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ACS790

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As of V8.00

Service- and Operating software

ACS790

For KNX, LPB and M-bus plants

The service and operating software ACS790 is for KNX, LPB and M-bus plants equipped with the appropriate bus devices. The software is installed on ACS operator stations and ACS service laptops and consists of the programs:

- **ACS Tool**   **for engineering, commissioning and plant operation**
- **ACS Alarm**   **for receipt, listing and reporting of faults**
- **ACS Batchjob**   **for automated task execution**

Use

Technical applications of ACS790 include:

- Plant operation and monitoring of Synco™ plants with KNX bus devices (primary controllers, individual room controllers, room units, central apartment units).
- Plant operation and monitoring of heating plants with LPB bus devices (controllers, pulse adapters, temperature sensors/adapters, digital input modules, relay modules).
- Plant operation and monitoring of M-bus controllers in community and district heating transfer stations.
- Recording data from M-bus meters to calculate consumption costs.
- Recording data from RF-capable meters from the Siemeca™ AMR system via network nodes on M-bus control units.
- Alarming (optical, acoustic) plant and device faults.
- Batchjob software for technical plant management.
- Commissioning and servicing of KNX and LPB plants.

ACS Tool

The program "ACS Tool" is designed to engineer, commission and operate KNX, LPB and M-bus plants with the appropriate bus devices.

Plant operation	
Popcard	Plant and device operation via popcard tables.
Plant diagram	Plant and device operation via plant diagrams.
Plant engineering	
Parameter set	Process (read, write, compare) parameter sets (data points) for a plant's devices.
Commissioning report	Protocol of data point values for individual devices or all devices for a plant (protocol as handover document).
Trend	
Online trend	Record and display of the dynamic curve for select data points. Connection between plant and ACS required while trending.
Offline trend	Record and display of the dynamic curve of select data points. No connection required between plant and ACS while trending data. The data is read from the central communication unit for display in ACS.
File transfer	
Transfer	File transfers from one central communication unit to ACS (and vice-versa).
Plant view	
Standard view	Plant navigation using standard tree (structured by device addresses).
User-defined view	The tree structure as defined by the administrator for the user view of "Operation" and "Maintenance". The devices are integrated in the user-defined nodes (branches).
User view (User levels)	
Operation	Use only when application "Plant operation" is enabled. The data points relevant to operating the plant are displayed in ACS.
Maintenance	The applications "Plant operation", "Online trend", "Offline trend" and "File transfer" are enabled. All applications and data points relevant to plant operation and servicing are displayed.
Administration	All applications are enabled. All data points are displayed to the administrator. This view is used for commissioning plants. Further, the user-defined popcards, plant diagrams and plant views are created.

ACS Alarm

The program "ACS Alarm" allows for the receipt, listing and alarming of plant and device faults.

Alarm	
Plant and device faults	Plant and device faults are received by "ACS Alarm", saved and displayed as alarm messages as well as forwarded to a printer.
System report	
Information on the system	System information, i.e. on the plant, central communication unit and devices, are recevied by "ACS Alarm", saved and displayed as a system report. Reports can be printed off periodically.

ACS Batchjob

The program "ACS Batchjob" allows the automated execution of tasks in building technical plants.

Batchjob	
Execute task	Monitoring of all planned tasks.
Plan and evaluate task	Definition, planning and evaluation of tasks.
Log task	Results of executed tasks.

Central units and service interface

Executable applications depend on the central units connected or the service interface (SI).

Applications	Central units										SI
	OZW775	OZW772 6)	OZW771	OZW672	OCI600	OCI611	OZW10 4)	OZW111	OZW30	OCI55	OCI700
Plant operation	●	●	●	●	●	●	●	●			●
Plant engineering	●	●	●	●	●	●	●	●			●
Online trend	●	●	●	●	●	●	●	●			●
Offline trend	●	●		●	●						
File transfer	●	●		●	●		●				
Alarm	●		●		●	●	●	●	●	●	
System report	●		●		●	●	●	●	●	●	
Batchjob	●	●	●	●	●	●	●	●			●
Direct connection	● 2)	● 3)	● 1)	● 3)	● 1)	● 1)	● 1)	● 1)	● 1)	● 1)	● 2)
Dial-up connection	●		●		●	●	●	●	●	●	
IP connection	● 5)	●		●							

1) Using standard zero-modem cable
2) Using standard USB cable (plug type A to type B)
3) Using standard USB cable (plug tape A to type Mini-B)
4) OZW10 as of version V3.0
5) OZW775 as of version V2.0
6) OZW772 as of version V2.0

Documentation

Device type	Datasheet number
Central communication unit OZW775	N5663
Central communication unit OZW772	N5701
Central communication unit OZW771	N3117
Central communication unit OZW672	N5712
Central communication unit OCI600	N2529
Central communication unit OCI611	N2533
M-bus Central unit OZW10	N5362
M-bus Central unit OZW111	N5363
SYNERGYR Central unit OZW30	N2841

Servicetool and Service interface OCI700	N5655

Ordering and delivery

Ordering

Please provide the type reference when ordering the software.

Designation	Type reference	Article number
Service- and Operating software	ACS790	S55800-Y100

Delivery

Software is delivered as a CD ROM with the following programs:

- ACS Tool
- ACS Alarm
- ACS Batchjob
- USB driver (RNDIS driver)

ACS Tool

Applications

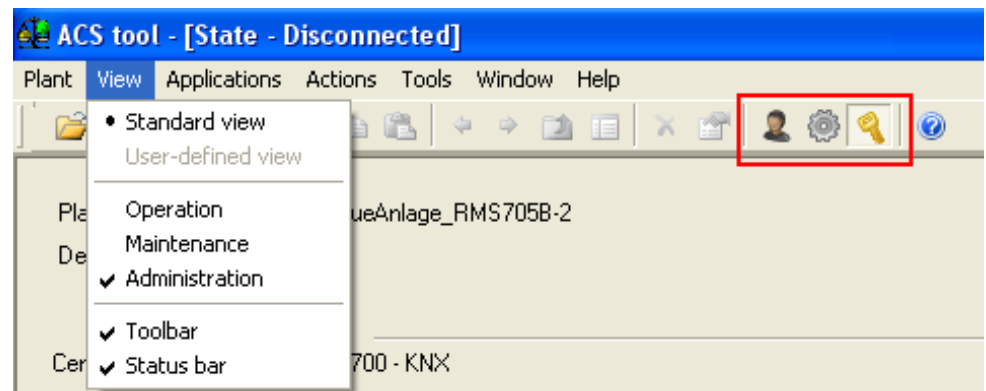The "ACS Tool" application program includes the applications:

- Plant operation
- Plant engineering
- Online trend
- Offline trend
- File transfer

The applications can be started multiple times and operated in parallel.

User view

Available user views (user levels) include:

- Operation
- Maintenance
- Administration

You can preset the user view for display at start up.

An individual password can be defined for each user view, but is not required.

The user view can be selected without restart via the "View" menu or the symbols on the toolbar.

Only the "Administration" user view can start all applications.

Plant navigation

Plant navigation allows the operator to find the devices for a plant within a tree structure. The following views can be selected in plant operation:
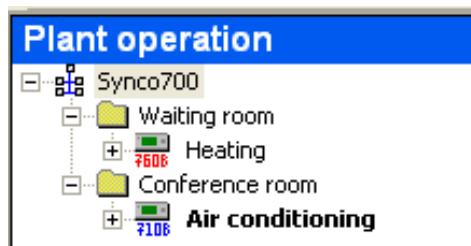
- Standard view
- User-defined view

Standard view

The devices are assigned per the addressing in a tree. The nodes (branches) are opened and closed with a click of the mouse.
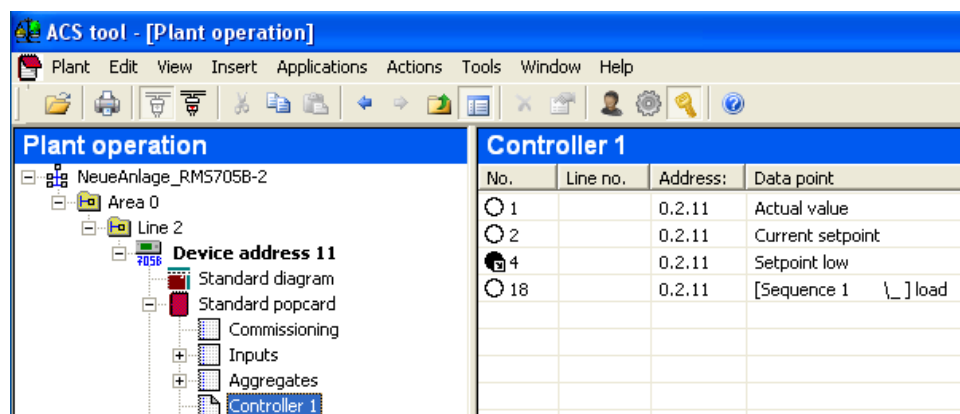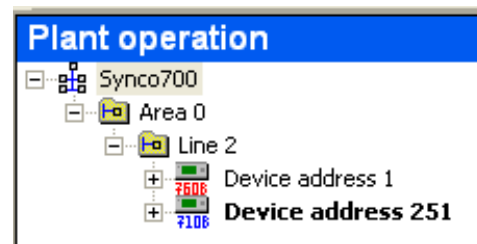
User-defined view	The administrator defines the tree structure by adding new nodes (branches with suitable names). The devices are then assigned to the nodes.

Popcard

Standard popcard	A standard popcard with pre-defined tree structure and content for the operating pages exist for each device type.

Each selected operating page is updated automatically. The circle in red (not updated) changes to black (updated) to visualize the update.

User-defined popcard	The administrator creates a user-defined popcard. This allows for quick access to commonly used data points in the user views "Operation" and "Maintenance". The features include:

- A popcard can consist of multiple user-defined pages.
- Each page can be divided into multiple user-defined sections.
- Data points for all subordinate devices can be added to the popcard.

You can switch between the standard popcard and user-defined popcard in the "Administration" user view.

Standard and user-defined popcards can be copied as well.

Operating pages can be printed, saved as pdf or rft and exported as xls.

Plant diagram

A plant diagram corresponds to the graphical display, e.g. of a ventilation plant and may include a device or device groups. The features include:

- Data points and their values are updated and displayed as an image.
- Writable data point values can be edited in the image.
- Links to other images are possible for user-defined images.

Standard diagram

The software includes a library with standard diagrams (standard plant diagrams). The ACS displays the appropriate standard diagram based on device configuration (plant type).
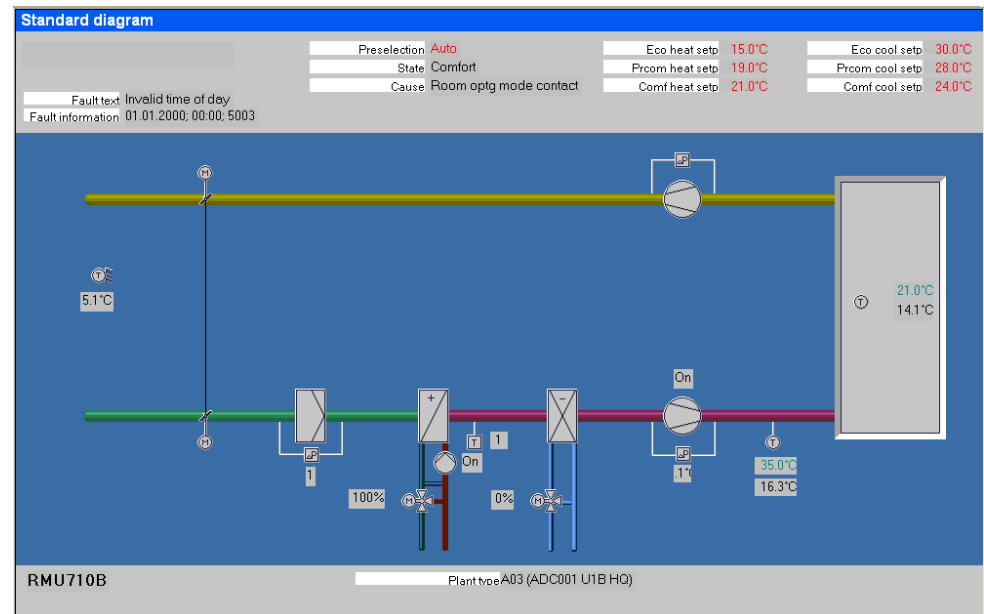
User-defined
plant diagram

A user-designed plant diagram can be created as follows for each device in the "Administration" user view:

- Copy and adapt standard diagram:
  During editing, data points, texts and links can be added, deleted and edited directly. Additional image supplements, such as lines, colors, font colors are possible using the image editor.
- Create a new plant diagram:
  An external graphics software (e.g. Micrografx) is required for graphical displays. Graphics can be taken over from the following formats: BMP, GIF, TIF, JPG or PNG.

The standard and user-defined plant diagrams can be printed and saved as pdf or rtf.

Plant engineering

Parameter set

The application "Plant engineering" → "Parameter set" processes parameter sets (data points) for devices in the "Administration" user view.

Editing functions include:

- Edit data points (in parameter set).
- Read, write, compare parameter set.
- Import, export parameter set (offline engineering).
- Archive parameter set.
- Export parameter set as xls file.

Commissioning report

The application "Plant engineering" → "Commissioning report" records the data points (parameter sets) for devices in the "Administration" user view.

Data points are saved or displayed with data point designation, value, unit and state.

Creating the commissioning report is combined with reading of parameter sets.

The commissioning report can be printed, saved as pdf or rtf and exported as xls.

Export as xls file

	A	B	C	D	E	F
1	Parameter set "Inbetriebnahmeprotokoll2011-09-23 15:08:00 (0.2.1)" from:	RMU730B 0.2.1				
2	Created on:	27.09.2011 17:46				
3						
4						
5						
6	Commissioning / Basic configuration					
7	Line no.	Data point	Address:	Value	Unit	State
8		Plant type	0.2.1	Basic type A vent controller		OK
9		Position 1	0.2.1	----		OK
10		Position 2	0.2.1	----		OK
11		Position 3	0.2.1	----		OK
12		Position 4	0.2.1	----		OK
13						
14	Commissioning / Extra configuration / Input identifier					
15	Line no.	Data point	Address:	Value	Unit	State
16		N.X1	0.2.1	Supply air temperature		OK
17		N.X2	0.2.1	Digital		OK

Trend

The applications "Online trend" and "Offline trend" records the value curve of data points and displays them graphically. The desired data points for a plant is entered in the trend definition and the sample interval is set.
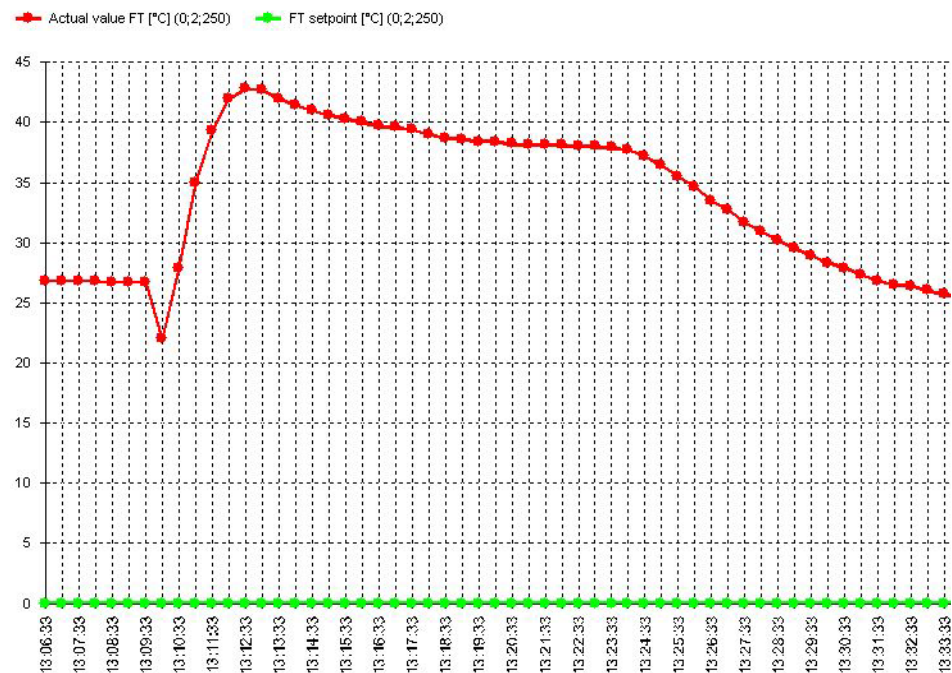
Online trend

- Plant and ACS must be connected.
  Trend data is automatically started after the trend definition and the recorded data is saved in ACS. The graphical display of the trend data is online.

Offline trend

- No connection between plant and ACS.
  The trend data is saved on the central communication unit. Start and end of trend can be defined. They are read from the central communication unit to graphically display the trend data in ACS. "Offline trend" is not available on some central communication units, please refer to page 3.

Trend display

The data point values are displayed per the sampling rate in trend (for example, a sampling rate of one minute).

8/12

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Service- and Operating software ACS790

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| Export as xls file | Trend data can be printed, saved as pdf or rtf and exported as xls file. |

	A	B	C	
1	Trend name:	New Online-Trenddefinition		
2	Log name:	New Trend2		
3	Location:			
4	Installer:			
5	Description:			
6				
7	Trend started manually			
8	Started at:	14.09.2011 10:05		
9	Stopped at:	14.09.2011 10:20		
10				
11	Interval [s]:	300		
12				
13				
14	Time	Heat demand air handling [%] (0.2.11)		
15	14.09.2011 10:05	70		
16	14.09.2011 10:10	72		
17	14.09.2011 10:15	69		
18	14.09.2011 10:20	71		

File transfer

The application "File transfer" exchanges files between a central communication unit and ACS. Transfer functions include:

- Files copied from the central communication units or their storage cards in ACS (or vice-versa as well, depending on central communication unit type).
- Format storage cards for central communication units.

File transfers are only available for specified central communication unit types, see table on page 3.

ACS Alarm

Applications

The "ACS Alarm" application program includes applications to receive and process alarms as well as reporting plant state:

- Alarm
- System report

Alarm

Alarms, based on plant and device faults, are entered on the ACS alarm list upon receipt. Configurable alarm functions also include:

- Trigger optical/acoustic signal.
- Open popup window.
- Print alarm message.
- Any combination of the three.

Column headings as well as assignment of individual columns in the alarm list can be configured by the user.

System report

A system report provides a general overview on the plant operating state and included the following information:

- Plant name
- Plant state
- Transmission time, date
- Plant phone number
- Central communications type

Even more information, e.g. operating hours or meter values, may be include in the system report depending on the central communication unit type.

ACS Batchjob

Applications
The "ACS Batchjob" application program automatically controls and registers plant data and includes the applications:

- Execute task
- Plan and evaluate task
- Log task

Execute task
"Execute task" monitors the planned tasks:

- One-time scheduled tasks
- Periodically executed tasks

Execute task can be started and stopped in general for all tasks or individual tasks can be locked or enabled.

Plan and evaluate task
A task is always limited to one plant. Multiple tasks must be defined for multiple plants. The following may be defined or added as a task:

- Read data point
- Write data point
- Read file

A task definition consists of the following:

- Task name
- Task description (comment)
- Task execution: One-time or periodic
- Start: Date/time
- Stop: Date/time or continuous
- Cycle (if periodic), record time, priority
- Export, automated export

The evaluation after task execution consists of:
- Result with date, time and data point values.
- Result can be automatically exported as xls file.

Log task
"Log task" logs the processes under "Execute task". All automatic and manual tasks are logged.

Limitations

ACS Tool

Limitation	Description
No continuous operation	**ACS Tool is not suited for 24-hour operation.** We recommend closing and restarting the "ACS Tool" program at least once a day.
Number of devices in popcard and plant diagram	Updating data point values takes longer if data points for a number of different devices are included in a popcard.
Parallel operation	Execution of individual applications slows if multiple applications are opened simultaneously (e.g. multiple online trends).

Online, offline trend

Limitation	Description
Online trend Trend file (plx) max. 100 MB	• Please note that the trend file (plx) may not exceed 100 MB. Longer periods of trending result in plx files that are very large. This is prevented by restarting the program every 24 hours. • We recommend exporting trend data daily and then deleting. The plx file must be closed to compress the file.
Offline trend Trend file (plx) max. 100 MB	• Trend files created offline can only be read via ACS and displayed as a trend. • Please note that the trend file (plx) may not exceed 100 MB. Export the trend data to Excel as needed and then delete in the plx file (see Online trend).

ACS Batchjob

Limitation	Description
Scope of Batchjob definition	No precise comment is possible on the maximum scope of the batchjob definition. The following factors must be clarified during engineering: • Number and type of data points • Batchjob execution interval • Type of connection (model/direct connection) • Number of different plants • PC/Laptop and modem performance
	Example 1: Plant: ca. **100** M-bus devices Central communications unit: OZW10, direct connection Number of task definitions: **1** Number of DPs per definition: **50** Reading period: daily (periodic) **Example 2:** Plant: ca. **180** M-bus devices Central communication unit: OZW10, direct connection Number of task definition: **87** Number of DPs per definition: **1** Reading period: daily (periodic)

Technical data

Compatibility	Plant files from ACS700 to ASC785 are compatible with ACS790.
Number of devices per plant	The number of devices per plant depends on the central communication unit used, please refer to the corresponding datasheets.
Modem driver	The modem driver (TAPI) available on the PC/Laptop operating system is compatible with ACS.

PC/Laptop requirements with ACS

	Minimum requirements
Processor	800 MHz, recommended 1 GHz
RAM	512 MB, recommended 1 GB
Hard disk	2.0 GB of available storage for installation Additional storage space required for plant data
Screen	VGA standard driver 800 × 600, 256 colors Recommended SVGA standard driver 1024 × 768
Interfaces	• USB 1.1 and higher Serial COM up to 19,200 Baud • Network card (Ethernet)
Operating system	• Microsoft® Windows® XP as of Service Pack 3 • Microsoft® Windows® Vista™ as of Service Pack 2 (Home Premium, Business, Ultimate, or Enterprise), 32-bit versions • Microsoft® Windows® 7 as of Service Pack 1 (Home Basic, Home Premium, Professional, Ultimate), 32 and 64-bit versions • Microsoft® DotNet Framework 4.0 (included on the CD).
Drive	CD-ROM or DVD