

# Micro Application Example



# applications & TOOLS

Wireless Data Communication based on GPRS

**SIEMENS**

Central Station with WinCC V6.2

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## Foreword

Micro Automation Sets are fully functional and tested automation configurations based on A&D standard products for simple, fast and inexpensive implementation of automation tasks for small-scale automation. Each of the available Micro Automation Sets covers a frequently occurring subtask of a typical customer problem in the low-end performance level.

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The Micro Automation Sets are also available by clicking the following link:

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## 1 Micro Automation Set 21 and WinCC V6.2

### 1.1 Precondition

**WARNING** In order to be able to use this description it is inevitable to have read and comprehend the base document "Set21\_DocTech\_VxDy\_en.pdf" for the Micro Automation Set 21.

As the Micro Automation Set 21 base document says a SIMATIC MicroBox PC with Microsoft Windows XP embedded operating system is used on the "Central Station" part.

WinCC V6.2 is not approved for Windows XP embedded. Therefore, a standard PC with the following software is required.

Table 1-1

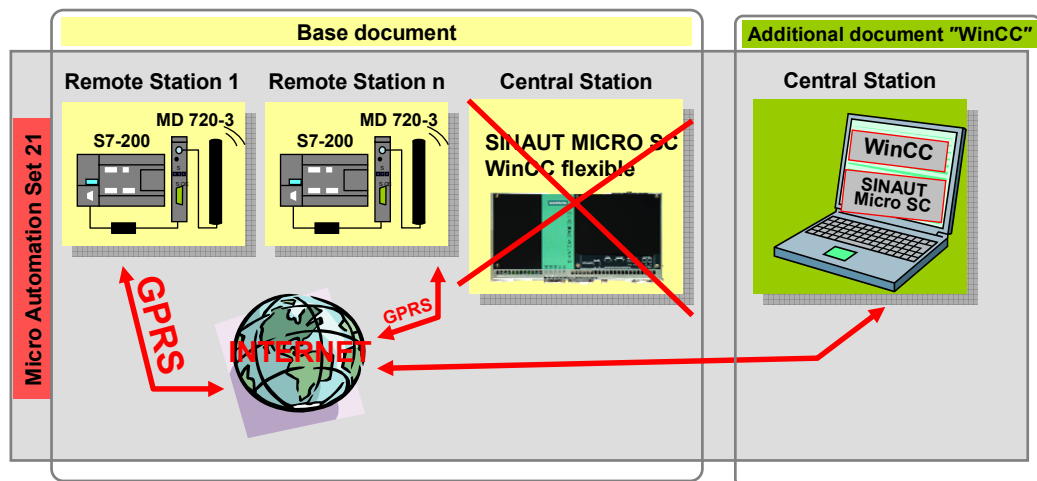
No.	Name	Type/Version
1.	Operating system	Windows XP Professional with Service Pack 2
2.	Microsoft Message Queuing services	
3.	Microsoft SQL Server	Version 2005 SP1 Hotfix

### 1.2 Benefits

As the Micro Automation Set 21 base document says the visualization system WinCC flexible is used on the Central Station part.

By applying the procedure described in this document the visualization system WinCC can be used. In terms of functions & features the WinCC project introduced here is identical to the WinCC flexible project in the base document for the Micro Automation Set 21.

Figure 1-1



## 2 Configuring the Startup Software

### 2.1 Preliminary remark

For the startup, we offer you software examples with the Startup Code as a download. The software example supports you during the first steps and tests with this Micro Automation Set. They enable quick testing of hardware and software interfaces between the products described in the Micro Automation Sets.

The software example is always assigned to the components used in the set and shows their principal interaction. However, it is not a real application in the sense of technological problem solving with definable properties.

### 2.2 Downloading the startup code

The software example is available on the HTML page from which you downloaded this document.

Table 2-1

No.	Object	File name	Content
1.	server	OPCM2M.xml	Configuration file for SINAUT MICRO SC
2.		MAS21_WinCC.zip	WinCC configuration
3.	Inspection shaft	MAS21_inspShaft_VxDy_en.mwp	S7-200 configuration
4.	Storm-water Overflow:	MAS21_StormWO_VxDy_en.mwp	S7-200 configuration

### 2.3 Configuring Components

The following chapter describes the configuration and the commissioning of the WinCC configuration.

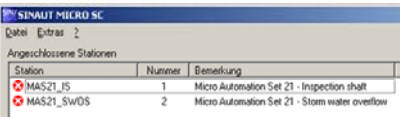
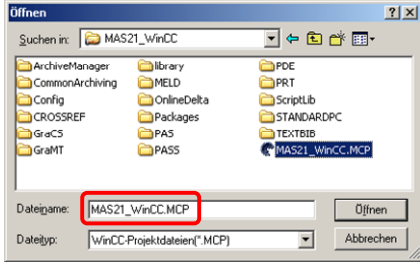
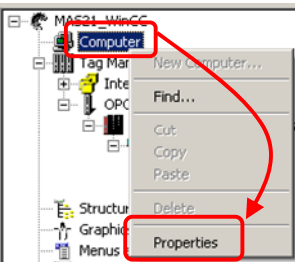
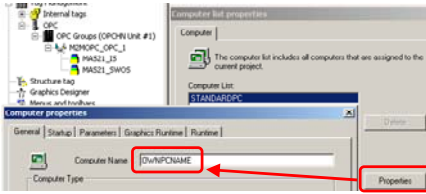
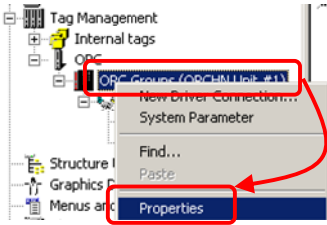
The configuration of the SINAUT Micro SC Server and of the S7-200 Remote Stations is described in the base document.

Table 2-2

No.	Device	Component	Base document	Additional document
1.	Central Station:	SINAUT Micro SC	Yes	No
5.		WinCC	No	Yes
6.	Remote Station	Installation, wiring	Yes	No
7.		Configuring the S7-200 controller	Yes	No
8.		Login procedure Remote Stations	Yes	No

### 2.4 WinCC

Table2-3

No.	Action	Remark
1.	Start the SINAUT Micro SC Server.	
2.	Unpack the file from table 2-1 No. 2 into the folder "WinCCProjects".	Standard installation directory: C:\Programs\Siemens\Step7\S7Proj\GS_03_02\XDBs
3.	Start WinCC and open the file "MAS21_WinCC.MCP" in the directory mentioned above. A window appears, please confirm with "Start server locally".	
4.	Assign a new computer name. To do so click on the icon "Computer" with your right mouse button and select "Properties".	
5.	Select the "Properties" button in the "Computer List Properties" window. Enter the name of your PC in the "Computer Properties" window. Confirm with "OK". Restart WinCC.	
6.	Check the connection to the OPC Server SINAUT Micro SC. To do so click on the icon "OPC Groups (OPCHN Unit #1)" with your right mouse button and then select "Properties".	
7.	Click the button "Properties" in the "Channel Unit Properties" window.	

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No.	Action	Remark
8.	Click "Properties" in the "Connection Properties" window.	<p>If a failure occurs, see below.</p>
9.	Click "Test Server". If a working OPC connection is available a window with the message "Test OK. This server supports a OPC Interface" will appear.	
10.	Start the WinCC runtime	

### Note

If the OPC connection does not work, access to process values is not possible.

Check the functionality of SINAUT Micro SC and the station parameters assigned in it as described in the MAS21 base document chapter 3.1.

The "Channel Diagnosis" which can be found via Start/SIMATIC/WinCC/Tools is used to evaluate the failure cause more precisely.



## 3 Live Demo

### 3.1 User interface

#### Operator display "Waste Water Application"

Figure 3-1

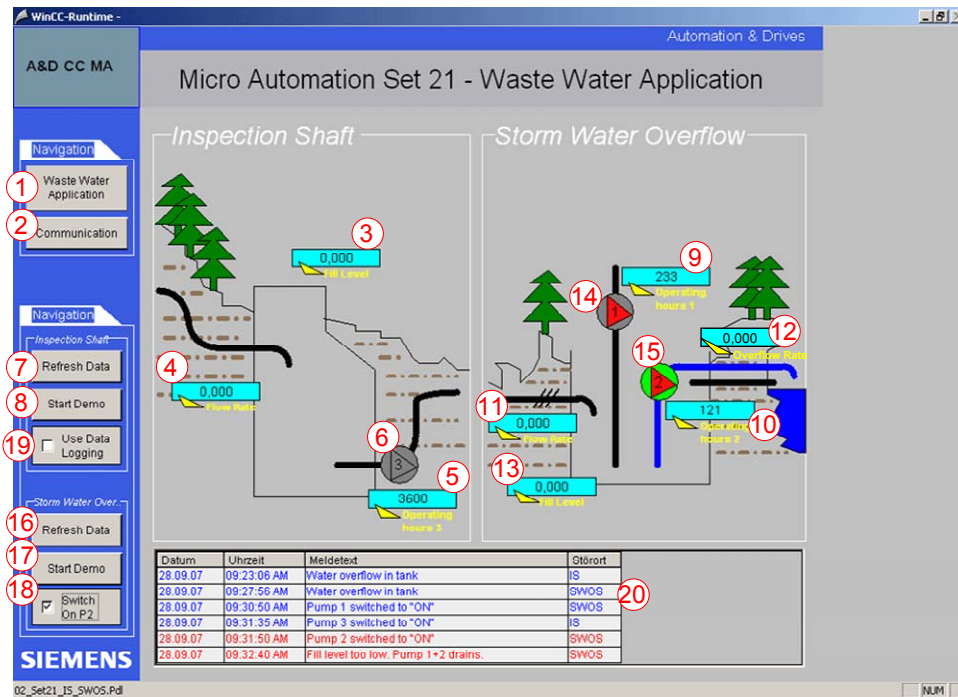


Table 3-1

No.	Description	Remark
1.	The Waste Water Application button takes you to the "Waste Water Application" operator display.	
2.	The Communication button takes you to the "Communication" operator display.	
3.	Display of the current filling level (Fill Level) of the Inspection Shaft.	The filling level is also graphically symbolized as the water level in the inspection shaft.
4.	Shows the current flow (Flow Rate) into the Inspection Shaft.	If there is a flow, the feed pipe turns blue.
5.	Operating hours display (Operating Hours) of pump P3.	
6.	Symbolizes pump P3.	Color changes to green if ON. Additionally the pipe is colored blue.
7.	Updates the depicted process data of Remote Station "Inspection Shaft"	

No.	Description	Remark
8.	Start the demo for Remote Station "Inspection Shaft"	
9.	Operating hours display (Operating Hours) of pump P1.	
10.	Operating hours display (Operating Hours) of pump P1.	
11.	Shows the current flow (Flow Rate) into the Stormwater Overflow.	If there is a flow, the feed pipe turns blue.
12.	Shows the current drainage (Overflow Rate) from the Stormwater Overflow into the lake/river.	If there is a flow, the drain pipe turns blue.
13.	Display of the current filling level (Fill Level) of the Stormwater Overflow.	The filling level is also graphically symbolized as the water level in the Inspection Shaft.
14.	Symbolizes pump P1.	Color changes to green if ON. Additionally the pipe is colored blue.
15.	Symbolizes pump P2.	Color changes to green if ON. Additionally the pipe is colored blue.
16.	Updates the depicted process data of Remote Station "Stormwater Overflow"	
17.	Start the demo "Stormwater Overflow"	
18.	Pump P2 is switched ON/OFF with this button	
19.	The Data-Logging in the station "Inspection Shaft" is enabled/disabled with this button.	Default setting: "Off"
20.	Here the alarm message window can be found. It displays current system messages.	Colored blue: gegangen Colored red: incoming

## Structure of operator display "Communication"

Figure 3-2

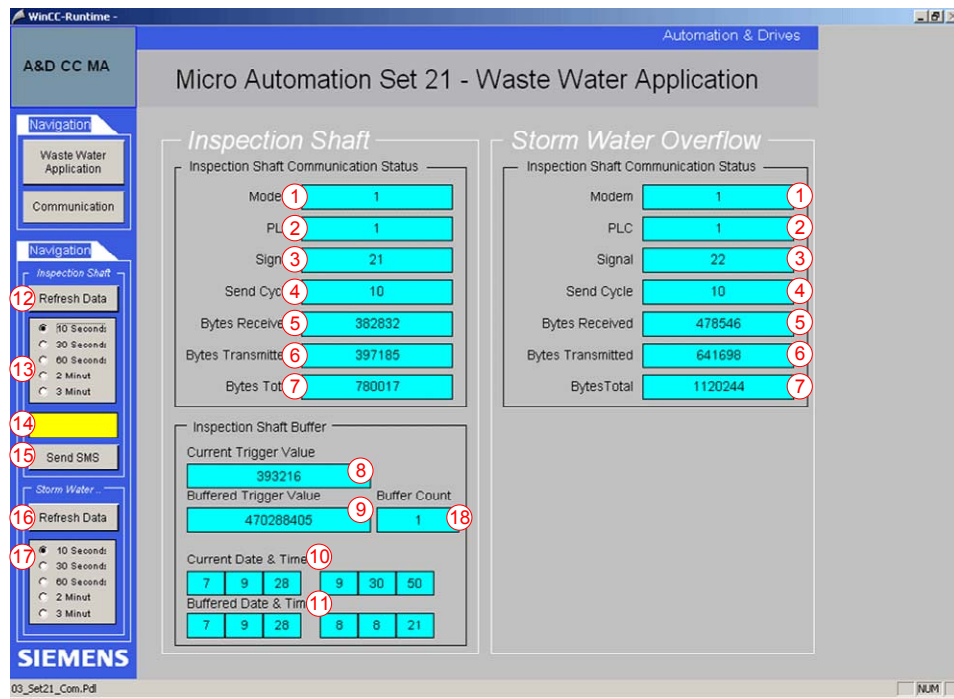


Table 3-2

No.	Description	Remark
1.	Shows whether the modem has successfully logged in at the SINAUT MICRO SC Server.	For Remote Stations "Inspection Shaft" and "Stormwater Overflow".
2.	Shows whether SINAUT MICRO SC and S7-200 are connected.	For Inspection Shaft and Stormwater Overflow.
3.	Signal intensity of the antenna	0 = poor reception 31=excellent reception For Remote Stations "Inspection Shaft" and "Stormwater Overflow".
4.	Currently active send cycle in seconds.	For Remote Stations "Inspection Shaft" and "Stormwater Overflow".
5.	Number of bytes received by the modem. Update occurs every hour	For Remote Stations "Inspection Shaft" and "Stormwater Overflow".
6.	Number of bytes sent by the modem. Update occurs every hour	For Remote Stations "Inspection Shaft" and "Stormwater Overflow".
7.	Total of bytes received and sent by the modem. Update occurs every hour	For Remote Stations "Inspection Shaft" and "Stormwater Overflow".
8.	Archive trigger for writing the current data of Remote Station "Inspection Shaft" via a Visual Basic Script into the CSV file	

No.	Description	Remark
9.	Archive trigger for writing the buffered data of Remote Station "Inspection Shaft" via a Visual Basic Script into the CSV file	
10.	Date and time of the last current data sent	
11.	Date and time of the data last sent from the buffer	
12.	Updates the depicted data of Remote Station "Inspection Shaft".	
13.	Send cycle of Remote Station "Inspection Shaft"	
14.	Telephone number to which an SMS is to be sent.	
15.	Send trigger for sending the SMS	
16.	Updates the depicted data of Remote Station "Inspection Shaft".	
17.	Send cycle of Remote Station "Stormwater Overflow"	
18.	Number of buffered data records remaining in the S7-200 controller due to a disconnection.	

## 3.2 Scenarios

The functionality of this WinCC interface is identical to the WinCC flexible interface in the base document. The single scenarios are described from chapter 5.2 on in the base document.