

About This Chapter

This chapter contains information on how to send customer feedback.

Customer Feedback Database

Customer Feedback is a Lotus Notes database which ABB companies can use to report errors, make improvement proposals and queries related to products manufactured by ABB Substation Automation Oy. The Customer Feedback database is connected to the change management system of ABB Substation Automation Oy, which handles all error corrections and improvements, made to the products.

Please note that the Customer Feedback database is primarily intended for writing reports about released products. If you are using for example a beta release in a pilot project, this should be clearly stated.

Writing A Customer Feedback Report

When writing a Customer Feedback report the following general instructions should be taken into consideration:

- Write the report in English.
- Write only one error report, query or improvement proposal in a Customer Feedback Report.
- If you are reporting an error, try to isolate the error as good as possible. Describe the sequence of events and actions causing the error. If any error messages or other debug information is provided by the system, please write it down. Include also information of the system, e.g. a system diagram, revision information and configuration data.
- If you are making an improvement proposal, try to describe how the improved function should work. Avoid providing solutions. Information about the importance of the improvement, e.g. number of projects that require the improvement, helps us to make the decision whether and when the improvement should be implemented.

To make a Customer Feedback Report, select Feedback Report from the Create menu. This opens an empty Customer Feedback document. Fill out the fields listed below. A question mark next to a field provides help for filling out the field.

- 1 Subject. This should contain a short description of the issue. A more detailed description can be given in the Description of Feedback field below.
- 2 Type of Feedback: Comment/Improvement, Query or Complaint/Error.
- 3 Customer Information.
- 4 Reporting Information. This should contain detailed information about the product that is handled in the report.
- 5 The person who you want to send the feedback to and whether you want to get a reply from that person or not.

6 Information related to internal handling of the report (not obligatory).

7 Category.

You can issue the report by clicking the Issue Feedback button. This will send the report to the selected person and change its status to “in progress”.

Actions

When ABB Substation Automation Oy receives a Customer Feedback report it is analysed by a sales person or a representative of the technical support. The analyser may ask for additional information in order to complete the analysis. After the report has been analysed, the following actions are taken:

- In case of a clear error the report is moved to the change management system of ABB Substation Automation Oy. In this system the error is analysed in detail and corrected in a future patch release or major release depending on the severity and impact of the error.
- In case of an improvement proposal the report is also moved to the change management system where it is considered as a requirement for future releases.
- In case of a query an answer is provided.

When Customer Feedback reports are handled in the change management system, the outcome can be one of the following:

No Actions

This means that it is decided that the report requires no further action. If for example the problem is caused by a configuration error, it belongs to this category.

Will be implemented in patch/current release This means that the correction or new feature will be available in the next official program release.

Moved to future release

This means that the new feature will be available in a new program release in the near future.