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2 Station



Figure 1. The station standard function

2.1 Description

The standard function of the station is used for controlling and monitoring the station related functions. The main functionality is as listed below:

- Station local/remote-switch indication
- Station local/remote-switch control (if remotely controllable)
- Status information

The position of the station local/remote-switch is shown as a text in the lower part of the picture function. The status is normally indicated by different colors. In addition to the color coding, the abnormal status is indicated by an information message in dialogs.

By default, the standard function is obligatory for every MV substation (LIB 510/MV Process) because it is used for defining the control authority level for the substation. If there are several pictures for the same substation, e.g. overview, MV-busbar, HV-busbar, protection, etc, it is sufficient to have the station picture function in one of these pictures.

It is also possible to configure the other picture functions e.g. switching device, measurement, etc. to operate without station. For further information, please refer to the manuals for used picture functions.

The standard function for the station has the following sub-functionality:

- Alarm state/acknowledgement for all alarms within a selected substation
- Station blocking/deblocking of update, control, alarm, event, printout and reprocessing within the database
- Data update facility for the entire substation
- Object messages

2.2 Features/Options

- Station local/remote-switch can be set out of use i.e. no authority checking based on the station local/remote-switch
- Motorized/manually operable

- Versatile configuration
- A large amount of predefined information messages
- Help in all dialogs

2.3 Process Commands

- Local/station/remote/(out of use) commands to the station local/remote-switch

2.4 Station Dialogs

This chapter describes the dialogs of the MV Process station. These dialogs are found in the directory LIB4/FMOD/MVPROCESS/USE and they can be opened by clicking the station picture function or the More... menu in the station main dialog.

2.4.1 Object Presentation

The current station local/remote-switch position is indicated by different texts. The color of the symbol gives additional information about the status. Please refer to the General chapter in this MV Process Operator's Manual regarding the color and corresponding status.

2.4.2 Main Dialog

The station main dialog is for monitoring and controlling the station local/remote-switch.

All functionality related to the station local/remote-switch is relevant only if the picture function has been configured to exist i.e. it is visible.

Functionality

The station local/remote-switch position is indicated by radio buttons if it has been defined as remotely controllable. The check-box indications will be used if the L/R-switch is manually controllable.

The insensitive button is the button with a grey label whereas the sensitive buttons have a black label. Only the sensitive buttons can be activated. If the button is insensitive, the reason could be:

- control center does not have the authority to control this substation
- the operator does not have the authority to perform the operation
- control is out of use/can be used manually only
- discrepancy in database configuration; some objects are connected to the process, some are not
- control has been blocked
- the station is already in local control
- communication with the process unit is lost

The dialog shows messages of the station local/remote-switch state on the information bar. Only the most important message is shown, but all active messages can be seen in the Object messages dialog which can be found by clicking the More... button. Active messages can be seen in the Object messages dialog, and more detailed explanations of their meaning can be found in Help.

If the station local/remote-switch is not connected to the process, the dialog simulates the actual operation within the database.

Other supported features are made available when clicking the More... button. Help on each subdialog can be found by clicking the Help button in the sub-dialog.

Figure 2 presents the main dialog for the station picture function.

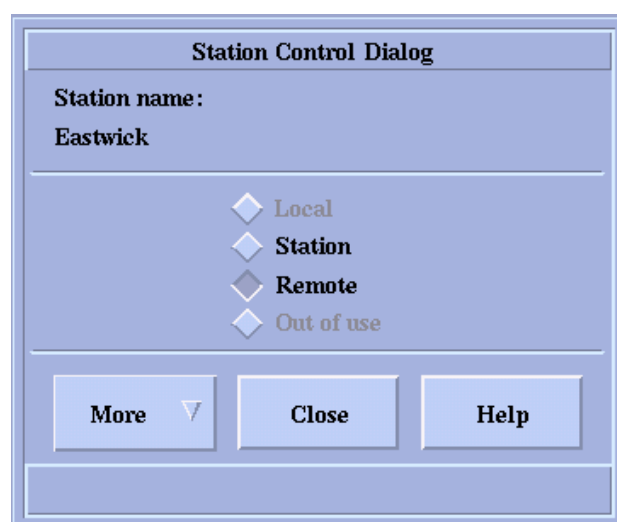


Figure 2. Main dialog for the station (FPU_STA2A.PIC)

The station name is shown on the upper part of the dialog.

Table 1 The dialog buttons have the following functionality:

Button	Functionality
Radio-buttons/check boxes	The current position of the station local/remote-switch. If the object is remotely controllable (indication with radio-buttons), the buttons can be used to make a preselection of the control command for the station local/remote-switch. Successful preselection displays control action acknowledgement dialog shown later on in Figure 3. Preselection does not send any command to the process; it is used as an internal tag only.
More	Opens a selection list of the station sub-functionality.
Cancel	Closes the dialog and its sub-dialogs.
Help	Opens the general LIB 510 help dialog with the help text file FPU_STA2A.HLP.

2.4.3 Control Confirmation Dialog

Figure 3 presents the control confirmation dialog which is opened from the main dialog. The function of this dialog is to confirm the preselected action before sending the command to the process.

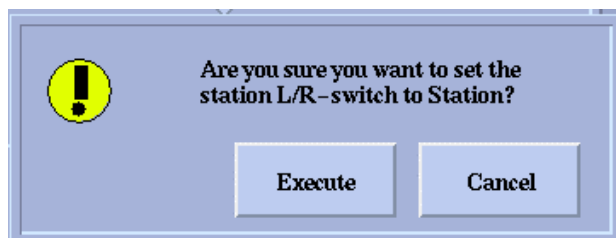


Figure 3. Station control confirmation dialog (FPU_STA2B.PIC)

The operation to be carried out is described in the dialog for the user to verify it..

Table 2 The dialog buttons have the following functionality:

Button	Functionality
Execute	Executes the preselected command. In case of a simulated process, the change in the database is simulated.
Cancel	Deselects the object and closes the dialog.

2.4.4 Alarm State Dialog

The alarm state dialog can be opened by selecting Alarm state... which can be found by clicking the More button in the main dialog.

The dialog presents all persisting alarms or fleeting alarms within the selected substation and the unacknowledged alarms can be acknowledged. For details, please refer to the General chapter in this MV Process Operator's Manual, which contains more detailed information about the Alarm state dialog.

2.4.5 Station Blockings Dialog

The station blocking dialog can be opened by selecting Station blockings... which can be found by clicking the More button in the main dialog.

The station blockings dialog is aimed for making the following blockings within the selected substation in MicroSCADA/SCS database. For details, please refer to the General chapter in this MV Process Operator's Manual, which contains more detailed information about the Blockings dialog.

2.4.6 Update Process Data Dialog

The update process data dialog can be opened by selecting Update process data... which is found by clicking the More button in the main dialog.

The update process data dialog is aimed for updating the database from the actual process within the selected station. The dialog can be used to initialize the substation after the system restart or to verify the database consistency.

Functionality

Data fetching is performed in the background and therefore, the system can be used during the updating. The duration of data fetching depends on the amount of data to be updated, the speed of the communication line and the communication protocol.

The possible error messages during the execution will appear onto the MicroSCADA notification window on the console.

To activate data fetching, press the YES button. To exit the dialog without updating the database, press the NO button.

Figure 4 presents the update process data dialog.

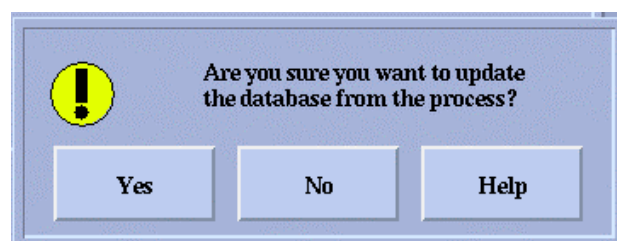


Figure 4. Update process data dialog (FPU_STA2C.PIC)

Table 3 The buttons have the following functionality:

Button	Functionality
Yes	Starts the data fetching and closes the dialog
No	Closes the dialog.
Help	Opens the general LIB 510 help dialog with the help text file FPU_STA2C.HLP.

2.4.7 Object Messages Dialog

The object messages dialog can be opened by selecting Object messages... which is found by clicking the More button in the main dialog.

An overall picture of the station local/remote-switch state can be seen in the dialog. The dialog shows information messages active at the moment the dialog is opened. The most important active message is also shown on the information bar of the main dialog.

Functionality

A new "snapshot" can be taken by pressing Refresh. The dialog can be closed by pressing Close. If messages do not fit into one view, they can be viewed with the help of the scrollbar. For details, please refer to the General chapter in this MV Process Operator's Manual, which contains more detailed information about the Object messages dialog.

Information Messages

Message	Explanation
STATION L/R-SWITCH MISSING	The process object for the station local/remote-switch indication cannot be found. The object has not been created or it has been manually deleted or renamed.
STATION L/R-SWITCH COMMAND OBJECT(S) MISSING	At least one of the process objects for the station local/remote-switch control commands cannot be found. The object(s) has not been created or it has been manually deleted or renamed.
NOT AUTHORIZED CONTROL CENTER	The control authority for the station is not given for this application, a list of currently authorized control centers for a station can be seen in the dialog which can be found in the picture header menu.
NOT AUTHORIZED TO CONTROL	The personal authority level of the user is not high enough to perform control actions.
TEMPORARILY LOCALLY CONTROLLABLE	The control of the station local/remote-switch has been temporarily inhibited due to the position of the object (normally inhibited by the Local position).
VALUES SUBSTITUTED BY CONTROL DEVICE	The control device has substituted actual information from process with another values i.e. it is in the simulation mode.
DISCREPANCY IN POSITION INDICATION OBJECTS	Not all of the database process objects for the station local/remote-switch are in the same switch state.
DISCREPANCY IN CONTROL OBJECTS	Not all of the database process objects for the station local/remote-switch control are in the same switch state.
NOT CONNECTED TO PROCESS	The station local/remote-switch object has no connection to the actual process. The dialog is made to simulate the actual operation within the database.
STATION L/R-SWITCH NOT REMOTELY CONTROLLABLE	The station local/remote-switch indication object is connected to the process, but the command objects are not.
STATION L/R-SWITCH IND. NOT CONNECTED TO PROCESS	The station local/remote-switch command objects are connected to the process, but the indication objects are not.
STATION L/R-SWITCH HAS IRRATIONAL VALUE	The value of the station local/remote-switch is out of range.

STATION L/R-SWITCH NOT UPDATED	The station local/remote-switch has not been updated from the process.
STATION L/R-SWITCH VALUE OBSOLETE	The station local/remote-switch has an obsolete value.
CONTROL BLOCKED	The control of the station local/remote-switch is blocked (UB=1). The blockings can be set with the help of Blockings dialog.
SELECTED ON ANOTHER MONITOR	The same station local/remote-switch object has been selected and the control dialog is open on another monitor.
UPDATE BLOCKED	The indication of the station local/remote-switch is blocked (UB=1). The blockings can be set with the help of Blockings dialog.
ALARM BLOCKED	The alarms of the station local/remote-switch are blocked (AB=1). The blockings can be set with the help of Blockings dialog.
EVENT BLOCKED	The events of the station local/remote-switch are blocked (HB=1). The blockings can be set with the help of Blockings dialog.
PRINTOUT BLOCKED	The printouts of the station local/remote-switch are blocked (PB=1). The blockings can be set with the help of Blockings dialog.
REPROCESSING BLOCKED	The event activation (reprocessing) of the station local/remote-switch is blocked (XB=1). The blockings can be set with the help of Blockings dialog.

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