SIEMENS

SIMATIC HMI

Fail-safe operation of the Mobile Panel 277F IWLAN

Function Manual



The following supplement is part of this documentation:

No.	Designation	Drawing number	Edition
1	Product Information	A5E02615843-01	08/2009

110,000	
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Safety instructions, standards and notes	2
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Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

A DANGER

indicates that death or severe personal injury will result if proper precautions are not taken.

AWARNING

indicates that death or severe personal injury may result if proper precautions are not taken.

ACAUTION

with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

CAUTION

without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.

NOTICE

indicates that an unintended result or situation can occur if the corresponding information is not taken into account.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The device/system may only be set up and used in conjunction with this documentation. Commissioning and operation of a device/system may only be performed by **qualified personnel**. Within the context of the safety notes in this documentation qualified persons are defined as persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

Prescribed Usage

Note the following:

▲ WARNING

This device may only be used for the applications described in the catalog or the technical description and only in connection with devices or components from other manufacturers which have been approved or recommended by Siemens. Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance.

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We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Preface

Purpose of the function manual

This function manual provides all information required for operation of the Mobile Panel 277F IWLAN in fail-safe systems.

Readership of this function manual:

- Plant designers
- Project engineers
- Commissioning engineers
- Users
- Service technicians
- Maintenance technicians

Please pay particular attention to the "Safety instructions, standards and notes" chapter.

Basic knowledge required

General knowledge in the field of automation technology, safety technology, and process communication is a prerequisite for comprehension of this function manual.

It is also assumed that those using the manual have experience in using personal computers and knowledge of Microsoft operating systems.

Valid scope of the function manual

The function manual covers the Mobile Panel 277F IWLAN HMI device in combination with the software packages STEP 7 V5.4 SP2 or higher, S7 Distributed Safety V5.4 SP3 and WinCC flexible 2007 with HSP Mobile Panel 277 Wireless.

Position in the information landscape

This function manual is part of the SIMATIC HMI documentation. The section below provides an overview of the documentation which is relevant to applications with Mobile Panel 277F IWLAN.

Additional documentation for Mobile Panel 277F IWLAN

- Operating instructions for Mobile Panel 277F IWLAN
- Mobile Panel IWLAN Getting Started

Documentation for fail-safe systems

- System description "Safety technology in SIMATIC S7"
 - Provides general information on the use, structure, and mode of operation of the failsafe automation systems S7 Distributed Safety and S7 F/FH Systems
 - Contains detailed technical information which can be represented for the fail-safe technology both in S7-300 and S7-400.
 - Contains information about the calculation of monitoring and reaction times of the failsafe systems S7 Distributed Safety and of S7 F/FH Systems.
- "S7 Distributed Safety, Configuring and Programming" Manual / Online Help

Describes the configuration of the F-CPU and of the fail-safe I/O and the programming of the F-CPU in F-FBD or F-LAD

• "Automation System S7-400, CPU Data" Reference Manual

Describes the standard functions of CPU 416F-3 PN/DP, CPU 414-3 PN/DP and CPU 416-3 PN/DP

"Automation System S7-300, CPU Data" Reference Manual

Describes the standard functions of CPU 315F-2 PN/DP, CPU 317F-2 PN/DP, CPU 315-2 PN/DP and CPU 317-2 PN/DP

User manuals

• WinCC flexible Compact/ Standard/ Advanced

Describes basic principles of configuration using the WinCC flexible Compact Engineering System/WinCC flexible Standard/WinCC flexible Advanced.

WinCC flexible Runtime

Describes how to commission and operate your runtime project on a PC.

- Communication
 - Communication Part 1 describes the connection of the HMI device to SIMATIC PLCs.
 - Communication Part 2 describes the connection of the HMI device to third-party PLCs.

Getting started

WinCC flexible for first time users

Based on an example project, this is a step-by-step introduction to the basics of configuring screens, alarms, recipes and screen navigation.

• WinCC flexible for power users

Based on an example project, this is a step-by-step introduction to the basics of configuring logs, project reports, scripts, user management, multilingual projects and integration in STEP 7.

WinCC flexible options

Based on an example project, this is a step-by-step introduction to the basics of configuring the WinCC flexible Sm@rtServices, Sm@rtAccess and OPC server options.

Online availability

The link below guides you to the multilingual technical documentation offered for the SIMATIC products and systems.

"http://www.automation.siemens.com/simatic/portal/html_76/techdoku.htm"

Screens

The HMI device is sometimes represented in the form of photographs in this function manual. The photographs of the HMI device may differ slightly from the factory state of the HMI device.

Conventions

Configuration and runtime software differ with regard to their names as follows:

- "WinCC flexible 2007" for example, refers to the configuration software.
 The term "WinCC flexible" is used in a general context. The full name, for example "WinCC flexible 2007", is always used when it is necessary to differentiate between different versions of the configuration software.
- "WinCC flexible Runtime" refers to the runtime software that can run on HMI devices.

The following text notation facilitates the reading of this function manual:

Notation	Scope
"Add screen"	 Terminology that appears in the user interface, for example dialog names, tabs, buttons, menu commands Inputs required, for example limit values, tag values Path information
"File > Edit"	Operational sequences, for example menu commands, shortcut menu commands.
<f1>, <alt+p></alt+p></f1>	Keyboard operation

Please observe notes labeled as follows:

Note

Notes contain important information concerning the product, its use or a specific section of the documentation to which you should pay particular attention.

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- HMI®
- SIMATIC®
- SIMATIC HMI®
- SIMATIC ProTool®
- SIMATIC WinCC®

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Training center

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Internet: "http://www.sitrain.com"

Technical support

You can contact Technical Support as follows:

Using the support request form on the web at: "http://www.siemens.com/automation/support-request"

Further information about our technical support is available on the Internet at "http://www.siemens.com/automation/service".

Service & Support on the Internet

Service & Support provides additional comprehensive information on SIMATIC products through online services at "http://www.siemens.com/automation/support":

- The newsletter offers you the latest information about your products
- A large document base is available using our Service & Support search engine
- A forum for global exchange of information by users and experts
- Current product information, FAQs and downloads
- Your local Automation & Drives representative
- Information about on-site services, repairs, spare parts, and more

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Overview and definition of terms

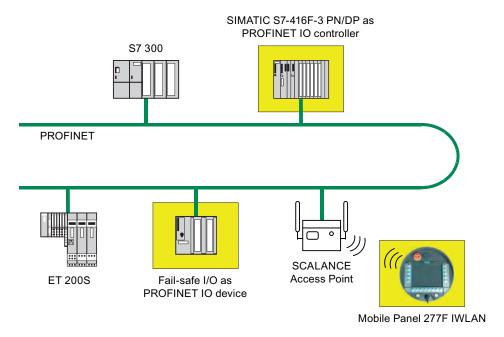
1.1 Using the Mobile Panel 277F IWLAN

Use

The Mobile Panel 277F IWLAN offers the possibility of having the mobile safety functions of emergency stop and enable available at any point of a machine or plant. An effective range limit has been implemented for the Mobile Panel 277F IWLAN. Depending on his location, the operator obtains a safe, electronically monitored operator control enable.

The HMI device communicates with an access point via WLAN. Thus the operator can operate the various machines or process cells without bothersome cable. The HMI device is connected via the access point with a PROFINET network in which it communicates with an F-CPU via the PROFIsafe protocol.

Sample installation - F-system with Mobile Panel 277F IWLAN



In the depicted configuration, each PROFINET IO device communicates with a single PROFINET IO controller. In this example the Mobile Panel 277F IWLAN communicates exclusively with the F-CPU as F-PROFINET IO controller.

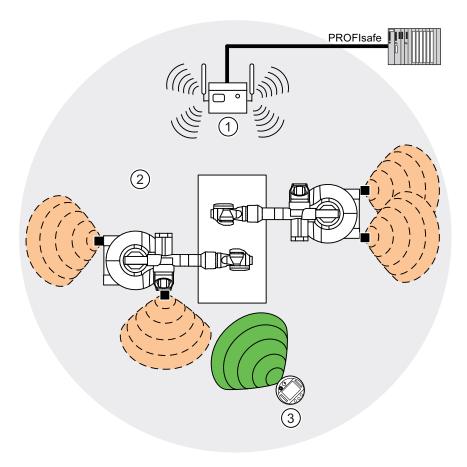
Basic terms

In the following chapters several basic terms are explained that you must learn before you use the HMI device.

1.2 Areas in the plant

WLAN area

The WLAN area is the area in the plant where the HMI device communicates with other communication nodes over a wireless local area network.



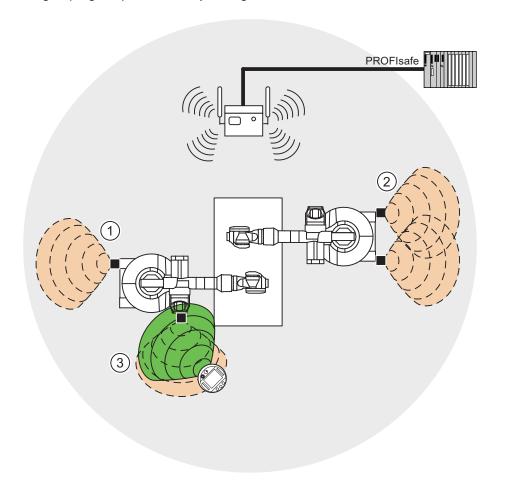
- ① Access point is the network transition from WLAN to LAN
- ② WLAN area in which communication with the access point is possible
- Mobile panel in the WLAN area; the emergency stop button is active, the enabling buttons are without function.

When the PROFIsafe communication between the controller and operator panel is established in the WLAN area, the emergency stop button on the HMI device becomes active.

Safe operation of the plant with the enabling buttons only becomes possible when the HMI device is logged on in an effective range within the WLAN area.

Effective range

An effective range is the range in which sections of the plant, e.g. a machine can be operated with the enabling buttons of the HMI device. An effective range is formed physically with transponders that are mounted in the vicinity of the machine. Each transponder has a unique ID. The transponder emits this ID in a lobe-shaped area. The ID is received by the HMI device, which enables the HMI device to determine its distance from the transponder. Additional information about the transponders is provided in the chapter Planning effective ranges (Page 46) and in the operating instructions for the HMI device.



- ① Effective range 1, formed by a transponder
- ② Effective range 2, formed by two transponders
- ③ The mobile panel is located in effective range 3. The emergency stop button is active The enabling buttons are active after logon in the effective range.

When the HMI device detects that it is within an effective range the operator can log the HMI device on at the effective range. Safe operation of the plant unit delimited by the effective range is only possible after successful connection.

Effective ranges should not overlap.

All effective ranges available in the plant are stored in the project. The effective ranges are verified in the acceptance procedure for the plant.

1.2 Areas in the plant

Note

In addition to the effective ranges you can define zones in your project. The zones are not relevant for fail-safe operation. They are used merely to control the project depending on the location of the operator. For example a picture change can be configured for zone entry or zone exit.

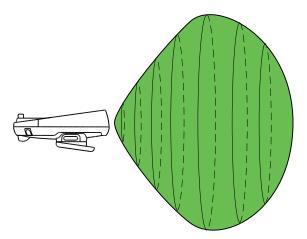
Zones and effective range are independent of each other.

Additional information on zones is provided in the Operating instructions for the HMI device.

Distance measurement between HMI device and transponder

The transmitting range of the transponder and the receiving range of the HMI device have the approximate shape of a lobe with a range of approximately 8 m.

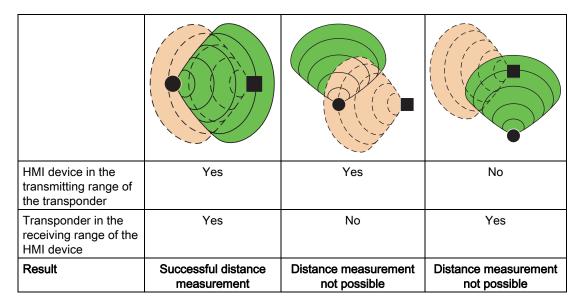
The detailed representation of the radiation characteristics of HMI device and transponder is provided in the appendix of the Operating instructions.



A distance measurement between HMI device and transponder is only possible if both devices are in range of each other. The following table shows when a distance measurement is successful.

In the figures the HMI device and transponder are represented as follows:

- The HMI device as circle
- The transponder as square



The distance measurement is executed in the following manner:

- The HMI device emits signals in the current project.
- The transponder reacts to the signal from the HMI device and transmits its ID to the HMI device.
- The HMI device evaluates the ID and only measures the distance to the configured transponders.

See also

Integration and segregation (Page 18)

Planning effective ranges (Page 46)

1.3 Switch-off behavior

Introduction

Different switch-off behavior is possible depending on the situation in the plant:

- Emergency stop
- Shutdown
- Local rampdown.
- Global rampdown

Plant switch-off differs in its triggers and effects.



No switch off triggering

In the plant the described switch-off behavior is only triggered if the F-CPU has been programmed accordingly.

Emergency stop

The operator triggers the emergency stop by pressing the emergency stop button.

Emergency stop is a procedure in response to an emergency that is intended to stop a process or movement that could result in danger (from EN 60204-1 Appendix D).

The emergency stop immediately stops all machines that are assigned to the F-CPU via the safety program.

The emergency stop depends on the effective ranges.

The emergency stop button is always active if there is PROFIsafe communication between HMI device and F-CPU, i.e. if the HMI device is integrated in the PROFIsafe communication.

Shutdown

Shutdown is triggered if the F-CPU detects a communication error on an HMI device which is logged on in the effective range.

Shutdown is the immediate stopping of the machines which belong to the effective range.

The shutdown is always specific to the effective range.

Local rampdown.

Local rampdown is triggered if the HMI device is logged on at the effective range and if it is removed from the effective range for longer than 30 seconds.

Local rampdown is the defined shutdown of the machines belonging to the effective range within a defined time period.

Local rampdown is always specific to the effective range.

Global rampdown

Global rampdown is triggered if the F-CPU detects a communication error on an HMI device which is integrated in the PROFIsafe communication.

Global rampdown is the defined shutdown of the machines assigned in the safety program within a defined time period.

Global rampdown is independent of the effective ranges.

In the safety program of the F-CPU, ensure that global rampdown is available in the event that a communication error occurs on an HMI device which is integrated in the PROFIsafe communication.

Trigger

The switch off can have the following triggers:

- The operator presses the emergency stop button.
- A communication error occurs.
- Timeout: The HMI device is logged on at the effective range and the operator leaves the effective range with his HMI device for longer than 30 seconds.

Triggering the switch off

The following table shows the effect of the different triggers depending on the operating situation:

Operating situation		Trigger			
			Emergency stop pressed	Communication error	Timeout
HMI not integrated .					
HMI integrated	HMI device logged on at the effective range	HMI device is in the effective range	Emergency stop	Shutdown	
		HMI device is outside of the effective range for less than 30 seconds	Emergency stop	Shutdown	
		HMI device is outside of the effective range for longer than 30 seconds	Emergency stop	Shutdown	Local rampdown.
	HMI device is logged of	f from the effective range	Emergency stop	Global rampdown	

1.4 Integration and segregation

Introduction

In fail-safe operation a safety program runs in the F-CPU. This safety program communicates with the HMI device. The F-CPU monitors this communication for errors and analyzes the signals. The terms "integrate" and "segregate" refer to the integration and segregation of the HMI device in/from the safety program of the F-CPU.

Integrate

If the HMI device is configured for the safety program then when the HMI device starts it is automatically integrated in the safety program. The integration process is concluded as soon as the LED"SAFE" is illuminated.

The emergency stop button is active as soon as the HMI device is integrated.

Segregation

Segregation means the desired segregation of the HMI device from the safety program.

The operator has the following alternatives for segregating the HMI device:

- The operator terminates the project.
- The operator presses the ON/OFF button for longer than 4 seconds. After the segregation process the HMI device switches off.

When the operator segregates the HMI device there are no side effects, e.g. a global rampdown. When the segregation process is terminated the LED "SAFE" and the emergency stop button are no longer active.

See also

Safety functions of the emergency stop button (Page 37)

1.5 Log on and log off at the effective range

Introduction

An effective range is the range within which plant units, e.g. a machine, can be operated with the enabling buttons of the HMI device. The prerequisite for this is that the operator must log the HMI device on at the effective range.

Logging on at the effective range

If the operator enters an effective range with the HMI device the system shows that he can log the HMI device on at the effective range via the "Effective range name" object.

To log on he touches the "Effective range name" object. Then he reads the effective range ID in the plant and enters this ID in the ""Effective range logon" dialog box.

If the entered effective range ID agrees with the configured ID then the HMI device is logged on.

When the HMI device is logged on the enabling buttons are active.

The system alerts the operator that the HMI device is logged on at the effective range in the following manner:

- The LED "RNG" is illuminated.
- The "Effective range name" object is displayed in green.
- In the process cell the indicator for the effective range is active, e.g. a lamp.

When the HMI device is logged on at the effective range the following rules apply:

- The operator should not leave the effective range without logging off. Local rampdown occurs if the operator leaves the effective range for longer than 30 seconds without logging off.
- No other HMI device can log on at this effective range.

Log off at the effective range

Before the operator exits the effective range at which the HMI device is logged on, he must log off from the effective range. To log off he touches the "Effective range name" object and edits the dialog box ""Effective range logoff".

When the HMI device is logged off the enabling buttons are no longer active. The LED "RNG" is not illuminated.

See also

Log on and log off at the effective range (Page 91)

1.6 Safety-oriented operator controls

Introduction

The Mobile Panel 277F IWLAN has the following elements for safe operation of a process cell:

- Emergency stop button
- Enabling button

1.6.1 Emergency stop button

Introduction

The emergency stop button is designed with 2-channels and enables an emergency stop of the configured system.

The emergency stop button satisfies the requirements specified in DIN IEC 60947-5-5;1997 Annex K.

For additional safety instructions please refer to the chapter, Safety instructions, standards and notes.

When using the emergency stop button the following F-FBs must be linked in the safety program of the F-CPU:

- F FB MP
- F_FB_RNG_n



- ① Fall protection
- ② Emergency stop button

Due to its position, the emergency stop button is equally accessible for both left-handed and right-handed individuals.

Due to its profiled design, the emergency stop button is easily accessible. A collared enclosure is used to protect the operator controls against damage. This applies in particular to the emergency stop button The emergency stop button may still trigger if the HMI device falls and hits the floor.

Operation

The operator triggers the emergency stop by pressing the emergency stop button. The emergency stop button engages in the emergency stop position.

Releasing the emergency stop button



If you have activated the emergency stop button and thereby brought the configured system to a standstill, the emergency stop button should only be released under the following conditions:

- The reasons for the emergency stop have been eliminated.
- A safe restart is possible.
- The restart should not be executed by releasing the emergency stop button.
 The operator must strictly ensure that he executes a separate operator action to commence the restart. The safety program must ensure that release of the emergency stop button alone does not trigger an automatic restart of the system.

In order to release the emergency stop button, turn it in a clockwise direction. The emergency stop button then returns on its own to the initial position.

See also

Safety functions of the emergency stop button (Page 37) S7 Distributed Safety (Page 58)

1.6.2 Enabling button

Introduction

The enabling device consists of the two enabling buttons mounted on both sides of the Mobile Panel 277F IWLAN. The switch setting of the two enabling buttons is determined by electrical momentary contact switches.

Note

The HMI device analyzes the switch settings of the two enabling buttons in the form of an OR gate.



Enabling button

Operation



Unintentional enabling

Press the enabling button only until the operation you wish to enable is completed.

Enabling is a conscious operator action. It is not permissible to continuously press the enabling button or to fix it in any way.

The following happens if you leave the effective range for a period of up to 30 seconds with the enabling button pressed: Enabling is revoked 5 seconds after leaving the effective range.

If you reenter the effective range within 30 seconds, you must release the enabling button and press it again for enabling to take effect again.

The enabling button has three switch settings:

- Neutral position: The enabling button is not pressed.
- Enable: The enabling button is pressed to a mid position. This switch setting is used to allow another command, for example an input with the membrane keyboard.

 Panic: The "Panic" switch setting is reached as soon as one of the two enabling buttons is fully pressed. The switch setting of the other enabling button is unimportant in this case. The "Panic" switch setting has the same effect as releasing the enabling button, namely, it revokes the enable.

You only have to activate one enabling button. The PLC gets the same signal regardless as to whether one or two enabling buttons of the Mobile Panel 277F IWLAN have been pressed.

Note

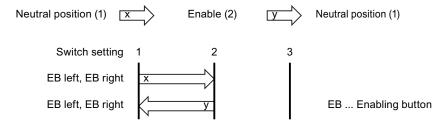
The enabling button and the membrane keyboard can be operated at the same time.

When using the enabling button the following F FBs must be linked in the safety program of the F CPU:

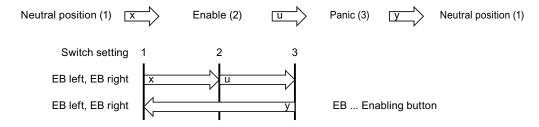
- F_FB_MP
- F_FB_RNG_n

Switch settings

The following figure shows the switching sequence for enable.



The following figure shows the switching sequence during panic usage.



If the operator has pressed the enabling button through to the "Panic" setting, the "Enable" setting will not be evaluated when leaving the panic setting. A new enable can only be triggered by releasing the enabling button.

See also

Safety functions of the enabling button (Page 39) S7 Distributed Safety (Page 58)

1.7 "Override" mode

Introduction

The effective range functionality of the HMI device can be extended through the "override" mode.

Applications

"Override" mode can be used in the following cases:

- Use of existing protective measures instead of the effective range functionality
 If protective measures, such as protective fences are already available in your plant, then you can integrate them in your safety concept with the "override" mode. Thus you achieve a consistent concept for safe plant operation.
- If plant units, which do not allow themselves transponder coverage, (such as inside a robot cell), will be operated with the enabling buttons.

In this case you must secure the plant area with additional protective measures, such as a protective fence.

Requirements

Only use "override" mode in delimited plant units that are secured by additional protective measures.

Entering and leaving the protected area must be monitored by the F-CPU.

The operator must be able to fully see the area for which "override" mode applies. The danger location must be visible from every point of the override area.

When using the "override" mode you must install a switch within an effective range that is independent of the HMI device. The operator activates "override" mode with this switch.

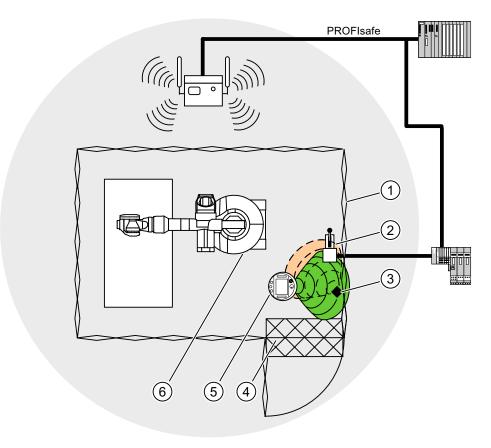


Inadmissible activation of the "override" mode

The operator has to activate "override" mode through a conscious operator action, e.g. by activating a switch. The "override" mode should not be automatically activated, e.g. when the safety area is entered.

The application program in conjunction with F-FB must ensure that the "override" mode is revoked when the area is left.

Sample configuration



- Protective fence
- ② Switch for activating "override" mode
- Transponder for logging on at the effective range
- 4 Foot grating for access monitoring
- ⑤ HMI device
- 6 Machine that will be operated

Activation of the "override" mode

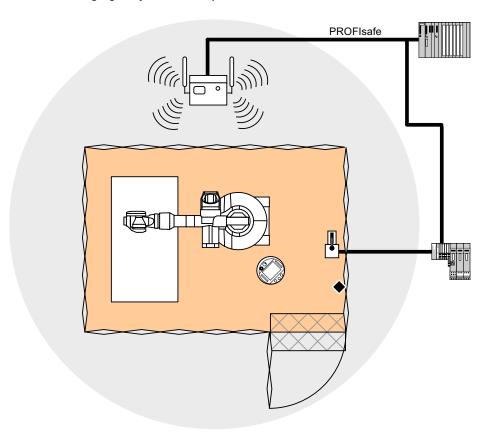
The operator activates "Override" mode in the following manner:

- 1. The operator enters the protected area through a light barrier or across a foot grating. The protective device is activated.
- 2. The operator logs on at the effective range in which the override switch is located.
- 3. The operator activates the override switch.

"Override" mode is now active until either the operator deactivates "Override" mode with the override switch or until he leaves the protected area.

Operating principle

In the following figure you see the plant area for which "override" mode is active.



If "override" mode is activated the operator can safely operate the associated plant area with the enabling buttons. The HMI device is considered to be permanently logged on in the effective range, without analyzing the transponder signals.

Deactivation of "override" mode

The operator deactivates "override" mode in the following manner:

- 1. The operator activates the override switch.
 - "Override" mode is deactivated by the safety program.
- 2. The operator logs off from the effective range.
 - Subsequent logon at this effective range is only possible if the operator has terminated "override" mode with the override switch.
- 3. The operator leaves the protected area.

If the operator leaves the protected area without deactivating "override" mode, "override" mode is deactivated by the safety program.

See also

For the "Override" mode: Planning the protective devices (Page 49)

Configuration and operation (Page 113)

Safety instructions, standards and notes

2

2.1 Safety instructions

Safety regulations



Injury or material damage

Strictly observe all instructions in this document at all times. Otherwise, hazardous situations can arise or the safety functions integrated in the HMI device can be rendered ineffective.

Observe the safety and accident prevention instructions applicable to your application in addition to the safety instructions given in this manual.

Configuration requirements



Injury or material damage

The configuration engineer for a machine or system PLC must take precautions to ensure that an interrupted program can be restarted normally after communication errors, voltage dips, or power failures.

Dangerous operating modes must not occur, not even temporarily, from the entire sequence of the user program up to troubleshooting.

Proper use



Commissioning of the HMI device is forbidden until it has been absolutely ensured that the machine which is to be operated with the HMI device complies with Directive 98/37/EC.

Fault-free operation



Interference with other systems

When using the HMI device in accordance with DIN EN 13557 you must ensure that the HMI device does not interfere with other systems at the site, or that other systems do not interface with the HMI device.

Safety measures during operation



WARNING

Non-functional emergency stop button

The emergency stop button must be checked annually for proper function.



WARNING

HMI device failure

After a hard impact to the HMI device, check the safety-relevant features for functional capability, for example in the event that the HMI device is dropped.



WARNING

Danger of injury

Manual movements controlled with the HMI should only be executed in conjunction with the enabling buttons and at reduced velocity.



WARNING

Exclusive operating right

When operating the plant with the HMI device it is not permitted to operate the plant concurrently from a different HMI device.

Prevent concurrent operation through appropriate configuration.

High frequency radiation



WARNING

Unintentional operating situations

High-frequency radiation, for example from cellular phones, can lead to undesirable operating situations.

Information for handling the battery:



Charging and discharging the battery

In the following cases, there is a risk of fire and, in extreme cases, explosion!

- Incorrect charging and discharging of the battery
- Reverse polarity
- Short-circuit

Only charge the bridging battery in the HMI device.

Only charge the main battery in the HMI device or in the charging compartment of the charging station.

ACAUTION

The battery is a lithium ion battery. The following safety notes apply to these rechargeable batteries:

- · Do not crush
- Do not expose to heat and do not burn
- Do not short-circuit
- Do not take apart
- Do not immerse in liquid the battery might crack or burst
- Store unused batteries away from the following items, which can cause the contacts to be bridged
 - Paper clips
 - Coins
 - Keys
 - Nails
 - Screws or other small metal objects

ACAUTION

Danger of injury

If used incorrectly, fluid can leak from the battery. Avoid contact with the battery fluid. If fluid comes into contact with the skin, rinse with water.

If fluid comes into contact with the eyes, rinse with water and seek medical advice.

Instructions for battery replacement in Mobile Panel 277F IWLAN

CAUTION

Local rampdown of logged on HMI device

If the HMI device which is logged on at the effective range no longer recognizes the transponder and, therefore, the effective range, it triggers a local rampdown.

To change the battery, rest the HMI device on its front. Align the HMI device so that it is still possible to measure the distance between the HMI device and the transponder.

If possible, log the HMI device off from the effective range.

NOTICE

Pay attention to cleanliness. Foreign bodies or liquids must not come into contact with the printed circuit board or penetrate the inside of the HMI device.

Place the HMI device with the front side facing down on a flat, clean surface to protect against damage.

CAUTION

Malfunctions

If the HMI device is resting on its front, the following can be activated:

- The emergency stop button
 - This can bring the system to a standstill unintentionally.
- The key-operated switch or an illuminated pushbutton
 This can result in malfunctions.

Components and modules endangered by electrostatic discharge (ESD)

When working in the open housing, ensure that current-carrying conductors do not come into contact with electrical circuits.

Note the ESD instructions.

2.2 Guidelines, standards, certificates and approvals

Certifications



The following overview shows possible approvals.

The only valid approvals for the HMI device, the charging station, the power supply module, and the transponder are those shown on the label on the rear panel.

CE approval



The HMI device, charging station, power supply unit, and transponder satisfy the requirements and protection objectives of the EC Directives below. The HMI device, charging station, power supply unit, and transponder comply with the harmonized European standards (EN) published in the Official Journals of the European Union for programmable controllers:

- 2004/108/EC Electromagnetic Compatibility Directive (EMC Directive)
- 98/37/EG Directive of the European Parliament and Council of 22 June 1998 on the approximation of the laws and administrative regulations of the Member States concerning machinery
- Specific absorption rate in accordance with EN 50392

EC Declaration of Conformity

The EC Declarations of Conformity are available to the relevant authorities at the following address:

Siemens AG Industry Sector I IA AS RD ST PLC PO Box 1963 D-92209 Amberg

UL approval



Underwriters Laboratories Inc., to

- UL 508 (Industrial Control Equipment)
- CSA C22.2 No. 142 (Process Control Equipment)

The approval is only valid in the case of battery operation or when stationary in the charging station.

Marking for Australia



The HMI device, charging station, power supply unit, and transponder satisfy the requirements of Standard AS/NZS 2064 (Class A).

Wireless approval

The HMI device wireless approvals for the various countries are located as follows:

- On the rear of the HMI device
- In the product information supplied together with the HMI device

2.2 Guidelines, standards, certificates and approvals

ΤÜV

The TÜV confirms that the HMI device satisfies the requirements of the standards below with regard to its safety functions.

- SIL3 to IEC 61508-1 to 4
- Category 4 in accordance with EN 954-1.
- PI e and Cat. 4 in accordance with EN ISO 13849-1
- EN 60204-1
- ISO 13850
- IEC 62061

Requesting certificates

Copies of the certificates and associated reports can be requested from the following address:

Siemens AG Industry Sector I IA AS RD ST PO Box 1963 D-92209 Amberg

2.3 Operating safety

Standards

The HMI device complies with the following standards:

• EN 954-1

Safety of machinery

EN 60204-1

Safety of machinery - Electrical equipment of machines

EN 62061

Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems

EN ISO 13849-1

Development, testing and certification of safety-related machine controls

• ISO 13850

Safety of machinery – Emergency stop – Principles for design

• IEC 61508

Functional safety of electrical/electronic/programmable electronic-related systems

EN 61131-1 and EN 61131-2

Programmable Controllers

- The HMI device was tested for EMC in accordance with the following standards:
 - EN 61000-6-4, Generic standard emitted interference
 - EN 61000-6-2, Generic standard, Immunity, industrial environments
 - EN 61131-2, Programmable Controllers
- EN 300 328 V1.6.1, EN 300 440-1 V1.3.1, EN 301 893, EN 301 489-1, EN 301 489-17, FCC Part 15.245, 15.247, 15.407

Wireless approval

EN 50 360, IEEE 1528-X, EN 50371, EN 50 392

Radiation protection requirements (SAR/EMF)

If the HMI device is used in a system, the following standards are fulfilled:

- prEN 1921, Industrial automation systems safety of integrated manufacturing systems
- EN 12417:2001, Machine tools safety machining centers
- UL 508, Industrial Control Equipment
- CSA C22.2 No.14, Industrial Control Equipment

2.4 Power supply

Safety specifications

CAUTION

Damage to the HMI device

Only operate the HMI device with approved components:

- Batteries
- · Charging station
- For office environments only: Tabletop power supply unit

Order information of the components is available on the Internet at "http://mall.automation.siemens.com".



Injury or material damage

You may operate the HMI device in the plant only with the battery or in the charging station. Operation with the desktop power supply module is not permitted.



Effectiveness of the emergency stop button

The emergency stop button only has an effect if the HMI device is integrated into the safety program.

Charging station



Injury or material damage

The charging station complies with the following standards:

- EN 50335-2-29
- DIN EN 60204-1
- Protection class III in accordance with EN 61131-2 or EN 50178.

The 24 VDC power supply must be ensured by safely isolating the low voltage from hazardous voltages, e.g. by using a safety transformer or equivalent equipment.

Allowance should be made for the loss of voltage on the connection cable during dimensional analysis of the supply!

AWARNING

Injury or material damage

Configure the 24 VDC supply for the charging station correctly, otherwise components of your automation system can be damaged and persons may be injured.

Use only voltage generated as protective extra-low voltage (PELV) for the 24 VDC supply of the charging station.

CAUTION

Safe electrical separation

Use only power supply units with safety isolation complying with IEC 60364-4-41 or HD 384.04.41 (VDE 0100, Part 410), for example according to the PELV standard, for the charging station's 24 VDC supply.

The supply voltage must be within the specified voltage range. Malfunctions in the charging station may otherwise result.

Applies to non-isolated system design:

Connect the connection for GND 24 V from the 24 V power supply output to equipotential bonding for uniform reference potential.

The following table shows the technical data of the supply voltage for the charging station:

Nominal voltage	+24 VDC
Range, permissible	19.2 V to 28.8 V (-20 %, +20 %)
Transients, maximum permissible	35 V (500 ms)
Time between two transients, minimum	50 sec
Current consumption with Mobile Panel	
Typical	Approximately 1.5 A
Constant current, maximum	Approx. 1.8 A
Power on current surge I²t	Approx. 1.7 A ² s
Current consumption with Mobile Panel and batteries in charging compartment Typical Constant current, maximum Power on current surge I²t	Approximately 2.8 AApproximately 3.4 A
Power on current surge I ² t	Approximately 1.7 A ² s
Fuse, internal	Electronic

Connection to the supply voltage

Wire the supply voltage to the cable terminal box included with the charging station using a 3-wire flexible cable (0.75 mm²). For additional information, refer to the operating instructions of the HMI device.

Tabletop power supply unit

CAUTION

Please note that the mains connector must be removed for a complete disconnection from the mains.

Do not operate the HMI device in the plant with the table power supply unit.

The tabletop power supply unit is only suitable for an office environment.

The device is designed for operation on grounded power supply networks (TN systems to VDE 0100, Part 300, or IEC 364-3).

Operation is not authorized on ungrounded or impedance-grounded power networks (IT networks).

2.5 Notes about usage

Using the HMI device

A list indicating the country or geographical region of a country in which the HMI device is certified is included in the product information supplied with the HMI device.

Use in industry

The HMI device is designed for industrial use. For this reason, the following standards are met:

- Interference emission requirements, paragraph 7.3, DIN EN 60947-1, Environment A
- Interference immunity requirements DIN EN 61326

Residential use

Note

The HMI device is not suitable for use in residential areas: If you use the HMI device in residential areas, the radio/TV reception may be impeded.

If the HMI device is used in a residential area, you must take measures to achieve Limit Class B conforming to EN 55011 for RF interference.

A suitable measure for achieving the required RF interference level for Limit Class B includes for example:

Use of filters in electrical supply lines

Individual acceptance is required.

Use of cable-free control equipment



When using cable-free control equipment you must ensure that it does not interfere with other systems at the site, or that other systems do not interfere with it.

2.6 Risk analysis

Carrying out a risk analysis

The following standards must be used to perform the risk analysis:

- EN ISO 12100-1 and EN ISO 12100-2, General design guidelines for machines
- EN 1050 Risk Assessment for Machinery
- EN 954-1 Safety of Machinery

These considerations result in a safety category (B, 1, 2, 3, 4) in accordance with EN 954-1 that ultimately dictates how the safety-related aspects of the system that will be configured must be furnished.

With the safety-related parts of the Mobile Panel 277F IWLAN the following requirements are satisfied:

- Category 4 in accordance with EN 954-1.
- SIL 3 in accordance with IEC 61508
- PI e and Cat. 4 in accordance with EN ISO 13849-1

The risk assessment must take into account that the overall concept of the plant must be configured accordingly. More detailed instructions on risk assessment and risk reduction are provided in the system manual "Safety Integrated".

2.7 Safety functions of the emergency stop button

Safety instructions

There is an emergency stop button on the Mobile Panel 277F IWLAN.

The emergency stop button on the Mobile Panel 277F IWLAN brings about a safety-related stop of the configured machine in accordance with EN 60204-1:1997, Section 9.2.5.3. You have the option of implementing a Category 0, 1, or 2 Stop function in accordance with EN 60204-1: 1997, Section 9.2.2. The stop function category must be selected on the basis of a risk assessment.



Emergency stop button not available

The emergency stop button on the HMI device must not used as a replacement for a permanently-wired emergency stop/emergency off on the machine.

Install stationary emergency stop buttons that are available at all times on the configured system.



MARNING

Effectivity of the emergency stop button

The following requirements must be met in order to render the emergency stop button effective:

- The HMI device must be operated in the charging station or operated with the battery.
- The project must be running on the Mobile Panel 277F IWLAN.
- The HMI device must be integrated in the safety program of the F-CPU.

If these prerequisites are satisfied the following applies:

- The SAFE LED on the HMI device is illuminated.
- The emergency stop button of the Mobile Panel 277F IWLAN is effective.

Category 0 or 1 Stop

If a Category 0 or 1 Stop circuit is implemented, the stop function must be in effect regardless of the operating mode. A Category 0 Stop must have precedence. Release of the emergency stop button should not cause a hazardous situation (see also EN 60204:1997 chapter 9.2.5.3).

The stop function is not to be used as a replacement for safety equipment.

NOTICE

The emergency stop button can be triggered unintentionally

The emergency stop button is evaluated under the following conditions:

The Mobile Panel 277F IWLAN is integrated in the safety program of the F CPU.

In the following cases, the emergency stop button can be triggered unintentionally, bringing the configured system to a standstill:

- If the HMI device falls down
- When opening one of the coverings on the rear of the HMI device



WARNING

Emergency stop button disabled

If a global rampdown has been triggered by a communication error, the emergency stop will no longer be available on the Mobile Panel in question.

You have the option of configuring the "Global rampdown" signal to trigger an emergency stop.

Storing the HMI device



Non-functional emergency stop button

If the HMI device is not integrated, the emergency stop button does not function.

To avoid confusion between effective and non-effective emergency stop buttons, only one integrated HMI device should be freely accessible.

If the HMI device is not in use, it must be stored in an secure place.

See also

Emergency stop button (Page 20)

2.8 Safety functions of the enabling button

Introduction

The enabling mechanism is comprised of two enabling buttons mounted on both sides of the HMI device.

Numerically controlled machines and systems are equipped with the operating modes "Automatic mode" and "Special mode".

Safety is ensured in automatic mode by means of closed, isolating protective devices and/or with functional non-isolating protective devices that block access.

In special mode, safety has to be ensured in a different manner than in automatic mode. In special mode, the danger zones of the machine or system are entered, where controlled movements have to be possible.

Special mode

A reduced speed on the machine or in the system has to be specified for special mode based on the risk assessment. Movement of the machine should only be possible when the enabling device is activated. The operator must have the necessary qualifications and be acquainted with the details of the intended application.

Safety instructions

The safety-related aspects of the velocity reduction control and those for the enabling device are designed in such a way that they satisfy the EN 954-1 safety category determined by the risk analysis.

The operating principles of enabling devices are described in EN 60204. Through the findings from accident investigations and the existence of technical solutions, the 3-stage enabling button became state of the art. Positions 1 and 3 of the enabling button are Off functions. Only the middle position allows the enabling function. EN 60204-1:1997 is identical to IEC 60204-1, whereby the 3-stage enabling button is gaining international importance.

The Stop category of the enabling device must be selected on the basis of a risk assessment and correspond to a Category 0 or 1 Stop.



Injury or material damage

Enabling buttons should only be used when the following applies for the person activating the enabling button:

- The person can see the danger zone.
- The person is capable of recognizing personal injury hazards in good time.
- The person is capable of taking immediate measures to avoid danger.

The only person allowed to remain in the danger zone is the person who is activating the enabling button.

Commands for unsafe conditions are not permitted to be issued with one enabling button alone. For this purpose, a secondary, intentional start command by means of a button on the Mobile Panel 277F IWLAN is required.

The following happens if you leave the effective range for a period of up to 30 seconds with the enabling button pressed: Enabling is revoked 5 seconds after leaving the effective range.

If you reenter the effective range within 30 seconds, you must release the enabling button and press it again for enabling to take effect again.

NOTICE

Enabling button not effective

The enabling button is only effective if the HMI device is logged on in the effective range and the "RNG" LED on the HMI device lights up.

If the operator leaves the effective range, the enabling button is deactivated after 5 seconds. The "Exit effective range without logoff" dialog opens after 30 seconds. The "RNG" LED only goes off when the operator confirms this dialog.

Risk from improper use

To avoid the danger of unauthorized use of the enabling button due to impermissible hold-down, on each project start the enabling button must be pressed all the way down, and then released.

See also

Enabling button (Page 22)

Application Planning

3.1 Check list: Planning the application

Application planning

For application planning of the HMI device go through the following steps.

Check list for application planning

Step	Information	Check
Check the application conditions and environmental conditions	Application and ambient conditions (Page 42)	
Plant planning for application of the HMI device	Check list: Planning the system (Page 45)	
Planning the effective ranges	Planning effective ranges (Page 46)	
Only for the "override" mode: Planning the protective devices	For the "Override" mode: Planning the protective devices (Page 49)	
Planning measures to increase data safety	Check list: Data security (Page 50)	

3.2 Application and ambient conditions

Mechanical and climatic conditions of use

The HMI device is designed for use in a location protected from the effects of the weather. The conditions of use are compliant with requirements to DIN IEC 60721-3-3:

Class 3M3 (mechanical requirements)

The table applies to the HMI device, charging station, and transponder.

Tested for	Test standard	Comments
Sinusoidal vibration, stationary	DIN IEC 60721-3-3	Frequency range: 2 ≤ f ≤ 200 Hz Deflection: 1.5 mm/5 m/s ²
Shocks, non-stationary, Total shock response spectrum	DIN IEC 60721-3-3	Shock amplitude: 70 m/s ² Shock duration: 22 ms

• Class 3K3 (climatic requirements)

The table applies to the HMI device, charging station, and transponder.

Ambient conditions	Permitted range	Comments
Air temperature	5 to 40 °C	
Relative humidity	5 to 85 %, no condensation	Corresponds to relative humidity, load degree 2 in accordance with IEC 61131, part 2
Absolute humidity	1 to 25 g/m ³	
Atmospheric pressure	70 to 106 kPa	Corresponds to an elevation of up to 3,000 m

Use with additional measures

In the following cases the use of the HMI device requires additional measures:

- In locations with a high degree of ionizing radiation
- In locations with difficult operating conditions, for example due to:
 - Corrosive vapors, gases, oils or chemicals
 - Electrical or magnetic fields of high intensity
- In systems that require special monitoring, for example:
 - Elevators
 - Systems in especially hazardous rooms

Testing for mechanical environmental conditions

The following table provides information on the type and scope of tests to determine mechanical ambient conditions for the HMI device.

Tested for	Test standard	Comments
Vibrations	IEC 60068, part 2–6 (sinusoidal)	Type of vibration: 20 frequency cycles with a tuning rate of 1 octave/minute.
		Frequency range: 10 ≤ f ≤ 150 Hz, ± 1 Hz Deflection: 0.35 mm / 5 g ± 15% at the control point
Shock	IEC 60068, part 2–27	Shock form: Half-sinus Shock amplitude: 30 g Shock duration: 11 ms Number of shocks: 3 per axis
Continuous shocks	IEC 60068, part 2–29	Shock form: Half-sine Shock amplitude: 10 g Shock duration: 16 ms Shock cycle: (1–3)/s Number of shocks: 1000 ± 10
Impact	IEC 60068, part 2–75	One-time impact stress of 1 Nm with an impact test device similar to DIN VDE 0740, Part 1, Section 19.2 at room temperature.
Falling	Drop testing in accordance with EN 60068-2-32	1.2 m Applies to the HMI device with and without battery:

Reducing vibrations

If the HMI device is subjected to greater shocks or vibrations, you must take appropriate measures to reduce acceleration or amplitudes.

We recommend fitting the charging station of the HMI device to vibration-absorbent material (on metal shock absorbers, for example).

Climatic ambient conditions for the HMI device

The following table shows the permitted climatic ambient conditions for use of the HMI device:

Ambient conditions	Permitted range	Comments
Temperature Operation Storage/transport	0 to 40 °C -20 to 60 °C	
Relative humidity	5 to 85 %, no condensation	Corresponds to relative humidity, load degree 2 in accordance with IEC 61131, part 2
Atmospheric pressure	1060 to 700 hPa	Corresponds to an elevation of –1,000 to 2,000 m

3.2 Application and ambient conditions

Ambient conditions	Permitted range	Comments
Pollutant concentration	SO ₂ : < 0.5 vpm; Relative humidity < 60 %, no condensation	Check: 10 cm ³ /m ³ ; 10 days
	H ₂ S: < 0.1 vpm; Relative humidity < 60 %, no condensation	Check: 1 cm ³ /m ³ ; 10 days

Climatic ambient conditions for the charging station

The following table shows the permitted climatic ambient conditions for use of the charging station.

Ambient conditions	Permitted range	Comments
Temperature Operation Storage/transport	 From 0 to 40 °C From –20 to 60 °C 	
Relative humidity	5 to 85 %, no condensation	Corresponds to relative humidity, load degree 2 in accordance with IEC 61131, part 2
Atmospheric pressure	1060 to 700 hPa	Corresponds to an elevation of –1,000 to 2,000 m
Pollutant concentration	SO ₂ : < 0.5 vpm; Relative humidity < 60 %, no condensation	Check: 10 cm ³ /m ³ ; 10 days
	H ₂ S: < 0.1 vpm; Relative humidity < 60 %, no condensation	Check: 1 cm ³ /m ³ ; 10 days

Ambient climatic conditions for the transponder

The following table shows the permitted climatic ambient conditions for use of the transponder:

Ambient conditions	Permitted range	Comments
Temperature Operation Storage/transport	• 0 to 50 °C • –20 to 60 °C	
Relative humidity	5 to 85 %, no condensation	Corresponds to relative humidity, load degree 2 in accordance with IEC 61131, part 2
Atmospheric pressure	1060 to 700 hPa	Corresponds to an elevation of –1,000 to 2,000 m
Pollutant concentration	SO ₂ : < 0.5 vpm; Relative humidity < 60 %, no condensation	Check: 10 cm ³ /m ³ ; 10 days
	H ₂ S: < 0.1 vpm; Relative humidity < 60 %, no condensation	Check: 1 cm ³ /m ³ ; 10 days

3.3 Check list: Planning the system

Introduction

For fail-safe systems careful system planning is necessary so that the system can be subsequently accepted and commissioned successfully.

Check list

Use the following check list when planning fail-safe systems:

Step	Further information	Check
Obtain an current plan of the plant for which an effective range concept should be created.		
Based on the system plan specify the operator's access paths to the machine.		
Specify the location from which the operator will operate the machine. Here you need WLAN coverage.		
Plan the WLAN areas. Specify the mounting locations of the access points in such a manner that good WLAN coverage is ensured. Special tools such as Sinema E are available on the market for planning WLAN coverage.	System description "///Setting up an industrial wireless LAN", on the Internet at the following address: "http://support.automation.siemens.com/ WW/view/en/22681042" Information about Sinema E is available on the Internet at the following address: "http://www.siemens.com/sinema"	
Specify the effective ranges in which the operator will operate the machine with the enabling buttons. Specify the mounting locations for the transponders.	Planning effective ranges (Page 46)	
When using "override" mode: Plan additional protective measures.	For the "Override" mode: Planning the protective devices (Page 49)	
Planing the installation of the PROFINET and PROFIsafe communication.	System manual: "SIMATIC Communication"	
Particularly specify the PROFIsafe addresses for the HMI devices.	Programming and operating manual "SIMATIC S7 Distributed Safety Configuring and Programming".	

3.4 Planning effective ranges

Effective range and transponder

An effective range is physically formed by transponders mounted in the vicinity of the machine. Each transponder sends a unique ID. The ID is received by the HMI device and enables it to determine its distance from the transponder. If the HMI device is within the effective range, safe operation is possible once it logs on in the effective range.

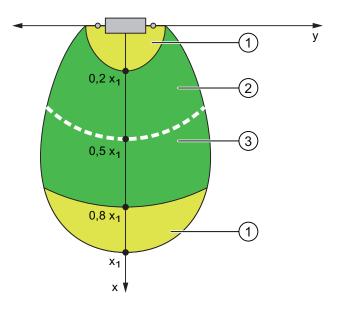
Rules for effective ranges

The following rules apply when defining effective ranges:

Rule	Explanation
The maximum distance from the transponder to the HMI device can be 8 meters.	System limits
No minimum distance to the transponder can be configured, but this is always a percent of the configured maximum range. The following section provides a detailed description.	
The effective range must be scaled so that the danger point can be seen from every angle of the effective range.	Too great a distance or a cluttered effective range prevents visual control on the part of the operator.
The distance between the machine to be operated and the operator needs to be scaled	Insufficient distance from the machine increases the injury hazard for the user.
according to the machine.	Too great a distance from the machine prevents visual control on the part of the operator.
Machine, transponder and operator position need to be adapted to one another.	The HMI device needs to be able to measure the distance to the transponder during operation. The requires the HMI device to aligned with the transponder. The operator needs visual contact to the machine at the same time.
Effective ranges should not overlap. Consequently you should only assign each transponder to a single effective range.	Assignment of effective range to the machine that will be operated must be unique.
Transponders in different effective ranges must be far enough away from each other that their transmission ranges do not overlap.	
You can set up a maximum of 127 effective ranges in a project.	System limits
A maximum of 127 transponders can be assigned to one effective range.	System limits

Distance measurement between HMI device and transponder

The transponder transmits its ID in lobe-shaped area with a maximum range of approx. 8 meters. The following example shows the varying quality of the effective range based on a configuration in which a maximum range of $x_1 = 8$ m has been specified.



- Zone with poor quality effective range
- 2 Zone with good quality effective range
- ③ The effective range quality along the line is 100%.

The effective range quality is best in the middle of the lobe-shaped area: the effective range quality along the white line is 100%. The effective range quality decreases along the lobe's center line in the direction of each edge.

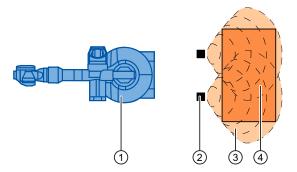
There is a zone of poor quality effective range (marked yellow) both directly at the transponder as well as at the other end of the lobe. At the long side of the lobe there is a direct transition of the effective range quality from "good" to "no effective range detected".

You can find an exact description of the radiant characteristics of the HMI device and transponder in specifications section of the operating instructions.

Transponders must be mounted in the system in such a manner that the planned effective range is covered by the transmitting range of the transponders assigned to it.

3.4 Planning effective ranges

Example:



- Machine that will be operated from within the effective range
- ② Transponder with transmitting range in the form of a lobe
- ③ Planned effective range; safe operation of the machine is possible from here
- 4 Actual effective range; safe operation of the machine is still possible from here

Procedure

- 1. On the system plan specify which parts of the system will be operated with the enabling buttons. You require effective ranges for these areas of the system.
- 2. Specify the spatial expansion of the individual effective ranges. The operator must be located within the limits of the respective effective range in order to operate the corresponding plant unit with the enabling buttons.
 - Comply with the rules for the definition of effective ranges.
- 3. Plan the transponders in the effective range in such a manner that the effective range is covered by the radiated emission of the transponders. Ensure that the effective range is not too large to be seen or another danger arises.
- 4. Specify the following:
 - A name and an ID unique throughout the plant for each effective range from the value range 1 to 127
 - A name and an ID unique throughout the plant for each transponder from the value range 1 to 65534
 - For each effective range the maximum distance that the HMI device can have to the transponders of this effective range. The distance must be the same for all transponders of an effective range.
 - The mounting location for an indicator.



An indicator in the effective range is an absolute necessity

A indicator supplies the operator the feedback that he has logged onto the correct effective range.

Install an indicator in every situation, for example a light that shows that an HMI device is logged on in the effective range.

On the system plan, note the names and the IDs that you use during commissioning.Prior to commissioning you must affix the IDs of the effective ranges in the plant so that they are easily legible.

3.5 For the "Override" mode: Planning the protective devices

Introduction

Use "override" mode to extend the effective range concept.

Requirements

Only use "override" mode in delimited plant areas that are secured by additional protective measures.

The operator must be able to fully see the area for which "override" mode applies. The danger location must be visible from every point of the override area.

When using the "override" mode you must install a switch within an effective range that is independent of the HMI device.

The operator logs his HMI device on at the effective range and activates "override" mode with this switch.

Suitable additional protective measures

When using "override mode you must provide additional protective measures in your plant which prevent unauthorized use or incorrect operation of the HMI device. The additional protective measures must have a safety category that is commensurate with the plant requirements.

For example the following measures are suitable:

- Grate with protective door
- Light barrier
- · Foot grating / safety shutdown mat
- Additional plant-typical safety measures

If you use a grating with a protective door, you have to protect against access to the override area using a further protective measure, e.g a light barrier or a foot grating. This enables you to leave the protective door open as an escape route during operation of the plant in "override" mode.

Safety program

The "override" mode may only be activated as long as the safety measure is active.

If the operator leaves the protected area, the "override" mode must be automatically ended.

Example of an application

A detailed example of an application can be found in the section Application example: Safety Functions (Page 113) .

3.6 Check list: Data security

Introduction

Data security, security in automation technology serves particularly to ensure the availability and trouble-free operation of industrial plants.

In order to ensure secure transmission of signals via a WLAN for the Mobile Panel 277F IWLAN, you must particularly safeguard the system from unauthorized access.

You can count on the following types of unauthorized accesses:

Outside accesses

To protect against unauthorized accesses from outside you must protect the WLAN in the same way you would protect a WLAN for office communication, namely with a firewall.

Accesses from inside

Investigations have shown that the majority of attacks on data security are executed from inside the plant. To ensure data security you must take special measures inside the plant.

Possible attack objectives

The HMI device communicates with the fail-safe controller via PROFIsafe. Here the following possible attack objectives are present:

Parameter assignment and configuration

Possible objectives of an attack are assignment of parameters to a device and configuration.

Productive operation data

The productive data can be manipulated by sending a series of false PROFIsafe telegrams, which prevent the machine from being switched off.

Data transfer between HMI device and access point is protected by the AES encryption mechanism. Manipulation of productive data is prevented in this manner.

Organizational measures to ensure data security

The organizational measures to ensure data security are described in the following documents:

- PROFIsafe Profile for Safety Technology on PROFIBUS DP and PROFINET IO (IEC 61784-3-3)
- PROFIsafe Environmental Requirements

Note the regulations in these documents.

Check list

The following check list shows the organizational measures required to achieve the highest possible level of data security when transmitting via WLAN.

Specify the organizational measures you must implement in accordance with your plant's requirements. Take all phases into account:

The configuration phase

- Project transfer to the HMI device
- The process management phase in which the HMI device is used to operate and monitor the plant.

Check the interplay of the specified measures.

The measures listed in the table are marked as follows:

- To achieve PROFIsafe conformity, you must take all the measures which are marked with an asterisk * and highlighted in bold in the table.
- Additional voluntary measures are not marked.

Measure	Further information	Check
* Comply with the regulations in the document "PROFIsafe - Environmental Requirements".	Document PROFIsafe - Environmental Requirements	
Access points		
Select the installation site and antenna characteristics of the access points in such a manner that only the desired area is with supplied wireless capacity. In this regard note that wireless waves spread out horizontally as well as vertically.	Access point operating instructions	
* Install access points where there is secure access, e.g. in intermediate ceilings. In this manner you prevent manipulations directly at the access point or at the Ethernet connection to the LAN.		
* Only use wire conducted connections to access the parameter assignments of the access point.		
Change the default administration password.	Access point Operating instructions	
* Hidden SSID: Configure the access point in such a manner that the SSID of the wireless cell is not visible.	Access point Operating instructions	
* Change the pre-set SSID.	Access point Operating instructions	
Network		
Examine the use environment with a spectrum analyzer and via WLAN measurement programs for possible interference to the WLAN on the wireless level.		
If you have detected interference sources specify the appropriate remedial measures. Log the results.		
Only operate the network in the infrastructure mode.	System manual "Fundamentals of Industrial Wireless LAN", chapter "Network architecture"	
* Completely disconnect the automation networks from other networks. Use firewalls, or VPNs at points where connections to these networks must exist. Limit the communication between the networks to the absolute minimum required.	System manual "Fundamentals of Industrial Wireless LAN", chapter "VPN (Virtual Private Network)"	

Measure	Further information	Check
* Use authentication mechanisms to prevent unauthorized participation in wireless traffic.		
Shared key as well as certificates are allowed as authentication methods.		
The pass phrase must be at least 20 characters long. The passphrase should contain alphanumeric characters and special characters.		
HMI device		
* Protect the HMI device and the toolbar of the HMI device against unauthorized access with a password.	HMI device operating instructions, chapter "Change password protection".	
* Only release the data channel via which the project will be transmitted to the HMI device, during transmission of the project.	HMI device operating instructions, chapter "Data channel parameter assignment".	
F-CPU and safety program		
* Protect the access to the F-CPU and to the safety program with passwords.	Programming and operating manual "S7 Distributed Safety Configuring and Programming", chapter "Access protection"	
WinCC flexible ES		
Protect WinCC flexible Es with general IT technologies. Examples: Protect the PC where the ES is installed on the operating system level with a password. To encrypt files, folders, and partitions use an appropriate encryption program. Programs with this functionality are available as shareware. Assign access rights to specific drives so that only a certain person subgroup can use the data. Encrypt the data with mechanisms that Windows makes available.		
Protect the "Effective range name" object with a password.	WinCC flexible Information System	

Further information

Addition information on the data security is available in the following publications:

- System manual "Fundamentals Industrial Wireless LAN", chapter "Data security of wireless communication in accordance with IEEE 802.11".
- Brochure published by the German Federal Office for Information Secuiruty (Bundesamt für Sicherheit in der Informationstechnik): "Wireless communication systems and their security aspects".

Configuration

4.1 Check list: Configuration

Configuration

Go through the following steps for configuration.

Checklist for configuration

Step	Information	Check
STEP 7, HW Config: Integrating the HMI device in the plant configuration	Assigning parameters for communication between the HMI device and the controller (Page 55)	
Setting the PROFIsafe parameters		
S7 Distributed Safety: Call the F-FBs in the safety program that are necessary for the HMI device	Using F-FBs (Page 60)	
WinCC flexible: Configure a unique project ID, the effective ranges, and the desired objects	Configuration overview (Page 72)	
Setting the HMI device parameters	HMI device operating instructions, Appendix	

4.2 Procedure for configuration

Tools

For the use of a Mobile Panel 277F IWLAN you have to use various tools, which you can call centrally on the configuration computer via the SIMATIC Manager:

- The STEP 7 hardware configuration "HW Config"
- The S7 Distributed Safety option pack
- WinCC flexible 2007 ES

4.2 Procedure for configuration

Basic procedure

Always use the following procedure for configuration:

- 1. Create a STEP 7 project in the SIMATIC Manager.
- 2. Configure the required F-CPU and a PROFINET connection in the hardware configuration "HW Config".
- 3. Insert a Mobile Panel 277F IWLAN in the configuration from the hardware catalog of the HW Config by dragging it to the PROFINET connection in the station window via Drag&Drop.
- 4. Call the object properties of the Mobile Panel 277F IWLAN using the context menu (right mouse button) and configure the communication between the HMI device and the PLC, see Assigning parameters for communication between the HMI device and the controller (Page 55).
- 5. Configure other components in accordance with your plant.
- Create a safety program for the F-CPU in STEP 7 with S7 Distributed Safety. Insert the
 F-FBs required for the HMI device in the safety program and wire them according to
 instructions. Do this according to the checklist Checklist: Creation of the safety program
 (Page 59).
- 7. Start WinCC flexible ES and create a project for the HMI using the Wizard.
- 8. Set "Ethernet/Wireless" in the project view under "Communication".
- Set the PROFIsafe address of the HMI device in the project view under "Device settings"
 "Device settings".
- 10. Configure the effective ranges planned for your plant under "Device settings" > "Effective ranges", see Effective ranges editor (Page 73).
- 11. Configure the figures for operating and monitoring the plant. Insert the objects required for working with effective ranges in these figures, see Objects for the Mobile Panel 277F IWLAN (Page 73).

Further information

You have central access to SIMATIC documentation under SIMATIC in the Start menu on the configuration computer.

More detailed information can be found under the following references:

Tool	Task	Documentation
STEP 7, HW Config	Creation of the project for the automation system	SIMATIC > Documentation > desired language
S7 Distributed Safety	Creation of the safety program	SIMATIC > Documentation > desired language
WinCC flexible	Creation of the project for the HMI device	SIMATIC > WinCC flexible 2007 > WinCC flexible help system

4.3 STEP 7: HW Config

Procedure in STEP 7 HW Config

When you have created a STEP 7 project in the SIMATIC Manager, configure the desired F-CPU and a PROFINET connection in the hardware configuration "HW Config".

Then insert a Mobile Panel 277F IWLAN in the configuration from the hardware catalog of the HW Config by dragging it to the PROFINET connection in the station window via Drag&Drop.

Configure the communication between the HMI device and the F-CPU in the properties of the HMI device.

4.3.1 Integrating the GSD file in STEP 7

If the HMI device is not listed in the hardware catalog of HW Config, you need to integrate the valid GSD files for the HMI device in the STEP 7 database.

The GSD files are available on the documentation CD or in the Internet at the following address:

"http://www.siemens.com/automation/support"

Note

At installation of WinCC flexible, the GSD files supplied with WinCC flexible are automatically integrated in STEP 7.

4.3.2 Assigning parameters for communication between the HMI device and the controller

Introduction

If you select the HMI device in the HW Config, the following modules are displayed:

- mobile277fiwlan
- Mobile277Standard_IO
- Mobile277Failsafe_IO

Object properties of the module "Mobile277Failsafe_IO"

The parameters for fail-safe operation are configured in the object properties of the Mobile277Failsafe_IO module. You can only change this parameter after you have entered a password for the safety program.

You can find additional information about access protection in the manual "S7 Distributed Safety Configuring and Programming".

4.3 STEP 7: HW Config

"Addresses" tab

The address area for the process image is configued in this tab. The process image is a memory area in the controller which the HMI device and controller access together. At the beginning of the cyclic control program the signal states of the inputs of the HMI device are transferred to the controller via the process input images, PII. At the end of the cyclic program the process image of the outputs, PIQ is transferred as a signal state to the HMI device.

Parameter	Meaning	
Input > Address > Start of Address Area	Start address of the inputs in the process image. The safety-relevant user data of the HMI device is shown.	
	The default depends on the controller used.	
Input > process image	Process image to which the address range of the inputs belongs, PII.	
	This parameter cannot be set with controllers of the SIMATIC CPU 300 type.	
Output > Address > Start of Address Area	Start address of the outputs in the process image The safety-relevant user data of the HMI device is shown.	
	The default depends on the controller used.	
Output > process image	Process image to which the address range of the outputs belongs, PIQ.	
	This parameter cannot be set with controllers of the SIMATIC CPU 300 type.	

• Tab "PROFIsafe"

Here you must set the parameters "F_Dest_Add" and "F_WD_Time".

Parameter	Meaning		
F_SIL	Safety class of the Mobile Panel 277F IWLAN		
	The value of the parameter is set to "SIL 3".		
	This parameter cannot be modified.		
F_CRC_Length	Length of the CRC for the consistency check.		
	The value of the parameter is set to "3 byte CRC".		
	This parameter cannot be modified.		
F_Block_ID	This parameter must be set to the value "0", as there is no checksum of the individual device parameters.		
F_Par_Version	Implemented PROFIsafe version.		
	The value of the parameter is set to "1". This means that PROFIsafe V2 is used.		
	This parameter cannot be modified.		
F_Source_Add	PROFIsafe address used to uniquely identify the source throughout the network and station.		
	The address is assigned automatically. The "F_Source_Add" parameter can have a value between 1 and 65534.		
	This parameter cannot be modified.		

Parameter	Meaning
F_Dest_Add	PROFIsafe address used to uniquely identify the destination throughout the network and station.
	The address is assigned automatically. The "F_Dest_Add" parameter can have a value between 1 and 65534.
	You can change the value for "F_Dest_Add".
F_WD_Time (ms)	Monitoring time in the fail-safe IO device.
	A valid current safety frame must reach the F-CPU and be returned to the HMI device within the monitoring time period. This ensures that failures and errors are detected and appropriate responses, which keep the fail-safe system in a safe state or transfer it to a safe state, are triggered.
	The monitoring time selected must be long enough that message frame delays will be tolerated by the communication system, but short enough that the fault reaction function responds quickly enough in the event of a fault (e.g. interruption in the communication connection).
	The "F_WD_Time" parameter can be set in 1 ms increments. The default monitoring time is 500 ms.
	Calculate the minimum monitoring time with the Excel table "s7fcotia.xls".
	This table is part of the option package S7 Distributed Safety. You can find the current version of this table on the Internet at the following address:
	"http://www.siemens.de/automation/support", document ID 21627074.
	You can find the parameters needed to calculate the monitoring time under "General specifications".

NOTICE

If an error occurs, the monitoring time is included in the maximum response time. The selected monitoring time must be short enough that the error tolerance time of the process is not exceeded.

Additional information on configuring F-I/O in STEP 7

You can find additional information on configuring fail-safe I/O in STEP 7 in the manual "S7 Distributed Safety Configuring and Programming" and in the system manual "Safety Engineering in SIMATIC S7".

Additional information on working in HW Config

You can find additional information on working in HW Config in the manual "Configuring hardware and communication connections with STEP 7" and in the HW Config online help.

4.4 S7 Distributed Safety

Introduction

The Mobile Panel 277F IWLAN is used as a peripheral in fail-safe automation systems. Fail-safe automation system, also referred to as F systems in the following, are used in plants requiring high levels of safety.

During fail-safe operation, a safety program runs in the F CPU. The HMI device must be integrated into this safety program.

The HMI device and F CPU communicate via PROFINET IO. They use the safety-related PROFIsafe protocol as of V 2.0 for fail-safe communication.

Safety-related functions of the HMI device

The fail-safe HMI device performs the following:

- Detects the signal states of the emergency stop button and enabling button
- Sends these signal states to the F CPU in the form of safety message frames

Safety program and F FBs

To operate the HMI device, you need to configure a safety program in STEP 7 with the "SIMATIC S7 Distributed Safety" add-on package as of V5.4 SP3.

To guarantee availability of the safety functions, you need to use particular fail-safe function blocks (F FBs) in the safety program.

If you do not use the fail-safe function blocks, the HMI device cannot be integrated in the safety program of the F CPU. The project on the HMI device cannot be started.

The F FBs are supplied on a CD together with the HMI device.

You can also obtain the F FBs in the Internet at the following address:

"http://www.siemens.de/automation/support"

Additional information

You can find additional information about working with S7 Distributed Safety in the programmer and operator manual "SIMATIC S7 Distributed Safety - Configuration and Programming" as well as the online help for S7 Distributed Safety.

4.4.1 Checklist: Creation of the safety program

Checklist for configuring a safety program for emergency stop applications

Information on S7 Distributed Safety can be found in the programming and operating manual "S7 Distributed Safety - configuring and programming".

Please observe all additional instructions described in the programming and operating manual "S7 Distributed Safety - configuring and programming".

Go through the following steps for configuration.

Step	Information	Check
Configuration of the hardware	S7 Distributed Safety, chapter "Overview of configuration"	
 Configuration of the F-CPU Level of protection "CPU contains safety program" Password Define/set F-specific parameters: Define the call time for the F-run-time group in which the safety program is to be executed. 	S7 Distributed Safety, chapter "Configuring the F-CPU"	
Save, compile and load the hardware configuration The following blocks are generated: F-shared DB F-I/O DB for the HMI device System data		
Insert the following fail-safe blocks: • FB 161: F_FB_MP • FB 162: F_FB_RNG_4 or FB 163: F_FB_RNG_16 • FC 176: F_BO_W • FC 177: F_W_BO • FB 215: F_ESTOP1 • F_DB_STATES or a comparable data area in an existing F-DB	 Using F-FBs (Page 60) FB161: Mobile Panel Status (F_FB_MP) (Page 63) FB162: Effective range for 4 Mobile Panel (F_FB_RNG_4) / FB 163 Effective range for 16 Mobile Panel (F_FB_RNG_16) (Page 67) 	
Call and wire the F-FBs as described in the application example Creating the additional safety program Creating the fail-safe run-time group Create F-CALL Assign F-FB/F-FC to F-CALL Set maximum cycle time for the F-run-time group in accordance with requirements	Online help for the F-FBs Application example: Safety Functions (Page 113) S7 Distributed Safety, chapter "Defining F-run-time groups"	
Calling the safety program e.g. OB 35	S7 Distributed Safety, chapter "Defining F-run-time groups"	
Compiling the safety program	S7 Distributed Safety, chapter "Compiling the safety program"	

4.4 S7 Distributed Safety

Step	Information	Check
Checking the safety program	 Online help for the F-FBs FB161: Mobile Panel Status (F_FB_MP) (Page 63) FB162: Effective range for 4 Mobile Panel (F_FB_RNG_4) / FB 163 Effective range for 16 Mobile Panel (F_FB_RNG_16) (Page 67) 	
Loading the safety program in the F-CPU		
Testing and acceptance testing of the safety program	S7 Distributed Safety, chapter "Safety program acceptance test"	

4.4.2 Using F-FBs

Required F FBs

You must integrate the following fail-safe blocks in your safety program:

- For each HMI device: An F_FB_MP
 - The assigned HMI device is monitored by this F FB.
- For each effective range: An F FB RNG 4 or alternatively an F FB RNG 16
 - The assigned effective range is managed by this F FB.

The number of HMI devices that should get permission to log onto the effective range determines the F FB that is called, F_FB_RNG_4 or F_FB_RNG_16:

- F_FB_RNG_4 For a maximum of 4 HMI devices
- F_FB_RNG_16 For a maximum of 16 HMI devices
- An F_DB_STATES with a WORD data type or a comparable address area in an available F DB

Using this F DB, data is exchanged between the F_FB_MP of the HMI deice and F FB RNG n of the effective range.

- FB 215: F_ESTOP1; with this block, you can ensure that the operator must first provide confirmation after an emergency stop before the plant can be restarted. You can find this block in the Distributed Safety F library in the F Application Blocks block container.
- FC 176: F BO W and FC 177: F W BO

Insert the FC 176: F_BO_W and FC 177: F_W_BO blocks into your safety program since these blocks are used as calls. You can find these blocks in the Distributed Safety F library in the F Application Blocks block container.



WARNING

Defective fail-safe application blocks

Do not change the numbers of F application blocks!

Ensure the following matches when changing the names of F application blocks:

- The symbolic name in the symbol table
- The name in the object properties of the block (header)

Rules for the safety program



Emergency stop button not evaluated

The emergency stop button can only be evaluated if you call an F_FB_RNG_n in your safety program.

Always call an F_FB_RNG_n in your safety program, even if you do not use effective ranges in your plant.



WARNING

Prohibited restart of the plant

Once the emergency stop button has been triggered, the plant can only be restarted for operation only after the operator provides acknowledgment. Use the FB 215 F_ESTOP1 in your safety program to ensure acknowledgment by the operator.



WARNING

Emergency stop button evaluation delayed

If the cycle time for OB 35 is set too high, message frame may be lost and the evaluation of the "E-STOP" of F_FB_RNG_n may be delayed.

Set the cycle time for OB 35 lower than that for the PROFINET IO time.



CAUTION

Safety states not evaluated

The safety states, such as a global rampdown, can only be evaluated if you call an F_FB_RNG_n in your safety program.

Always call an F_FB_RNG_n in your safety program, even if you do not use effective ranges in your plant.



WARNING

Emergency stop button enabled

If a global rampdown has been triggered by a communication error, the emergency stop will no longer be available on the Mobile Panel in guestion.

You have the option of configuring the "Global rampdown" signal to trigger an emergency stop.

The F FBs used are called cyclically and in a specific order in the safety program. You need to call the F FBs in the following order in your safety program:

- 1. All F_FB_MP
- 2. All F_FB_RNG_n

The operator must always acknowledge errors, such as communication errors. You cannot use any automatic acknowledgment in your safety program, therefore.



Unwanted restart of the plant after acknowledgment of a communication error

The plant cannot be automatically restarted after a communication error on the HMI device is acknowledged.

Therefore, ensure that your safety program requires an additional user action before the plant can be restarted.

Interconnection of the F FBs

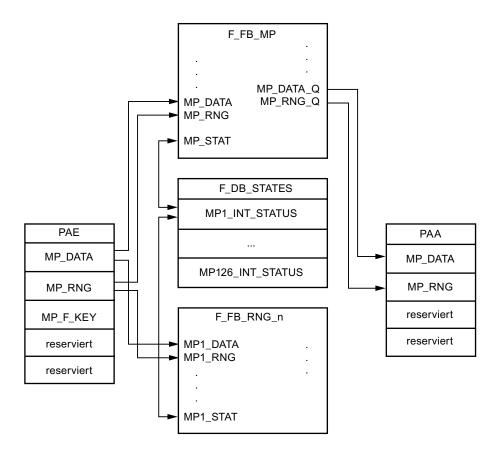
The blocks are interconnected with one another and with the process image of the Mobile Panel 277F IWLAN.

For every Mobile Panel 277F IWLAN, there is a memory area in the PLC that is commonly access by the HMI device and the PLC, the so-called process image. The signal sates of the HMI device's inputs is sent to the PLC at the start of the cyclic control program through the process image of the inputs, PII. The process image of the outputs, PIQ, is sent to the HMI device as the signal state at the end of the cyclic program.

The following figure is a schematic representation of the interconnection of F FBs to one another and to the PII and PIQ.



You cannot directly evaluate the PII and PIQ in your program.



Example application

Read Application example: Safety Functions (Page 113) if you use F_FB_RNG_n.

You can find another detailed example application in the Internet under "http://support.automation.siemens.com", contribution number 25702331.

F I/O DB

An F I/O DB is automatically generated in HW Config for every F I/O.



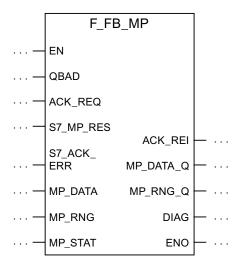
Emergency stop button not evaluated

Keep the default setting for the output PASS_ON = 0 in the F I/O DB of the HMI device, otherwise the emergency stop will not be evaluated.

The access to the F I/O and working with the F I/O DB is described in detail in the manual "SIMATIC S7 Distributed Safety Configuration and Programming", "F I/O Access" section.

4.4.3 FB161: Mobile Panel Status (F_FB_MP)

Structure



Inputs

Parameters	Data type	Description	Interconnection
QBAD	Bool	QBAD indicates if the F-I/O has been passivated.	F-I/O DB: DBx2.1 = QBAD
ACK_REQ	Bool	Acknowledgement required After a communication error, the fail-safe system sets QBAD = 1 and ACK_REQ = 0. ACK_REQ = 1 indicates that the PROFIsafe message frames are being exchanged again.	F-I/O DB: DBx2.2 = ACK_REQ
S7_MP_RES	Bool	 This input is set so that the F-CPU resets the status of F_FB_MP to its "original state", i.e.: The HMI device has the status "removed" If a rampdown or shutdown was set, it is reset. If the HMI device was logged on to an effective range, it is enabled again. The input is only evaluated if Q_BAD = 1. Setting the input S7_MP_RES is necessary if the HMI device cannot return itself to a defined state, for example when a system error occurs or the battery is dead. 	Must be specifically interconnected for plant. The security program must ensure that after S7_MP_RES is set, automatic restart of the plant is not possible. The operator must strictly ensure that he executes a separate operator action to commence the restart.
S7_ACK_ERR	Bool	Communication errors may not be acknowledged automatically. This input is set to have the F-CPU to acknowledge a communication error during ongoing PROFIsafe communication. F_FB_MP only reacts to a rising edge.	Must be specifically interconnected for plant.
MP_DATA	Word	User data of the fail-safe process image's inputs	PII: Word 1 = MP_DATA
MP_RNG	Word	ID of the effective range in which the HMI is included.	PII: Word 2 = MP_RNG
MP_STAT	Word	Data are exchanged through F_DB_STATES to F_FB_RNG_n via this input/output.	F_DB_STATES

Outputs

Parameter	Data type	Description	Interconnection
ACK_REI	Bool	Acknowledgement for reintegration The automatic reintegration is regulated via the F-I/O DB through this output.	F-I/O DB: DBx0.2 = ACK_REI
MP_DATA_Q	Word	User data of the fail-safe process image's inputs:	PIO: Word 1 = MP_DATA
MP_RNG_Q	Word	The effective range ID is transmitted to the HMI device through this output.	PIO: Word 2 = MP_RNG

Parameter	Data type	Description	Interconnection
DIAG	Word	Information about any occurring errors is provided through this output for servicing purposes.	You can evaluate the DIAG output in your program.
		Bit 0: HMI removed	
		Bit 1: HMI integrated	
		Bit 2: Communication error on the HMI device	
		Bit 3: Communication error must be acknowledged.	
		Bits 4 to 15: Reserved	

Enable inputs EN and ENO

When you call a fail-safe block, the enable input EN and enable output ENO automatically appear.

Note the following:

- Do not connect these I/Os
- Do not supply these I/Os with "0"
- Do not evaluate these I/Os

Validity

This description applies to version 1.0 of F_FB_MP.

Note

Insert the FC 176: F_BO_W and FC 177: F_W_BO blocks into your safety program because they are called by F_FB_MP. You can find these blocks in the Distributed Safety F-Library in the F-Application Blocks block container.

Wiring

You have to wire the inputs and outputs of the F-FB manually. They are not automatically wired.

Purpose

The assigned Mobile Panel 277F IWLAN HMI device is monitored by F FB MP.

You need to use a separate F_FB_MP for each Mobile Panel 277F IWLAN.

F_FB_MP performs the following tasks:

- The block integrates the HMI device in the safety program of the F-CPU after startup.
- The block removes the HMI device from the safety program after a communication error.
 As soon as the communication error has been corrected and the operator has acknowledged this, the block integrates the HMI device back into the safety program.

4.4 S7 Distributed Safety

- The block passes the states of the HMI device through F_DB_STATES to F_FB_RNG_n.
 The following HMI device states are possible:
 - "Integrated"
 - "Removed"
 - "Communication error"
 - "Acknowledgement required"

QBAD monitors the output of the F-I/O for integrating and removing the HMI device.

- QBAD = 0: PROFIsafe communication is taking place between the HMI device and the F-CPU.
- QBAD = 1: No PROFIsafe communication is taking place between the HMI device and the F-CPU.



Inadmissible automatic restart of the plant

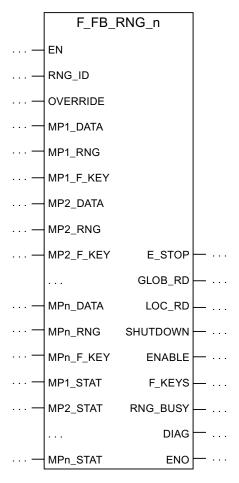
The security program must ensure that after S7_MP_RES is set, automatic restart of the plant is not possible. The operator must strictly ensure that he executes a separate operator action to commence the restart.

Addresses of PII and PIQ

You can find the start addresses of PII and PIQ in the PROFIsafe settings of the HMI device in HW Config.

4.4.4 FB162: Effective range for 4 Mobile Panel (F_FB_RNG_4) / FB 163 Effective range for 16 Mobile Panel (F_FB_RNG_16)

Structure



MPn is used as follows:

- With F_FB_RNG_4 for HMI device 1 to HMI device 4
- With F_FB_RNG_16 for HMI device 1 to HMI device 16

Inputs

Parameters	Data type	Description	Interconnection
RNG_ID	Integer	Click on this input and enter the ID of the effective range to be monitored by F_FB_RNG_n. The RNG_ID must be unique throughout the plant and is set in WinCC flexible.	
OVERRIDE	Bool	0 = "Override" mode inactive, 1 = "Override" mode active	Result of the link between the override switch and the protection mechanism
MPn_DATA*	Word	User data of the inputs of the fail-safe process image.	PII: Word 1 = MP_DATA
MPn_RNG*	Word	ID of the effective range in which the HMI device is located.	PII: Word 2 = MP_RNG
MPn_F_KEY*	Word	Reserved	
MPn_STAT*	Word	Data is exchanged with F_FB_MP through this input/output via F_DB_STATES.	F_DB_STATES

*MPn is used as follows:

- With F_FB_RNG_4 for HMI device 1 to HMI device 4
- With F_FB_RNG_16 for HMI device 1 to HMI device 16

Outputs

Parameters	Data type	Description	Interconnection
E_STOP	Bool	Emergency stop Evaluation of the emergency stop button of all HMI devices connected to F_FB_RNG_n. 0 = at least one emergency stop	You can detect if an emergency stop is pressed with this output.
		pressed, 1 = no emergency stop pressed	
GLOB_RD	Bool	Global rampdown	You can detect if a global rampdown has been triggered with this output.
LOC_RD	Bool	Local rampdown	You can detect if a local rampdown has been triggered with this output.
SHUTDOWN	Bool	Shutdown	You can detect if a shutdown has been triggered with this output.
ENABLE	Bool	This output passes the state of the enabling button for the HMI device logged on in the effective range. 0 = enabling button not presses, 1 = enabling button pressed	You can detect if the enabling button has been pressed with this output.

Parameters	Data type	Description	Interconnection
F-KEYS	Word	Reserved	
RNG_BUSY	Bool	This output passes the state of the effective range. 0 = effective range free, 1 = effective range in use	You can detect if the effective range is free or in use with this output.
			You use this output, for example, to control a light that indicates the allocation of the effective range in the plant.
DIAG	Word	This output indicates which of the HMI devices with permission to log on in the effective range are actually logged on.	You can evaluate the DIAG output in your user program.
		Bit 0: 1st panel logged on Bit 1: 2nd panel logged on Bit 2: 3rd panel logged on Bit 3: 4th panel logged on	
		With F_FB_RNG_16: Bit 4: 5th panel logged on	
		Bit 14: 15th panel logged on Bit 15: 16th panel logged on	

Enable inputs EN and ENO

When you call a fail-safe block, the enable input EN and enable output ENO appear automatically.

Please observe the following:

- Do not connect these I/Os.
- Do not set "0" for these I/Os.
- Do not evaluate these I/Os.

Validity

This description applies to the following F FB:

- F_FB_RNG_4, version 1.0
- F_FB_RNG_16, version 1.0

When the term "F_FB_RNG_n" is used, the information applies to both F-FB.

Note

Insert the FC 176: F_BO_W and FC 177: F_W_BO blocks into your safety program since these blocks are called by F_FB_RNG_n. You can find these blocks in the Distributed Safety F library in the F Application Blocks block container.

4.4 S7 Distributed Safety

Wiring

You have to wire the inputs and outputs of the F FB manually. No automatic wiring is performed.

Usage



Emergency stop button not evaluated

The emergency stop button can only be evaluated if you call an F_FB_RNG_n in your safety program.

Always call an F_FB_RNG_n in your safety program, even if you do not use effective ranges in your plant.

The assigned effective range is managed by this F FB.

You need call one of the following F FB for every effective range when using the Mobile Panel 277F IWLAN:

- F_FB_RNG_4 "Effective range for 4 Mobile Panels"
- F_FB_RNG_16 "Effective range for 16 Mobile Panels"

The FB you need to call depends on how many HMI devices are used in the effective range:

- If you configure a logon for up to 4 HMI devices in this effective range, use F_FB_RNG_4.
- If you configure a logon for up to 16 HMI devices in this effective range, use F_FB_RNG_16.

How it works

The F FB performs the following depending on the state of the HMI devices assigned to the effective range:

- Connect the outputs of F_FB_RNG_n
- Prepare the output user data

Each HMI device can take one of the following states in the effective range:

Removed without communication error

The HMI device is successfully removed from the safety program of the F CPU. This ends PROFIsafe communication. The HMI device has no influence on the outputs of F_FB_RNG_n.

Integrated without communication error

The actual operating state of the HMI device in the effective range

F_FB_RNG_n reacts as follows:

- The HMI device is supplied with user data, such as the effective range ID and the status of the HMI device in the effective range, if it is located in the effective range.
- If no other HMI device is logged on in the effective range, the operator can log on the HMI device in the effective range.
- The outputs of F_FB_RNG_n are set according to the state of the enabling button of the logged on HMI device.
 - The setting for E-STOP output depends on whether or not the HMI device is logged on in the effective range.
- The RNG_BUSY output of F_FB_RNG_n is set to "1" if the HMI device is logged on in the effective range.
- The operator can activate the "Override" mode if needed.
- If the operator wants to exit the effective range, he can log the HMI device off from the effective range.
- Removed with communication error

PROFIsafe communication with the HMI device was interrupted without explanation.

The following outputs are set in F_FB_RNG_n:

- GLOB RD, if the HMI device was not logged on in the effective range.
- SHUTDOWN, if the HMI device was logged on in the effective range.

The corresponding signal is reset following acknowledgment of the communication error or the MP status reset is set. The allocated effective range is enabled again by F_FB_RNG_n for logging on of an HMI device .

• Integrated with communication error

PROFIsafe communication with the HMI device is resumed after a brief interruption, enabling user data to be exchanged again between the HMI device and F CPU. As long as communication error in not acknowledged, F_FB_RNG_n reacts as follows:

- The HMI device is supplied with user data (effective range ID, status of the HMI device in the effective range), if it is located in the effective range.
- If the emergency stop of the HMI device is pressed, the E_STOP output of F_FB_RNG_n is set to "0".

Override in the safety program

The override switch should only be active as long as the protective mechanism is active.

Connect the following in the safety program to ensure this reaction:

- The switch position of the override switch with the evaluation signals of the protective device
- The result of the first link with the OVERRIDE input of F FB RNG n

Addresses of PII and PIQ

You can find the start address of the PII and PIQ AA in HW Config in the PROFIsafe settings for the HMI device.

4.5 WinCC flexible

4.5.1 Configuration overview

For fail-safe operation of the HMI you must configure the following areas of WinCC flexible ES:

• Settings of the HMI device:

Set the PROFIsafe address of the HMI device in the project view under "Device settings" > "Device settings".

Effective ranges editor

Configure the effective ranges defined when the plant was planned in the project view under "Device settings" > "Effective ranges".

- Figures
- Configure the following in the project view under "Images":
 - Display of the project ID

You must assign a unique project ID for each project.

The project ID is used to check which project is currently on the HMI.

You must update the project ID each time the project is changed, e.g. by listing a version or date.

Configure the display of the project ID at a point of the project that can be displayed at any time in the current project, e.g. start screen or in a service display.

- Objects that are specially designed for fail-safe operation of the HMI device

Additional information on configuration with WinCC flexible

Only a brief overview is provided below. A detailed description of the configuration is provided in the WinCC flexible Information System.

4.5.2 Effective ranges editor

Work area

In WinCC flexible ES, open the "Effective Ranges" work area in the project window under "Device Settings" by double-clicking on "Effective Ranges".

The work area provides a tabular view of the effective ranges and their transponders.

Configuring

The configuration consists of the following tasks:

- 1. You create the effective ranges by specifying the "Name", "Display name" and "ID". The "Display name" and "ID" of an effective range cannot be identical.
- 2. You configure a transponder by specifying the "Name" and "ID" of the transponder.
- 3. You assign the transponders to the effective ranges.
- 4. You set the "limit" for each effective range.

The "Limit" parameter determines the maximum distance between the HMI device and the individual transponders of an effective range. The "Limit" parameter applies to all transponders of the effective range. If the HMI device is located farther from the transponders than the "Limit", it is outside the effective range.

Commissioning

When commissioning the plant, you need to enter the checksum determined during the verification of the effective ranges in the "Checksum" box in this editor.

4.5.3 Objects for the Mobile Panel 277F IWLAN

Introduction

WinCC flexible ES offers you a variety of objects especially designed for configuring the Mobile Panel 277F IWLAN.

These objects offer the operator the latest information about the effective range and batteries during runtime.

Effective range name

The "Effective range name" object shows the name and logon status of the effective range in which the HMI device is currently located.

Display during runtime:	Description
Rangename	The HMI device is within the effective range shown. The HMI device is not logged on in the effective range.
	It is possible to log onto the effective range.
Rangename	The HMI device is within the effective range shown and is logged on in the effective range.
	Safe operation in the effective range is possible using the enabling buttons.
	The HMI device is within the effective range shown.
Rangename	Logon to the effective range is rejected because a different HMI device is already logged on.
	Note:
	When using the "Override" mode: Although no other HMI device is still logged on in the effective range, logon is rejected because the override switch is still set.
	The HMI device is outside all of the effective ranges.

Effective range quality

The "Effective range quality" object shows how close the HMI device is to the limits of a effective range.

Display during runtime	Description
	The HMI device is in the middle of the effective range.
	The HMI device is located at the limits of the effective range.
	The HMI device is located outside the effective range.
	"Override" mode is active. The distance of the HMI device to the transponders is not evaluated.

Battery

The "Battery" object indicates the charging status of the HMI device's main battery.

CAUTION

The battery must always b sufficiently charged. If the battery becomes empty, a communication error occurs. The F CPU initiates one of the following measures:

- If the HMI device is logged on at the effective range: a shutdown.
- If the HMI device is not logged on at the effective range: a global rampdown.

Symbol	Color	Meaning	Charging status
	Green	The battery is sufficiently charged.	>20%
	Yellow	The battery is weak. The battery must be charged. Alternatively, insert a charged spare battery.	10% to 20%
	Red	Battery is very weak. The battery must be charged. Alternatively, insert a charged spare battery.	<10%

Additional information

You can find a detailed description of the object configuration in the WinCC flexible Information System.

4.5 WinCC flexible

System commissioning 5

5.1 Acceptance of the system

Introduction

All of the relevant application-specific standards and the procedure described in this chapter must be observed in the course of final acceptance of the plant.

Important information about the final acceptance of a plant with fail-safe systems

Note

This document only provides detailed information about the additional acceptance procedures required for operation of the Mobile Panel 277F IWLAN HMI device.

In the course of final inspection of the plant, you must strictly observe the detailed description of basic measures to be taken provided in the "S7 Distributed Safety, Configuring and Programming" manual, chapter "Final inspection of the plant."

Requirement

- The hardware configuration was created in HW Config.
- · The safety program was created and generated.
- A backup of the STEP 7 project was created.

Basic procedure

The acceptance of the plant includes the following areas:

- Configuring the F CPU and fail-safe I/O
- Safety program
- Effective ranges and transponders

Acceptance of the configuration for the F CPU and fail-safe I/O

- Print and archive the hardware configuration data.
- Check the following parameters in the hardware configuration data:
 - Parameters of the F-CPU
 - Safety-relevant parameters of the fail-safe I/O:
 Unique PROFIsafe addresses, additional PROFIsafe parameters
- Backup the hardware configuration data along with your STEP 7 project.

A detailed description is provided in the "S7 Distributed Safety, Configuring and Programming" Manual, chapter "Acceptance of the configuration for the F-CPU and fail-safe I/O."

5.1 Acceptance of the system

Acceptance of the safety program

- Print and archive the safety program.
- Check the printed copy of the safety program for existence of the criteria specified in the "S7 Distributed Safety, Configuring and Programming" manual, chapter "Acceptance of a safety program."
- Download the entire safety program to the F-CPU.
- Test all functions of the safety program.

A detailed description is provided in the "S7 Distributed Safety, Configuring and Programming" manual, chapter "Acceptance of the configuration for the F-CPU and fail-safe I/O."

Acceptance of the effective ranges and transponders

- For acceptance of the effective ranges and transponders you must determine a CRC checksum in the plant and enter it in the project. After subsequent project transfer to the HMI device you can operate the plant with the HMI device.
- Generate a printed copy of the project with output format "Complete."
- · Archive the project.

A detailed description about the printing and archiving of projects is provided in the WinCC Online Help.

Note

If you change transponders in the plant you must execute another acceptance of the plant.

See also

Accepting effective ranges and transponders (Page 79)

5.2 Accepting effective ranges and transponders

Introduction

The operational safety of the plant for the most part depends on a good safety plan and a careful realization of the safety functions.

For safe operation, the project of the HMI device must precisely match the plant.

For this reason when first starting a project in the plant, you must verify all effective ranges with all transponders. The result of the verification is a CRC checksum that you must enter in the project. Then you must transfer the project to the HMI device again.

Note

Transponders that are exclusively assigned to one zone are not considered in this verification.

Acceptance if there are changes

If you change the configuration of transponders and effective ranges in the system, you need to adapt the configuration. Then you must accept the effective ranges and transponders again.

Requirement

- In the project:
 - Effective ranges and transponders must be configured in the project.
 - The project has been transferred to the HMI device.
- In the plant:
 - The transponders must be mounted in the plant in such a manner that the effective ranges stored in the project are formed.
 - Batteries must be inserted in the transponders. The ID must be set on the transponders that is stored in the project for these transponders.
 - The IDs of the effective ranges must be marked in the plant.
 - The quality of the WLAN range must be sufficient.
 - An indicator is installed.



An indicator in the effective range is an absolute necessity

A indicator supplies the operator the feedback that he has logged onto the correct effective range.

Install an indicator in every situation, for example a light that shows that an HMI device is logged on in the effective range.

Procedure

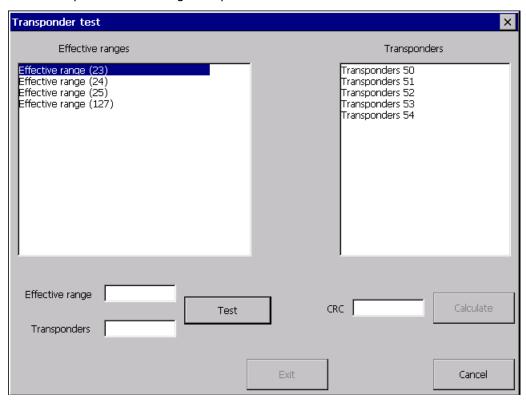
Proceed as follows:

1. Switch on the HMI device.

The Windows CE desktop with Loader is displayed.

2. If the project does not start automatically, start the project.

The "Transponder test" dialog box opens.



To the left you will see the list with the names of all configured effective ranges.

- 3. In the "Effective ranges" list highlight the first effective range that you want to verify.
 - The "Transponder" list on the right shows the IDs of the transponders that are assigned to the effective range in the project.
- 4. Go to the transponder that you want to verify in the "Transponder" list.
- 5. In the system, read the ID of the highlighted effective range and enter this ID in the "Effective range" box.
- 6. Enter the ID of the transponder where you are located in the "Transponder" box.
- 7. Verify the entered ID with the "Test" button.

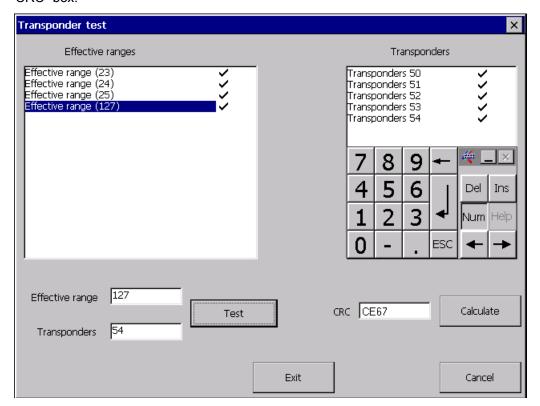
When the HMI device receives the signal of the corresponding transponder, that transponder is considered verified. The transponder will be marked with a check mark in the list.

8. Repeat steps 4 to 7 for all transponders of this effective range.

If you have successfully checked all transponders of an effective range, that effective range will be indicated with a check mark in the list.

- 9. Select the next effective range in the list.
- 10. Repeat steps 4 to 7 for all transponders assigned to this effective range.
- 11. Verify all additional effective ranges in the list to the left.
- 12. When you have successfully verified all effective ranges, touch the "Calculate" button.

 The HMI device calculates the CRC checksum. The CRC checksum is displayed in the "CRC" box.



- 13. Open the project in WinCC flexible ES.
- 14. Enter the checksum in the "Effective ranges" editor.
- 15. Transfer the project to the HMI device again.

Result

The project can now be used for operating and monitoring the plant.

Testing the effective ranges in the plant

After successful verification of the transponders and effective ranges you must test in the plant whether the expansion of the configured effective ranges corresponds to the planning.

In particular, check the following cases:

- Do the limits of the effective range run as planned?
 Pay special attention that no machine operations are permitted from excessive distances or areas that cannot be seen.
- Does the indicator that belongs to the effective range show whether an HMI device is logged on at the effective range?
- Are moving machine parts influencing the reception of the transponders? Check also the extreme positions of moving machine parts.
- Is WLAN coverage ensured everywhere in the effective range?

Operation

6.1 Organizational measures

The HMI device should only be operated in the system with a battery or in the charging station.

To ensure fail-safe operation of the HMI device the organizational measures described below must be complied with.

Storing the HMI device



Non-functional emergency stop button

If the HMI device is not integrated, the emergency stop button does not function.

To avoid confusion between effective and non-effective emergency stop buttons, only one integrated HMI device should be freely accessible.

If the HMI device is not in use, it must be stored in a locked area.

Handling the HMI device during operation

CAUTION

Shutdown or rampdown of the system due to empty battery

An integrated HMI device with flat battery triggers a communication error. This results in the following reaction of the F CPU:

- If the HMI device is logged on at the effective range: Shutdown
- If the HMI device is not logged on at the effective range: Global rampdown

Check the charge status of the battery of the ready-for-operation device via the "BAT" LED.

· Recharge the HMI device in good time.

To charge the batteries, the ambient temperature / battery temperature must not exceed 40 °C The higher the temperature, the longer it will take for the battery to charge.

Find a place with a cool ambient temperature for the charging station. If necessary, allow the battery to cool first. You can check the battery temperature in the "OP" dialog box, "Battery" tab in the Control Panel.

Alternatively, change the main battery.

6.2 Typical applications

The following must be noted when working with the Mobile Panel 277F IWLAN:

Pay attention to the "SAFE" LED.

If the HMI device is integrated in fail-safe communication, the "SAFE" lights up and the emergency stop button is active.

Pay attention to the "COM" LED.

If you leave the area with sufficient WLAN coverage, the "COM" LED will flash. Communication between the HMI device and PLC is down. You can no longer operate the system with the HMI device.

Check the "RNG" LED when the HMI device is logged onto the effective range.

The "RNG" LED indicates when the HMI device is logged onto the effective range. Logging onto the effective range is required for the enabling button to be active.

CAUTION

Unauthorized operation possible

It is not permitted to leave the effective range without an HMI device while the HMI device is logged on to the effective range.

6.2 Typical applications

6.2.1 Overview

Introduction

Typical applications for the HMI device are described in this chapter.

The assumption for all application cases is that the HMI device will be used in mobile operation with batteries.

Structure of the application cases

All application cases are described in the same form:

- Description and identification of the initial situation
- · Action of the operator and of the plant
- Result of the action and identification of the new situation

Graphic representations

In the application cases the following is presented graphically.

- LED status
- Operability of the emergency stop button and of the enabling buttons

Thus you can detect the action described in the application case at a glance.

The figures used have the following meaning:

Example of an LED display

Figure				Meaning
□ SAFE □ PWR	□ COM	RNG	■ BAT	Status of the LEDs that are displayed on the HMI device during the situation described in the application case. In this example all LEDs are on.

Emergency stop button

Figure	Meaning
	Pressing the emergency stop button triggers an emergency stop.
	Pressing the emergency stop has no effect.

Enabling button

Figure	Meaning
	The operator can release movements of the assigned machine with the enabling buttons.
	Pressing the enabling buttons has no effect.

6.2.2 Switch on the HMI device.

Starting situation				
The HMI device is switched off.				
The battery must be charged.	The battery must be charged.			
SAFE PWR COM RNG	G □BAT			

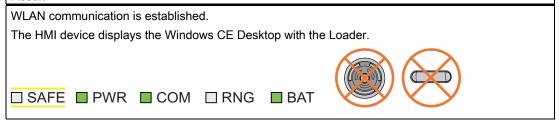
6.2 Typical applications

Action

The operator switches the HMI device on via the ON/OFF button.

Communication via WLAN starts up. While the WLAN connection is being established the "COM" LED flashes.

Result



6.2.3 Integrating and segregating the HMI device

6.2.3.1 Integrating the HMI device (start project)

Initial situation

The HMI device is switched on. WLAN communication is established. The HMI device displays the Windows CE desktop with the loader.



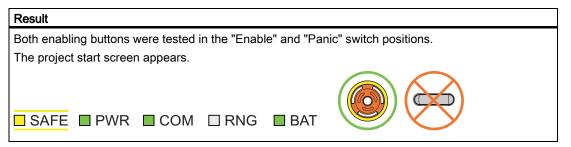
Action

The project is started either automatically or by the operator using the loader, depending on the configuration.

PROFIsafe communication is established. While the connection is being established, the "Establishment of safety connection" dialog box is displayed. The HMI device is integrated in the safety program of the F CPU.

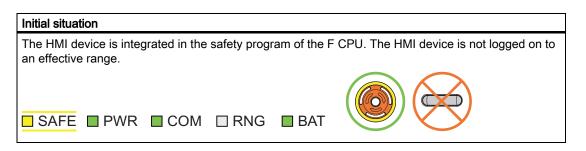
The "Test enabling switch" dialog box opens. The operator is requested to press both enabling buttons until the "Panic" switch position is reached.

The operator presses both enabling buttons until the "Panic" switch position is reached.



If the operator now exits the WLAN area, the F-CPU detects a communication error and initiates a global rampdown. The "COM" LED on the HMI device flashes. The "Establishment of safety connection" dialog with the text "No safe connection available. Reason: Communication error (timeout)" is displayed.

6.2.3.2 Communication error for the integrated HMI device



Action The operator takes the HMI device out of the WLAN range. The "COM" LED flashes. The F CPU detects a communication error and initiates a global rampdown. The LEDs "SAFE" and "COM" are switched off. The user is informed that no safety functions are available. Scenario 1: The operator returns to the WLAN range within 60 seconds. The operator stays outside the WLAN range.

Result scenario 1: return to the WLAN range The "Acknowledgment of communication error" dialog box opens. In this dialog, the operator acknowledges the communication error.

The global rampdown signal is canceled. PROFIsafe communication is possible again.

The HMI device has recovered the fully functional state.

SAFE ■ PWR ■ COM □ RNG ■ BAT



Result scenario 2: no return to the WLAN range

The "Confirm removal" dialog box is displayed on expiration of 60 seconds.

The project is closed immediately if you confirm the Confirm removal dialog within 60 seconds.

The active project is closed automatically if you do not confirm the Confirm removal dialog within 60 seconds.

The HMI device displays the Windows CE desktop with the loader.

Users can react to a fault on the HMI device by resetting the associated F_FB_MP to the "original state" using input "S7_MP_RES." This action sets the relevant HMI device to the "removed" state and the global rampdown signal is canceled.

□SAFE ■PWR □COM □RNG ■BAT

The WLAN communication is set up again after the operator returns with the HMI device to the WLAN range. The operator must restart the project and acknowledge the communication error in the "Acknowledgment of communication error" dialog. The operator performs the enabling button test in the next step.

The global rampdown signal is canceled.

The HMI device has recovered the fully functional state.

6.2.3.3 Discrepancy error during enabling

The enabling switch is connected to two channels. Both contacts must be closed in parallel to reach the enabled state. A discrepancy error is generated if one of the contacts is open while the other is closed. Distinguish between the following fault scenarios:

- The enabling switch is jammed
- The enabling switch is damaged

Enabling switch jammed

Initial situation The HMI device is integrated in the safety program of the F CPU. The HMI device may or may not be logged on to an effective range. The HMI device is integrated without being logged on to an effective range: SAFE PWR COM RNG BAT The HMI device is integrated and logged on to an effective range:

Action

The operator presses the enabling switch. Unintentional incorrect operation of the enabling switch. Instead of operating the switch in the center, the operator pressed it at the edge.

Result

The enabled state is deactivated immediately after discrepancy was detected. The "Enabling switch discrepancy error" dialog box opens on expiration of the discrepancy time (see Technical data for fail-safe operation (Page 109)).

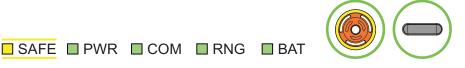
The dialog stays open until this discrepancy is cleared.

The enabling switch must be released completely and pressed again to recover the enabled state. The HMI device has then recovered the fully functional state.

The HMI device is integrated without being logged on to an effective range:



• The HMI device is integrated and logged on to an effective range:



The enabling switch is damaged

Initial situation

The HMI device is integrated and logged on to an effective range. The enabling switch is damaged and is not pressed. Distinguish between the two scenarios:

- Scenario 1: One channel of the enabling switch is opened permanently.
- Scenario 2: One channel of the enabling switch is closed permanently. Discrepancy is detected in this situation. The "Enabling switch discrepancy error" dialog is displayed.



Action

The operator presses the enabling switch.

6.2 Typical applications

Result scenario 1:

The enabled state is not activated. The "Enabling switch discrepancy error" dialog box opens on expiration of the discrepancy time. The dialog stays open until the button is released to clear the discrepancy. A discrepancy error is displayed again when the operator presses the enabling switch once again .

The device must be repaired. Return the HMI device for repair as described in the section Cleaning, repairs and spare parts (Page 106).

You can use the second, functional enabling switch to remove the HMI device.

Result scenario 2:

The "Enabling switch discrepancy error" dialog box is closed and the discrepancy is cleared. The enable signal remains in deactivated state. The "Enabling switch discrepancy error" dialog box opens again after the button was released and the discrepancy time has expired (see Technical data for fail-safe operation (Page 109)).

The device must be repaired. Return the HMI device for repair as described in the section Cleaning, repairs and spare parts (Page 106).

6.2.3.4 Segregate

Removal means the intentional removal of the HMI device from the safety program without side effects, e.g. a global rampdown.

The operator removes the HMI device by alternatively executing one of the following actions:

- Closing the project
- Switching off the HMI device

After removal the HMI device must be kept in an enclosed area.

The project must be started. The HMI device must be integrated in the safety program of the F-CPU. SAFE PWR COM RNG BAT

Project termination alternatives

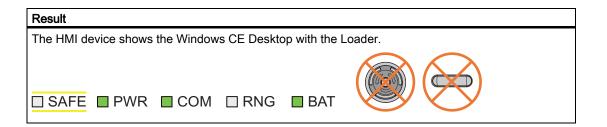
Action

The operator terminates the project with an operator object that has been provided for this purpose.

Following a prompt, the dialog box "Confirm removal" is opened. The operator is requested to confirm the desired removal with the enabling button.

The operator presses within 60 seconds at least one enabling button until the "Enable" setting is reached.

PROFIsafe communication is terminated. The HMI device has been successfully segregated from the safety program of the F-CPU. The project is terminated.



Alternative - switch the HMI device off

Action

The operator presses the ON/OFF button for longer than 4 seconds.

Following a prompt, the "Confirm removal" dialog box is displayed. The operator is requested to confirm the desired removal with the enabling button.

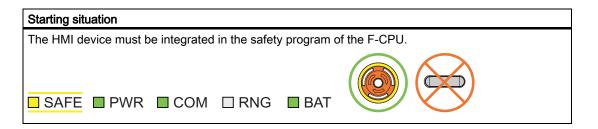
The operator presses within 60 seconds at least one enabling button until the "Enable" setting is reached.

PROFIsafe communication is terminated. The HMI device has been successfully segregated from the safety program of the F-CPU. The project is terminated. The HMI device will be switched off.

Result			
The HMI device is switched off.			
□SAFE □ PWR □ COM □ RNG	□BAT		

6.2.4 Log on and log off at the effective range

6.2.4.1 Detecting the effective range

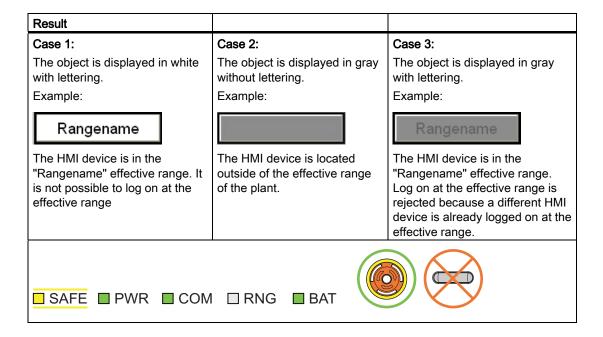


Action

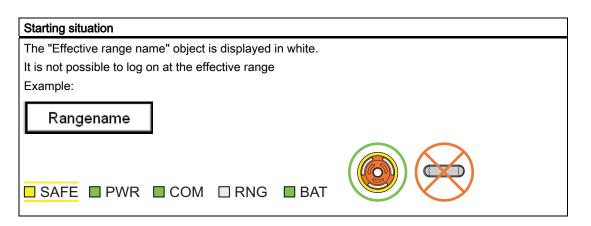
With the "Effective range name" object the HMI device shows the name and the status of the effective range in which the HMI device is located.

The operator evaluates the display of the "Effective range name" operator control.

6.2 Typical applications



6.2.4.2 Log on at the effective range



Action

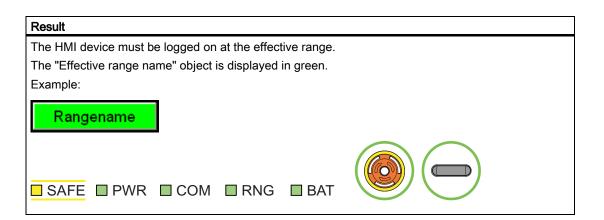
The operator touches the "Effective range name" object.

If the "Effective range name" object is protected with a password, the operator has to enter his user name and password. See also Check list: Data security (Page 50)

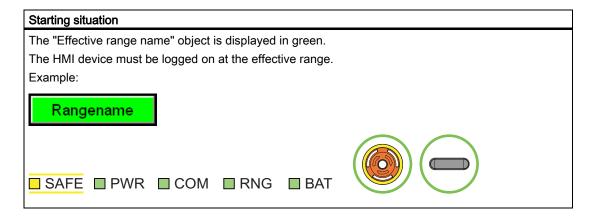
The "Effective range logon" dialog box opens.

The operator reads the effective range ID in the plant. He enters the effective range ID and confirms with "OK".

The dialog box closes.



6.2.4.3 Log off at the effective range

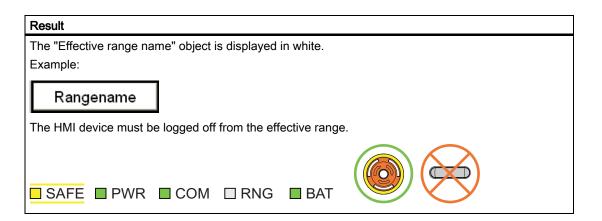


Action

The operator touches the "Effective range name" object.

If the "Effective range name" object is protected with a password, the operator has to enter his user name and password. See also Check list: Data security (Page 50)

After a query the HMI device is logged off from the effective range.



6.2 Typical applications

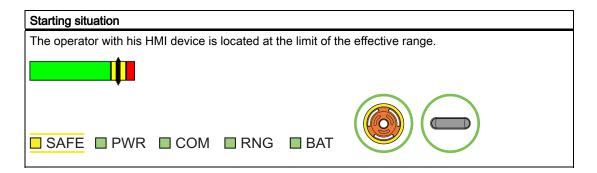
Note

Only for effective ranges which belong to an override switch

If the operator has logged off from an effective range which belongs to an override switch, the "Effective range name" object is displayed in gray in the following case: The operator has left the effective range without pressing the override switch.

6.2.5 Behavior in the effective rage

6.2.5.1 Exiting the effective range without log off



Action

The operator exits the WLAN area with the HMI device.



After 5 seconds the following occurs:

- The enabling buttons are deactivated.
- The "Effective range exited without logoff" dialog box opens.
- Depending on the setting of the HMI device, the vibration alarm is triggered.

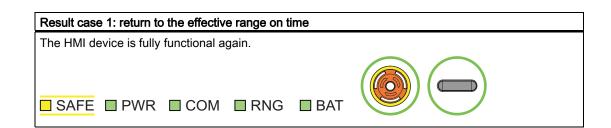
The operator now has 25 seconds time to enter the effective range again or log off from the effective range via the "Effective range exited without logoff" dialog box.

Case 1:

Case 2:

The operator enters the effective range again within 25 seconds.

The operator remains outside of the effective range for longer than 25 seconds



Result case 2: does not return to the effective range on time

The "Effective range exited without logoff" dialog box opens.

The HMI device triggers a local rampdown and log off from the effective range.

As long as the operator does not confirm log off from the effective range, the dialog box is displayed on the HMI device. The operator is not able to interact with the machine. The effective range remains in use.

When the operator has confirmed logoff from the effective range, the HMI device is logged off from the effective range and the effective range is then released for logon for other HMI devices.

SAFE ■ PWR ■ COM ■ RNG ■ BAT





6.2.6 "Override" mode

6.2.6.1 Activating "override" mode

Initial situation The system has the protective devices specified for "Override" mode. □ SAFE ■ PWR ■ COM □ RNG

Action

The operator enters a protected zone.

The operator logs the HMI device on in the effective range in which the override switch is located.

The operator activates the override switch.

Result

"Override" mode is active.

The "Effective range quality" object is displayed entirely in green.



The transponders are not evaluated for detection of the effective range.

The operator can operate the machine in the entire override range as if he were in the middle of the effective range.

No other HMI device can log onto the effective range.













6.2.6.2 Terminating "override" mode

Introduction

The "Override" mode can be closed by the operator or closed automatically by the safety program of the F CPU.

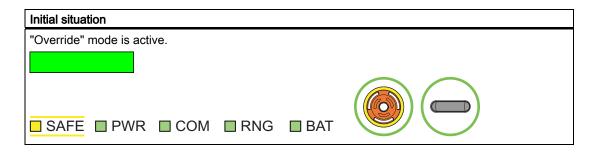
Closed by the operator

The operator closes the "Override" mode with the following actions:

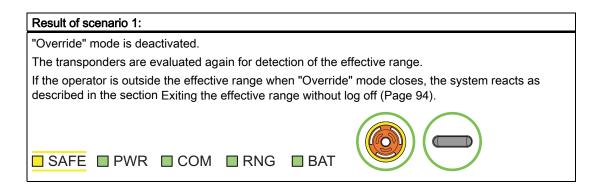
- 1. The operator activates the override switch.
- 2. The operator logs the HMI device off from the effective range.

Closing automatically

If the operator leaves the override range without activating the override switch, the override mode is automatically closed by the safety program of the F CPU. The transponders are the evaluated again for detection of the effective range. "Override" mode can only be activated again if the override switch is reset by the operator.



Action			
Scenario 1:	Scenario 2:		
The operator activates the override switch.	The operator leaves a protected zone.		



Result of scenario 2:

"Override" mode is closed automatically by the safety program of the F CPU.

The transponders are evaluated again for detection of the effective range.

If the operator is outside the effective range when "Override" mode closes, the system reacts as described in the section Exiting the effective range without log off (Page 94).

"Override" mode can only be activated again if the override switch is reset by the operator.

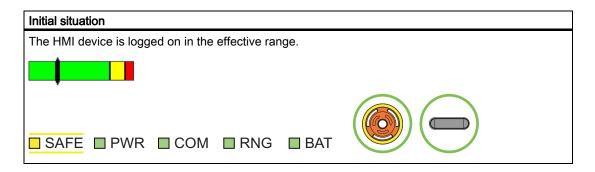
SAFE ■ PWR ■ COM ■ RNG ■ BAT





6.2.7 Special operating conditions

6.2.7.1 Internal error



Action

An internal error occurs on the HMI device.

Result

The F CPU performs a shutdown. It stops the section of the system that belongs to the effective

The project is closed immediately.

The HMI device shows a red error display.

☐ SAFE ☐ PWR ☐ COM ☐ RNG ☐ BAT

All LEDs go out.

The effective range remains allocated.

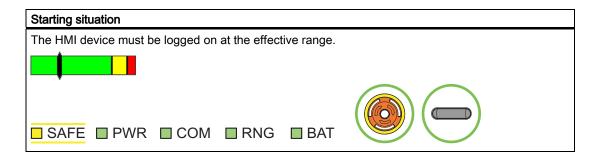




See also

Diagnostics (Page 101)

6.2.7.2 Communication error with the HMI device logged on in the effective range



Action

A communication error occurs.

The F-CPU executes a shutdown. It stops the plant unit that belongs to the effective range.

The LED "SAFE" and the LED "RNG" go out. The operator is alerted that a secure connection is not present.

Case 1: Case 2:

Communication can be restored within 60 seconds.

Communication remains continuously interrupted.

Result case 1: Communication is restored.

The "Acknowledgment of communication error" dialog box opens. The operator acknowledges the communication error in this dialog box.

The shutdown signal is revoked and the effective range is released for all HMI devices.

PROFIsafe communication is again possible.

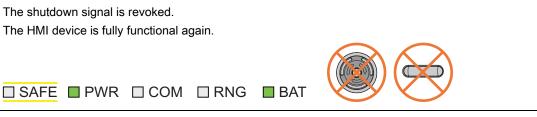


Result case 2: Communication remains interrupted for more than 60 seconds

After 60 seconds the project is terminated.

The HMI device displays the Windows CE Desktop with the Loader.

If the operator enters the WLAN area again with the HMI device and WLAN communication is reestablished, the operator has to acknowledge the communication error in the "Acknowledgment of communication error" dialog box.



Diagnostics

7.1 Alarm messages

The following alarms are displayed on the HMI device, depending on the operating situation:

Dialog box	Possible reactions	Situation	Additional information
Establishment of safety connection	"Yes" button	The alarm displays one of the stated reasons, depending on the situation.	Communication error for the integrated HMI device (Page 87)
No safe connection available.		Reason: Connection not yet	Communication error with the
Reason: Connection not yet completed PROFIsafe address error Internal configuration error Communication error (timeout) Communication error (CRC) CPU in STOP		 Reason: Connection not yet completed: Setup of the safe connection was not yet completed after the project was started. In this case, wait for the connection to be set up. The dialog is closed on completion. Other reasons: A communication error has 	HMI device logged on in the effective range (Page 98)
PROFIsafe CRC configuration error Should the Panel be switched off?		occurred after successful integration of the HMI device. Clear the cause of error defined as "Reason" and restart the HMI device.	
Otont company	W/ W I		O
Start removal The removal cannot be interrupted once it has started.	"Yes" button "No" button	The operator has activated an object for closing the project.	Segregate (Page 90)
Do you want to start the removal?			
Confirm removal	The operator must	The operator has confirmed the	Segregate (Page 90)
Please confirm the removal with the enabling switch.	press at least one of the enabling switches until the "Enable" switch position is reached.	security prompt for logoff.	
Effective range logon	"Yes" button	The HMI device is located within	Log on at the effective range
Do you want to logon to the following effective range?	"No" button	the effective range, but it is not logged on.	(Page 92)
Effective range < <effective name="" range="">></effective>		The operator has activated the white "Effective range name"	
Please enter the effective range ID:		object to log himself on.	
Effective range logoff	"Yes" button	The HMI device is logged on to	Log off at the effective range
Do you want to log off from the following effective range?	"No" button	the effective range. The operator has activated the "Effective range name" object to log	(Page 93)
Effective range < <effective name="" range="">></effective>		himself off.	

7.1 Alarm messages

Dialog box	Possible reactions	Situation	Additional information
Effective range logoff (shutdown) The Panel cannot be switched off. You have to first logoff from the effective range. Do you want to logoff from the following effective range? Effective range < <effective name="" range="">></effective>	"Yes" button "No" button	The HMI device is logged on to the effective range. The operator has attempted to shut down the HMI device.	
Acknowledgment of communication error A safe connection is possible again. Please confirm the communication error.	"OK" button	Communication was recovered after a short communication error. The operator must confirm this state. The short-term communication error was caused by one of the following actions: The operator briefly left the WLAN range and has now returned. PROFIsafe communication was briefly interrupted.	Communication error for the integrated HMI device (Page 87) Communication error with the HMI device logged on in the effective range (Page 98)
Effective range exited without logoff(5 seconds) WARNING: You have exited the following effective range without logging off: Effective range < <effective name="" range="">> The enabling switch is deactivated. Do you want to log off from the effective range?</effective>	"Yes button or return to the effective range within 25 seconds	The operator left the effective range with the logged on HMI device for more than 5 seconds.	Exiting the effective range without log off (Page 94)
Exited effective range without logging off(30 seconds) You have left the effective range without permission. Local switch off was executed! Please confirm logging off from the effective range.	"OK" button	The operator has left the effective range with the logged on HMI device for more than 30 seconds.	Exiting the effective range without log off (Page 94)
Low battery alarm Battery charge is less than 20 percent.	"OK" button	The remaining battery charge is less than 20 %. An additional system alarm is output after the battery charge has dropped to less than 10 %.	Chapter "Inserting, charging and replacing the battery" in the operating instructions
Transponder test This dialog does not contain any correlative text. The user is informed that he is in transponder test mode. The user must test all transponders of all effective ranges.	Diverse	The project started on the HMI device does not contain a current CRC checksum for the effective ranges. The effective ranges and transponders must be checked using the dialog.	Accepting effective ranges and transponders (Page 79)

Dialog box	Possible reactions	Situation	Additional information
Test enabling switch Both enabling switches must be tested to ensure they are operational. Fully press both enabling switches until the panic position is reached.	The operator must press both enabling switches until the "Panic" switch position is reached.	The operator has started the project. The operator must test the functions of the enabling switches.	Integrating the HMI device (start project) (Page 86)
Error during effective range logon	"OK" button	An error occurred during logon of the HMI device to the	
Error during effective range logon. The enabling switch remains deactivated.		effective range. The operator cannot use the enable switches to control the process.	
Enabling switch discrepancy error	The operator must release both	The HMI device detects a discrepancy at one of the two	Discrepancy error during enabling (Page 88)
Please release the enabling switch.	enabling switches.	enabling switches in switch position "Enable".	

7.2 Diagnostics

Definition

Use the diagnostics function to determine the following:

- Does signal acquisition function without errors on the HMI device?
- Does the safety module work properly?

Diagnostics function of the HMI device

HMI device diagnostics conforming to PROFINET IO standard IEC 61784-1:2002 Ed1 CP 3/3 are available for the standard application.

The diagnostics function cannot be parameterized. The diagnostics are always activated and are automatically made available by the HMI device in STEP 7 in the event of an error.

In addition to the safety-relevant part, the diagnostics function returns the following diagnostics data (if still possible):

• Communication error

Communication between the HMI device as I/O device and the F-CPU as I/O controller has been interrupted (for example, due to incorrect PROFIsafe address or missing WLAN connection).

Reading diagnostics information

Open the module diagnostics in STEP 7 to determine the cause of the error. For detailed information, refer to the STEP 7 Online Help.

You can also read the diagnostics functions by calling SFB 52 or SFB 54 in the standard user program. For detailed information, refer to the "System and standard function" reference manual.

Diagnostics of internal faults of the HMI device

The HMI device reacts as follows to an internal fault which leads to its failure:

• All LEDs go dark.

The following actions are initiated if a project was started on the HMI device:

- The project is terminated.
- If an "Enable" discrepancy error is detected, the "Discrepancy error enabling switch" dialog opens; see Discrepancy error during enabling (Page 88).
- The red diagnostics (error display) view is output to the screen to notify you of other errors:



- 1. Note down the error ID.
- 2. Switch off the HMI device.
- 3. Restart the HMI device.
- 4. Contact Technical Support if the error persists.

ErrorCode

Based on the ErrorCode, Technical Support can come to a conclusion about the type of internal error.

The following table lists the ErrorCodes for discrepancy errors. You might be able to troubleshoot such errors by yourself, depending on the situation. The first six digits of the ErrorCode are decisive for the correct allocation of the error. The terms "left" and "right" enabling switch refer to the your position facing the screen of the HMI device.

Contact Technical Support if the same discrepancy error is generated several times.

Error code	Error type	Remedy
000 008	Discrepancy error at the emergency stop button	Release the emergency stop button by turning the button in clockwise direction. Let the emergency stop button snap back into its initial position.
000 014	Discrepancy error at the right enabling switch, Panic switch position	Make sure that you do not jam the button when pressing it.
000 015	Discrepancy error at the left enabling switch, Panic switch position	

7.2 Diagnostics

Maintenance

8.1 Function tests

Check list

Execute the tests cited in the following check list, in the specified intervals. If the intervals are not maintained function of the HMI device is not ensured.

Requirements

The HMI device must be switched on and integrated in the safety program of the F-CPU.

Test	Test cycle	Check
Press the emergency stop button.	At least once a year	
Fully press both enabling buttons.	At each project start	

8.2 Maintenance cycles

Check list

Execute the maintenance steps cited in the following check list, in the specified intervals. If the intervals are not maintained function of the HMI device is not ensured.

Component	Maintenance cycle	Check
Transponder battery	Replace every four years	
Bridging battery	Replace every five years	

Further information

A detailed description of how to change a battery can be found in the operating instructions of the HMI device in the relevant chapters "Setting transponder IDs and inserting the battery" and "Changing a bridging battery".

8.3 Cleaning, repairs and spare parts

8.3 Cleaning, repairs and spare parts

Cleaning



Inadvertent operation

Always switch off the HMI device before cleaning it. This will ensure that you do not trigger unintended functions when you touch the keys.

CAUTION

Do not clean the HMI device with compressed air or steam jet blowers. Never use aggressive solvents or scouring powder.

Use a cleaning cloth dampened with a cleaning agent to clean the equipment. Only use water with a little liquid soap or a screen cleaning foam.

Repairs

In case of repair, the HMI device must be shipped to the Return Center in Fürth. Repairs may only be carried out at the Return Center in Fürth.

Depending on the work necessary to repair the device, the Center may decide to give you a credit note. In this case, it is your responsibility to order a new device.

The address is:

Siemens AG

Industry Sector

Return Center

Siemensstr. 2

90766 Fürth, Germany

Service pack

A service pack can be ordered for servicing purposes.

The service pack includes:

- Cover caps
- · Battery compartment cover
- Bridging battery

The service pack can be ordered from your Siemens representative.

Replacement key set

You can order a replacement key set for the HMI device from your Siemens sales office.

Replacement batteries

Main batteries and bridge batteries can be ordered from your Siemens sales office.

Service & Support on the Internet

The online services of Service & Support at "http://www.siemens.com/automation/support"provide comprehensive information on SIMATIC products:

- Local service
- Repairs
- Replacement parts and more

Recycling and disposal

Due to the low levels of pollutants in the HMI device described in this manual, it can be recycled. For environment-friendly recycling and disposal of your old equipment, contact a certified disposal facility for electronic scrap.

8.3 Cleaning, repairs and spare parts

Technical data

This chapter lists the specifications that are relevant for fail-safe operation.

For more information, please read Application and ambient conditions (Page 42).

Additional specifications can be found in the operating instructions for the HMI device.

9.1 Technical data for fail-safe operation

Fail-safe operation



The safety characteristics in the specifications apply for a proof-test interval of 10 years and a mean repair time of 8 hours.

In accordance with IEC 61508		
Hardware architecture	Redundant 1002	
Hardware error tolerance	1	
Safe failure fraction	99,5 %	
Diagnostic test interval	10 ms	
Request rate	High demand mode	
High demand (PFH: probability of a dangerous failure per hour) at 40 °C	8.60E-11 1/h	
Maximum achievable safety class (SIL)	3	
Useful life	10 years	
In accordance with DIN EN ISO 13849-1		
Mean time to failure (MTTF _d)	1516 years	
Meantime to Restoration (MTTR)	8 hours	
Diagnostic coverage (DC)	99 %	
Performance level (PL)	е	
Safety category	4	
In accordance with EN 954-1		
Safety category	4	

9.1 Technical data for fail-safe operation

Other safety-related values		
Acknowledgment time 1)	40 ms	
Maximum reaction time of the HMI device in faultless state 1)	25 ms	
Discrepancy times		
Emergency stop	• 500 ms	
Enabling button position "Enable"	• 2 sec	
Enabling button position "Panic"	• 1 sec	
Runtime of the F-FBs	The runtime of the F-FBs required in the safety program depends on the F-CPU used. The values are provided as FAQs concerning Mobile Panel 277F IWLAN at the following Internet address:	
	"http://www.siemens.com/automation/support"	

¹⁾ The times specified refer to the internal reaction times of the HMI device, e.g. the time expiring between actuation of an emergency stop and the transfer of this signal to PROFINET.

Quantity structure for the effective range concept

F FBs required in safety program	
F_FB_MP	1x per Mobile Panel 277F IWLAN, maximum 126
F_FB_RNG_4	1x per effective range, for which up to 4 HMI devices have logging on authorization
F_FB_RNG_16	1x per effective range, for which up to 16 HMI devices have logging on authorization
DB_STATES	1

Configuring	
Maximum number of transponders used in the project for effective ranges	127
Maximum number of effective ranges in the project	127
Maximum number of transponders per effective range	127
Maximum number of HMI devices with logging on authorization per effective range	When using F_FB_RNG_4: 4 HMI devicesWhen using F_FB_RNG_16: 16 HMI devices
Maximum configurable distance between transponder and HMI device	8 m

Calculating the total reaction time

Use the Excel spreadsheet "s7fcotia" to calculate the total reaction time.

This table is provided with the S7 Distributed Safety options package. The current version of this table is available at the following Internet address:

"http://www.siemens.com/automation/support", subscription ID 21627074.

See also

Application and ambient conditions (Page 42)

9.2 HMI device

Weight

Weight without packing	Approximately 2.2 kg

Protection class parameters

Protection class to IEC 60417	Description	Symbol
Front panel and rear panel	Protection class III	

Protection type parameters

Degree of protection in accordance with IEC 60529	Description
Front panel and rear panel	IP65

Radio system parameters

Frequency	2400 - 2483 MHz
Power	-1.5 dBm (0.7 mW) EIRP
	-3.65 dBm (0.4 mW) ERP

WLAN parameters

Frequency	5.180 - 5.835 MHz
Power	maximum 18 dBm

9.3 Charging station

9.3 Charging station

Weight

Ī	Weight without packing	Approx. 1.1 kg
	0 1 0	11

Supply voltage

Nominal voltage	+24 VDC
Range, permissible	19.2 V to 28.8 V (-20%, +20%)
Transients, maximum permissible	35 V (500 ms)
Time between two transients, minimum	50 sec
Current consumption with Mobile Panel	
Typical	Approx. 1.5 A
Constant current, maximum	Approx. 1.8 A
Power on current surge I²t	Approx. 1.7 A ² s
Current consumption with Mobile Panel and batteries in charging compartment	
Typical	Approx. 2.8 A
Constant current, maximum	Approx. 3.4 A
Power on current surge I ² t	Approx. 1.7 A ² s
Fuse, internal	Electronic

Connection to the power supply

The charging station is connected to the power supply using the cable box which is included in the scope of supply via a three-conductor flexible cable (0.75 mm²). Additional information can be found in the operating instructions for the HMI device.

Application example: Safety Functions



A.1 Configuration and operation

Introduction

The following example shows a possible application of the safety functions of the Mobile Panel 277F IWLAN.

Note

This example is restricted exclusively to the typical functionality of the Mobile Panel 277F IWLAN, in this case to the "override" mode. Additional security measures, e.g. reducing speeds when opening protective doors, must also be taken into consideration in the safety program, depending on the plant. These measures are, however, not dependent on the functionality of the "override" mode.



Please also observe the information on S7 Distributed Safety, which you can find in the programming and operating manual "SIMATIC S7 Distributed Safety - configuring and programming" and in the online help for S7 Distributed Safety.

Sample configuration

The following sample configuration shows a robot cell which is protected by a protective fence with a protective door.

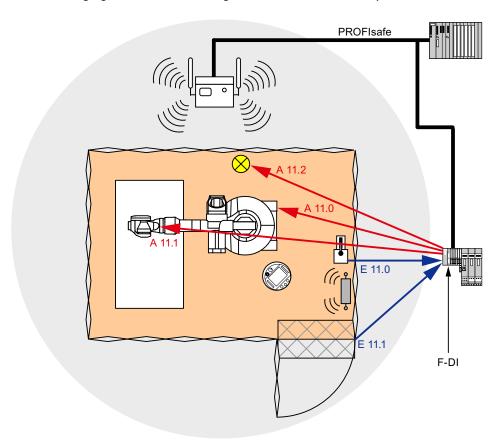
To operate the robot in "override" mode, the following components must also be installed:

- A transponder for forming an effective range for the "override" switch. By logging on to this effective range, the operator is granted the permission to activate the "override" switch. Without logon to the effective range, activating the "override" switch will have no effect.
- The "override" switch. When the operator activates the "override" switch after logon to the
 relevant effective range, the "override" mode is activated by the positive edge of the
 switch.
- A contact mat at the entrance to the protected area. The contact mat enables you to
 detect whether the operator is leaving the protected area or whether a second person is
 entering the protected area while the "override" mode is active. In these cases the
 "override" mode is automatically terminated.

In addition, a lamp is installed, which indicates that the effective range is in use by the logged on HMI device.

If the "override" mode is active, the operator controls the robot by pressing a function key on the device and confirming operation with one of the enabling buttons.

The following figure shows the configuration used in the example.

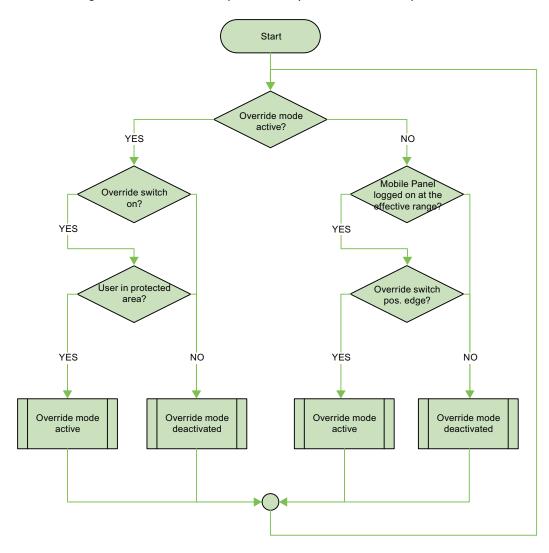


The following signals are used:

Function Symbolic name	Signal	Explanation
"Override" switch	I11.0	"0": "Override" switch is off
"Switch_Override"		"1": "Override" switch is on
Contact mat	I11.1	"0": Step on contact mat
"Contact_Mats"		"1": Do not step on contact mat
Function key F1 of	E0.0	"0": Funktion key not pressed
HMI device		"1": Function key pressed
"Functionkey_F1"		
Enabling button	ENABLE	"0": No enable
	(F_FB_RNG_4)	"1": Enable
POWER ON/OFF robot	O11.0	"0": Emergency stop triggered.
"E_Stop_Robot"		"1": Normal operation of plant.
Actuator to robot	O11.1	"0": The robot is not operated with F1 and the enabling buttons
		"1": The robot is operated with F1 and the enabling
		buttons
Signal lamp	O 11.2	"0": Effective range is not in use; the signal lamp is off
		"1": Effective range is in use; the signal lamp is on

Flowchart

The following flowchart shows the operation sequence of the example.



A.2 Components and settings used

Necessary components

Hardware components

- S7 F-CPU, can be used for safety applications, e.g. CPU-317F-2PN/DP
- HMI device Mobile Panel 277F IWLAN
- Protective door
- Contact mat
- "Override" switch
- Signal lamp

Configuration software

- SIMATIC STEP 7 V5.4 as of SP2
- S7 Distributed Safety, V5.4 SP3
- WinCC flexible 2007 with HSP Mobile Panel 277 Wireless

Settings for the hardware components in STEP 7

in the following you can see the most important settings you have to make in the HW Config for the F-CPU and the HMI device.

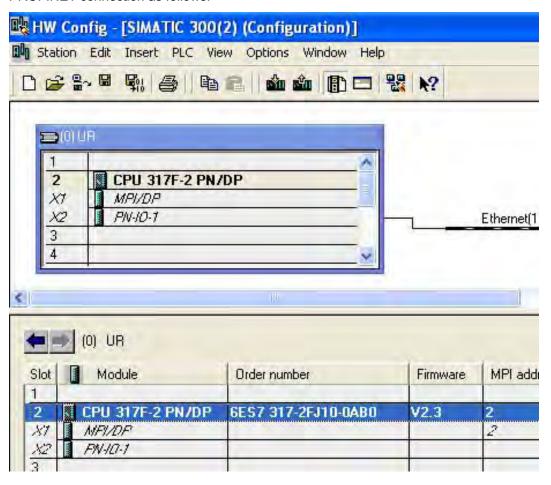


Loss of safety function

The settings shown in the following contribute to Cat. 4/ PL and/ SIL 3 being achieved. Any changes to the settings may result in the loss of the safety function.

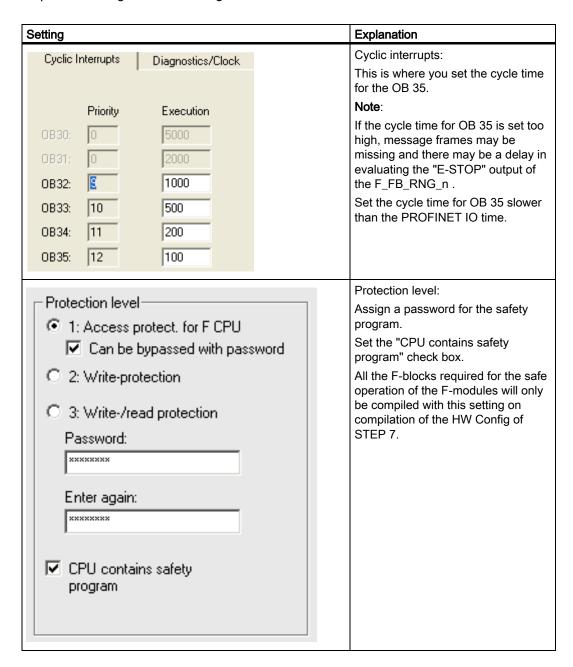
CPU 317F-2PN/DP

- 1. Create a STEP 7 project in the SIMATIC Manager.
- 2. Open the hardware configuration "HW Config" and insert the desired F-CPU and a PROFINET connection as follows:



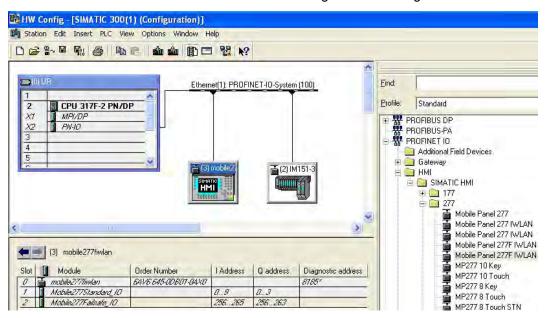
A.2 Components and settings used

3. Open the settings by double-clicking on the F-CPU in the HW Config. You see the most important settings in the following:



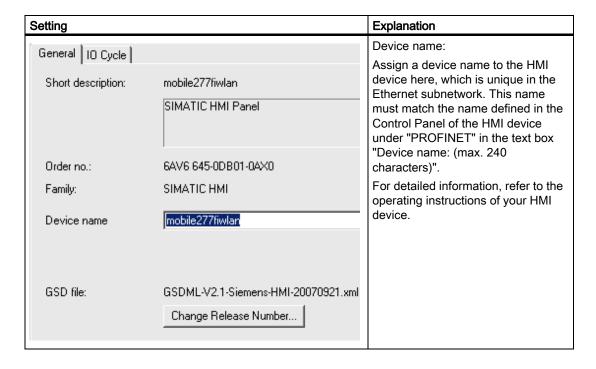
Mobile Panel 277F IWLAN

1. Insert the Mobile Panel 277F IWLAN in the HW Config in the following manner:

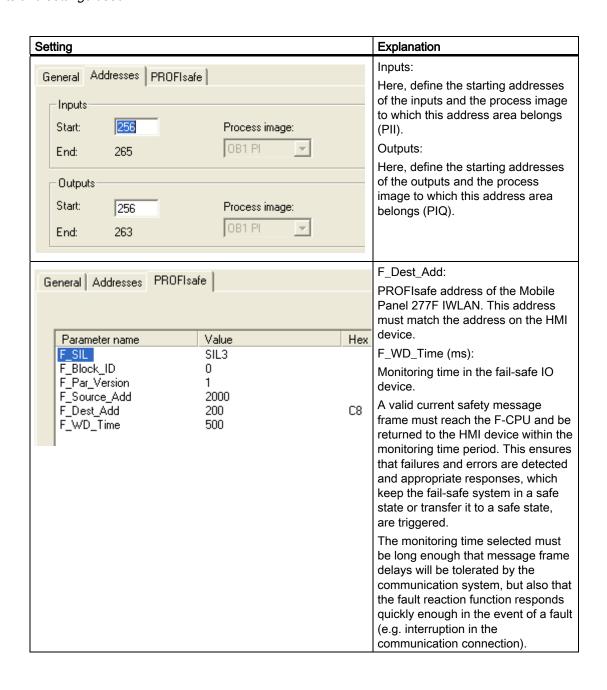


- 2. To define the device name, open the properties dialog box of the HMI device by doubleclicking on the Mobile Panel 277F IWLAN in the HW Config.
- 3. To define the PROFIsafe parameters, open the properties dialog box of the module "Mobile277Failsafe_IO", by double-clicking on the module "Mobile277Failsafe_IO" in the HW Config in the detail view of the selected HMI device and then switch to the "PROFIsafe" tab.

The table below shows the most important settings:



A.2 Components and settings used



A.3 Safety program S7 Distributed Safety

Functionality

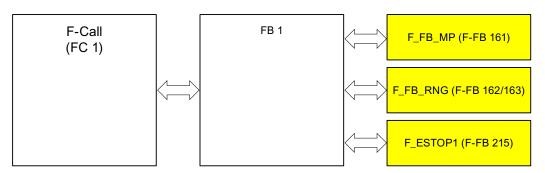
The safety program of the S7-CPU takes care of the following:

- The "override" mode is started when the Mobile Panel 277F IWLAN is logged on at the effective range and there is a positive edge on the override switch.
- When the Mobile Panel 277F IWLAN is logged on at the effective range in which the override switch is located, the signal lamp comes on.
- The "override" mode is terminated if either the override switch is activated again or if the operator leaves the protected area and steps on the contact mat.
- If the "override" mode is active, the operator can control the robot by pressing a function key on the device and at the same time confirming operation with the enabling button.
- After an emergency stop, the plant only restarts when the operator has performed an additional acknowledgment.
- In the event of a rampdown or shutdown, the appropriate plant-specific responses are initiated.

Program execution of the safety program

Structure

The safety program is structured as follows:



Symbolic names used

The following symbolic names are used in the networks of the sample programs

Symbolic name	Meaning
F00256_Mobile277Failsafe_IO	Fail-safe I/O DB of HMI device
MP1_FB_S7_MP_RE	Input which is set when a reset of the HMI device is performed from the F-CPU.
MP1_FB_S7_ACK_ERR	Input which is set when a communication error is acknowledged from the F-CPU.
MP1_F_DATA_PII	Word 1 of the PII of the HMI device
MP1_F_RANGE_PII	Word 2 of the PII of the HMI device

Symbolic name	Meaning
MP1_F_DATA_PIQ	Word 1 of the PIQ of the HMI device
MP1_F_RANGE_PIQ	Word 2 of the PIQ of the HMI device
Interface_DB	F-DB for the data transfer of user data
F_DB_States	F-DB for the transfer of data between the F_FB_MP of the HMI device and the F_FB_RNG_n of the effective range

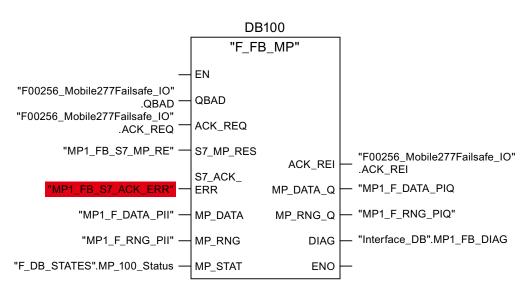
F-CALL (FC 1)

F-CALL (FC1) is the F-run-time group and is called from the cyclic interrupt OB (OB35). F-CALL (FC1) calls the F-program block (in this case: FB1).

FB₁

For reasons of program modularity, all other safety-related blocks are called from this FB. In the FB 1 you have to call the F-FBs in the sequence shown.

Network1

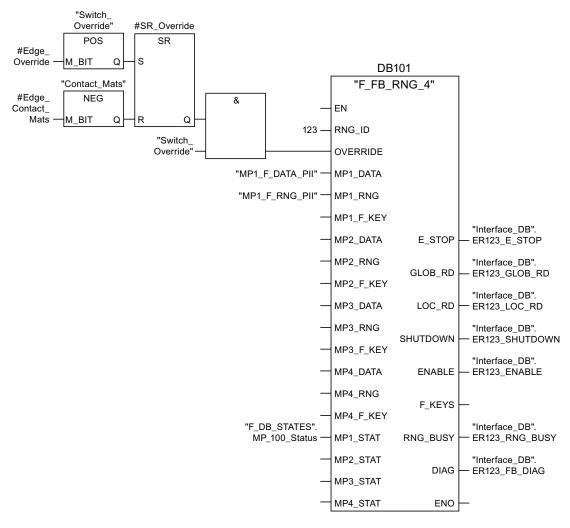


In network 1 the F_FB_MP of the HMI device is called. With this block the controller monitors the PROFIsafe communication of the Mobile Panel 277F IWLAN. The following diagnostics information is indicated at the "DIAG" output:

- Status of the HMI device: integrated or removed
- A communication error has occurred.
- The communication error must be acknowledged.

For more information, please read FB161: Mobile Panel Status (F_FB_MP) (Page 63).

Network 2

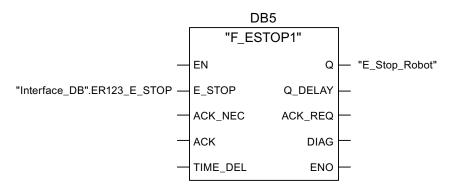


The activation of the "override" mode is controlled in this network.

"SR_Override" is set if the override switch is switched on, i.e. I11.0 = "1". "SR_Override" is reset by a negative edge of the contact mat, i.e. I11.1 = "0". This is the case if the operator leaves the override area without terminating the "override" mode. Only when the "SR_Override" is set and the override switch is set to "on" is the "override" mode activated with the F_FB_RNG.

At the same time, the F_FB_RNG monitors the signals "emergency stop", "global rampdown", "local rampdown" and "shutdown". They are scanned in networks 3 to 6.

Network 3



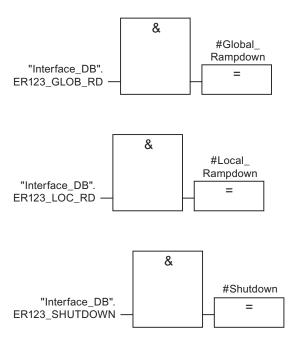
In network 3 the emergency stop signal of the HMI device is monitored via the F_ESTOP1 from the F-library of S7 Distributed Safety. The F_ESTOP1 ensures that the plant is only able to restart following an emergency stop after acknowledgment by the operator via the input "ACK".

Note

Also note the instructions for the FB 215 in the online help for the F-FBs and in the manual.

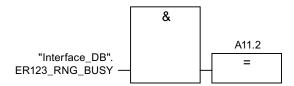
"SIMATIC S7 Distributed Safety - configuring and programming", Chapter "FB 215 "F_ESTOP1". Emergency STOP up to Stop Category 1".

Network 4, network 5 and network 6



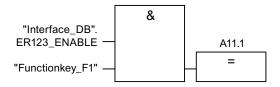
In network 4, 5 and 6 the signals for a global and a local rampdown and shutdown are processed further. As the configuration of the monitored plant determines which responses have to occur following occurrence of a particular safety state, these networks are not explained in detail in this example.

Network 7



If the "RNG_BUSY" signal is set in the F_FB_RNG, the signal lamp indicating in the plant that the effective range is in use is activated via the output O 11.2.

Network 8



If the operator simultaneously presses the key F1 and the enabling button, the robot is activated via the output O11.1.

A.3 Safety program S7 Distributed Safety

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Mobile Panel 277F IWLAN

Produktinformation

Gültigkeit

Die vorliegende Produktinformation gilt für das Bediengerät Mobile Panel 277F IWLAN mit folgenden Bestellnummern:

- 6AV6 645-0DB01-0AX0

- 6AV6 645-0GB01-0AX0

- 6AV6 645-0DC01-0AX0

- 6AV6 645-0GC01-0AX0

Diese Produktinformation enthält wichtige Hinweise. Die Hinweise ergänzen die Betriebsanleitung für das Bediengerät und sind den Aussagen in der Betriebsanleitung, in den Release Notes und in der Online-Hilfe in der Verbindlichkeit übergeordnet.



Beachten Sie das Funktionshandbuch "Fehlersicherer Betrieb des Mobile Panel 277F IWLAN" und die Warnhinweise sowie die zusätzlichen Informationen im Internet:

http://support.automation.siemens.com/WW/view/de/26268960

Das Funktionshandbuch "Fehlersicherer Betrieb des Mobile Panel 277F IWLAN" liegt in den Sprachen deutsch, englisch und japanisch vor.

Powermanagement

ACHTUNG

Meldungen im Energiesparmodus unsichtbar

Im Energiesparmodus wird das Display des Bediengeräts je nach Einstellung abgedunkelt ("Power Save 1") oder ausgeschaltet ("Power Save 2"). Wenn Meldungen auftreten, während der Energiesparmodus aktiv ist, dann bleibt die Anzeige abgedunkelt oder ausgeschaltet. In diesem Fall sind Meldungen nur schwer oder nicht erkennbar.

Hinweis

Wenn Sie das Bediengerät mit externer Spannungsversorgung betreiben, dann wird nach zwei Minuten ohne Bedienung automatisch der Energiesparmodus "Power Save 1" aktiviert. Das Display wird abgedunkelt.

Hinweis

Wenn Sie eine externe USB-Tastatur an das Bediengerät angeschlossen haben, dann bleibt die externe USB-Tastatur im Energiesparmodus "Power Save 2" aktiv.

Betriebssystem aktualisieren über ProSave

ACHTUNG

Betriebssystem aktualisieren nur über Ethernet und USB

Das Aktualisieren des Betriebssystems über ProSave ist nur über Ethernet und USB freigegeben.

Verwenden Sie ProSave V7.4.2 oder höher.

Automatischer Transfer



Automatischen Transfer nicht verwenden

Der automatische Transfer (Control Panel, Option "Remote Control") darf bei dem Bediengerät nicht verwendet werden. Verwenden Sie den manuellen Transfer.

Projektierung

ACHTUNG

HSP Mobile Panel 277 Wireless V1.1 erforderlich

Verwenden Sie zur Projektierung des Bediengeräts ausschließlich die Software "HSP Mobile Panel 277 Wireless V1.1".

Überbrückungsbatterie

Hinweis

Das Bediengerät wird in der ersten Lieferstufe ohne Überbrückungsbatterie geliefert.

Wenn Sie die Hauptbatterie wechseln wollen, beenden Sie das laufende Projekt und schalten Sie das Bediengerät aus.

Umgebungstemperatur

Das Bediengerät ist für den Betrieb bei einer Umgebungstemperatur von 0 °C bis 40 °C ausgelegt.

Hinweis

Laden der Batterien

Befindet sich das Bediengerät im produktiven Betrieb, dann werden beide Batterien in der Ladestation vollständig geladen, solange die Umgebungstemperatur 40 °C nicht übersteigt.

Ist das Bediengerät eingeschaltet und in der Ladestation eingehängt, gilt Folgendes:

- Die Ladung der Batterien im Bediengerät bleibt erhalten, solange die Umgebungstemperatur 40 °C nicht übersteigt.
- Die Batterien in der Ladestation werden vollständig geladen, solange die Umgebungstemperatur 35 °C nicht übersteigt.

LED-Anzeigen

Hinweis

Sobald sich das Bediengerät in der Ladestation befindet und Ladekontakt hat, blinkt die LED "BAT". Stellen Sie sicher, dass das Bediengerät zum Laden der Batterien korrekt in die Ladestation eingehängt ist.

Spezifikation der USB-Schnittstelle

Hinweis

Die USB-Schnittstelle darf ausschließlich zur Inbetriebnahme und für Wartungszwecke verwendet werden.

Die Leitungslänge des angeschlossenen USB-Geräts darf maximal 3 m betragen.

Transponderbetrieb - Frequenzbänder

Hinweis

Beim Transponderbetrieb mit automatischer Zonenerkennung wird das 2,4-GHz-Band exklusiv vom Mobile Panel IWLAN genutzt.

Für den WLAN-Betrieb muss das 5-GHz-Band (IEEE 802.11a) verwendet werden.

Der gleichzeitige Einsatz anderer RFID-Systeme im 2,4-GHz-Band ist nicht möglich (z. B. MOBY U oder MOBY R-Systeme).

Access Point - drahtlose Kommunikation

Hinweis

Die Kommunikation mit mehr als einem Access Point zur Abdeckung eines größeren WLAN-Bereichs ist nicht unterbrechungsfrei möglich.

Bei drahtloser Ethernet-basierter Kommunikation, z. B. bei PROFINET IO, HTTP, Sm@rtAccess, Sm@rtService und OPC, ist der Endnutzer für die Sicherheit des Datennetzes verantwortlich. Das sichere Funktionieren des Bediengerätes kann nicht unter allen Umständen garantiert werden. Störungen, die von außen auf das Funknetz wirken, können z. B. zu einer Überlastung des Bediengeräts führen.

Die "Storm Threshold"-Funktion beim Siemens Access Point SCALANCE muss aktiviert sein. Diese Aktivierung ist für einen stabilen Anlagenbetrieb auch bei hoher Netzlast notwendig. Für Broadcast-Telegramme ist Folgendes einzustellen:

- Address Threshold: 255
- Wireless: 255

PROFINET IO

Hinweis

Um die Sicherheit Ihrer Applikation zu verbessern, fragen Sie in Ihrer CPU-Applikation das Lebensbit ab.

Ladestation

Die Ladestation entspricht der Schutzklasse III nach EN 61131-2:2007 und EN 60950-1:2006.

Siemens AG Industry Sector Postfach 48 48 90026 NÜRNBERG



Mobile Panel 277F IWLAN

Product Information

Validity

This product information is valid for the HMI device Mobile Panel 277F IWLAN with the following order numbers:

- 6AV6 645-0DB01-0AX0

- 6AV6 645-0GB01-0AX0

- 6AV6 645-0DC01-0AX0

- 6AV6 645-0GC01-0AX0

This product information contains important information. The notes supplement the operating instructions for the HMI device and take precedence over statements in the operating instructions, the release notes, and in the online help.



Please pay attention to the function manual "Fail-safe operation of the Mobile Panel 277F IWLAN" as well as the warnings and additional information available in the Internet at:

http://support.automation.siemens.com/WW/view/en/26268960

The function manual "Fail-safe operation of the Mobile Panel 277F IWLAN" is available in German, English and Japanese.

Power management

NOTICE

Alarms not visible in power-save mode

Depending on the setting, the display of the HMI device will either be dimmed ("Power Save 1") or turned off ("Power Save 2"). The display will stay dimmed or turned off if there are alarms while in power-save mode. It will be difficult or impossible to see any alarms in this case.

Note

If you operate the HMI device with external voltage supply, the device will switch to power-save mode "Power Save 1" after two minutes without input. The display will be dimmed.

Note

If you connect an external USB keyboard to the HMI device, the external USB keyboard in power-save mode "Power Save 2" remains active.

Updating the operating system using ProSave

NOTICE

Update of operating system via Ethernet and USB only

Update of the operating system with ProSave has been approved via Ethernet and USB only.

Use ProSave V7.4.2 or higher.

Automatic transfer



Do not use automatic transfer

The automatic transfer (Control Panel, option "Remote Control") for the HMI device must not be used.

Use the manual transfer.

Configuration

NOTICE

HSP Mobile Panel 277 Wireless V1.1 required

For configuration of the HMI device use the "HSP Mobile Panel 277 Wireless V1.1" software only.

Bridging battery

Note

The HMI device will be supplied in delivery stage 1 without a bridging battery.

If you want to replace the main battery, exit the running project and turn off the HMI device.

Ambient temperature

The HMI device has been designed for use with ambient temperatures ranging from 0°C to +40 °C.

Note

Charging the batteries

If the HMI device is in productive operation, the batteries will be fully charged in the charging station, as long as the ambient temperature 40 °C is not exceeded.

When the HMI device is turned on and resting in the docking station, the following applies:

- The batteries in the HMI device remain charged, as long as the ambient temperature 40 °C is not exceeded.
- The batteries in the docking station will be fully charged, as long as the ambient temperature 35 °C is not exceeded.

LEDs

Note

The "BAT" LED will start flashing as soon as the HMI device is placed in the docking station and charging begins. Make sure that the HMI device is correctly positioned in the docking station for charging of batteries.

Specification of the USB interface

Note

Use the USB interface for commissioning and maintenance only.

The line length of the connected USB devices may not exceed 3 m.

Transponder operation - frequency bands

Note

For transponder operation with automatic zone detection, the 2.4 GHz band will be used exclusively by the Mobile Panel IWLAN.

WLAN operation requires the 5 GHz band (IEE 802.11a).

It is not possible to operate other RFID systems in the 2.4 GHz band at the same time (z. B. MOBY U or MOBY R systems).

Access Point - wireless communication

Note

Communication with more than one access point to cover larger WLAN areas is not possible without interruption.

For wireless Ethernet-based communication, for example, with PROFINET IO, HTTP, Sm@rtAccess, Sm@rtService and OPC, the end user is responsible for the security of the data network. The secure operation of the HMI device cannot be guaranteed under all circumstances. Interference from outside the wireless network can cause an overload of the HMI device, for example.

The "Storm Threshold" function in the Siemens Access Point SCALANCE must be selected. This option has to be selected to ensure stable plant operation when the load on the network is high. The following settings have to be made for broadcast message frames:

- Address Threshold: 255
- Wireless: 255

PROFINET IO

Note

To improve the safety of your application, request the life sign bit in your CPU application.

Charging station

The charging station corresponds to safety class III according to EN 61131-2:2007 and EN 60950-1:2006.

Siemens AG Industry Sector Postfach 48 48 90026 NÜRNBERG



Mobile Panel 277F IWLAN

Information produit

Validité

La présente information produit est valable pour le pupitre opérateur Mobile Panel 277F IWLAN avec les numéros de référence suivants :

- 6AV6 645-0DB01-0AX0

- 6AV6 645-0GB01-0AX0

- 6AV6 645-0DC01-0AX0

- 6AV6 645-0GC01-0AX0

Cette information produit contient des indications importantes. Ces informations complètent les instructions de service du pupitre opérateur et, en cas de conflit avec les indications contenues dans les instructions de service, des Release Notes et de l'aide en ligne, c'est à elles que vous devez vous reporter.



Veuillez tenir compte de la description fonctionnelle du fonctionnement de sécurité du Mobile Panel 277F IWLAN et des avertissements ainsi que des informations complémentaires sur Internet :

http://support.automation.siemens.com/WW/view/fr/26268960

La description fonctionnelle du fonctionnement de sécurité du Mobile Panel 277F IWLAN existe en allemand, en anglais et en japonais.

Gestion de l'alimentation

IMPORTANT

Alarmes invisibles en mode d'économie d'énergie

En mode d'économie d'énergie, l'écran du pupitre opérateur est sombre ("Power Save 1") ou éteint ("Power Save 2"), selon le paramétrage. Quand des alarmes se présentent alors que le mode d'économie d'énergie est actif, l'écran reste sombre ou éteint. Dans ce cas, les alarmes sont difficilement ou pas du tout reconnaissables.

Remarque

Quand vous utilisez le pupitre opérateur avec une alimentation externe, le mode d'économie d'énergie "Power Save 1" s'active automatiquement au bout de deux minutes sans intervention de l'opérateur. L'écran est sombre.

Remarque

Quand vous avez connecté un clavier USB externe au pupitre opérateur, il reste actif en mode d'économie d'énergie "Power Save 2".

Mise à jour du système d'exploitation au moyen de ProSave

IMPORTANT

Mise à jour du système d'exploitation uniquement via Ethernet et USB

La mise à jour du système d'exploitation au moyen de ProSave n'est validée que via Ethernet et USB.

Utilisez la version 7.4.2 de ProSave ou une version ultérieure.

Transfert automatique

/!\ATTENTION

Ne pas utiliser le transfert automatique

Il n'est pas permis d'utiliser le transfert automatique (Control Panel, option "Remote Control") pour le pupitre opérateur. Utilisez le transfert manuel.

Configuration

IMPORTANT

HSP Mobile Panel 277 Wireless V1.1 requis

Pour configurer le pupitre opérateur, utilisez exclusivement le logiciel "HSP Mobile Panel 277 Wireless V1.1".

Pile de sauvegarde

Remarque

Le pupitre opérateur est livré sans pile de sauvegarde à la première version.

Quand vous voulez remplacer la pile principale, quittez le projet en cours et mettez le pupitre opérateur hors tension.

Température ambiante

Le pupitre opérateur est conçu pour une utilisation à des températures ambiantes comprises entre 0 °C et 40 °C.

Remarque

Charge des batteries

Quand le pupitre opérateur est en mode de production, les deux batteries sont complètement chargées dans le chargeur tant que la température ambiante ne dépasse pas 40 °C.

Quand le pupitre opérateur est en marche et accroché dans le chargeur, sachez que :

- La charge des batteries dans le pupitre opérateur est conservée tant que la température ambiante ne dépasse pas 40 °C.
- Les batteries se trouvant dans le chargeur sont complètement chargées tant que la température ambiante ne dépasse pas 35 °C.

DEL de signalisation

Remarque

La LED "BAT" clignote dès que le pupitre opérateur est dans le chargeur et que le contact de charge est établi. Assurezvous que le pupitre est accroché correctement dans le chargeur pour la charge des batteries.

Spécification de l'interface USB

Remarque

L'interface USB ne doit être utilisée que pour la mise en service et à des fins de maintenance.

La longueur de câble des appareils USB connectés peut être au maximum de 3 m.

Mode transpondeur - bandes de fréquence

Remarque

En mode transpondeur avec détection automatique de zone, la bande 2,4 GHz est utilisée exclusivement par le Mobile Panel IWLAN.

Pour le mode WLAN, il faut utiliser la bande 5 GHz (IEEE 802.11a).

L'utilisation simultanée d'autres systèmes RFID dans la bande 2,4 GHz n'est pas possible (par ex. des systèmes MOBY U ou MOBY R).

Point d'accès - communication sans fil

Remarque

La communication avec plus d'un point d'accès afin de couvrir une zone WLAN plus importante n'est pas possible sans interruption.

En cas de communication sans fil basée sur Ethernet, par ex. avec PROFINET IO, HTTP, Sm@rtAccess, Sm@rtService et OPC, c'est l'utilisateur final qui est responsable de la sécurité du réseau de données. Le fonctionnement sûr du pupitre opérateur ne peut pas être garanti dans tous les cas. Les parasites qui agissent de l'extérieur sur le réseau radio, par exemple, peuvent provoquer une surcharge du pupitre opérateur.

La fonction "Storm Threshold" doit être activée pour le point d'accès Siemens SCALANCE. Cette activation est nécessaire pour que le fonctionnement de l'installation soit stable même quand la charge du réseau est élevée. Pour les télégrammes Broadcast, il faut effectuer le paramétrage suivant :

- Address Threshold: 255
- Wireless: 255

PROFINET IO

Remarque

Afin d'améliorer la sécurité de votre application, interrogez le bit de vie dans votre application CPU.

Chargeur

Le chargeur correspond à la classe de protection III selon EN 61131-2:2007 et EN 60950-1:2006.

Siemens AG Industry Sector Postfach 48 48 90026 NÜRNBERG



Mobile Panel 277F IWLAN

Informazioni sul prodotto

Validità

Le seguenti informazioni sul prodotto si riferiscono al pannello operatore Mobile Panel 277F IWLAN con i seguenti numeri di ordinazione:

- 6AV6 645-0DB01-0AX0

- 6AV6 645-0GB01-0AX0

- 6AV6 645-0DC01-0AX0

- 6AV6 645-0GC01-0AX0

Le presenti informazioni sul prodotto contengono avvertenze importanti. Le avvertenze sono da considerarsi parte integrante delle istruzioni operative del pannello operatore e hanno valore di veridicità superiore a quello delle informazioni contenute nelle istruzioni operative, nelle note di rilascio e nella quida in linea.



Tenere presente il manuale di guida alle funzioni riguardo il funzionamento ad elevata sicurezza del Mobile Panel 277F IWLAN e le avvertenze, nonché ulteriori informazioni in internet:

http://support.automation.siemens.com/WW/view/it/26268960

Il manuale di guida alle funzioni "Fail-safe operation of the Mobile Panel 277F IWLAN" è disponibile in tedesco, inglese e giapponese.

Power Management

ATTENZIONE

Segnalazioni non visualizzate nella modalità a risparmio energetico

Nella modalità a risparmio energetico il display del pannello operatore viene oscurato ("Power Save 1") o disattivato ("Power Save 2"), a seconda dell'impostazione selezionata. Quando la modalità a risparmio energetico è attiva, la visualizzazione rimane oscurata o disattivata anche in presenza di eventuali segnalazioni. In questo caso è quindi difficile o impossibile riconoscere le segnalazioni.

Nota

Se si utilizza il pannello operatore con alimentazione di tensione esterna, dopo due minuti di inattività viene attivata automaticamente la modalità a risparmio energetico "Power Save 1". Il display viene oscurato.

Nota

Se si è collegata al pannello operatore una tastiera USB, questa rimane attiva anche nella modalità a risparmio energetico "Power Save 2".

Aggiornamento del sistema operativo mediante ProSave

ATTENZIONE

Aggiornamento del sistema operativo solo mediante Ethernet e USB

L'aggiornamento del sistema operativo mediante ProSave è abilitato solo mediante Ethernet e USB.

Utilizzare ProSave V7.4.2 o superiore.

Trasferimento automatico

/!\AVVERTENZA

Non utilizzare il trasferimento automatico

Il trasferimento automatico (Control Panel, opzione "Remote Control") non deve essere utilizzato con il pannello operatore. Utilizzare il trasferimento manuale.

Progettazione

ATTENZIONE

È necessario HSP Mobile Panel 277 Wireless V1.1

Per la progettazione del pannello operatore utilizzare esclusivamente il software "HSP Mobile Panel 277 Wireless V1.1".

Batteria tampone

Nota

Il primo livello di fornitura del pannello operatore non contiene la batteria tampone.

Se si desidera cambiare la batteria tampone, terminare il progetto in corso e spegnere il pannello operatore.

Temperatura ambiente

Il pannello operatore è adatto al funzionamento con temperatura ambiente compresa tra 0 °C e 40 °C.

Nota

Caricamento delle batterie

Se il pannello operatore si trova in esercizio produttivo, entrambe le batterie vengono completamente caricate nella stazione di carica finché la temperatura ambiente non supera i 40 °C.

Se il pannello operatore è attivato e appeso nella stazione di carica vale quanto segue:

- Il caricamento delle batterie nel pannello operatore viene assicurato finché la temperatura ambiente non supera i 40 °C.
- Le batterie nella stazione di carica vengono completamente caricate finché la temperatura ambiente non supera i 35 °C.

LED

Nota

Non appena il pannello operatore si trova nella stazione di carica e ha contatto di carica, il LED "BAT lampeggia. Per il caricamento delle batterie assicurarsi che il pannello operatore sia correttamente appeso nella stazione di carica.

Specifica dell'interfaccia USB

Nota

L'interfaccia USB deve essere utilizzata esclusivamente per la messa in funzione e a scopo di manutenzione. La lunghezza dei conduttori del dispositivo USB collegato non deve superare i 3 m.

Funzionamento con transponder - bande di frequenza

Nota

Nel funzionamento con transponder con riconoscimento automatico delle zone, la banda a 2,4 GHz viene utilizzata esclusivamente dal Mobile Panel IWLAN.

Per il funzionamento WLAN deve essere utilizzata la banda a 5 GHz (IEEE 802.11a).

L'utilizzo simultaneo di altri sistemi RFID nella banda a 2,4 GHz non è possibile (ad es. sistemi MOBY U o MOBY R).

Access point - comunicazione senza fili

Nota

La comunicazione con più di un access point per la copertura di un campo WLAN più ampio non è possibile senza creare interruzioni.

Nella comunicazione senza fili basata su Ethernet, ad es. con PROFINET IO, HTTP, Sm@rtAccess, Sm@rtService e OPC, la responsabilità della sicurezza della rete di dati ricade sull'utente finale. Non è possibile garantire che il pannello operatore funzionerà sempre in modo sicuro. Eventuali interferenze esterne che disturbano la rete senza fili possono ad es. determinare un sovraccarico del pannello operatore.

Sull'Access Point SCALANCE Siemens deve essere attivata la funzione "Storm Threshold". Questa attivazione è necessaria affinché l'impianto funzioni in modo stabile anche in caso di un elevato carico della rete. Per i telegrammi broadcast è necessario eseguire le seguenti impostazioni:

- Address Threshold: 255
- Wireless: 255

PROFINET IO

Nota

Per migliorare la sicurezza dell'applicazione, interrogare il bit di attività nell'applicazione della CPU.

Stazione di carica

La stazione di carica corrisponde al grado di protezione III secondo EN 61131-2:2007 e EN 60950-1:2006.

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Mobile Panel 277F IWLAN

Información del producto

Validez

La presente información de producto es válida para el panel de operador Mobile Panel 277F con las referencias siguientes:

- 6AV6 645-0DB01-0AX0
- 6AV6 645-0GB01-0AX0
- 6AV6 645-0DC01-0AX0
- 6AV6 645-0GC01-0AX0

La presente Información de producto contiene indicaciones importantes. Las indicaciones complementan las instrucciones de servicio del panel de operador y prevalecen sobre lo mencionado en las instrucciones de servicio, en las Release Notes y en la Ayuda en pantalla.



Tenga en cuenta el manual de función "Fail-Safe operation of the Mobile Panel 277F IWLAN" y las advertencias e informaciones adicionales que encontrará en Internet:

http://support.automation.siemens.com/WW/view/es/26268960

El manual de funciones "Fail-safe operation of the Mobile Panel 277F IWLAN" está disponible en alemán, inglés y japonés.

Power Management

ATENCIÓN

Mensajes no visibles en el modo de ahorro de energía

En el modo de ahorro de energía, la pantalla del panel de operador se oscurece ("Power Save 1") o se apaga ("Power Save 2") según cómo esté ajustado. Si aparecen mensajes mientras está activado el modo de ahorro de energía, la pantalla permanece oscura o apagada. En este caso, los mensajes apenas pueden reconocerse.

Nota

Si utiliza el panel de operador con fuente de alimentación externa, tras dos minutos sin operación se activará automáticamente el modo de ahorro de energía "Power Save 1". La pantalla se oscurece.

Nota

Si ha conectado un teclado USB externo al panel de operador, dicho teclado permanecerá activo en el modo de ahorro de energía "Power Save 2".

Actualizar el sistema operativo mediante ProSave

ATENCIÓN

Actualizar el sistema operativo sólo vía Ethernet y USB

La actualización del sistema operativo desde ProSave sólo está liberada vía Ethernet y USB.

Utilice ProSave ProSave V7.4.2 o superior.

Transferencia automática

/!\ADVERTENCIA

No utilizar la transferencia automática

La transferencia automática (Control Panel, opción "Remote Control") no puede utilizarse en el panel de operador. Utilice la transferencia manual.

Configuración

ATENCIÓN

Se requiere HSP Mobile Panel 277 Wireless V1.1

Para configurar el panel de operador utilice únicamente el software "HSP Mobile Panel 277 Wireless V1.1".

Batería de puenteo

Nota

El panel de operador se suministra en la primera versión sin batería de puenteo.

Si desea cambiar la batería principal, cierre el proyecto activo y apague el panel de operador.

Temperatura ambiente

El panel de operador está diseñado para utilizarse a una temperatura ambiente comprendida entre 0 °C y 40 °C.

Nota

Cargar las baterías

Si el panel de operador se encuentra en modo productivo, ambas baterías se cargarán por completo en la estación de carga, siempre y cuando la temperatura ambiente no exceda los 40 °C.

Si el panel de operador está encendido y colgado en la estación de carga, rige lo siguiente:

- La carga de las baterías en el panel de operador se mantiene siempre y cuando la temperatura ambiente no exceda los 40 °C.
- Las baterías se cargan por completo en la estación de carga siempre y cuando la temperatura ambiente no exceda los 35 °C.

Indicadores LED

Nota

En cuanto el panel de operador se encuentra en la estación de carga y hace contacto, el LED "BAT" parpadea. Asegúrese de que el panel de operador está colgado correctamente en la estación de carga cuando se disponga a cargar las baterías.

Especificación del puerto USB

Nota

El puerto USB puede utilizarse exclusivamente para la puesta en marcha y para fines de mantenimiento. La longitud de cable del dispositivo USB conectado no deberá ser superior a 3 m.

Modo de transpondedor - bandas de frecuencia

Nota

En el modo de transpondedor con detección automática de zonas, la banda de 2,4 GHz es utilizada exclusivamente por el Mobile Panel IWLAN.

Para el funcionamiento con WLAN tiene que utilizarse la banda de 5 GHz (IEEE 802.11a).

El uso simultáneo de otros sistemas RFID en la banda de 2,4 GHz no es posible (p. ej. sistemas MOBY U o sistemas MOBY R).

Access Point - comunicación inalámbrica

Nota

La comunicación con más de un Access Point para cubrir una zona de WLAN más amplia no es posible sin interrupciones. En la comunicación inalámbrica basada en Ethernet, p. ej. PROFINET IO, HTTP, Sm@rtAccess, Sm@rtService y OPC, el usuario final es el responsable de la seguridad de la red de datos. El funcionamiento correcto del panel de operador no puede garantizarse bajo toda circunstancia. Los fallos de la la red inalámbrica causados desde el exterior podrían p. ej. sobrecargar el panel de operador.

La función "Storm Threshold" debe estar activada en el Siemens Access Point SCALANCE. Esta activación es necesaria para el funcionamiento estable de la instalación, incluso a una carga de red elevada. Ajuste lo siguiente para los telegramas broadcast:

Address Threshold: 255

Wireless: 255

PROFINET IO

Nota

Para mejorar la seguridad de su aplicación, consulte el bit de señal de vida en la aplicación de la CPU.

Estación de carga

La estación de carga cumple la clase de protección III según EN 61131-2:2007 y EN 60950-1:2006.

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SIEMENSSIMATIC HMI

Mobile Panel 277F IWLAN

製品情報

有効性

この製品情報は、以下の注文番号の HMI デバイス Mobile Panel 277F IWLAN を対象としています。

- 6AV6 645-0DB01-0AX0 - 6AV6 645-0GB01-0AX0 - 6AV6 645-0DC01-0AX0 - 6AV6 645-0GC01-0AX0

この製品情報には、重要な情報が含まれています。 この注意事項は、HMI デバイスの操作説明書を補足し、操作説明書、リリースノート、オンラインヘルプの記述より優先されます。

/ 警告

機能マニュアル『Mobile Panel 277F IWLAN のフェイルセーフ操作』および次の Web サイトにある警告と追加情報を熟読してください。

http://support.automation.siemens.com/WW/view/en/26268960

機能マニュアル『Mobile Panel 277F IWLAN のフェイルセーフ操作』はドイツ語版、英語版、日本語版で提供されています。

電源管理

通知

省電力モードでアラームが表示されない

設定によって、HMI デバイスの表示が暗くなるか("省電力 1")オフになります("省電力 2")。 省電力モードの間にアラームがある場合は表示が暗いままかオフになったままになります。 この状態で、アラームを確認するのは難しいか不可能です。

注記

外部電源を使用して HMI デバイスを使用している場合、入力が行われずに 2 分が経過すると、デバイスは"省電力 1"の省電力モードに切り替わります。 表示が暗くなります。

注記

外部 USB キーボードを HMI デバイスに接続した場合、"省電力 2"の省電力モードの外部 USB キーボードはアクティブのままです。

ProSave を使用したオペレーティングシステムの更新

通知

Ethernet と USB のみを使用したオペレーティングシステムの更新

ProSave を使用したオペレーティングシステムの更新が承認されているのは、Ethernet と USB を経由する場合のみです。

ProSave のバージョン 7.4.2 以上を使用します。

自動転送



自動転送は使用しないでください

HMI デバイスでは自動転送(コントロールパネル、オプション「リモートコントロール」)は使用しないでください。 手動転送を使用してください。

構成

通知

HSP Mobile Panel 277 Wireless V1.1 が必要です

HMI デバイスの設定には、"HSP Mobile Panel 277 Wireless V1.1"ソフトウェアのみを使用します。

補助バッテリ

注記

納入ステージ 1 の HMI は、補助バッテリなしで提供されます。 メインバッテリを置換するには、実行中のプロジェクトを終了して、HMI デバイスの電源を切ります。

周囲温度

HMI デバイスは、周囲温度 0℃~40℃の範囲で使用するように設計されています。

注記

バッテリの充電

HMI デバイスが生産稼働中なら、周囲温度が 40 °C を超えない限り、バッテリは充電ステーションで完全に充電できます。 HMI デバイスの電源をオンにして、ドッキングステーションに置いたままにすると、次が適用されます。

- 周囲温度が40°Cを超えない限り、HMIデバイスのバッテリは充電されたままです。
- 周囲温度が35°Cを超えない限り、ドッキングステーションのバッテリは完全に充電されたままです。

LED

注記

HMI デバイスがドッキングステーションに置かれ充電が開始されるとすぐに、"BAT"LED の点滅が開始します。 バッテリの充電用に、HMI デバイスがドッキングステーションに正しく配置されていることを確認してください。

USB インターフェースの仕様

注記

この USB インターフェースは、コミッショニングと保守用のみに使用します。接続されている USB デバイスのラインの長さは $3 \, \mathrm{m}$ を超えてはいけません。

トランスポンダの操作 - 周波数帯域

注記

自動ゼロ検出を使用したトランスポンダの操作の場合、Mobile Panel IWLAN で 2.4 GHz が独占的に使用されます。 WLAN 操作には、5 GHz (IEE 802.11a)が必要です。

同時に 2.4 GHz の他の RFID システムを操作することはできません(例: MOBY U または MOBY R システム)。

アクセスポイント - ワイヤレス通信

注記

より広い WLAN エリアをカバーするために、複数のアクセスポイントとの通信を障害なく行うことはできません。 PROFINET IO、HTTP、Sm@rtAccess、Sm@rtService、OPC などのワイヤレス Ethernet ベースの通信の場合、エンドユーザーが自分のデータネットワークのセキュリティに責任を負います。 どんな環境でも、HMI デバイスの安全な操作を完全に保証することはできません。 たとえば、無線ネットワークの外からの干渉によって、HMI 装置の過負荷が引き起こされることがあります。

Siemens アクセスポイント SCALANCE の"Storm Threshold"機能を選択する必要があります。 このオプションを選択すれば、ネットワークの負荷が高い場合でも、安定したプラント操業を保証できます。 ブロードキャストメッセージフレームを作成するには、以下の設定を行ないます。

- Address Threshold: 255
- Wireless: 255

PROFINET IO

注記

使用しているアプリケーションの安全性を高めるには、CPU アプリケーションでライフサインビットを要求します。

充電ステーション

充電ステーションは、EN 61131-2:2007 および EN 60950-1:2006 に準拠した安全等級 Ⅲ に対応しています。

Siemens AG Industry Sector Postfach 48 48 90026 NÜRNBERG



Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN

Produktinformation

Gültigkeit

Diese Produktinformation enthält wichtige Hinweise. Die Produktinformation ist gültig für folgende Bediengeräte:

- Mobile Panel 277 IWLAN, Bestellnummern 6AV6 645-0DD01-0AX0 und 6AV6 645-0DE01-0AX0.
- Mobile Panel 277F IWLAN, Bestellnummern 6AV6 645-0DB01-0AX0 und 6AV6 645-0DC01-0AX0

Funkzulassungen



Die folgende Übersicht informiert Sie über die möglichen Zulassungen.

Für das Bediengerät selbst gelten nur die jeweils auf der Geräterückseite angegebenen Zulassungen.

CE-Zulassung



Die Produkte

- Mobile Panel 277 IWLAN, Bestellnummern 6AV6 645-0DD01-0AX0 und 6AV6 645-0DE01-0AX0.
- Mobile Panel 277F IWLAN, Bestellnummern 6AV6 645-0DB01-0AX0 und 6AV6 645-0DC01-0AX0

stimmen in der von Siemens A&D in Verkehr gebrachten Ausführung mit den Vorschriften der folgenden europäischen Richtlinie überein:

99/5/EG

Richtlinie des europäischen Parlaments und des Rates zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Funkanlagen und Telekommunikationsendeinrichtungen und die gegenseitige Anerkennung ihrer Konformität.

Die Konformität mit den grundlegenden Anforderungen der Richtlinie wird nachgewiesen durch die Einhaltung folgender Normen:

EN 60950	Sicherheit von Einrichtungen der Informationstechnik
EN 301489-1	Elektromagnetische Verträglichkeit für Funkeinrichtungen und -dienste
EN 301489-17	Spezifische Bedingungen für Breitband-Datenübertragungssysteme und für Einrichtungen in lokalen Hochleistungs-Funknetzen (HIPERLAN)
EN 300328	Elektromagnetische Verträglichkeit und Funkspektrumangelegenheiten
EN 301893	Breitband-Funkzugangsnetze (BRAN) - 5-GHz-Hochleistungs-RLAN
EN 50371	Übereinstimmung von elektronischen und elektrischen Geräten kleiner Leistung mit den Basisgrenzwerten für die Sicherheit von Personen in elektromagnetischen Feldern (10 MHz bis 300 GHz)
1999/519/EC	Empfehlung des Rates zur Begrenzung der Exposition der Bevölkerung gegenüber elektromagnetischen Feldern (0 Hz . 300 GHz)

An das System angeschlossene Geräte müssen die relevanten Sicherheitsbestimmungen erfüllen.

EG-Konformitätserklärung

Die EG-Konformitätserklärung wird gemäß den obengenannten EG- Richtlinien für die zuständigen Behörden zur Verfügung gehalten bei:

Siemens Aktiengesellschaft Bereich Automatisierungstechnik A&D AS RD ST Postfach 1963 D-92209 Amberg

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Richtlinien, ist jedoch keine Zusicherung von Eigenschaften.

Sie finden die EG-Konformitätserklärung zum Download im Internet unter http://support.automation.siemens.com.

UL-Zulassung



Underwriters Laboratories Inc. nach

- UL 508 (Industrial Control Equipment)
- CSA C22.2 No. 142 (Process Control Equipment)

Die Zulassung wird nur bei Betrieb mit Batterie oder stationär in der Ladestation erfüllt.

FCC-Zulassung

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

Note

This equipment has been tested and found to comply with the limits for a **Class A digital device**, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment / general public exposure limits specific in ANSI/IEEE C95.1-1992 and had been tested in accordance with the measurement procedures specified in IEEE Std. 1528-2003 December 2003.

IC-Zulassung Kanada

Exposure to Radio Frequency (RF) Signals:

The wireless device is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limit for exposure to radio frequency (RF) energy set by the Ministry of Health (Canada), Safety Code 6. These limits are part of comprehensive guidelines and established permitted levels of RF energy for the general population. These guidelines are based on the safety standards previously set by international standard bodies. These standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. This device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment / general public exposure limits specific in ANSI/IEEE C95.1-1992 and had been tested in accordance with the measurement procedures specified in IEEE Std. 1528-2003.

Länderzulassungen



Die folgende Übersicht informiert Sie über die Funkzulassungen in verschiedenen Ländern.

Für das Bediengerät selbst gelten nur die jeweils auf der Geräterückseite angegebenen Funkzulassungen.

Die Funkzulassungen gelten für folgende Produkte:

- Mobile Panel 277 IWLAN, Bestellnummern 6AV6 645-0DD01-0AX0 und 6AV6 645-0DE01-0AX0
- Mobile Panel 277F IWLAN, Bestellnummern 6AV6 645-0DB01-0AX0 und 6AV6 645-0DC01-0AX0

Land	Kennzeichnung	Zulassung erteilt
Australien	C	
Belgien	C € 0681 ①	✓
Deutschland	(€0681 ①	✓
Dänemark	(€0681 ©	√
Finnland	(€0681 ①	✓
Frankreich	(€0681 ①	✓
Griechenland	(€0681 ①	✓
Großbritannien	(€0681 ①	√
Irland	(€0681 ①	~
Island	C€ 0681 ①	✓
Italien	(€0681 ①	√
Japan	€	
Kanada	IC	
Liechtenstein	C € 0681 ①	✓

Land	Kennzeichnung	Zulassung erteilt
Luxemburg	(€0681 ①	✓
Niederlande	(€0681 ①	√
Norwegen	(€0681 ①	✓
Österreich	(€0681 ©	✓
Portugal	(€0681 ①	✓
Schweden	(€0681 ①	√
Schweiz	(€0681 ①	✓
Spanien	(€0681 ①	✓
Südafrika	IC ASA	
Taiwan		
Tschechien	(€0681 ①	✓
Türkei	(€0681 ①	✓
Ungarn	(€0681 ①	√
Vereinigte Staaten von Amerika	F©	



Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN

Product Information

Validity

This product information contains important information. This product information applies to the following HMI devices:

- Mobile Panel 277 IWLAN, order numbers 6AV6 645-0DD01-0AX0 and 6AV6 645-0DE01-0AX0.
- Mobile Panel 277F IWLAN, order numbers 6AV6 645-0DB01-0AX0 and 6AV6 645-0DC01-0AX0

Wireless approvals



The following overview shows the approvals that may be available.

The approvals shown on the rear panel of each device apply to the HMI device itself.

CE approval



The products

- Mobile Panel 277 IWLAN, order numbers 6AV6 645-0DD01-0AX0 and 6AV6 645-0DE01-0AX0.
- Mobile Panel 277F IWLAN, order numbers 6AV6 645-0DB01-0AX0 and 6AV6 645-0DC01-0AX0

in the version put into circulation by Siemens A&D conform to the regulations of the following European directive:

99/5/EC

Directive of the European Parliament and of the Council relating to Radio Equipment and Telecommunications Terminal Equipment and the Mutual Recognition of their Conformity.

Compatibility with the basic requirements of the guideline is verified by compliance with the following standards:

EN 60950	Safety of Information Technology Equipment
EN 301489-1	Electromagnetic Compatibility for Radio Equipment and Services
EN 301489-17	Specific requirements for broadband data transmission systems and for equipment in local high-performance radio networks (HIPERLAN)
EN 300328	Electromagnetic Compatibility and Radio Spectrum Issues
EN 301893	Broadband radio access networks (BRAN) – 5 GHz high-performance RLAN
EN 50371	Compliance of low power electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)
1999/519/EC	Council recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)

Devices connected to the system must meet the relevant safety regulations.

EC Declaration of Conformity

The EC Declaration of Conformity is available for the responsible authorities according to the above-mentioned EC Directive at the following address:

Siemens Aktiengesellschaft Automation & Drives A&D AS RD ST PO Box 1963 D-92209 Amberg, Germany

This declaration certifies compliance with the directives named above, but does not guarantee any specific properties.

To download information on the EC Declaration of Conformity, go to http://support.automation.siemens.com.

UL approval



Underwriters Laboratories Inc., to

- UL 508 (Industrial Control Equipment)
- CSA C22.2 No. 142 (Process Control Equipment)

The approval is only valid in the case of battery operation or when stationary in the charging station.

FCC approval

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

Note

This equipment has been tested and found to comply with the limits for a **Class A digital device**, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment / general public exposure limits specific in ANSI/IEEE C95.1-1992 and had been tested in accordance with the measurement procedures specified in IEEE Std. 1528-2003 December 2003.

IC approval Canada

Exposure to Radio Frequency (RF) Signals:

The wireless device is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limit for exposure to radio frequency (RF) energy set by the Ministry of Health (Canada), Safety Code 6. These limits are part of comprehensive guidelines and established permitted levels of RF energy for the general population. These guidelines are based on the safety standards previously set by international standard bodies. These standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. This device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment / general public exposure limits specific in ANSI/IEEE C95.1-1992 and had been tested in accordance with the measurement procedures specified in IEEE Std. 1528-2003.

National approvals



The following overview shows wireless approvals in a number of different countries.

The HMI device itself is certified in accordance with the wireless approvals shown on the rear panel labels.

The wireless approvals apply to the following products:

- Mobile Panel 277 IWLAN, order numbers 6AV6 645-0DD01-0AX0 and 6AV6 645-0DE01-0AX0
- Mobile Panel 277F IWLAN, order numbers 6AV6 645-0DB01-0AX0 and 6AV6 645-0DC01-0AX0

Country	Identification	Approval granted
Australia	C	
Belgium	(€0681 ①	✓
Germany	(€0681 ①	✓
Denmark	(€0681 ①	✓
Finland	(€0681 ①	✓
France	(€0681 ①	✓
Greece	(€0681 ①	✓
Great Britain	(€0681 ®	✓
Ireland	(€0681 ①	✓
Iceland	C€ 0681 ①	✓
Italy	(€0681 ①	✓
Japan	(
Canada	IC	
Liechtenstein	C€ 0681 ①	✓

Country	Identification	Approval granted
Luxembourg	(€0681 ①	✓
The Netherlands	(€0681 ①	√
Norway	(€0681 ①	✓
Austria	(€0681 ©	✓
Portugal	(€0681 ①	✓
Sweden	(€0681 ①	✓
Switzerland	(€0681 ①	✓
Spain	(€0681 ①	✓
South Africa	IC ASA	
Taiwan		
Czech Republic	(€0681 ①	✓
Turkey	(€0681 ①	✓
Hungary	(€0681 ①	✓
United States of America	F©	

SIEMENS

SIMATIC HMI

Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN

Produktinformation

Gültigkeit

Diese Produktinformation gilt für folgende Bediengeräte:

Mobile Panel 277 IWLAN

Bestellnummern:

- 6AV6 645-0DD01-0AX0
- 6AV6 645-0DE01-0AX0
- 6AV6 645-0FD01-0AX0
- 6AV6 645-0FE01-0AX0



- Mobile Panel 277F IWLAN Bestellnummern:
 - 6AV6 645-0DB01-0AX0
 - 6AV6 645-0DC01-0AX0
 - 6AV6 645-0GB01-0AX0
 - 6AV6 645-0GC01-0AX0



Diese Produktinformation enthält wichtige Hinweise. Diese Hinweise ergänzen die Betriebsanleitung für das Bediengerät und sind den Aussagen in der Betriebsanleitung, in den Release Notes und in der Online-Hilfe in der Verbindlichkeit übergeordnet.

Beachten Sie insbesondere Zulassungen und Zertifikate.

Hinweis

Für das Bediengerät gelten nur die Zulassungen, die auf der Geräterückseite angegeben sind.



Sicherheitshinweise für Mobile Panel 277 IWLAN und Mobile Panel 277F IWLAN

Powermanagement

ACHTUNG

Meldungen im Energiesparmodus unsichtbar

Im Energiesparmodus wird das Display des Bediengeräts je nach Einstellung abgedunkelt ("Power Save 1") oder ausgeschaltet ("Power Save 2"). Wenn Meldungen auftreten, während der Energiesparmodus aktiv ist, dann bleibt die Anzeige abgedunkelt oder ausgeschaltet. In diesem Fall sind Meldungen nur schwer oder nicht erkennbar.

Hinweis

Wenn Sie das Bediengerät mit externer Stromversorgung betreiben, dann wird nach zwei Minuten ohne Bedienung automatisch der Energiesparmodus "Power Save 1" aktiviert. Das Display wird abgedunkelt.

Hinweis

Wenn Sie eine externe USB-Tastatur an das Bediengerät angeschlossen haben, dann bleibt die externe USB-Tastatur im Energiesparmodus "Power Save 2" aktiv.

Betriebssystem aktualisieren über ProSave

ACHTUNG

Betriebssystem aktualisieren nur über Ethernet und USB

Das Aktualisieren des Betriebssystems über ProSave ist nur über Ethernet und USB freigegeben.

Verwenden Sie ProSave, Version 7.4.2 oder höher.

Projektierung

ACHTUNG

Passende Projektierungs-Software erforderlich

Verwenden Sie zur Projektierung des Bediengeräts die Software "WinCC flexible 2008 SP1".

Die Bediengeräte mit folgenden Bestellnummern können bei Verwendung der Software

"HSP Mobile Panel 277 Wireless V1.1" auch mit WinCC flexible 2007 projektiert werden:

- 6AV6 645 0DD01 0AX0
- 6AV6 645 0DE01 0AX0
- 6AV6 645-0DB01-0AX0
- 6AV6 645-0DC01-0AX0

Überbrückungsbatterie

Hinweis

Das Bediengerät wird in der ersten Lieferstufe ohne Überbrückungsbatterie geliefert.

Um die Hauptbatterie zu wechseln, beenden Sie das laufende Projekt und schalten Sie das Bediengerät aus.

Umgebungstemperatur

Das Bediengerät ist für den Betrieb bei einer Umgebungstemperatur von 0 °C bis 40 °C ausgelegt.

Hinweis

Laden der Batterien

Befindet sich das Bediengerät im produktiven Betrieb, dann werden beide Batterien in der Ladestation bis zu einer Umgebungstemperatur von 40 °C vollständig geladen.

Ist das Bediengerät eingeschaltet und in der Ladestation eingehängt, dann gilt:

- Die Ladung der Batterien im Bediengerät bleibt bis zu einer Umgebungstemperatur von 40 °C erhalten.
- Die Batterien in der Ladestation werden bis zu einer Umgebungstemperatur von 35 °C vollständig geladen.

LED-Anzeigen

Hinweis

Sobald sich das Bediengerät in der Ladestation befindet und Ladekontakt hat, blinkt die LED "BAT". Stellen Sie sicher, dass das Bediengerät zum Laden der Batterien korrekt in die Ladestation eingehängt ist.

Spezifikation der USB-Schnittstelle

Hinweis

Die USB-Schnittstelle darf ausschließlich zur Inbetriebnahme und für Wartungszwecke verwendet werden.

Die Leitungslänge der angeschlossenen USB-Geräte darf maximal 3 m betragen.

Transponderbetrieb – Frequenzbänder

Hinweis

Beim Transponderbetrieb mit automatischer Zonenerkennung wird das 2,4-GHz-Band exklusiv vom Mobile Panel IWLAN genutzt.

Für den WLAN-Betrieb muss das 5-GHz-Band (IEEE 802.11a) verwendet werden.

Der gleichzeitige Einsatz anderer RFID-Systeme im 2,4-GHz-Band ist nicht möglich (z. B. MOBY U oder MOBY R-Systeme).

Access Point - drahtlose Kommunikation

Hinweis

Die Kommunikation mit mehr als einem Access Point zur Abdeckung eines größeren WLAN-Bereichs ist nicht unterbrechungsfrei möglich.

Bei drahtloser Ethernet-basierter Kommunikation, z. B. bei PROFINET IO, HTTP, Sm@rtAccess, Sm@rtService und OPC, ist der Endnutzer für die Sicherheit des Datennetzes verantwortlich. Das sichere Funktionieren des Bediengerätes kann nicht unter allen Umständen garantiert werden. Störungen, die von außen auf das Funknetz wirken, können z. B. zu einer Überlastung des Bediengeräts führen.

Die "Storm Threshold"-Funktion beim Siemens Access Point SCALANCE muss aktiviert sein. Diese Aktivierung ist für einen stabilen Anlagenbetrieb auch bei hoher Netzlast notwendig. Für Broadcast-Telegramme ist Folgendes einzustellen:

- Address Threshold: 255
- Wireless: 255.

PROFINET IO

Hinweis

Um die Sicherheit Ihrer Applikation zu verbessern, fragen Sie in Ihrer CPU-Applikation das Lebensbit ab.

Ladestation

Die Ladestation entspricht der Schutzklasse III nach EN 61131-2:2007 und EN 60950-1:2006

Sicherheitshinweise nur für Mobile Panel 277F IWLAN

/ WARNUNG

Funktionshandbuch "Fehlersicherer Betrieb des Mobile Panel 277F IWLAN" beachten

Beachten Sie das Funktionshandbuch "Fehlersicherer Betrieb des Mobile Panel 277F IWLAN" und die darin enthaltenen Sicherheitshinweise, sowie weitere Informationen im Internet unter:

Gesamtdokumentation zum Mobile Panel 277 IWLAN und Mobile Panel 277F IWLAN (http://support.automation.siemens.com/WW/view/de/26268960)

Das Funktionshandbuch "Fehlersicherer Betrieb des Mobile Panel 277F IWLAN" liegt in den Sprachen deutsch, englisch und japanisch vor.

Automatischer Transfer



Automatischen Transfer nicht verwenden

Der automatische Transfer (Control Panel, Option "Remote Control") darf bei dem Bediengerät nicht verwendet werden. Verwenden Sie den manuellen Transfer.

Powermanagement

ACHTUNG

Bildschirminhalt wird nicht zuverlässig aktualisiert

In folgender Situation wird der Bildschirminhalt des Bediengeräts nicht zuverlässig aktualisiert.

- Sie verwenden die Software "Hardware Support Package (HSP) Mobile Panel 277 IWLAN und Mobile Panel 277F IWLAN für WinCC flexible 2007" (V1.1)
- Das Bediengerät ist am Wirkbereich angemeldet.
- Folgende Einstellungen für das Powermanagement sind aktiv:
 - Für die Option "Bildschirm ausschalten" ist eine Zeitspanne eingestellt.
 - Die Option "Helligkeit verringern" ist durch den Eintrag "nie" deaktiviert.

Sie haben folgende Möglichkeiten, das beschriebene Verhalten zu vermeiden:

- Möglichkeit 1: Installieren Sie WinCC flexible 2008 SP1.
- Möglichkeit 2: Konfigurieren Sie eine Zeitspanne für die Option "Helligkeit verringern".

Normen und Zulassungen

Dieser Abschnitt enthält wichtige Informationen zu Normen und Länderzulassungen der Bediengeräte Mobile Panel 277 IWLAN und Mobile Panel 277F IWLAN im Bezug auf das Funksystem.



Die folgende Übersicht informiert Sie über die möglichen Zulassungen.

Für das Bediengerät gelten nur die Zulassungen, die auf der Geräterückseite angegeben sind.

CE-Zulassung



Das Bediengerät stimmt in der von Siemens I IA in Verkehr gebrachten Ausführung mit den Vorschriften der folgenden europäischen Richtlinie überein:

99/5/EG

Richtlinie des europäischen Parlaments und des Rates zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Funkanlagen und Telekommunikationsendeinrichtungen und die gegenseitige Anerkennung ihrer Konformität.

Die Konformität mit den grundlegenden Anforderungen der Richtlinie wird nachgewiesen durch die Einhaltung folgender Normen:

EN 60950	Sicherheit von Einrichtungen der Informationstechnik
EN 301489-1	Elektromagnetische Verträglichkeit für Funkeinrichtungen und -dienste
EN 301489-17	Spezifische Bedingungen für Breitband-Datenübertragungssysteme und für Einrichtungen in lokalen Hochleistungs-Funknetzen (HIPERLAN)
EN 300328	Elektromagnetische Verträglichkeit und Funkspektrumangelegenheiten (ERM) - Breitband-Übertragungssysteme - Datenübertragungsgeräte, die im 2,4 GHz-ISM-Band arbeiten und Breitband-Modulationstechniken verwenden
EN 300440-1 EN 300440-2	Elektromagnetische Verträglichkeit und Funkspektrumangelegenheiten (ERM) - Funkanlagen mit geringer Reichweite - Funkgeräte zum Betrieb im Frequenzbereich von 1 Ghz bis 40 GHz
EN 301893	Breitband-Funkzugangsnetze (BRAN) - 5-GHz-Hochleistungs-RLAN
EN 50371	Übereinstimmung von elektronischen und elektrischen Geräten kleiner Leistung mit den Basisgrenzwerten für die Sicherheit von Personen in elektromagnetischen Feldern (10 MHz bis 300 GHz)
1999/519/EC	Empfehlung des Rates zur Begrenzung der Exposition der Bevölkerung gegenüber elektromagnetischen Feldern (0 Hz bis 300 GHz)

An das System angeschlossene Geräte müssen die relevanten Sicherheitsbestimmungen erfüllen.

EG-Konformitätserklärung

Die EG-Konformitätserklärung wird gemäß den obengenannten EG- Richtlinien für die zuständigen Behörden zur Verfügung gehalten bei:

Siemens Aktiengesellschaft Bereich Automatisierungstechnik I IA AS RD ST Postfach 1963 92209 Amberg Deutschland

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Richtlinien, ist jedoch keine Zusicherung von Eigenschaften.

Sie finden die EG-Konformitätserklärung zum Download im Internet unter:

Gesamtdokumentation zum Mobile Panel 277 IWLAN und Mobile Panel 277F IWLAN (http://support.automation.siemens.com/WW/view/de/26268960).

Filtern Sie die Beiträge nach Beitragstyp "Zertifikate".

UL-Zulassung



Underwriters Laboratories Inc. nach

- UL 508 (Industrial Control Equipment)
- CSA C22.2 No. 142 (Process Control Equipment)

Die Zulassung wird nur bei Betrieb mit Batterie oder stationär in der Ladestation erfüllt.

Approval according to FCC

This device complies with Part 15 of the FCC Rules

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation.

IEEE802.11b or g operation of this product in the USA is firmware-limited to channels 1 through 11.

Notice

Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, wich can be determined by turning the equipment off and on, the user encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to wich the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Notice

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Professional Installation Notice:

To comply with FCC Part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

Within the 5.15-5.25 GHz band, this device is only for indoor use operations to reduce any potential for harmful interference to co-channel MSS operations.

RSS-210 of Industry Canada

"Operation is subjecte to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device."

"This device has been designed to operate with internal antennas with a maximum gain of 2 dBi and an antenna impedance of 50 Ohms. Other antennas are strictly prohibited for use with this device."

"To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication."

That the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to cochannel mobile satellite systems."

"Users should also be cautioned to take note that high power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices."

Länderzulassungen



Die folgende Übersicht informiert Sie über die Funkzulassungen in verschiedenen Ländern.

Für das Bediengerät gelten nur die Zulassungen, die auf der Geräterückseite angegeben sind.

Land	Kennzeichnung	Zulassung erteilt
Australien	C	✓
Belgien	((0	✓
Bulgarien	C€ ①	✓
China		
Dänemark	C€ ①	✓
Deutschland	(E (D)	✓
Estland	(((✓
Finnland	(((✓
Frankreich	C€ ①	✓
Griechenland	C€ ①	✓
Großbritannien	C€ ①	✓
Hongkong		
Irland	C€ Œ	✓
Island	C€ Œ	✓
Italien	(€ Ф	✓
Japan	€	✓
Kanada	IC	1
Kuwait		
Lettland	(€ ①	✓
Liechtenstein	(€ ①	✓
Litauen	(E (D	✓
Luxemburg	(€ ①	1
Malaysia		

Land	Kennzeichnung	Zulassung erteilt
Malta	(€ ①	✓
Niederlande	C€ ①	✓
Norwegen	C€ ①	✓
Österreich	C€ ①	✓
Polen	C€ ①	✓
Portugal	C€ ①	✓
Rumänien	C€ ①	✓
Russland		
Schweden	C€ ①	✓
Schweiz	C€ ①	✓
Singapur		
Slowakei	(€ ①	✓
Slowenien	(€ ⊕	✓
Spanien	C€ Φ	✓
Südafrika	ICA.SA	1
Südkorea		
Taiwan		1
Tschechien	C€Œ	✓
Türkei	C€Œ	✓
Ukraine		
Ungarn	C€ Œ	√
Vereinigte Staaten von Amerika	F©	1
Zypern	C€ ①	√

Siemens AG Industry Sector Postfach 48 48 90026 NÜRNBERG

SIEMENS

SIMATIC HMI

Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN

Product Information

Validity

The product information applies to the following HMI devices:

- Mobile Panel 277 IWLAN
 - Order numbers:
 - 6AV6 645-0DD01-0AX0
 - 6AV6 645-0DE01-0AX0
 - 6AV6 645-0FD01-0AX0
 - 6AV6 645-0FE01-0AX0



- Mobile Panel 277F IWLAN Order numbers:
 - 6AV6 645-0DB01-0AX0
 - 6AV6 645-0DC01-0AX0
 - 6AV6 645-0GB01-0AX0
 - 6AV6 645-0GC01-0AX0



This product information contains important information. These notes supplement the operating instructions for the HMI device and take precedence over statements in the operating instructions, the release notes, and in the online help.

Observe the approvals and certificates.

Note

The HMI device itself is certified as shown on the rear panel labels.

Safety notes on the Mobile Panel 277 IWLAN and Mobile Panel 277F IWLAN

Power management

NOTICE

Alarms not visible in power-save mode

Depending on the setting, the display of the HMI device will either be dimmed ("Power Save 1") or turned off ("Power Save 2"). The display will stay dimmed or turned off if there are alarms while in power-save mode. It will be difficult or impossible to see any alarms in this case.

Note

If you operate the HMI device with external power supply, the device will switch to power-save mode "Power Save 1" after two minutes without input. The display will be dimmed.

Note

If you connect an external USB keyboard to the HMI device, the external USB keyboard in power-save mode "Power Save 2" remains active.

Updating the operating system using ProSave

NOTICE

Update of operating system via Ethernet and USB only

Update of the operating system with ProSave has been approved via Ethernet and USB only.

Use ProSave, Version 7.4.2 or higher.

Configuring

NOTICE

Matching configuration software required

Configure the HMI device only with the software "WinCC flexible 2008 SP1".

You can also configure the HMI devices with the following order numbers and WinCC flexible 2007 using the "HSP Mobile Panel 277 Wireless V1.1" software:

- 6AV6 645 0DD01 0AX0
- 6AV6 645 0DE01 0AX0
- 6AV6 645-0DB01-0AX0
- 6AV6 645-0DC01-0AX0

Bridging battery

Note

The HMI device will be supplied in delivery stage 1 without bridging battery.

To replace the main battery, exit the running project and turn off the HMI device.

Ambient temperature

The HMI device has been designed for use with ambient temperatures ranging from 0°C to +40 °C.

Note

Charging the batteries

With the HMI device in productive operation, the batteries will be fully charged in the docking station up to an ambient temperature of 40 °C.

When the HMI device is turned on and resting in the docking station, the following applies:

- Battery charge in the HMI device is retained up to an ambient temperature of 40 °C.
- The batteries in the docking station will be fully charged up to an ambient temperature of 35 °C.

LED display

Note

The "BAT" LED will start flashing as soon as the HMI device is placed in the docking station and charging begins. Make sure that the HMI device is correctly positioned in the docking station for charging of batteries.

Specification of USB interface

Note

Use the USB interface for commissioning and maintenance only.

The line length of the connected USB devices may not exceed 3 m.

Transponder operation - frequency bands

Note

For transponder operation with automatic zone detection, the 2.4 GHz band will be used exclusively by the Mobile Panel IWLAN.

WLAN operation requires the 5 GHz band (IEE 802.11a).

It is not possible to operate other RFID systems in the 2.4 GHz band at the same time (z. B. MOBY U or MOBY R systems).

Access Point - wireless communication

Note

Communication with more than one access point to cover larger WLAN areas is not possible without interruption.

For wireless Ethernet-based communication, for example, with PROFINET IO, HTTP, Sm@rtAccess, Sm@rtService and OPC, the end user is responsible for the security of the data network. The secure operation of the HMI device cannot be guaranteed under all circumstances. Interference from outside the wireless network can cause an overload of the HMI device, for example.

The "Storm Threshold" function in the Siemens Access Point SCALANCE must be selected. This option has to be selected to ensure stable plant operation when the load on the network is high. The following settings have to be made for broadcast message frames:

- Address threshold: 255
- Wireless: 255.

PROFINET IO

Note

To improve the safety of your application, request the life sign bit in your CPU application.

Charging station

The charging station corresponds to safety class III according to EN 61131-2:2007 and EN 60950-1:2006.

Safety notes for Mobile Panel 277F IWLAN



Note the function manual "Fail-safe operation of the Mobile Panel 277F IWLAN"

Please pay attention to the function manual "Fail-safe operation of the Mobile Panel 277F IWLAN" as well as the warnings and additional information available in the Internet at:

Complete documentation on the Mobile Panel 277 IWLAN and Mobile Panel 277F IWLAN (http://support.automation.siemens.com/WW/view/en/26268960)

The function manual "Fail-safe operation of the Mobile Panel 277F IWLAN" is available in German, English and Japanese.

Automatic transfer



Do not use automatic transfer

The automatic transfer (Control Panel, option "Remote Control") for the HMI device must not be used.

Use the manual transfer.

Power management

NOTICE

Screen contents not updated reliably

The screen contents of the HMI device are not updated reliably in the following situation.

- You use the "Hardware Support Package (HSP) Mobile Panel 277 IWLAN and Mobile Panel 277F IWLAN for WinCC flexible 2007" (V1.1) software.
- The HMI device is logged onto the effective range.
- The following settings are active for the power management:
 - A time period has been set for the "Switch off screen" option.
 - The "Reduce brightness" option has been disabled with the entry "never".

You have the following options to prevent this type of behavior:

- Option 1: Install WinCC flexible 2008 SP1.
- Option 2: Configure a time period for the "Reduce brightness" option.

Standards and approvals

This paragraph includes important information on standards and country-specific approvals for the Mobile Panel 277 IWLAN and Mobile Panel 277F IWLAN HMI devices regarding the radio system.



The following overview shows the approvals that may be available.

The HMI device itself is certified as shown on the rear panel labels.

CE approval



The HMI device in the version put into circulation by Siemens I IA conforms to the regulations of the following European directive:

99/5/EC

Directive of the European Parliament and of the Council relating to Radio Equipment and Telecommunications Terminal Equipment and the Mutual Recognition of their Conformity.

Compatibility with the basic requirements of the guideline is verified by compliance with the following standards:

EN 60950	Safety of Information Technology Equipment
EN 301489-1	Electromagnetic Compatibility for Radio Equipment and Services
EN 301489-17	Specific requirements for broadband data transmission systems and for equipment in local high-performance radio networks (HIPERLAN)
EN 300328	Electromagnetic compatibility and Radio spectrum Matters (ERM) - Wideband transmission systems - Data transmission equipment operating in the 2.4 GHz ISM band and using wide band modulation techniques
EN 300440-1 EN 300440-2	Electromagnetic compatibility and Radio spectrum Matters (ERM) - Short range devices - Radio equipment to be used in the 1 GHz to 40 GHz frequency range.
EN 301893	Broadband radio access networks (BRAN) – 5 GHz high-performance RLAN
EN 50371	Compliance of low power electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)
1999/519/EC	Council recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)

Devices connected to the system must meet the relevant safety regulations.

EC Declaration of Conformity

The EC Declaration of Conformity is available for the responsible authorities according to the above-mentioned EC Directive at the following address:

Siemens AG Industry Sector I IA AS RD ST PO Box 1963 92209 Amberg Germany

This declaration certifies compliance with the directives named above, but does not guarantee any specific properties.

To download information on the EC Declaration of Conformity, go to:

Complete documentation on the Mobile Panel 277 IWLAN and Mobile Panel 277F IWLAN (http://support.automation.siemens.com/WW/view/en/26268960).

Filter the comments for the entry type "Certificates".

UL approval



Underwriters Laboratories Inc., to

- UL 508 (Industrial Control Equipment)
- CSA C22.2 No. 142 (Process Control Equipment)

The approval is only valid in the case of battery operation or when stationary in the charging station.

Approval according to FCC

This device complies with Part 15 of the FCC Rules

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation.

IEEE802.11b or g operation of this product in the USA is firmware-limited to channels 1 through 11.

Notice

Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, wich can be determined by turning the equipment off and on, the user encouraged to try to correct the interference by one or more of the following measures:

- · Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- · Connect the equipment into an outlet on a circuit different from that to wich the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Notice

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Professional Installation Notice:

To comply with FCC Part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

Within the 5.15-5.25 GHz band, this device is only for indoor use operations to reduce any potential for harmful interference to co-channel MSS operations.

RSS-210 of Industry Canada

"Operation is subjecte to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device."

"This device has been designed to operate with internal antennas with a maximum gain of 2 dBi and an antenna impedance of 50 Ohms. Other antennas are strictly prohibited for use with this device."

"To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication."

That the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to cochannel mobile satellite systems."

"Users should also be cautioned to take note that high power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices."

National approvals



The following overview shows wireless approvals in a number of different countries.

The HMI device itself is certified as shown on the rear panel labels.

Country	Identification	Approval granted
Australia	C	✓
Belgium	((0	✓
Bulgaria	(E (D	✓
China		
Denmark	(E (D	✓
Germany	(E (D)	✓
Estonia	(E (D)	✓
Finland	(€ ①	✓
France	(€ ①	✓
Greece	(€ ①	✓
Great Britain	(€ ①	✓
Hong Kong		
Ireland	(€ ①	✓
Iceland	(€ Ф	✓
Italy	(€ Ф	√
Japan	\(\)	✓
Canada	IC	✓
Kuwait		
Latvia	(€ ①	✓
Liechtenstein	(€ ①	✓
Lithuania	(€ ①	✓
Luxembourg	(€ Ф	✓
Malaysia		

Country	Identification	Approval granted
Malta	(€ Ф	✓
The Netherlands	(€ ①	✓
Norway	(€ ①	✓
Austria	(€ ①	✓
Poland	(€ ①	✓
Portugal	(€ ①	✓
Romania	(€ ①	✓
Russia		
Sweden	(€ ①	✓
Switzerland	(€ ①	✓
Singapore		
Slovakia	(€ ①	✓
Slovenia	(€ Ф	✓
Spain	(€ Ф	✓
South Africa	IC ASA	✓
South Korea		
Taiwan	W	✓
Czech Republic	C€ ①	✓
Turkey	(€ Ф	✓
Ukraine		
Hungary	(€ Ф	✓
United States of America	F©	✓
Cyprus	(€ Ф	✓

Siemens AG Industry Sector Postfach 48 48 90026 NÜRNBERG

SIEMENS

SIMATIC HMI

Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN

Information produit

Validité

Cette information produit est valable pour les pupitres opérateur suivants :

- Mobile Panel 277 IWLAN
 - Numéros de référence :
 - 6AV6 645-0DD01-0AX0
 - 6AV6 645-0DE01-0AX0
 - 6AV6 645-0FD01-0AX0
 - 6AV6 645-0FE01-0AX0



- Mobile Panel 277F IWLAN Numéros de référence :
 - 6AV6 645-0DB01-0AX0
 - 6AV6 645-0DC01-0AX0
 - 6AV6 645-0GB01-0AX0
 - 6AV6 645-0GC01-0AX0



Cette information produit contient des indications importantes. Ces informations complètent les instructions de service du pupitre opérateur et, en cas de conflit avec les indications contenues dans les instructions de service, des Release Notes et de l'aide en ligne, c'est à elles que vous devez vous reporter.

Veuillez tenir compte des autorisations et des certificats.

Remarque

Les homologations valables pour le pupitre sont uniquement celles indiquées au dos de l'appareil.

Consignes de sécurité pour le Mobile Panel 277 IWLAN et le Mobile Panel 277F IWLAN

Gestion de l'alimentation

IMPORTANT

Alarmes invisibles en mode d'économie d'énergie

En mode d'économie d'énergie, l'écran du pupitre opérateur est sombre ("Power Save 1") ou éteint ("Power Save 2") selon le paramétrage. Quand des alarmes se présentent alors que le mode d'économie d'énergie est actif, l'écran reste sombre ou éteint. Dans ce cas, les alarmes sont difficilement ou pas du tout reconnaissables.

Remarque

Quand vous utilisez le pupitre opérateur avec une alimentation externe, le mode d'économie d'énergie "Power Save 1" s'active automatiquement au bout de deux minutes sans intervention de l'opérateur. L'écran est sombre.

Remarque

Quand vous avez connecté un clavier USB externe au pupitre opérateur, il reste actif en mode d'économie d'énergie "Power Save 2".

Mise à jour du système d'exploitation via ProSave

IMPORTANT

Mise à jour du système d'exploitation uniquement via Ethernet et USB

La mise à jour du système d'exploitation via ProSave n'est validée que via Ethernet et USB.

Utilisez ProSave, Version 7.4.2 ou une version ultérieure.

Configuration

IMPORTANT

Logiciel de configuration approprié requis

Utilisez pour la configuration du pupitre opérateur le logiciel "WinCC flexible 2008 SP1".

Les pupitres opérateurs avec les numéros de référence suivants peuvent être aussi configurés avec WinCC flexible 2007 si le logiciel "HSP Mobile Panel 277 Wireless V1.1" est utilisé :

- 6AV6 645 0DD01 0AX0
- 6AV6 645 0DE01 0AX0
- 6AV6 645-0DB01-0AX0
- 6AV6 645-0DC01-0AX0

Pile de sauvegarde

Remarque

Le pupitre opérateur est livré sans pile de sauvegarde à la première version.

Pour remplacer la pile principale, quittez le projet en cours et mettez le pupitre opérateur hors tension.

Température ambiante

Le pupitre opérateur est concu pour une utilisation à des températures ambiantes de 0 °C à 40 °C.

Remarque

Charge des batteries

Si le pupitre opérateur est en mode de production, les deux batteries sont entièrement chargées dans le chargeur jusqu'à une température ambiante de 40 °C.

Si le pupitre opérateur est en marche et accroché dans le chargeur

- La charge des batteries dans le pupitre opérateur est conservée jusqu'à une température ambiante de 40 °C.
- Les batteries dans le chargeur sont entièrement chargées jusqu'à une température de 35 °C.

DEL de signalisation

Remarque

La DEL "BAT" clignote dès que le pupitre opérateur est dans le chargeur et que le contact de charge est établi. Assurezvous que le pupitre est accroché correctement dans le chargeur pour la charge des batteries.

Spécification de l'interface USB

Remarque

L'interface USB ne peut être utilisée que pour la mise en service et à des fins de maintenance.

La longueur de câble maximale des appareils USB connectés est de 3 m.

Mode transpondeur - bandes de fréquence

Remarque

En mode transpondeur avec détection automatique de zone, la bande 2,4 GHz est utilisée exclusivement par le Mobile Panel IWLAN.

Pour le mode WLAN, il faut utiliser la bande 5 GHz (IEEE 802.11a).

L'utilisation simultanée d'autres systèmes RFID dans la bande 2,4 GHz n'est pas possible (par ex. des systèmes MOBY U ou MOBY R).

Point d'accès - communication sans fil

Remarque

La communication avec plus d'un point d'accès afin de couvrir une zone WLAN plus importante n'est pas possible sans interruption.

En cas de communication sans fil basée sur Ethernet, par ex. avec PROFINET IO, HTTP, Sm@rtAccess, Sm@rtService et OPC, c'est l'utilisateur final qui est responsable de la sécurité du réseau de données. Le fonctionnement sûr du pupitre opérateur ne peut pas être garanti dans tous les cas. Les parasites qui agissent de l'extérieur sur le réseau radio, par exemple, peuvent provoquer une surcharge du pupitre opérateur.

La fonction "Storm Threshold" doit être activée pour le point d'accès Siemens SCALANCE. Cette activation est nécessaire pour que le fonctionnement de l'installation soit stable même quand la charge du réseau est élevée. Pour les télégrammes Broadcast, il faut effectuer le paramétrage suivant :

- Address Threshold: 255
- Wireless: 255.

PROFINET IO

Remarque

Afin d'améliorer la sécurité de votre application, interrogez le bit de vie dans votre application CPU.

Chargeur

Le chargeur correspond à la classe de protection III selon EN 61131-2:2007 et EN 60950-1:2006.

Consignes de sécurité exclusivement pour le Mobile Panel 277F IWLAN



Tenez compte de la description fonctionnelle "Fail-safe operation of the Mobile Panel 277F IWLAN" (Fonctionnement de sécurité du Mobile Panel 277F IWLAN)

Veuillez tenir compte de la description fonctionnelle "Fail-safe operation of the Mobile Panel 277F IWLAN" et des consignes de sécurité qui y sont contenues ainsi que des informations complémentaires sur Internet :

Documentation complète du Mobile Panel 277 IWLAN et Mobile Panel 277F IWLAN (http://support.automation.siemens.com/WW/view/fr/26268960)

La description fonctionnelle du fonctionnement de sécurité du Mobile Panel 277F IWLAN existe en allemand, en anglais et en japonais.

Transfert automatique



Ne pas utiliser le transfert automatique

Il n'est pas permis d'utiliser le transfert automatique (Control Panel, option "Remote Control") pour le pupitre opérateur. Utilisez le transfert manuel.

Gestion de l'alimentation

IMPORTANT

Le contenu de l'écran n'est pas actualisé de manière fiable

Dans la situation suivante, le contenu de l'écran n'est pas actualisé de manière fiable.

- Vous utilisez le logiciel ""Hardware Support Package (HSP) Mobile Panel 277 IWLAN et Mobile Panel 277F IWLAN für WinCC flexible 2007" (V1.1).
- L'opérateur s'est connecté dans la plage d'action.
- Les options suivantes du Power Management sont activées :
 - Une durée a été réglée pour l'option "Eteindre l'écran".
 - L'option "Réduire la luminosité" est désactivée via l'entrée "Jamais".

Vous avez différentes possibilités pour éviter le comportement suivant :

- Possibilité 1 : Installez WinCC flexible 2008 SP1.
- Possibilité 2 : Configurez une durée pour l'option "Réduire la luminosité".

Normes et homologations

Ce paragraphe contient des informations importantes sur les normes et homologations relatives au système radio pour les pupitres opérateur Mobile Panel 277 IWLAN et Mobile Panel 277F IWLAN.



La vue d'ensemble suivante vous informe sur les homologations possibles.

Les homologations valables pour le pupitre sont uniquement celles indiquées au dos de l'appareil.

Homologation CE



Le pupitre opérateur dans la version mise en circulation par Siemens I IA est conforme aux normes de la directive européenne suivante :

99/5/EG

Directive du Parlement et du Conseil Européen pour l'harmonisation des directives sur les installations radioélectriques et les terminaux de télécommunications des pays membres et la reconnaissance mutuelle de leur conformité.

La conformité aux exigences fondamentales de la directive est assurée par le respect des normes suivantes :

	Migeriodo remainientales de la directivo del accurso par le respect des normes curvantes .
EN 60950	Sécurité des matériels de traitement de l'information
EN 301489-1	Norme de compatibilité électromagnétique pour les équipements et les services radio
EN 301489-17	Exigences particulières pour les systèmes de transmission de données à large bande et équipements HIPERLAN
EN 300328	Télécommunications, CEM et spectre radioélectrique (ERM) - Systèmes de transmission de données large bande - Equipements de transmission de données fonctionnant dans la bande ISM à 2,4 GHz et utilisant des techniques de modulation à étalement de spectre
EN 300440-1 EN 300440-2	Télécommunications, CEM et spectre radioélectrique (ERM) - Appareils à faible portée (SDR) - Equipements radioélectriques utilisés dans les bandes de fréquences 1 à 40 GHz
EN 301893	Télécommunications. Réseaux d'accès radio large bande (BRAN). HIPERLAN de type 2
EN 50371	Norme générique pour démontrer la conformité des appareils électriques et électroniques de faible puissance aux restrictions de base concernant l'exposition des personnes aux champs électromagnétiques (10 MHz - 300 GHz)
1999/519/CE	Recommandation du Conseil visant à limiter l'exposition de la population aux champs électromagnétiques ((0 Hz à 300 GHz)

Les appareils connectés au système doivent satisfaire aux consignes de sécurité afférentes.

Déclaration de conformité CE

La déclaration de conformité CE est tenue à la disposition des autorités compétentes, conformément aux directives CE susmentionnées, par :

Siemens Aktiengesellschaft Industry Sector I IA AS RD ST Postfach 1963 92209 Amberg Allemagne

Cette déclaration atteste la conformité aux directives mentionnées, mais ne tient pas lieu de garantie de propriétés.

Vous trouverez la déclaration de conformité CE sur Internet à l'adresse :

Documentation complète du Mobile Panel 277 IWLAN et Mobile Panel 277F IWLAN (http://support.automation.siemens.com/WW/view/fr/26268960).

Filtrez les contributions en recherchant le type de contribution "Certificats".

Homologation UL,



Underwriters Laboratories Inc. selon

- UL 508 (Industrial Control Equipment)
- CSA C22.2 No. 142 (Process Control Equipment)

L'homologation n'est satisfaite qu'en cas de fonctionnement sur pile ou stationnaire dans le chargeur.

Approval according to FCC

This device complies with Part 15 of the FCC Rules

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation.

IEEE802.11b or g operation of this product in the USA is firmware-limited to channels 1 through 11.

Notice

Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, wich can be determined by turning the equipment off and on, the user encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to wich the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Notice

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Professional Installation Notice:

To comply with FCC Part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

Within the 5.15-5.25 GHz band, this device is only for indoor use operations to reduce any potential for harmful interference to co-channel MSS operations.

RSS-210 of Industry Canada

"Operation is subjecte to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device."

"This device has been designed to operate with internal antennas with a maximum gain of 2 dBi and an antenna impedance of 50 Ohms. Other antennas are strictly prohibited for use with this device."

"To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication."

That the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to cochannel mobile satellite systems."

"Users should also be cautioned to take note that high power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices."

Homologations nationales

PRUDENCE

La vue d'ensemble suivante vous informe sur les homologations radio possibles dans les différents pays. Les homologations valables pour le pupitre sont uniquement celles indiquées au dos de l'appareil.

Pays	Marquage	Homologation accordée
Australie	C	✓
Belgique	(€ ①	✓
Bulgarie	(€ ①	✓
Chine		
Danemark	(€ ①	✓
Allemagne	(€ (✓
Estonie	(€ ①	✓
Finlande	(€ ①	✓
France	(€ ①	✓
Grèce	(€ ①	✓
Grande-Bretagne	(€ ①	✓
Hong Kong		
Irlande	(€ ①	✓
Islande	(€ ①	✓
Italie	(€ Ф	✓
Japon	a	✓
Canada	IC	✓
Koweït		
Lettonie	(€ ①	✓
Liechtenstein	(E (D)	✓
Lithuanie	(E (D)	✓
Luxembourg	(€ ①	1
Malaisie		

Pays	Marquage	Homologation accordée
Malte	(€ Ф	✓
Pays-Bas	(€ Ф	✓
Norvège	(€ Ф	✓
Autriche	(€ Ф	✓
Pologne	(€ Ф	✓
Portugal	(€ Ф	✓
Roumanie	C€ ①	✓
Russie		
Suède	(€ Φ)	✓
Suisse	(€ ①	✓
Singapour		
Slovaquie	(€ ①	✓
Slovénie	(€ ①	✓
Espagne	C€ ①	✓
Afrique du Sud	IC ASA	√
Corée du Sud		
Taiwan		✓
République tchèque	(€ ①	✓
Turquie	(€ ①	✓
Ukraine		
Hongrie	(€ ①	✓
Etats-Unis d'Amérique	F©	✓
Chypre	(€ ①	✓

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SIEMENS

SIMATIC HMI

Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN

Informazioni sul prodotto

Validità

Le presenti informazioni sul prodotto sono applicabili ai seguenti pannelli operatore:

- Mobile Panel 277 IWLAN
 - Numeri di ordinazione:
 - 6AV6 645-0DD01-0AX0
 - 6AV6 645-0DE01-0AX0
 - 6AV6 645-0FD01-0AX0
 - 6AV6 645-0FE01-0AX0



- Mobile Panel 277F IWLAN Numeri di ordinazione:
 - 6AV6 645-0DB01-0AX0
 - 6AV6 645-0DC01-0AX0
 - 6AV6 645-0GB01-0AX0
 - 6AV6 645-0GC01-0AX0



Le presenti informazioni sul prodotto contengono avvertenze importanti. Tali avvertenze sono parte integrante delle istruzioni operative del pannello operatore e sono da considerarsi prioritarie rispetto a quanto affermato nelle Istruzioni operative, nelle Release Notes e nella Guida in linea.

In particolare è importante tener conto delle omologazioni e dei certificati.

Nota

Per un dato pannello operatore sono valide solo le omologazioni indicate sul retro dell'apparecchiatura.

Avvertenze di sicurezza per il Mobile Panel 277 IWLAN e il Mobile Panel 277F IWLAN

Power Management

ATTENZIONE

Segnalazioni non visualizzate nella modalità a risparmio energetico

Nella modalità a risparmio energetico il display del pannello operatore viene oscurato ("Power Save 1") o disattivato ("Power Save 2") a seconda dell'impostazione. Quando la modalità a risparmio energetico è attiva, la visualizzazione rimane oscurata o disattivata anche in presenza di eventuali segnalazioni. In questo caso è quindi difficile o impossibile riconoscere le segnalazioni.

Nota

Se si collega il pannello operatore a una fonte di alimentazione esterna, dopo due minuti di inattività viene impostata automaticamente la modalità a risparmio energetico "Power Save 1". Il display viene oscurato.

Nota

Se si è collegata al pannello operatore una tastiera USB, questa rimane attiva anche nella modalità a risparmio energetico "Power Save 2".

Aggiornamento del sistema operativo mediante ProSave

ATTENZIONE

Aggiornamento del sistema operativo solo mediante Ethernet e USB

L'Aggiornamento del sistema operativo mediante ProSave è abilitato solo mediante Ethernet e USB Utilizzare ProSave, versione 7.4.2 o superiore.

Progettazione

ATTENZIONE

Utilizzo del software di progettazione adatto

Per la progettazione del pannello operatore utilizzare esclusivamente il software "WinCC flexible 2008 SP1".

Se si usa il software "HSP Mobile Panel 277 Wireless V1.1", i pannelli operatore con i seguenti numeri di ordinazione possono essere progettati anche con WinCC flexible 2007:

- 6AV6 645 0DD01 0AX0
- 6AV6 645 0DE01 0AX0
- 6AV6 645-0DB01-0AX0
- 6AV6 645-0DC01-0AX0

Batteria tampone

Nota

Il primo livello di fornitura del pannello operatore non contiene la batteria tampone.

Per cambiare la batteria tampone terminare il progetto in corso e spegnere il pannello operatore.

Temperatura ambiente

Il pannello operatore è adatto al funzionamento con temperatura ambiente di 0 °C ... 40 °C.

Nota

Caricamento delle batterie

Se il pannello operatore si trova in esercizio produttivo, entrambe le batterie vengono completamente caricate nella stazione di carica fino a una temperatura ambiente di 40 °C.

Se il pannello operatore è attivato e appeso nella stazione di carica vale quanto segue:

- Il caricamento delle batterie nel pannello operatore viene mantenuto fino a una temperatura ambiente di 40 °C.
- Le batterie nella stazione di carica vengono caricate completamente fino a una temperatura ambiente di 35 °C.

LED

Nota

Non appena il pannello operatore si trova nella stazione di carica e ha contatto di carica, il LED "BAT lampeggia. Per il caricamento delle batterie assicurarsi che il pannello operatore sia correttamente appeso nella stazione di carica.

Specifica dell'interfaccia USB

Nota

L'interfaccia USB deve essere utilizzata esclusivamente per la messa in funzione e a scopo di manutenzione. La lunghezza dei conduttori dei pannelli operatore USB collegati non deve superare i 3 m.

Bande di frequenza nel funzionamento con trasponder

Nota

Nel funzionamento con transponder con riconoscimento automatico delle zone, la banda a 2,4 GHz viene utilizzata esclusivamente dal Mobile Panel IWLAN.

Per il funzionamento WLAN deve essere utilizzata la banda a 5 GHz (IEEE 802.11a).

L'utilizzo simultaneo di altri sistemi RFID nella banda a 2,4 GHz non è possibile (ad es. sistemi MOBY U o MOBY R).

Comunicazione wireless mediante access point

Nota

La comunicazione con più di un access point per la copertura di un campo WLAN più grande non è possibile senza creare interruzioni.

Nella comunicazione wireless basata su Ethernet, come PROFINET IO, HTTP, Sm@rtAccess, Sm@rtService e OPC, l'utente finale è responsabile per la sicurezza della rete di dati. Non è possibile garantire che il pannello operatore funzionerà sempre in modo sicuro. I disturbi esterni che hanno effetto sulla rete radiofonica possono ad es. determinare un sovraccarico del pannello operatore.

La funzione "Storm Threshold" nell'Access Point SCALANCE di Siemens deve essere attivata. Questa attivazione è necessaria affinché l'impianto funzioni in modo stabile anche in caso di un elevato carico della rete. Per i telegrammi broadcast devono essere effettuate le seguenti impostazioni:

- Address Threshold: 255
- Wireless: 255.

PROFINET IO

Nota

Per migliorare la sicurezza dell'applicazione, interrogare il bit di attività nell'applicazione della CPU.

Stazione di carica

La stazione di carica corrisponde al grado di protezione III secondo EN 61131-2:2007 e EN 60950-1:2006.

Avvertenza di sicurezza per il Mobile Panel 277F IWLAN

/!\avvertenza

Attenersi al manuale di guida alle funzioni "Fail-safe operation of the Mobile Panel 277F IWLAN"

Attenersi a quanto indicato nel manuale di guida alle funzioni "Fail-safe operation of the Mobile Panel 277F IWLAN", alle avvertenze di sicurezza che vi sono riportate e alle informazioni disponibile nella pagina Internet:

Documentazione sul Mobile Panel 277 IWLAN e il Mobile Panel 277F IWLAN (http://support.automation.siemens.com/WW/view/it/26268960)

Il manuale di guida alle funzioni "Fail-safe operation of the Mobile Panel 277F IWLAN" è disponibile in tedesco, inglese e giapponese.

Trasferimento automatico



Non utilizzare il trasferimento automatico

Il trasferimento automatico (Control Panel, opzione "Remote Control") non deve essere utilizzato con il pannello operatore. Utilizzare il trasferimento manuale.

Power Management

ATTENZIONE

Il contenuto dello schermo non viene aggiornato in modo affidabile

Nella seguente situazione il contenuto dello schermo non viene aggiornato in modo affidabile.

- Si utilizza il software "Hardware Support Package (HSP) Mobile Panel 277 IWLAN e Mobile Panel 277F IWLAN per WinCC flexible 2007" (V1.1)
- Il pannello operatore è connesso al campo d'azione.
- Sono state attivate le seguenti impostazione per il Power Management:
 - È stato impostato un intervallo di tempo per l'opzione "Spegni schermo".
 - L'opzione "Diminuisci luminosità" è stata disattivata selezionando "mai".

Il comportamento descritto può essere evitato nei seguenti modi:

- Opzione 1: installare WinCC flexible 2008 SP1.
- Opzione 2: configurare un intervallo per l'opzione "Diminuisci luminosità".

Norme e omologazioni

Il presente paragrafo riporta informazioni importanti sulle norme e le omologazioni relative al sistema radio in vigore nei diversi paesi per i pannelli operatore Mobile Panel 277 IWLAN e Mobile Panel 277F IWLAN.



Il seguente elenco riporta le omologazioni possibili.

Per un dato pannello operatore sono valide solo le omologazioni indicate sul retro dell'apparecchiatura.

Omologazione CE



Il pannello operatore, nella versione commercializzata da Siemens I IA, è conforme alle prescrizioni stabilite dalle seguenti direttive europee:

99/5/CE

Direttiva del Parlamento europeo e del Consiglio riguardante le apparecchiature radio e le apparecchiature terminali di telecomunicazione e il reciproco riconoscimento della loro conformità.

La conformità ai requisiti fondamentali della direttiva è assicurata dal rispetto delle seguenti norme:

La comormità ai requisiti fondamentali della direttiva è assicurata dai rispetto delle seguenti norme.		
EN 60950	Apparecchiature per la tecnologia dell'informazione - Sicurezza	
EN 301489-1	Compatibilità elettromagnetica per dispositivi radio e relativi servizi	
EN 301489-17	Condizioni specifiche per sistemi di trasmissione dati a banda larga e per dispositivi in reti radio locali di grande potenza (HIPERLAN)	
EN 300328	Compatibilità elettromagnetica e questioni relative allo spettro delle radiofrequenze (ERM) - Sistemi di trasmissione a banda larga - Apparecchiature di trasmissione dati che operano nella banda da 2,4 GHz ISM e che utilizzano tecniche di modulazione ad ampio spettro	
EN 300440-1 EN 300440-2	Compatibilità elettromagnetica e questioni relative allo spettro delle radiofrequenze (ERM) - Dispositivi a breve portata - Apparecchiature radio da utilizzare nella gamma di frequenza da 1 GHz a 40 GHz	
EN 301893	Reti di accesso radio a banda larga (BRAN) - 5GHz RLAN ad alte prestazioni	
EN 50371	Conformità degli apparecchi elettronici ed elettrici di bassa potenza ai limiti di base fissati per la sicurezza delle persone esposte a campi elettromagnetici (10 MHz - 300 GHz)	
1999/519/CE	Raccomandazione del Consiglio per la limitazione dell'esposizione della popolazione ai campi elettromagnetici (0 Hz - 300 GHz)	

I dispositivi collegati al sistema devono soddisfare le disposizioni di sicurezza rilevanti.

Dichiarazione di conformità CE

La dichiarazione di conformità CE è a disposizione delle autorità competenti al seguente indirizzo come stabilito dalle direttive CE sopra indicate:

Siemens Aktiengesellschaft Bereich Automatisierungstechnik I IA AS RD ST Postfach 1963 92209 Amberg Germania

Questa dichiarazione certifica la conformità alle direttive indicate ma non costituisce una garanzia rispetto alle caratteristiche.

La dichiarazione di conformità CE può essere scaricata all'indirizzo Internet:

Documentazione sul Mobile Panel 277 IWLAN e il Mobile Panel 277F IWLAN (http://support.automation.siemens.com/WW/view/it/26268960).

Filtrare gli articoli in base al tipo "Certificati".

Omologazione UL



Underwriters Laboratories Inc. secondo lo standard

- UL 508 (Industrial Control Equipment)
- CSA C22.2 No. 142 (Process Control Equipment)

I requisiti di omologazione vengono soddisfatti solo con funzionamento a batteria o con funzionamento stazionario nella stazione di carica.

Approval according to FCC

This device complies with Part 15 of the FCC Rules

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation.

IEEE802.11b or g operation of this product in the USA is firmware-limited to channels 1 through 11.

Notice

Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, wich can be determined by turning the equipment off and on, the user encouraged to try to correct the interference by one or more of the following measures:

- · Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- · Connect the equipment into an outlet on a circuit different from that to wich the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Notice

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Professional Installation Notice:

To comply with FCC Part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

Within the 5.15-5.25 GHz band, this device is only for indoor use operations to reduce any potential for harmful interference to co-channel MSS operations.

RSS-210 of Industry Canada

"Operation is subjecte to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device."

"This device has been designed to operate with internal antennas with a maximum gain of 2 dBi and an antenna impedance of 50 Ohms. Other antennas are strictly prohibited for use with this device."

"To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication."

That the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to cochannel mobile satellite systems."

"Users should also be cautioned to take note that high power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices."

Omologazioni nazionali



Il seguente elenco riporta le omologazioni radio in vigore nei diversi paesi.

Per un dato pannello operatore sono valide solo le omologazioni indicate sul retro dell'apparecchiatura.

Paese	Contrassegno	Omologazione assegnata
Australia	C	✓
Belgio	(€ Φ)	✓
Bulgaria	(€ ①	✓
Cina		
Danimarca	(€ ①	✓
Germania	C€Œ	✓
Estonia	C€ Œ	✓
Finlandia	(€ ①	✓
Francia	(€ ①	✓
Grecia	(€ ①	✓
Gran Bretagna	(€ ①	✓
Hong Kong		
Irlanda	C€ ①	✓
Islanda	C€ ①	✓
Italia	(€ ①	√
Giappone	€	✓
Canada	IC	✓
Kuwait		
Lettonia	(€ ①	✓
Liechtenstein	(€ ①	✓
Lituania	(€ ①	√
Lussemburgo	(€ ①	1
Malesia		

Paese	Contrassegno	Omologazione assegnata
Malta	(€ Ф	✓
Olanda	C€ ①	✓
Norvegia	C€Œ	✓
Austria	C€ ①	✓
Polonia	C€ ①	✓
Portogallo	C€ ①	✓
Romania	C€ Œ	✓
Russia		
Svezia	C€ Œ	✓
Svizzera	C€ Œ	✓
Singapore		
Repubblica Slovacca	(€ ①	✓
Slovenia	C€Œ	✓
Spagna	C€ ①	✓
Sudafrica	ICA.SA	✓
Corea del Sud		
Taiwan		✓
Repubblica Ceca	C€ ①	✓
Turchia	(€ ①	√
Ucraina		
Ungheria	(€ ①	√
Stati Uniti d'America	F©	/
Cipro	C€ ①	✓

Siemens AG Industry Sector Postfach 48 48 90026 NÜRNBERG

SIEMENS

SIMATIC HMI

Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN

Información del producto

Validez

La presente información de producto vale para los siguientes paneles de operador:

• Mobile Panel 277 IWLAN

Referencias:

- 6AV6 645-0DD01-0AX0
- 6AV6 645-0DE01-0AX0
- 6AV6 645-0FD01-0AX0
- 6AV6 645-0FE01-0AX0



- Mobile Panel 277F IWLAN Referencias:
 - 6AV6 645-0DB01-0AX0
 - 6AV6 645-0DC01-0AX0
 - 6AV6 645-0GB01-0AX0
 - 6AV6 645-0GC01-0AX0



La presente Información de producto contiene indicaciones importantes. Las presentes indicaciones complementan las instrucciones de servicio del panel de operador y prevalecen sobre lo mencionado en las instrucciones de servicio, en las Release Notes y en la Ayuda en pantalla.

Observe especialmente las homologaciones y certificados.

Nota

Para el panel de operador son aplicables únicamente las homologaciones indicadas en el lado posterior del equipo.

Consignas de seguridad para el Mobile Panel 277 IWLAN y Mobile Panel 277F IWLAN

Opciones de energía

ATENCIÓN

Mensajes no visibles en el modo de ahorro de energía

En el modo de ahorro de energía, la pantalla del panel de operador se oscurece ("Power Save 1") o se apaga ("Power Save 2") según cómo esté ajustado. Si aparecen mensajes mientras está activado el modo de ahorro de energía, la pantalla permanece oscura o apagada. En este caso, los mensajes apenas pueden reconocerse.

Nota

Si utiliza el panel de operador con fuente de alimentación externa y transcurren dos minutos sin que se efectúe operación alguna, se activará automáticamente el modo de ahorro de energía "Power Save 1". La pantalla se oscurece.

Nota

Si ha conectado un teclado USB externo al panel de operador, dicho teclado permanecerá activo en el modo de ahorro de energía "Power Save 2".

Actualizar el sistema operativo mediante ProSave

ATENCIÓN

Actualizar el sistema operativo sólo vía Ethernet y USB

La actualización del sistema operativo desde ProSave sólo está liberada vía Ethernet y USB.

Utilice ProSave, versión 7.4.2 o superior.

Configuración

ATENCIÓN

Se requiere el software de configuración apropiado

Para configurar el panel de operador, utilice únicamente el software "WinCC flexible 2008 SP1".

En caso de utilizar el software "HSP Mobile Panel 277 Wireless V1.1", los paneles de operador con las siguientes referencias también se pueden configurar con WinCC flexible 2007:

- 6AV6 645 0DD01 0AX0
- 6AV6 645 0DE01 0AX0
- 6AV6 645-0DB01-0AX0
- 6AV6 645-0DC01-0AX0

Batería de puenteo

Nota

El panel de operador se suministra en la primera versión sin batería de puenteo.

Para cambiar la batería principal cierre el proyecto activo y apague el panel de operador.

Temperatura ambiente

El panel de operador está diseñado para utilizarse a una temperatura ambiente de entre 0 °C y 40 °C.

Nota

Cargar las baterías

Si el panel de operador se encuentra en modo productivo, entonces las dos baterías se cargan por completo en la estación de carga hasta una temperatura ambiente de 40 °C.

Si el panel de operador está encendido y colgado en la estación de carga, rige lo siguiente:

- La carga de las baterías en el panel de operador se mantiene hasta una temperatura ambiente de 40 °C.
- Las taberías se cargan por completo en la estación de carga hasta una temperatura ambiente de 35 °C.

LEDs

Nota

El LED "BAT" parpadea en cuanto el panel de operador se encuentra en la estación de carga y hace contacto. Asegúrese de que el panel de operador está colgado correctamente en la estación de carga cuando se disponga a cargar las baterías.

Especificación del puerto USB

Nota

El puerto USB puede utilizarse exclusivamente para la puesta en marcha y para fines de mantenimiento.

La longitud de cable de los dispositivos USB conectados no deberá ser superior a 3 m.

Modo de transpondedor - bandas de frecuencia

Nota

En el modo de transpondedor con detección automática de la zona, la banda de 2,4 GHz es utilizada exclusivamente por el Mobile Panel IWLAN.

Para el funcionamiento con WLAN tiene que utilizarse la banda de 5 GHz (IEEE 802.11a).

El uso simultáneo de otros sistemas RFID en la banda de 2,4 GHz no es posible (p. ej. sistemas MOBY U o sistemas MOBY R).

Access Point - comunicación inalámbrica

Nota

La comunicación con más de un Access Point para cubrir una zona de WLAN más amplia no es posible sin interrupciones. En la comunicación inalámbrica basada en Ethernet, p. ej. PROFINET IO, HTTP, Sm@rtAccess, Sm@rtService y OPC, el usuario final es el responsable de la seguridad de la red de datos. El funcionamiento correcto del panel de operador no puede garantizarse bajo toda circunstancia. Las interferencias externas sobre red inalámbrica podrían p. ej. sobrecargar el panel de operador.

La función "Storm Threshold" tiene que estar activada en el Siemens Access Point SCALANCE. Esta activación es necesaria para el funcionamiento estable de la instalación, incluso a una carga de red elevada. Ajuste lo siguiente para los telegramas broadcast:

- Address Threshold: 255
- Wireless: 255.

PROFINET IO

Nota

Para mejorar la seguridad de su aplicación, consulte el bit de señal de vida en la aplicación de la CPU.

Estación de carga

La estación de carga cumple la clase de protección III según EN 61131-2:2007 y EN 60950-1:2006.

Consignas de seguridad exclusivas para el Mobile Panel 277F IWLAN



Consulte el manual de funciones "Failsafe Mode of Mobile Panel 277F IWLAN"

Consulte el manual de funciones "Fail-Safe operation of the Mobile Panel 277F IWLAN" y las advertencias e informaciones adicionales que encontrará en Internet:

Consignas de seguridad para el Mobile Panel 277 IWLAN y Mobile Panel 277F IWLAN (http://support.automation.siemens.com/WW/view/es/26268960)

El manual de funciones "Fail-safe operation of the Mobile Panel 277F IWLAN" está disponible en alemán, inglés y japonés.

Transferencia automática



No utilizar la transferencia automática

La transferencia automática (Control Panel, opción "Remote Control") no puede utilizarse en el panel de operador. Utilice la transferencia manual.

Power Management

ATENCIÓN

El contenido de la pantalla no se actualiza con fiabilidad

En el siguiente caso, el contenido de la pantalla del panel de operador no se actualiza con fiabilidad.

- Está utilizando el software "Hardware Support Package (HSP) Mobile Panel 277 IWLAN y Mobile Panel 277F IWLAN für WinCC flexible 2007" (V1.1)
- El panel de operador ha iniciado la sesión en el rango efectivo.
- Están activados las siguientes opciones de energía:
 - Para la opción "Desactivar pantalla" se ha ajustado un intervalo de tiempo.
 - La opción "Reducir brillo" está desactivada por "nunca".

Existen varias maneras de evitar el comportamiento descrito, a saber:

- Opción 1: Instale WinCC flexible 2008 SP1.
- Opción 2: Configure un intervalo de tiempo para la opción "Reducir brillo".

Normas y homologaciones

Este apartado contiene información importante sobre las normas y homologaciones nacionales de los paneles de operador Mobile Panel 277 IWLAN y Mobile Panel 277F IWLAN en lo que respecta al sistema radioeléctrico.



La siguiente relación indica las homologaciones posibles.

Para el panel de operador son aplicables únicamente las homologaciones indicadas en el lado posterior del equipo.

Homologación CE



El modelo del panel de operador comercializado por la Siemens I IA cumple con las prescripciones de la siguiente directiva europea:

99/5/CE

Directiva del Parlamento Europeo y del Consejo sobre la aproximación de las legislaciones de los Estados miembros sobre equipos radioeléctricos y equipos terminales de telecomunicación y reconocimiento mutuo de su conformidad).

La conformidad con los requisitos fundamentales de la Directiva queda certificada con la observancia de las siguientes normas:

EN 60950	Seguridad de los equipos de tratamiento de la información
EN 301489-1	Compatibilidad electromagnética para los equipos y servicios radioeléctricos
EN 301489-17	Condiciones específicas para sistemas de transmisión en banda ancha y para equipos en redes locales inalámbricas de alta potencia (HIPERLAN))
EN 300328	Cuestiones de compatibilidad electromagnética y espectro radioeléctrico (ERM) - Sistemas de transmisión en banda ancha - equipos de transmisión de dabos que operan en banda de 2,4 GHz-ISM y utilizan técnicas de modulación en banda ancha
EN 300440-1 EN 300440-2	Cuestiones de compatibilidad electromagnética y espectro radioeléctrico (ERM) - Dispositivos de corto alcance - equipos de radio para utilizar en el rango de frecuencias entre 1 Ghz a 40 GHz
EN 301893	Redes de acceso por radio de banda ancha (BRAN); RLAN de alto rendimiento en la banda de 5 GHz
EN 50371	Cumplimiento de aparatos eléctricos y electrónicos de baja potencia con las restricciones básicas relativas a la exposición de las personas a los campos electromagnéticos (10 MHz - 300 GHz))
1999/519/EC	Recomendación del Consejo Europeo sobre la limitación de la exposición del público general a campos electromagnéticos (0 Hz — 300 GHz))

Los equipos conectados al sistema deben cumplir las consignas de seguridad relevantes.

Declaración de conformidad CE

Según exigen las directivas CE arriba mencionadas, la declaración de conformidad CE está a disposición de las autoridades competentes en:

Siemens Aktiengesellschaft Industry Automation Division I IA AS RD ST Postfach 1963 92209 Amberg Alemania

Esta declaración certifica el cumplimiento de las directivas mencionadas pero no garantiza las características.

La declaración de conformidad CE sobre la Directiva CEM se puede descargar de Internet:

Documentación completa del Mobile Panel 277 IWLAN y Mobile Panel 277F IWLAN (http://support.automation.siemens.com/WW/view/es/26268960).

Busque los artículos con el filtro "Certificados".

Homologación UL



Underwriters Laboratories Inc. según

- UL 508 (Industrial Control Equipment)
- CSA C22.2 No. 142 (Process Control Equipment)

La homologación sólo se cumple en el uso con batería o de forma estacionaria en la estación de carga.

Approval according to FCC

This device complies with Part 15 of the FCC Rules

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation.

IEEE802.11b or g operation of this product in the USA is firmware-limited to channels 1 through 11.

Notice

Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, wich can be determined by turning the equipment off and on, the user encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to wich the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Notice

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Professional Installation Notice:

To comply with FCC Part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

Within the 5.15-5.25 GHz band, this device is only for indoor use operations to reduce any potential for harmful interference to co-channel MSS operations.

RSS-210 of Industry Canada

"Operation is subjecte to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device."

"This device has been designed to operate with internal antennas with a maximum gain of 2 dBi and an antenna impedance of 50 Ohms. Other antennas are strictly prohibited for use with this device."

"To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication."

That the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to cochannel mobile satellite systems."

"Users should also be cautioned to take note that high power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices."

Homologaciones nacionales

PRECAUCIÓN

La siguiente relación indica las homologaciones para transmisión radioeléctrica en los distintos países.

Para el panel de operador son aplicables únicamente las homologaciones indicadas en el lado posterior del equipo.

País	Marcado	Homologación concedida
Australia	C	✓
Bélgica	(€ Ф	✓
Bulgaria	(€ ①	✓
China		
Dinamarca	(€ Ф	✓
Alemania	(€ ①	✓
Estonia	(€ ①	✓
Finlandia	(€ ①	✓
Francia	(€ ①	✓
Grecia	(€ ①	✓
Gran Bretaña	(€ ①	✓
Hongkong		
Irlanda	(€ ①	✓
Islandia	(€ ①	✓
Italia	(€ Ф	1
Japón		1
Canadá	IC	✓
Kuwait		
Letonia	(E (D	✓
Liechtenstein	(E (D	√
Lituania	(€ ①	√
Luxemburgo	(€ Ф	√
Malasia		

País	Marcado	Homologación concedida
Malta	(€ Ф	✓
Países Bajos	C€Œ	✓
Noruega	C€Œ	✓
Austria	(((✓
Polonia	C€Œ	✓
Portugal	(E (D)	✓
Rumanía	(E (D)	✓
Rusia		
Suecia	(€ ①	✓
Suiza	(€ ①	✓
Singapur		
Eslovaquia	(€ ①	✓
Eslovenia	(€ ①	✓
España	(€ ①	✓
Sudáfrica	IC ASA	✓
Corea del Sur		
Taiwán		✓
República Checa	C€Œ	✓
Turquía	(E (D	─ ✓
Ucrania		
Hungría	(((✓
Estados Unidos de América	F©	√
Chipre	(€ ①	✓

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SIEMENS

SIMATIC HMI

Mobile Panel 277 IWLAN、Mobile Panel 277F IWLAN 製品情報

有効性

この製品情報は、次の HMI デバイスに適用されます。

- Mobile Panel 277 IWLAN
 - 注文番号: - 6AV6 645-0DD01-0AX0
 - 6AV6 645-0DE01-0AX0
 - 6AV6 645-0FD01-0AX0
 - 6AV6 645-0FE01-0AX0



- Mobile Panel 277F IWLAN 注文番号:
 - 6AV6 645-0DB01-0AX0
 - 6AV6 645-0DC01-0AX0
 - 6AV6 645-0GB01-0AX0
 - 6AV6 645-0GC01-0AX0



この製品情報には、重要な情報が含まれています。 この注意事項は、HMI デバイスの操作説明書を補足し、操作説明書、リリースノート、オンラインヘルプの記述より優先されます。

承認と認定書を確認してください。

注記

HMI デバイス自体の認証は、背面パネルのラベルに表示されています。

Mobile Panel 277 IWLAN および Mobile Panel 277F IWLAN の安全に関する注意事項

電源管理

通知

省電力モードでアラームが表示されない

設定によって、HMI デバイスの表示が暗くなるか("省電力 1")オフになります("省電力 2")。 省電力モードの間にアラーム がある場合は表示が暗いままかオフになったままになります。 この状態で、アラームを確認するのは難しいか不可能で す。

注記

外部電源を使用して HMI デバイスを操作している場合、入力が行われずに 2 分が経過すると、デバイスは「省電力 1」の 省電力モードに切り替わります。 表示が暗くなります。

注記

外部 USB キーボードを HMI デバイスに接続した場合、"省電力 2"の省電力モードの外部 USB キーボードはアクティブのままです。

ProSave を使用したオペレーティングシステムの更新

通知

Ethernet と USB のみを使用したオペレーティングシステムの更新

ProSave を使用したオペレーティングシステムの更新が承認されているのは、Ethernet と USB を経由する場合のみです。

ProSave のバージョン 7.4.2.以上を使用します。

設定

通知

適合する設定ソフトウェアが必要です

HMI デバイスの設定は、"WinCC flexible 2008 SP1"ソフトウェアによってのみ可能です。

以下の注文番号の HMI デバイスは、"HSP Mobile Panel 277 Wireless V1.1"ソフトウェアを使用した WinCC flexible 2007 でのみ設定できます。

- 6AV6 645 0DD01 0AX0
- 6AV6 645 0DE01 0AX0
- 6AV6 645-0DB01-0AX0
- 6AV6 645-0DC01-0AX0

補助バッテリ

注記

納入ステージ1のHMIは、補助バッテリなしで提供されます。

メインバッテリを置換するには、実行中のプロジェクトを終了して、HMIデバイスの電源を切ります。

周囲温度

HMI デバイスは、周囲温度 0° C \sim 40° C の範囲で使用するように設計されています。

注記

バッテリの充電

生産稼働中の HMI デバイスでは、最高 40℃の周囲温度まで、バッテリはドッキングステーションでフル充電されます。 HMI デバイスの電源をオンにして、ドッキングステーションに置いたままにすると、次が適用されます。

- HMI デバイスでのバッテリの充電は、周囲温度が 40℃になるまで保持されます。
- ・ ドッキングステーションのバッテリは、最高35℃の周囲温度までフル充電されます。

LED 表示

注記

HMI デバイスがドッキングステーションに置かれ充電が開始されるとすぐに、"BAT"LED の点滅が開始します。 バッテリの充電用に、HMI デバイスがドッキングステーションに正しく配置されていることを確認してください。

USB インターフェースの仕様

注記

この USB インターフェースは、試運転と保守用のみに使用します。

接続されている USB デバイスのラインの長さは 3 m を超えてはいけません。

トランスポンダの操作 - 周波数帯域

注記

自動ゼロ検出を使用したトランスポンダの操作の場合、Mobile Panel IWLAN で 2.4 GHz が独占的に使用されます。 WLAN 操作には、5 GHz (IEE 802.11a)が必要です。

同時に 2.4 GHz の他の RFID システムを操作することはできません(例: MOBY U または MOBY R システム)。

アクセスポイント - ワイヤレス通信

注記

より広い WLAN エリアをカバーするために、複数のアクセスポイントとの通信を障害なく行うことはできません。

PROFINET IO、HTTP、Sm@rtAccess、Sm@rtService、OPC などのワイヤレス Ethernet ベースの通信の場合、エンドユーザーが自分のデータネットワークのセキュリティに責任を負います。 どんな環境でも、HMI デバイスの安全な操作を完全に保証することはできません。 たとえば、無線ネットワークの外からの干渉によって、HMI 装置の過負荷が引き起こされることがあります。

Siemens アクセスポイント SCALANCE の「ストームしきい値」機能を選択する必要があります。 このオプションを選択すれば、ネットワークの負荷が高い場合でも、安定したプラント操業を保証できます。 ブロードキャスト メッセージ フレームを作るには、以下の設定を行ないます:

- アドレスしきい値: 255
- ワイヤレス: 255.

PROFINET IO

注記

使用しているアプリケーションの安全性を高めるには、CPU アプリケーションでライフサインビットを要求します。

充電ステーション

充電ステーションは、EN 61131-2:2007 および EN 60950-1:2006 に準拠した安全等級 III に対応しています。

Mobile Panel 277F IWLAN に関する安全注意事項

小警告

機能マニュアル『Mobile Panel 277F IWLAN のフェールセーフ操作』をお読みください

機能マニュアル『Mobile Panel 277F IWLAN のフェイルセーフ操作』および次の Web サイトにある警告と追加情報を熟読してください。

Mobile Panel 277 IWLAN および Mobile Panel 277F IWLAN に関する総合的なマニュアル (http://support.automation.siemens.com/WW/view/en/26268960)

機能マニュアル『Mobile Panel 277F IWLAN のフェイルセーフ操作』はドイツ語版、英語版、日本語版で提供されています。

自動転送



自動転送は使用しないでください

HMI デバイスでは自動転送(コントロールパネル、オプション「リモートコントロール」)は使用しないでください。 手動転送を使用してください。

電源管理

通知

画面内容が最新情報に更新されない

HMI デバイスの画面内容は、以下の場合に最新情報に更新されない場合があります。

- "Hardware Support Package (HSP) Mobile Panel 277 IWLAN and Mobile Panel 277F IWLAN for WinCC flexible 2007" (V1.1)ソフトゥェアを使用している場合。
- HMI デバイスが有効範囲にログオンしている場合。
- 電源管理に以下の設定を使用できます。
 - [画面の切り替え]オプションに期間が設定されている。
 - [明るさの低減]オプションが[低減しない]になっていて無効化されている。

この種の動作は以下のオプションを使って防止できます。

- オプション 1: WinCC flexible 2008 SP1 をインストールします。
- オプション 2: [明るさの低減]オプションに期間を設定します。

規格と承認

この節には、無線システムに関する Mobile Panel 277 IWLAN および Mobile Panel 277F IWLAN HMI デバイスの規格と各国における承認に関する重要な情報が記載されています。

/ 注意

以下に、使用できる承認の概要を示します。

HMI デバイス自体の認証は、背面パネルのラベルに表示されています。

CE 承認



Siemens I IA が提供するバージョンの HMI デバイスは、以下の欧州指令の規制に準拠します。

99/5/EC

無線装置と通信端末装置および適合性の相互承認に関する欧州議会および欧州理事会指令。

ガイドラインの基本要件との互換性は、以下の規格に準拠することによって証明されています。

EN 60950	情報テクノロジ装置の安全性		
EN 301489-1	無線装置とサービスの電磁互換性		
EN 301489-17	ブロードバンドデータ伝送システムとローカル高性能無線ネットワークの装置のための固有の要件 (HIPERLAN)		
EN 300328	電磁両立性および周波数問題(ERM) - 広帯域伝送システム - 2.4 GHz ISM 帯域で動作し、広帯域変調技術を使用するデータ伝送装置		
EN 300440-1 EN 300440-2	電磁両立性および周波数問題(ERM) - 短波装置 - 1 GHz から 40 GHz の周波数範囲で使用される無線 装置		
EN 301893	広帯域無線アクセスネットワーク(BRAN) – 5 GHz の高性能 RLAN		
EN 50371	電磁界への人体のばく露に関し基本制限のある低電力電子および電気装置の準拠(10 MH から 300 GHz)		
1999/519/EC	電磁界への公衆のばく露の限界に関する議会の推奨事項(0 Hz から 300 GHz)		

システムに接続されているデバイスは、該当する安全規制に適合する必要があります。

EC 適合性宣言

EC 適合性宣言は、上記の EC 指令に従う下記の住所にある担当機関から入手できます。

Siemens AG Industry Sector I IA AS RD ST PO Box 1963 92209 Amberg Germany

この宣言は、上記の指令に準拠していることを認定するものであり、特定の特性を保証するものではありません。

EC 適合性宣言をダウンロードするには、次のアドレスにアクセスしてください。

Mobile Panel 277 IWLAN および Mobile Panel 277F IWLAN に関する総合的なマニュアル (http://support.automation.siemens.com/WW/view/en/26268960)

入力タイプ「認定書」のコメントをフィルタします。

UL 承認



Underwriters Laboratories Inc.

- UL 508 に準拠(産業用制御機器)
- CSA C22.2 No. 142 ([Process Control Equipment])

承認が有効なのは、バッテリ駆動または充電ステーションで据え置きとなっている場合だけです。

Approval according to FCC

This device complies with Part 15 of the FCC Rules

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation.

IEEE802.11b or g operation of this product in the USA is firmware-limited to channels 1 through 11.

Notice

Changes or modifications made to this equipment not expressly approved by SIEMENS may void the FCC authorization to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, wich can be determined by turning the equipment off and on, the user encouraged to try to correct the interference by one or more of the following measures:

- · Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to wich the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Notice

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Professional Installation Notice:

To comply with FCC Part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

Within the 5.15-5.25 GHz band, this device is only for indoor use operations to reduce any potential for harmful interference to co-channel MSS operations.

RSS-210 of Industry Canada

"Operation is subjecte to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device."

"This device has been designed to operate with internal antennas with a maximum gain of 2 dBi and an antenna impedance of 50 Ohms. Other antennas are strictly prohibited for use with this device."

"To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication."

That the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to cochannel mobile satellite systems."

"Users should also be cautioned to take note that high power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices."

国による承認

/!\注意

各国の無線承認の概要は以下の通りです。

HMI デバイス自体の認証は、背面パネルのラベルに表示されています。

国	ID	承認取得
オーストラリア	C	✓
ベルギー	(E (1)	✓
ブルガリア	(E (1)	✓
中国		
デンマーク	(€ (✓
ドイツ	(€ (✓
エストニア	(E (1)	✓
フィンランド	(€ ①	✓
フランス	(€ ①	✓
ギリシャ	(€ ①	✓
英国	(€ ①	✓
香港		
アイルランド	(€ ①	✓
アイスランド	(€ Ф	✓
イタリア	(€ Ф	✓
日本		✓
カナダ	IC	✓
クウェート		
ラトビア	(E (D)	✓
リヒテンシュタ イン	(€ Œ	√
リトアニア	(E (1)	✓
ルクセンブルグ	(€ Œ	√
マレーシア		

	Т	
国	ID	承認取得
マルタ	(€ ①	✓
オランダ	(€ ①	✓
ノルウェー	(€ ①	✓
オーストリア	(€ ①	✓
ポーランド	(€ ①	✓
ポルトガル	(€ ①	✓
ルーマニア	(€ ①	✓
ロシア		
スウェーデン	(€ ①	✓
スイス	(€ ①	✓
シンガポール		
スロバキア	(€ ①	✓
スロバニア	(€ Ф	✓
スペイン	(€ Ф	✓
南アフリカ	IC(A.SA	√
韓国		
台湾	W	✓
チェコ共和国	(€ Ф	✓
トルコ	(€ Ф	✓
ウクライナ		
ハンガリー	(€ ①	✓
アメリカ合衆国	F©	1
キプロス	(€ ①	✓

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