

2. Operations

All the operations which can be performed are directly accessible from the main interface. Following a brief explanation of all of them:

Load a cluster

In order to load a cluster it's enough to select the desired name/version of the class to open and press the load button. At this point the whole tree (from cluster down to register) will be displayed in the main tree view sector. By default the tool is loading an empty tree without receiving any data from the hardware and without connecting to any of the plc.

The tool supports connection toward only one cluster. In order to open a new cluster the current opened cluster must be closed first. However multiple instances of this software from the same machine are feasible without interference and therefore multiple clusters may be open simply launching multiple instances of the application.

Connect / Disconnect a PLC

In order to connect or disconnect a PLC a cluster containing at least a PLC must be already opened. Selecting then a PLC item within the tree the "Connect PLC" button within the operation sector will be enabled. Pressing this button the PLC will be connected and within the "selected hardware information" sector the following information will be added as shown in the following figure:

This PLC is currently connected

PLC Runtime information

PLC HEADER DATA uploaded from: plccofe03

Software Release: 17737

Mapping Owner: 27750

Mapping Checksum: 1653404626

Generation Date: 2011-9-28-18:10:16

Send / Receive / Monitor operations

As previously mentioned, the main goal of Silecs diagnostic tool is to be giving the user the possibility of sending/receiving data to/from the hardware. In order not to generate too much traffic over the network Silecs library does not provide the possibility of transmitting single register. The smallest unit of transferable data is the block.

At this point since each device within the PLC have the same blocks, as well as same PLCs within a cluster have the same devices it has been given the possibility to send/receive a block to all of them at the same time.

For instance selecting a device within the main window and pressing send/receive will be sending/receiving the selected block (combo box in the control sector) only to the selected device.

Selecting a PLC or the cluster instead will be sending the selected block to each instance of it within the PLC/Cluster. (**NB: Sending operation is a critical operation that must be done carefully since cannot be aborted or rolled back**).

Receiving a block automatically updates the column "Input Buffer", whereas sending a block takes the values from the output buffer column.

Array cannot be displayed directly in the tree view and a "[...]" is displayed instead. In order to expand their content double click on the "[...]". A popup window shall be automatically opened displaying the whole data as shown in Error: Reference source not found. This window shall not be opening clicking on the output buffer of read only register and vice versa. An information message such "[INFO:] Selected register has no output access" will be displayed instead in the console sector).

Monitoring operation provides the possibility of scheduling an automatic receive operation. In order to do that it is enough to specify the time interval every which the receive operation should be run and press on the monitoring button. If the time set will be inferior to the minimum amount of time to retrieve the data a best effort policy is applied. Monitoring operation shall be automatically stopped if no more PLCs are connected or the cluster is closed.