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Safety for Buildings with LOGO! 8 and LOGO! CMR

LOGO! Set 12



<https://support.industry.siemens.com/cs/ww/en/view/108416478>

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1 Task

In building management systems, risk prevention and timely alarming play an ever increasing role. With this in mind, the following areas of a building should be monitored with sensors:

- Basement for unexpected water ingress
- Duct under basement of building for overflow of the ground-water level
- Ground floor and basement windows for housebreaking
- Rooms for housebreaking
- all building areas for fire

If one of the above mentioned faults or risks occur, the user is to be informed via SMS.

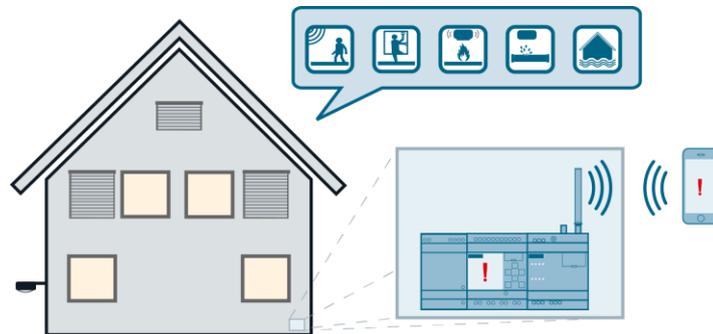
2 Solution

2.1 Overview

Schematic layout

The figure below shows a schematic overview of the most important components of the solution:

Figure 2-1



The automation solution uses a LOGO! 8 connected to a LOGO! CMR module to monitor the building areas and functions.

If a fault or risk occurs, an SMS is sent to the user and an alarm message is displayed on site on the LOGO! display. In addition, an acoustic alarm device with flashing light is activated in the building.

The alarm messages can be acknowledged via the LOGO! display. When an alarm message is acknowledged, the acoustic alarm device with the flashing light is deactivated. The alarm message will only go off, after the cause has been remedied.

The acoustic alarm device with the flashing light can also be deactivated via SMS.

The time of day of the LOGO! base module is synchronized via the LOGO! CMR module with an NTP server, so that the LOGO! base module constantly has the correct UTC time.

Note

In this document, the term “LOGO! CMR” refers to the modules “LOGO! CMR2020” and “LOGO! CMR2040”.

Advantages

This application example on hand offers you the following advantages:

- Cost-effective and simple security monitoring of buildings
- Very user friendly thanks to automatic alarm function via SMS in case of a fault or risk in the building
- Prevention of water damage to floors and walls in the building
- Expandable with additional sensors
- Sends alarm messages in case of wire break or possible sabotage of the wires
- Planning safety due to a configuration successfully tested
- Error prevention with tested code and step-by-step instructions

2.2 Description of the core functionality

Five different scenarios for building monitoring are realized in this application example.

2.2.1 Scenario A: “Monitoring the basement for pipe break and closing the main valve”

A water sensor monitors the basement for ingress of water (e.g. pipe break, overflow of washing machine, faulty pump station...).

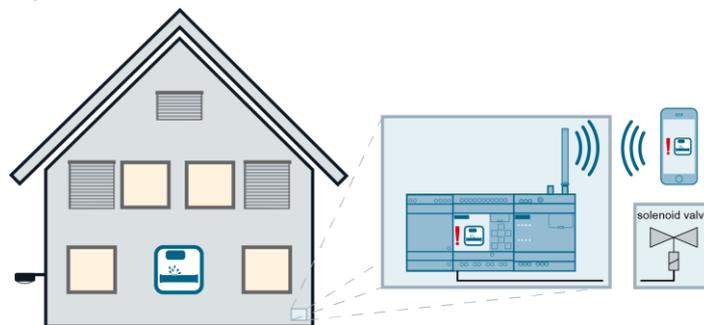
As soon as the water sensor comes into contact with water, the contact switches and forwards the signal to the LOGO!.

A magnet valve integrated in the water feed is controlled via a LOGO! output. In case of a water alarm, the magnet valve closes and the water supply is interrupted.

The user is automatically informed by an alarm message via SMS, the LOGO! display and the acoustic alarm device with flashing light.

It is possible to carry out a function test of the magnet valve via SMS and the LOGO! display. An individual test time interval can be assigned via the LOGO! display.

Figure 2-2



2.2.2 Scenario B: “Monitoring a pump duct and pumping out water in case of overflow”

In this scenario, the ground water level outside the building is monitored to prevent water ingress into the basement.

The water level is monitored in a pump duct outside the building using a float switch.

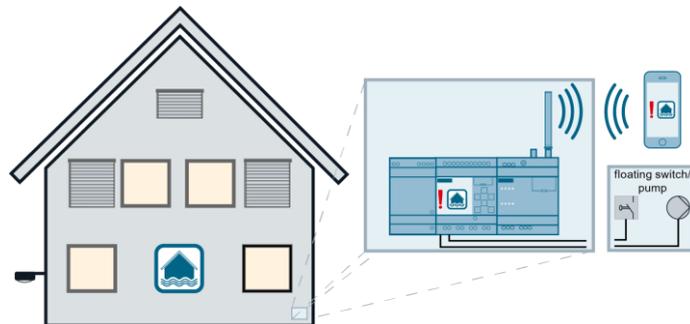
As soon as the water level exceeds a certain level, the float contact switches and forwards the signal to the LOGO!.

A pump is controlled via a LOGO! output to lower the water level.

The user is automatically informed by an alarm message via SMS, the LOGO! display and the acoustic alarm device with flashing light.

It is possible to carry out a function test of the pump via SMS and the LOGO! display. An individual test time interval can be assigned via the LOGO! display.

Figure 2-3



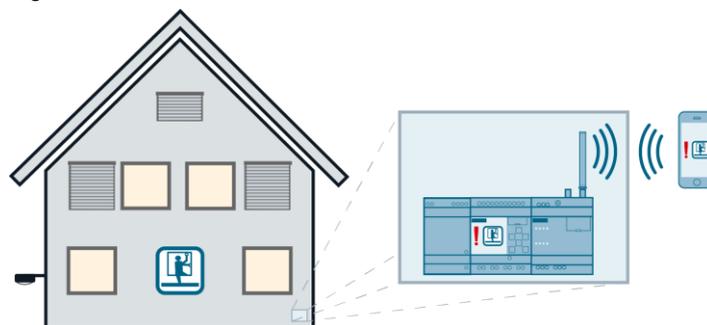
2.2.3 Scenario C: “Monitoring the windows for housebreaking”

The building is monitored for housebreaking with reed contacts installed at the windows of the building and in the basement ducts.

As soon as one of the reed contacts switches, the signal is forwarded to the LOGO!.

The user is automatically informed by an alarm message via SMS, the LOGO! display and the acoustic alarm device with flashing light.

Figure 2-4



2.2.4 Scenario D: “Monitoring the rooms for housebreaking”

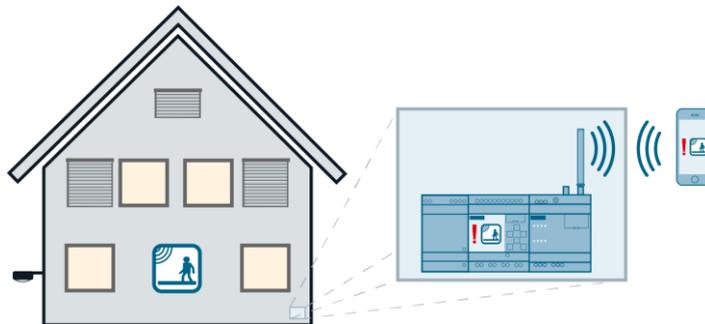
The rooms of the building are monitored with motion detectors.

Monitoring is activated by a central switch and indicated by the blinking LOGO! display.

As soon as the contact of one of the motion detectors switches (e.g. when a person is in a room), the signal is forwarded to the LOGO!.

The user is automatically informed by an alarm message via SMS, the LOGO! display and the acoustic alarm device with flashing light.

Figure 2-5



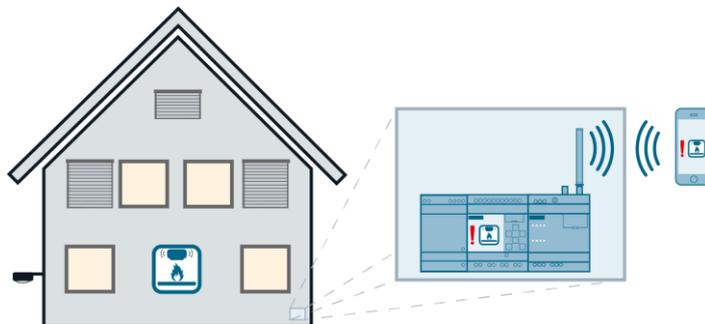
2.2.5 Scenario E: “Monitoring the building for fire”

Smoke detectors monitor the rooms in the building for fire and smoke development.

As soon as the sensor detects fire or the development of smoke, the contact switches and forwards the signal to the LOGO!.

The user is automatically informed by an alarm message via SMS, the LOGO! display and the acoustic alarm device with flashing light.

Figure 2-6



2.3 Hardware and software components

2.3.1 Validity

This application example is valid for

- LOGO! 8
- LOGO!Soft Comfort V8

2.3.2 Components used

The application example was created with the following components:

Hardware components

Table 2-1

Component	Qty	Article number	Note
LOGO! POWER 24V/1.3 A	1	6EP1331-1SH03	
LOGO! 12/24 RCE	1	6ED1052-1MD00-0BA8	
LOGO! CMR2020	1	6GK7142-7BX00-0AX0	LOGO! CMR2020 (GPRS) or LOGO! CMR2040 (GPRS/LTE) can be used as desired.
LOGO! CMR2040		6GK7142-7EX00-0AX0	
ANT794-4MR, rod antenna	1	6NH9 860-1AA00	GPRS/LTE antenna
SIM card	1	Available from specialist retailers	For time-of-day synchronization via NTP server, please take care to select a provider with mobile data services (internet).
Water sensor	1	Available from specialist retailers. Standard water sensor with potential-free contact.	
Magnet valve	1	Available from specialist retailers. Standard magnet valve for drinking water piping.	Optionally, normally open or normally closed magnet valves can be used.
Float switch	1	Available from specialist retailers. Standard float switch with potential- free contact.	
Pump	1	Available from specialist retailers. Standard pump (e.g. self-priming jet pump)	Do not switch the pump with the LOGO! output directly, but insert a relevant contactor/relay depending on the performance of the pump.
Reed contacts	2	Available from specialist retailers.	
Motion detector	1	Available from specialist retailers. Standard motion detector with potential-free contact.	

Component	Qty	Article number	Note
Smoke detector	1	Available from specialist retailers. Standard smoke detector (e.g. smoke alarm with relay module).	Smoke alarm certification in case of a damage event: Take care to select a smoke detector which fulfills the VdS guidelines.
Acoustic alarm device (with flashing light)	1	Available from specialist retailers. Standard acoustic alarm device with or without flashing light	If required, several acoustic alarm devices can be used.
Switch	1	Available from specialist retailers. Standard switch for switching 24 V.	

Software components

Table 2-2

Component	Qty	Article number	Note
LOGO!Soft Comfort Version 8	1	6ED1058-0BA08-0YA1	

Example files and projects

The following list includes all files and projects that are used in this example.

Table 2-3

Component	Note
108416478_LOGO!_Set_12_CODE_V10_en.zip	This zip-file contains <ul style="list-style-type: none"> • a LOGO!Soft Comfort V8 project. • a configuration file for LOGO! CMR20x0
108416478_LOGO!_Set_12_DOKU_V10_en.pdf	This document.

3 Mode of Operation

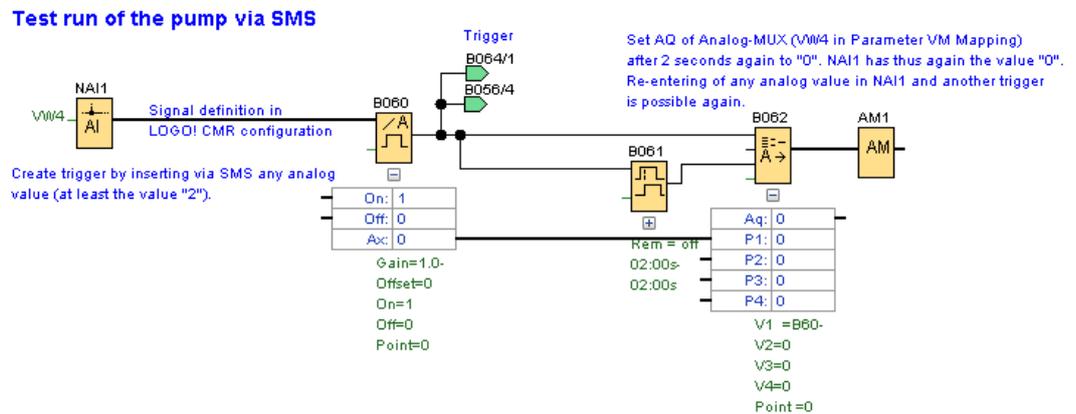
The following subsections describe the main sub functions of the LOGO! program.

3.1 Generate signal/trigger via SMS

It is possible to start a test run for the magnet valve and the pump and to deactivate the acoustic alarm device with flashing light in case of an alarm via SMS.

Figure 3-1 represents an example of the logic required in the program to generate a binary signal/trigger via SMS.

Figure 3-1



The trigger is created by writing an analog value greater than 1 and smaller than 32768 (value range of the WORD data type) via SMS into the tag address VW4 of the analog network input NAI1. It can then be picked up at the output of the analog threshold trigger (function block B060). In order to be able to generate a trigger again later, the value of the network input NAI1 must be reset to "0".

The analog network input NAI1 is reset to "0" after 2 seconds have elapsed using the output AQ of the analog-MUX (function block B062), which was assigned the same tag address VW4 of the analog network input NAI1 via "Parameter VM Mapping".

Figure 3-2

ID	Block	Parameter	Type	Address
1	B059 [Analog MUX]	AQ verstärkt	Word	2
2	B062 [Analog MUX]	AQ verstärkt	Word	4
3	B028 [Analog MUX]	AQ verstärkt	Word	6
4				

3.2 Alarm message and acoustic alarm device with flashing light

Note

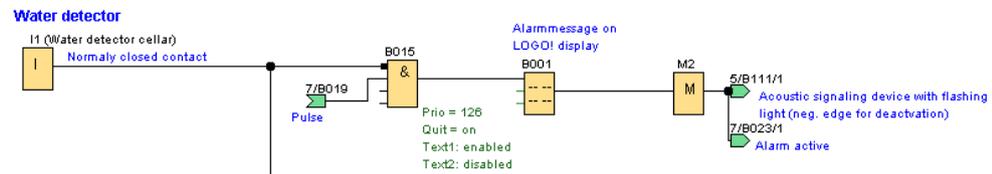
In all scenarios, the sensor signals are configured as break contacts, so that a wire break or sabotage is recognized.

3.2.1 Alarm message

An alarm text with the respective alarm message is activated by the input linked to an asynchronous pulse generator. This allows for acknowledging the message in the pulse pause of the pulse encoder. It is then activated again, if the trigger signal is still pending.

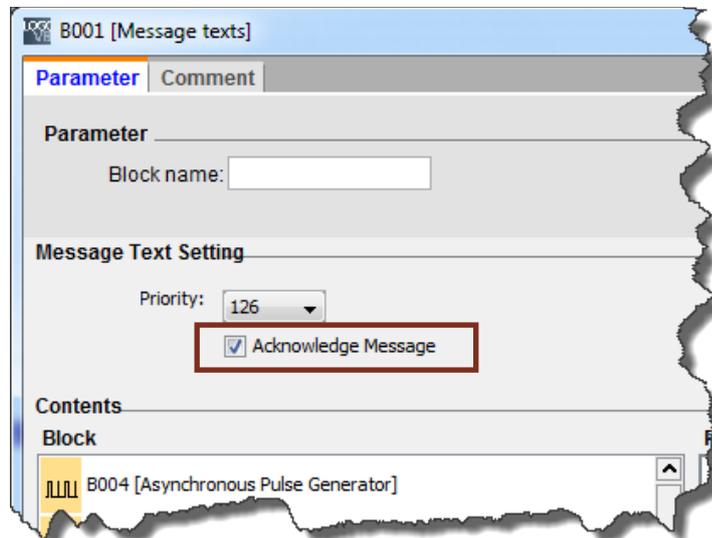
The short falling edge at the output of the alarm text at the time of the acknowledgement is used to deactivate the acoustic alarm device with flashing light.

Figure 3-3



To be able to acknowledge alarm messages with the OK button at the LOGO! base module, the “Acknowledge Message” checkbox must be activated in the function block settings of the message text. In doing so, the message can only be acknowledged, if the “En” input of the message text function block is not set.

Figure 3-4



The LOGO! CMR module is used for sending the alarm message via SMS. To do this, defined signals of the LOGO! 8 are monitored, and if a certain event occurs, a pre-defined message text is sent.

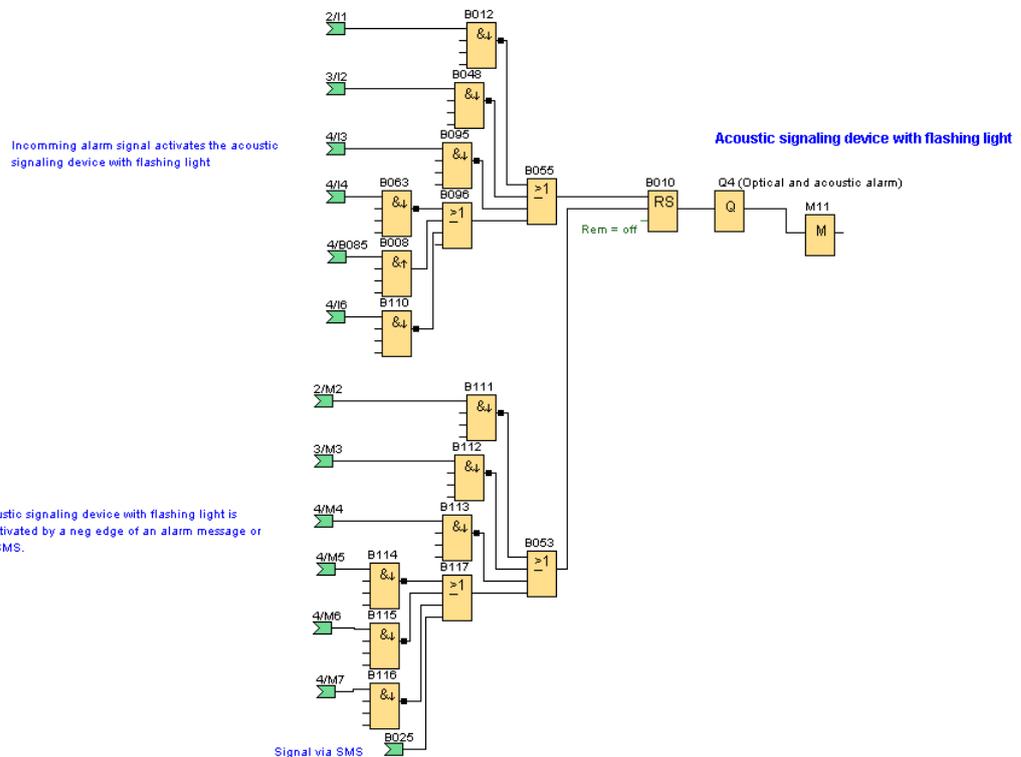
3.2.2 Acoustic alarm device with flashing light

The acoustic alarm device with flashing light is activated by an incoming signal from one of the sensors (inputs I1-I6 of the LOGO!) by activating the latching relay (function block B010).

The acoustic signal device with flashing light can be deactivated with a falling edge of one of the message texts (acknowledgement of the alarm message at the LOGO! 8 display) or by the SMS signal. How to generate a signal via SMS is described above in [chapter 3.1](#).

Figure 3-5

Acoustic signaling device with flashing light



3.3 Test run of the magnet valve and the pump

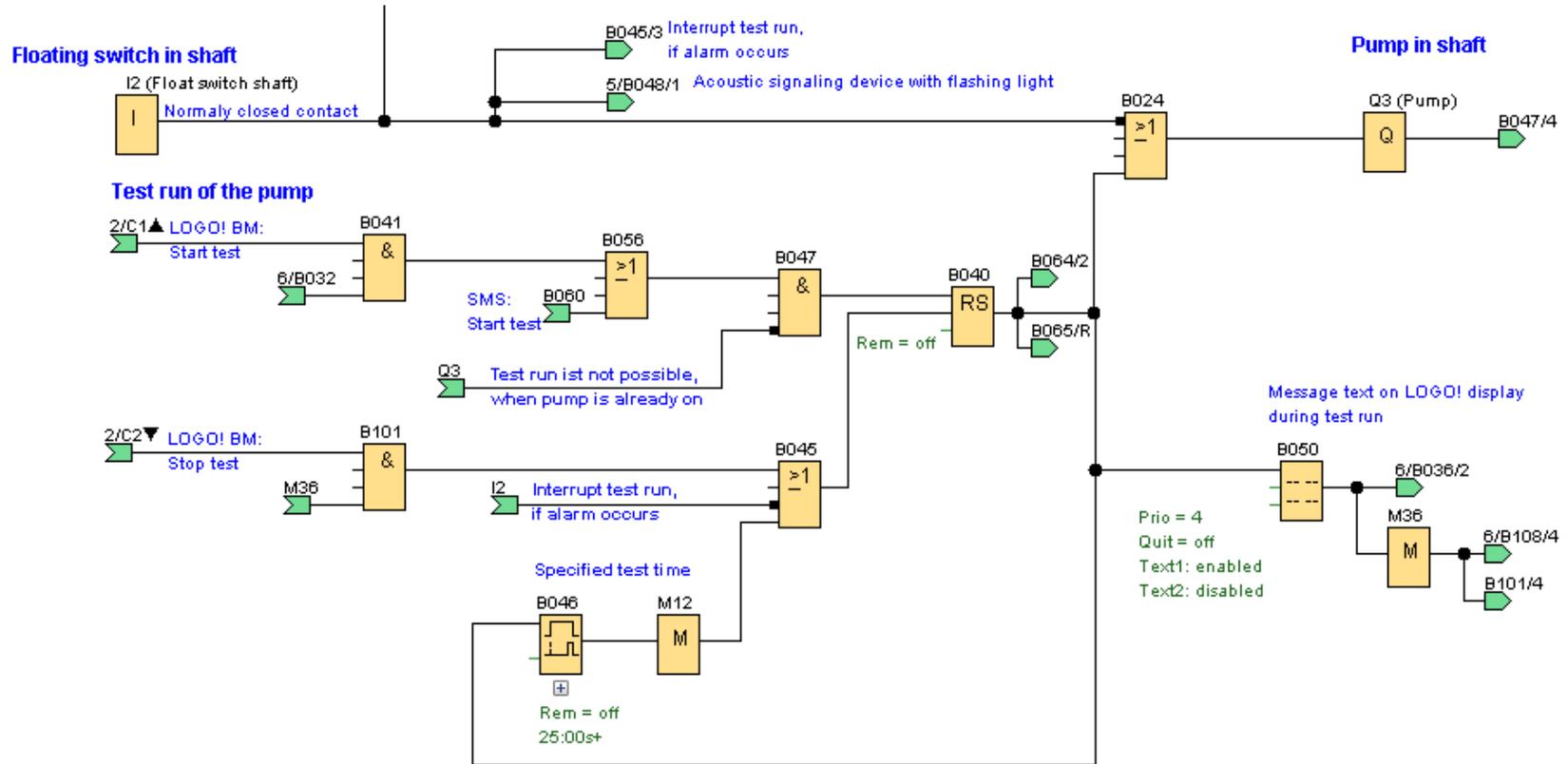
A test run of the magnet valve or the pump can be started either via SMS or on site via the LOGO! display.

On site, the test run can be started by pressing the cursor key "C1 ▲" at the relevant message text on the LOGO! display and stopped via pressing cursor key "C2 ▼". In addition, a time interval for the test run can be defined after which the test run is stopped automatically.

The test is started via SMS with the test interval currently set at the LOGO! base module and stopped after the test time has elapsed. How to generate a signal via SMS is described above in [chapter 3.1](#).

3 Mode of Operation

Figure 3-6



4 Configuration and settings

Note

In this application example, a completed configuration file for the LOGO! CMR module is offered for download. In the configuration file, the following settings have already been made:

- Settings for receiving and sending SMS messages
- Settings for monitoring the signals from the LOGO! program
- Settings for time-of-day synchronization via NTP server

To take over the sample configuration of this application example, you can load the preset LOGO! CMR configuration file to the LOGO! CMR module.

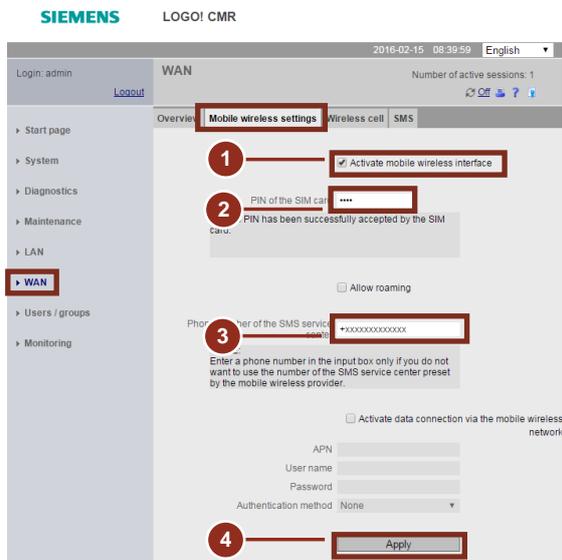
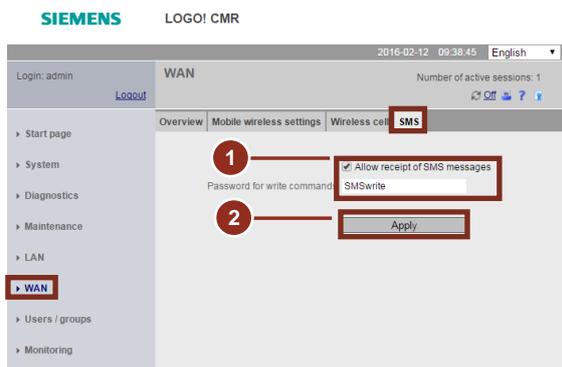
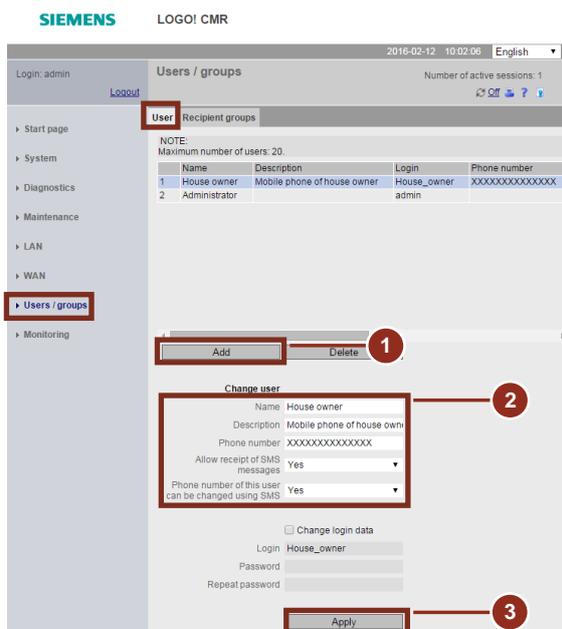
For installation and commissioning, please continue directly with [chapter 5 Installation and commissioning](#).

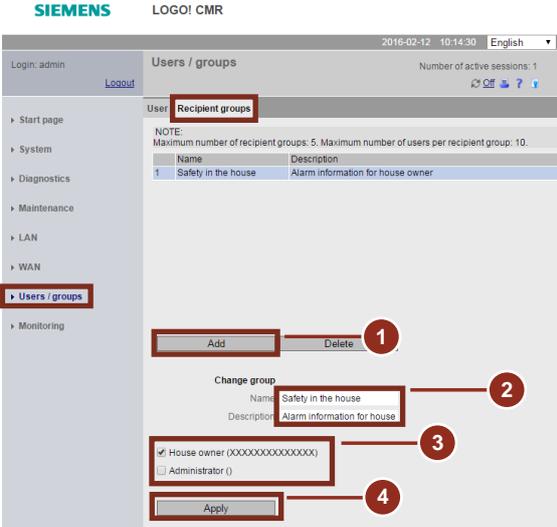
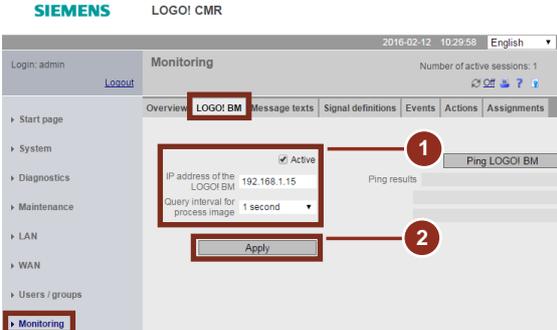
4.1 Configuring LOGO! CMR to send/receive SMS messages

The table below describes the settings required in the LOGO! CMR web interface to be able to send or receive SMS messages.

Table 4-1

No.	Action	Description
1.	Open your web browser and enter the IP address of the LOGO! CMR module (factory setting: 192.168.0.3).	http://192.168.0.3
2.	The LOGO! CMR web interface opens. When initially logging on, enter “admin” as login and password. Then you need to assign your own password.	Login: admin Password: admin
3.	<p>Changing the IP address</p> <p>Browse to “LAN > Configuration”.</p> <ol style="list-style-type: none"> Adjust the IP address and the subnet mask, if required. Click on “Apply” to save the settings. <p>Note After changing the IP address, you need to call the LOGO! CMR web interface again via the new IP address.</p>	

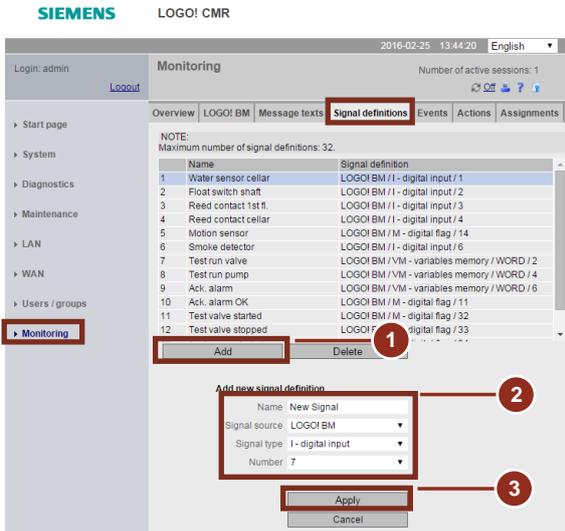
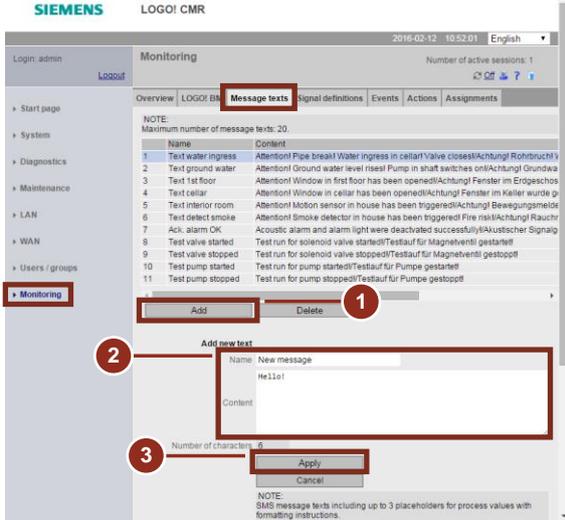
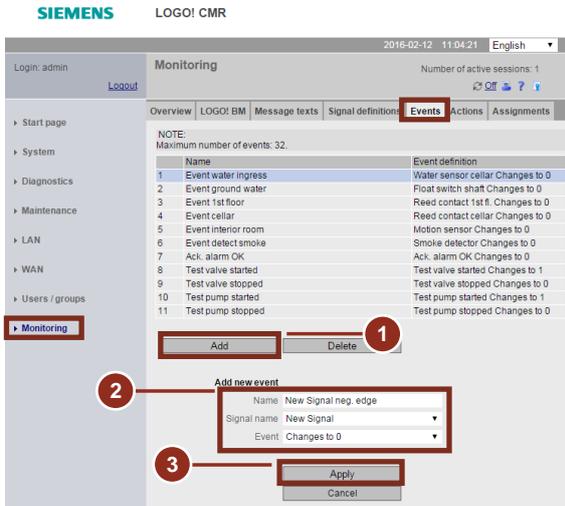
No.	Action	Description
4.	<p>Mobile communication settings Go to “WAN > Mobile wireless settings”.</p> <ol style="list-style-type: none"> 1. Activate the “Activate mobile wireless interface” checkbox. 2. Enter the PIN of the SIM card inserted in the LOGO! CMR module. 3. If necessary, enter the phone number of the SMS service center of your provider. 4. Click on “Apply” to save the settings. 	
5.	<p>SMS settings Go to “WAN > SMS”.</p> <ol style="list-style-type: none"> 1. Activate the “Allow receipt of SMS messages” checkbox and set a password for writing commands. 2. Click on “Apply” to save the settings. 	
6.	<p>Managing users Go to “Users / groups > User”.</p> <ol style="list-style-type: none"> 1. Add a new user. 2. Enter a name and an optional description for the user. Enter the telephone number of the user and allow receiving SMS messages. You can also allow the change of the telephone number via SMS, if desired. 3. Click on “Apply” to save the settings. 	

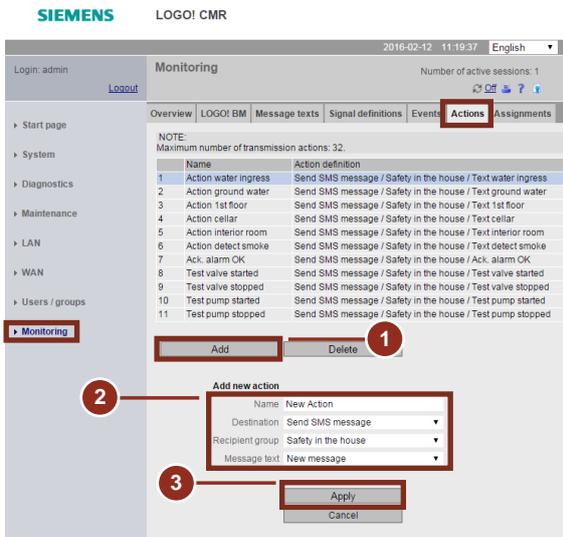
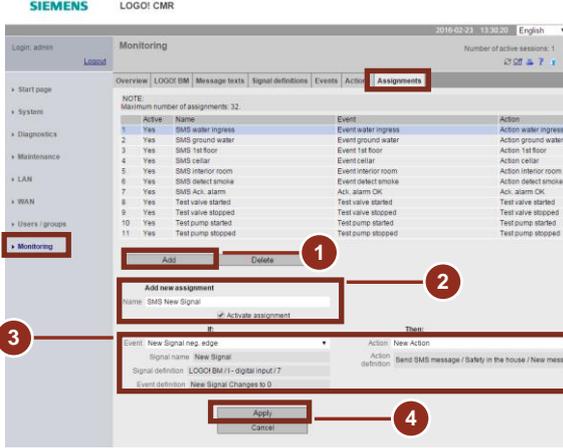
No.	Action	Description
7.	<p>Managing recipient groups</p> <p>Go to “Users / groups > Recipient groups”.</p> <ol style="list-style-type: none"> 1. Add a new recipient group. 2. Enter a name and an optional description for the recipient group. 3. Assign up to 10 users to the recipient group. 4. Click on “Apply” to save the settings. 	
8.	<p>Setting the IP address of the connected LOGO! BM and activating the connection</p> <p>Go to “Monitoring > LOGO! BM”.</p> <ol style="list-style-type: none"> 1. Enter the IP address of the LOGO! base module and select the query interval for process images. Activate the connection by checking the “Active” box. 2. Click on “Apply” to save the settings. 	

4.2 Monitoring signals with LOGO! CMR

After you have configured the basic settings for sending and receiving of SMS messages with LOGO! CMR, as described in [chapter 4.1](#), you can specify in the LOGO! CMR web interface which signals and process values of the LOGO! base module shall be monitored or modified via SMS.

Table 4-2

No	Action	Description
1.	<p>Defining signals</p> <p>Go to “Monitoring > Signal definitions”.</p> <ol style="list-style-type: none"> 1. Add a new signal by clicking on “Add”. 2. Define a name, the signal source, signal type and number for the new signal. For example: input I7 of the LOGO! base module with the name “New signal”. 3. Click on “Apply” to save the settings. 	
2.	<p>Defining message texts</p> <p>Go to “Monitoring > Message texts”.</p> <ol style="list-style-type: none"> 1. Add a new message text by clicking on “Add”. 2. Enter a name for the new message and the message text. For example: the message “New message” containing the text “Hello!”. 3. Click on “Apply” to save the settings. 	
3.	<p>Defining events</p> <p>Go to “Monitoring > Events”.</p> <ol style="list-style-type: none"> 1. Add a new event by clicking on “Add”. 2. Enter a meaningful name for the event. Select a signal and the event you want to assign. For example: the event “New signal neg. edge” upon change of the signal “New signal” to 0. 3. Click on “Apply” to save the settings. 	

No	Action	Description
4.	<p>Defining actions</p> <p>Go to “Monitoring > Actions”.</p> <ol style="list-style-type: none"> 1. Add a new action by clicking on “Add”. 2. Enter a name for the action and select “Send SMS message” as target. Then select the recipient group and the message text. For example: the action “New action”, which sends an SMS to the recipient group “Safety in the house” with the message text “New message”. 3. Click on “Apply” to save the settings. 	
5.	<p>Defining assignments</p> <p>Go to “Monitoring > Assignments”.</p> <ol style="list-style-type: none"> 1. Add a new assignment by clicking on “Add”. 2. Enter a name and activate it. 3. Define the content of the assignment. For example: If event “New signal neg. edge”, the action “New action”. 4. Click on “Apply” to save the settings. 	

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4.3 LOGO! CMR time synchronization via NTP server

LOGO! CMR enables synchronizing the time of day using different methods (GPS, GSM, NTP server) and forwarding it to the LOGO! base module.

Note

The NTP server used in this example is a free to use NTP server. Siemens does not provide this service.

Alternatively, another NTP server can also be used. If necessary, check the respective license terms of the NTP server for your application purpose.

The table below describes the settings required via the LOGO! CMR web interface to synchronize the time of day of the LOGO! CMR module via an NTP server.

Table 4-3

No	Action	Description
1.	<p>Time synchronization with an NTP server</p> <p>Go to “System > System time”.</p> <ol style="list-style-type: none"> 1. Activate time-of-day synchronization and select the “NTP” method. 2. As an option, you can also accept the time-of-day from not synchronized NTP servers. Enter the DNS name or the IP address of an open NTP server and set the refresh interval. 3. Activate the forwarding of the time-of-day to the LOGO! base module. 4. Click on “Apply” to save the settings. 	
2.	<p>Mobile communication settings</p> <p>Go to “WAN > Mobile wireless settings”.</p> <ol style="list-style-type: none"> 1. Activate the “Activate data connection via the mobile phone network” checkbox and enter the access data of your mobile network operator. (required for time-of-day synchronization via NTP server). 2. Click on “Apply” to save the settings. 	

5 Installation and Commissioning

5.1 Installing the hardware

5.1.1 LOGO! 8

Please observe the respective setup guidelines for LOGO! 8. Further information is available in the [LOGO! Manual](#) in Chapter “LOGO! installation and wiring”.

5.1.2 LOGO! CMR and telecommunications antenna

Please observe the respective setup guidelines for LOGO! CMR2020 or LOGO! CMR2040 and for the telecommunications antenna used. Further information is available in the LOGO! CMR manual in Chapter “[Installation, connecting up, commissioning](#)”.

Note

When using LOGO! CMR, it is important to observe the country-specific approvals for mobile communication. Further information is available under the following link: www.siemens.de/mobilfunkzulassungen.

5.1.3 Contactor/relay

For this application example, we recommend not to control the pump directly via the LOGO! output Q3, but via an additionally connected contactor/relay.

5.2 Installing the software

Note

It is assumed that

- the required software LOGO!Soft Comfort V8 has been installed on your PC.
- that you are familiar with the basic handling of this software.

Also download the ZIP file provided in the entry (see [V2](#)). Then you unzip the file on your PC.

The file contains the following components:

- a LOGO!Soft Comfort V8 project:
„108416478_LOGO!_Set12_CODE_V10_en.lsc“
- a configuration file for the LOGO! CMR2020 module:
“user.cfg”

5.3 Commissioning

5.3.1 Overview of IP addresses and subnet masks

The following table provides an overview of the IP addresses used in the LOGO! program and the LOGO! CMR configuration:

Note Alternatively, you can also set different IP addresses for LOGO! 8, LOGO! CMR and your PC. Make sure all IP addresses are in the same subnet.

Table 5-1

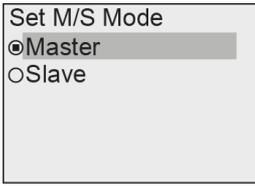
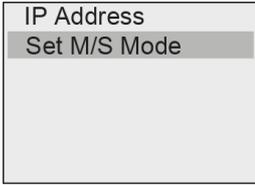
No.	Device	IP address	Subnet mask
1.	LOGO! 12/24 RCE	192.168.1.15	255.255.255.0
2.	LOGO! CMR	192.168.1.30	255.255.255.0
3.	PC	192.168.1.16	255.255.255.0

5.3.2 Setting the IP address and mode for LOGO! 8

Note It is required that the LOGO! 8 is connected to the power supply. The IP address and mode of the LOGO! (master or slave) can only be modified in "STOP" condition.

Table 5-2

No.	Action	LOGO! display
1.	Go to the "Network" item via the LOGO! display using the arrow keys C1▲ or C2▼ and press OK.	<pre> Start Program ▶ Setup ▶ Network ▶ Diagnostics ▶ Card ▶ </pre>
2.	Select the "IP address" item.	<pre> IP Address Set M/S Mode </pre>
3.	Press the OK button and use the arrow keys C1▲, C2▼, C3◀ and C4▶ to enter your LOGO!'s IP address (here: 192.168.1.15). Confirm with the OK button.	<pre> IP Address 192 . 168 . 001 . 015 ▼ Subnet Mask 255 . 255 . 255 . 000 ▼ Gateway 192 . 168 . 000 . 000 ▼ </pre>
4.	Press the ESC key to return to the previous menu item and select "Set M/S mode".	<pre> IP Address Set M/S Mode </pre>

No.	Action	LOGO! display
5.	Select "Master" to configure your LOGO! controller as the master LOGO!.	
6.	The configuration of the IP address and the mode for your LOGO! controller is now complete. Press ESC to return to the main menu on the LOGO! display.	

5.3.3 Loading the configuration file into LOGO! CMR

The following table describes how to load the pre-fabricated LOGO! CMR configuration into the LOGO! CMR module.

Note

In this application example, a completed configuration file for the LOGO! CMR module is offered for download. In the configuration file, the following settings have already been made:

- Settings for receiving and sending SMS messages
- Settings for monitoring the signals from the LOGO! program
- Settings for time-of-day synchronization via NTP server

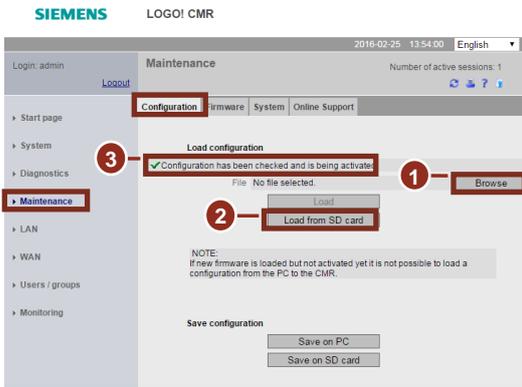
Note

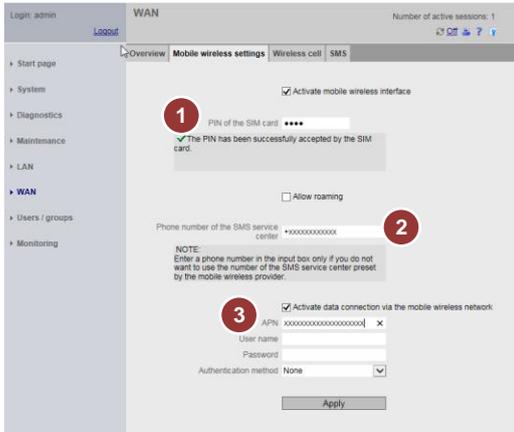
It is required that

- the LOGO! CMR module is connected to the power supply,
- the LOGO! CMR module is connected to a PC network,
- a SIM card has been inserted in the LOGO! CMR module,
- the configuration file for the LOGO! CMR2020 module provided as a zip file in the entry has been downloaded and unpacked on your PC.

Table 5-3

No	Action	Description
1.	Open your web browser and enter the IP address of the LOGO! CMR module (factory setting: 192.168.0.3). Note Make sure that the LOGO! CMR module can be reached from your PC via the network.	http://192.168.0.3
2.	Enter the default login and password "admin" and confirm with "Login". Note Then you need to assign your own password. You can keep using the login name "admin".	

No	Action	Description
3.	<p>Go to "Maintenance > Configuration".</p> <ol style="list-style-type: none"> Click "Browse" and select the storage location of the downloaded configuration file. Then click on "Load". If you have saved the downloaded configuration file on a micro SD card, you can also download the configuration directly via the micro SD card in the LOGO! CMR module. In this case, click on "Load from SD card". <p>Note Further information on handling micro SD cards with LOGO! CMR is available in the manual of LOGO! CMR in Chapter "Inserting the micro SD card".</p> <ol style="list-style-type: none"> As soon as the configuration has been loaded successfully into the LOGO! CMR, a green checkmark appears indicating that the configuration was verified and is active. <p>Note Please ensure that when loading the configuration file, the following contents are also adopted:</p> <ul style="list-style-type: none"> User "House owner" with the login "House_owner" New LOGO! CMR password for "admin" and "House_owner": „LOGO8cmr.“ New IP address "192.168.1.30" Password for write commands via SMS "SMSwrite" Both "admin" and "House_owner" can be used to log in 	
4.	<p>Note After loading the configuration file, you need to call the LOGO! CMR web interface again via the new IP address and log in with the new access data. Make sure that your PC is in the same subnet as the new IP address of the LOGO! CMR module.</p>	

No	Action	Description
5.	<p>Go to “WAN > Mobile wireless settings” and make the following settings:</p> <ol style="list-style-type: none"> 1. Enter the PIN of the SIM card inserted in the LOGO! CMR module. 2. If necessary, enter the phone number of the SMS service center of your provider. 3. To be able to use the time-of-day synchronization via NTP server, the data connection via mobile phone network must be activated. Then you enter the access details of your mobile network operator if you want to use the data services (internet) of the mobile network operator. <p>Notes:</p> <ul style="list-style-type: none"> • Further information on the individual access details is available in the manual on LOGO! CMR in Chapter “APN/ User name/ Password”. • The configuration file already contains one open NTP server. Siemens does not provide this service. 	
6.	<p>Navigate to “User/groups > User” and make the following settings:</p> <ol style="list-style-type: none"> 1. Enter the mobile phone number of the mobile phone for the user “House_owner” that you want to use to receive SMS messages. 2. Click on “Apply” to save the settings. 	
7.	<p>The LOGO! CMR module is now configure for receiving and sending SMS messages.</p>	

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5.3.4 Loading the program into the LOGO! base module

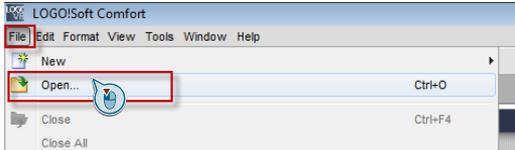
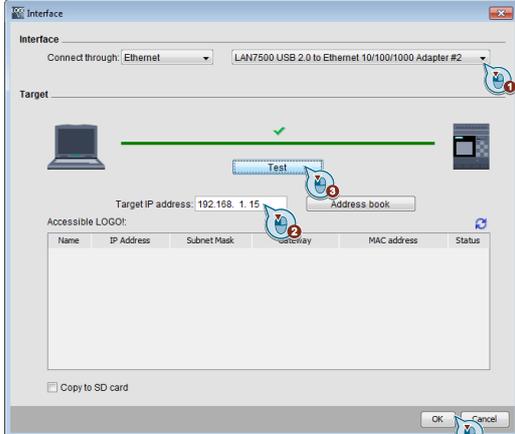
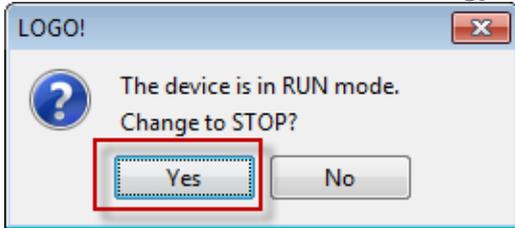
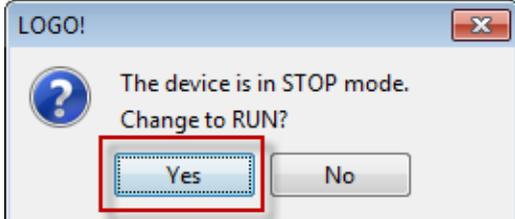
Note

It is required that

- the LOGO! base module is connected to the power supply
- the LOGO! base module is connected to a PC network
- the LOGO!Soft Comfort V8 project provided as a zip file in the entry has been downloaded and unpacked on your PC.

The table below describes how to load the completed LOGO! program offered for download in this application example into LOGO! 8 base module. Start LOGO!Soft Comfort V8 and make the following settings:

Table 5-4

No	Action	Description
1.	Navigate to “File > Open” and select the downloaded LOGO! program “108416478_LOGO!_Set12_CODE_V10_en.lsc”.	
2.	Click on the “Download” button or press Ctrl+D.	
3.	<ol style="list-style-type: none"> 1. Select the “Interface” for your connection to the LOGO! base module. 2. Enter the IP address of your LOGO! base module. 3. Click “Test” in order to check whether the connection has been established successfully. 4. If the connection was successful click “OK” to load the program into the device. 	
5.	Click “Yes” to set the LOGO! to STOP before the download.	
6.	After the successful completion of the download click “Yes” in order to set the LOGO! back to RUN.	

6 Operating the application example

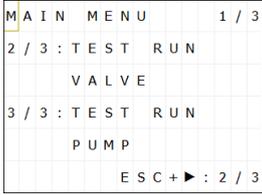
6.1 Operation via the LOGO! base module

6.1.1 Acknowledging alarm messages

When an alarm message is displayed due to a fault or risk, it can be acknowledged via the LOGO! display.

The following table describes the procedure for acknowledging an alarm message.

Table 6-1

No.	Action/response	Alarm message on LOGO! display
1.	The water sensor in the basement detects water ingress due to a broken pipe.	
2.	The LOGO! display displays an alarm message. At the same time, an acoustic alarm device with flashing light is activated in the building.	
3.	Press "OK" on the LOGO! base module.	
4.	The alarm message is acknowledged and will not be displayed again, if the cause (trigger signal) for the alarm has been rectified.	
5.	If there is no further pending alarm message, the LOGO! display will return to the main menu. Note: If several alarm messages are active, you can browse them with the cursor keys C1▲ and C2▼ and acknowledge them in any order.	
6.	As soon as the OK button is pressed for acknowledgement, the acoustic alarm device with flashing light is deactivated.	

6.1.2 Running a test of the magnet valve or the pump

A test run of the magnet valve and the pump can be started via the LOGO! display.

The following table describes the required procedure using the test run for the magnet valve.

6 Operating the application example

Table 6-2

No.	Action/response	LOGO! display
1.	If there is no active alarm message, the LOGO! display shows the alarm text with the "main menu".	<pre> MAIN MENU 1 / 3 2 / 3 : TEST RUN VALVE 3 / 3 : TEST RUN PUMP ESC+▶ : 2 / 3 </pre>
2.	Go to alarm text 2/3 for the test run of the magnet valve by pressing "ESC" + "▶".	<pre> TEST RUN OF 2/3 SOLENOID VALVE TIME: 20:00s VALVE: OPEN ESC+▲: START ESC+▶:3/3 </pre>
3.	To set the time interval for the test run, hold the "ESC" key on the LOGO! down until the test run parameter for "TIME" is marked black. Note If you want to carry out the test run with the default interval of 20 seconds, proceed with point 7.	<pre> TEST RUN OF 2/3 SOLENOID VALVE TIME: 20:00s VALVE: OPEN ESC+▲: START ESC+▶:3/3 </pre>
4.	Press the "OK" button on the LOGO! to change the interval. A black cursor is blinking now. Move the cursor to the parameter you want to change using the cursor keys C4▶ or C3◀.	<pre> TEST RUN OF 2/3 SOLENOID VALVE TIME: 20:00s VALVE: OPEN ESC+▲: START ESC+▶:3/3 </pre>
5.	Change the parameter with the cursor keys C2▼ or C1▲.	<pre> TEST RUN OF 2/3 SOLENOID VALVE TIME: 40:00s VALVE: OPEN ESC+▲: START ESC+▶:3/3 </pre>
6.	Confirm your changes with the "OK" button on the LOGO! and exit the settings by pressing the "ESC" button on the LOGO!.	
7.	To start the test run, press "ESC" and the "▲" button on the LOGO! simultaneously.	
8.	The test run is started and the LOGO! display shows the remaining test time. By pressing the "ESC" and the "▼" button on the LOGO! simultaneously, the test run can be stopped at any time.	<pre> TEST RUN OF SOLENOID VALVE LEFT TEST TIME: 32:12s VALVE: CLOSED ESC+▼: STOP </pre>
9.	After the test run is finished or after it was aborted, the LOGO! display will automatically display the alarm text 2/3 for the test run of the magnet valve.	<pre> TEST RUN OF 2/3 SOLENOID VALVE TIME: 40:00s VALVE: OPEN ESC+▲: START ESC+▶:3/3 </pre>

6.1.3 Activating the room monitoring for housebreaking

The rooms are monitored for housebreaking with motion detectors. A switch (input I7 of the LOGO! 8) is used to activate and deactivate monitoring to avoid that the residents trigger the alarm.

When the switch is actuated and the monitoring activated, the LOGO! display flashes yellow to indicate that monitoring is active.

6.2 Operation via SMS

A trigger of the LOGO! program can be generated via SMS (this procedure is described in detail in [chapter 3.1](#)). It is generated by writing an analog value (at least "2") into the tag address of an analog network input via SMS.

The table below shows an overview of the tag addresses used and their functions.

Table 6-3

No.	Tag address of the analog network input	Function
3.	VM2	Start test run of magnet valve
4.	VM4	Start test run of pump
5.	VM6	Deactivate the acoustic alarm device with flashing light

6.2.1 Performing a test run via SMS

A test run of the magnet valve or the pump can be started via SMS.

To start a test run, you need to send a message with the command for the write access to the relevant tag address to the mobile phone number of the SIM card inserted in the LOGO! CMR module.

The table below shows an example of how to start the test run for the magnet valve via SMS.

Table 6-4

No.	Action	SMS message
1.	Open the SMS service on your mobile phone and enter the mobile phone number of the SIM card inserted in the LOGO! CMR module as the recipient.	
2.	Enter the following message text and send the message off. SMSwrite;LOGO=VM2,2,WORD <password for write commands>;LOGO=<tag address>, <analog value>,<data type>	

No.	Action	SMS message
3.	You will receive a confirmation of your input and a further message, that the test run has been started.	
4.	After the test interval has elapsed (as set on the LOGO! base module), the test is stopped and you will receive a message that the test has been concluded.	

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6.2.2 Deactivating the acoustic alarm device via SMS

If an alarm message occurs, you will be notified via SMS. Together with the alarm message, the acoustic alarm device with flashing light in the building is activated. You can deactivate the acoustic alarm device with flashing light via SMS.

The following table shows the procedure for deactivating the acoustic alarm device with flashing light in case of an alarm message for a pipe break.

Table 6-5

No.	Action/response	SMS message
1.	The water sensor in the basement detects water ingress due to a broken pipe.	
2.	LOGO! CMR sends an SMS to the mobile phone number of the user "House owner" with the relevant alarm message. At the same time, an acoustic alarm device with flashing light is activated in the building.	
3.	To deactivate the acoustic alarm device with flashing light, you must respond to the alarm message with the following text: SMSwrite;LOGO=VM6,2,WORD <password for write commands>;LOGO=<tag address>, <analog value>, <data type>	
4.	You will receive a confirmation of your input and a further message, that the acoustic alarm device with flashing light has been deactivated.	

7 Links & Literature

7.1 Bibliographic references

Table 7-1

\1\	LOGO! 8	LOGO! Lehr – und Arbeitsbuch zur Kleinsteuerung [Textbook for compact controllers] Author: Herbert Tapken Published by: Europa Lehrmittel ISBN: 978-3-8085-3446-5
\2\	LOGO! 8	Praxisbezogenes Steuern und Regeln mit der LOGO! 8 [Practice-related operator control and monitoring with LOGO! 8] Author: Jürgen Kaftan Published by: KAFTAN media ISBN: 978-3-943211-57-3
\3\	LOGO! 8	LOGO! 8 Praktische Einführung mit Schaltungs- und Programmierbeispielen [Practical introduction with switching and programming examples] Author: Stefan Kruse Published by: Publicis ISBN: 978-3-89578-439-2
\4\	LOGO! 8	LOGO! MiniTrainerSchule [LOGO! MiniTrainerSchool] Author: Klaus Machalek Article number: LOGO! MTS

7.2 Internet links

Table 7-2

	Topic	Title
\1\	Siemens Industry Online Support	http://support.industry.siemens.com
\2\	Download page of the entry	https://support.industry.siemens.com/cs/ww/en/view/108416478
\3\	LOGO! 8 Manual	https://support.industry.siemens.com/cs/ww/en/view/100761780/67518106635
\4\	LOGO! CMR Manual	https://support.industry.siemens.com/cs/ww/en/view/103657268/8256255755
\5\	FW Update 1.1 for LOGO! CMR2020	https://support.industry.siemens.com/cs/ww/en/view/109475356
\6\	Building Automation: House Control with LOGO! 8 and Master-Slave Communication (LOGO! Set 9)	https://support.industry.siemens.com/cs/ww/en/view/64143308

	Topic	Title
\7\	Building Automation: House Control with LOGO! 8 and Touch Panel KTP700 (LOGO! Set 10)	https://support.industry.siemens.com/cs/ww/en/view/68585344
\8\	House Control with LOGO! 8 and Weather Sensors (LOGO! Set 11)	https://support.industry.siemens.com/cs/ww/en/view/68585346
\9\	Controlling street lighting with LOGO! 8 and LOGO! CMR (Set 1)	https://support.industry.siemens.com/cs/ww/en/view/109063024
\10\	Monitoring Energy Consumption with LOGO! 8 and LOGO! CMR (Set 2)	https://support.industry.siemens.com/cs/ww/en/view/109062859

8 History

Table 8-1

Version	Date	Modifications
V1.0	04/2016	First version