Maestro UX

Plant Management Level software
Module: Applications interface PC/OLE
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1 Features

- Software package for coupling PCs (with Windows and OLE) to a CSO workstation
- Operation of plant Management Level (PML) applications in a PC system environment
- Exchange of information between PML application or Excel and the CSO functional environment.
- Software interface for PML applications based on the 'OLE automation' (Object Linking and Embedding) standard
- PML applications and Excel have access to CSO-process-, history-,object-data and messages

2 Application (Usage)

The broad use of PCs in companies requires the processing of data from the CSO system with applications from the PC world, e.g. with standard software such as Excel or other customer-specific programs. Whereas the exchange of information is regulated with ‘DDE’ (Dynamic Data Exchange), the OLE standard supports handlings of objects (graphics, spread sheets, documents) between PC applications. Graphics or spread sheets generated with Excel, whose data originate from CSO, can be inserted in OLE-capable applications.

The ‘applications interface PC/OLE’ module supports the standardized coupling of a PC (with Windows) to a CSO workstation and provides the application on the PC with an OLE interface for the exchange of information with the CSO environment. With it such tasks of the Plant Management Level like statistics, analysis, accounting can be accomplished. As a special feature, standardized macros are provided for exchanging CSO data with Excel in particular, without having to conduct any programming. The PC is connected to the CM-Net (Ethernet with the TCP/IP protocol) of the CSO-workstation. Several PCs can be coupled together to form a network.

3 Description

The ‘applications interface PC/OLE’ module is a H&B-licensed software package consisting of submodules for the PC and CSO workstation. The ‘OLE server’ submodules as well as the ‘Host-Client’, ‘OLE-API’ and the ‘Macros for Excel’ should be installed on the PC (installation procedure). The ‘Host-Server’ submodule is located on the CSO workstation. Through the CSO configuration dialog the Host-Server is informed of the connected PCs (1...5*) and the access rights*) of the applications to the CSO functional environment. Via dialog the OLE servers are informed of the characteristics of the coupled CSO workstation.

The OLE-API is a programming interface (API = Application Programming Interface) with a ‘Client-Server’ concept. It is provided for the applications via the standard language called ‘Visual Basic’. (Use of OLE-API in the standard languages like ‘Visual C ++’ or ‘Smalltalk’ and in PC standard software like ‘Access’ are available on request). In order to process CSO basic data with Excel without programming, macros are provided to match with the OLE-API. The macros obtain their input parameters (e.g. selector name) from the cells in the working sheet. Results of the macro version are stored in separate cells of the working sheet. The macros are defined for the main application jobs, the default values can be changed by the user.

* registered trade mark of Microsoft
Application jobs on the PC (e.g., reading of process data) are sent via the OLE-API or macros to the OLE-Server, which formally tests the jobs, administers them and initiates their transmission to the host server. The host server checks the reliability of the job and commissions the CSO station with the processing. The host server receives the results from the CSO station and triggers off further transmission to the OLE-Server on the PC. The OLE-Server passes on the results either through the OLE-API to the PC application or via the macros to Excel for further processing.

Applications on the PC are provided with the following functions via the OLE-API or the macros so that information can be exchanged with the CSO function environment:

* reading of process data by CSO functions via selectors
* cyclical reading of process data by CSO functions via selectors (for macros only)
* write values into CSO functions using selectors
* reading messages from the central message database via filter criteria;
* determining the list of CSO function names and reading their config data;
* selectively reading the history data from the archive via filter criteria;
* reading the date and time of the CSO workstation.

In order to operate the ‘applications interface PC/OLE’ the software packages Windows 3.1 or 3.11 (or Windows ’95)
Visual Basic V 4.0. PC/TCP protocol (OnNet from FTP) and Excel 5.0 must be installed on the PC. In terms of hardware, the PC requires an Ethernet card. The CSO workstation must have a CM-Net connection, the installed software must have a ‘Host-Server’.

4 Ordering information

Computer coupling 72347-0-1__.0000

<table>
<thead>
<tr>
<th>Host-Server</th>
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<tr>
<td>Access to process, object data, events</td>
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<tr>
<td>Access to function history in archive</td>
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<tr>
<td>Host-Client on computer for PC with Windows/OLE, incl. OLE-Server, OLE-API, macros for Excel</td>
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*) Function to be released