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Configuration Information for the 2nd-Generation Mobile Panels

WinCC V14, KTP400F, KTP700F, KTP900F Mobile

Siemens Industry Online Support

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1 General

Introduction

This documentation lists all the settings that are required for communication between an F-CPU and a KTP400F Mobile, KTP700F Mobile or KTP900F Mobile via PROFIsafe.

For more detailed information about this topic, please refer to the following application description:
"**Using the 2nd-Generation Mobile Panel in a Safety-Related Application**"

For the application example, please use the following link:
https://support.industry.siemens.com/cs/ww/en/view/103497649

Logging out of the safety program

Before you disconnect the fail-safe operator panel from a connection box, log the operator panel out of the safety program using the "TerminatePROFIsafe" system function or exit the running project.

Once you have logged out, the EMERGENCY stop button and the enabling button are **no** longer active.

Software components used

Table 1-1

Component	No.	Article number	Note
STEP 7 Professional V14 SP1	1	6ES7822-1AA04-0YA7	This version or higher
WinCC Advanced V14 SP1	1	6AV2102-0AA04-0AA5	This version or higher
STEP 7 Safety Advanced V14 SP1	1	6ES7833-1FA14-0YA5	This version or higher

2 Hardware Configuration

This chapter describes the hardware configuration of the supplied "default configuration" (Code_GettingStarted). The sample configuration contains all the settings that are listed in this chapter.

Alternatively, create a configuration with the following components.

- SIMATIC 1500F-controller
- KTP 900F
- Connection box

Table 2-1

No.	Description

1.	**Mobile Panel device configuration**
	
	• In the area navigation, open the "**PROFINET interface [X1]**" property.
	  - **Ethernet addresses**
	    - IP protocol: Enter the IP address
	    - PROFINET: Specify a PROFINET device name.
	        The name must match the PROFINET name on the Mobile Panel in "Settings > PROFINET".
	  - **Operating mode**
	    - Operating mode: Check the "**IO device**" check box.
	        You can select the IO controller from the drop-down list.
	• In the area navigation, open the "**PROFIsafe**" property.
	  - **Enabling PROFIsafe**
	    - Enabling PROFIsafe: Select the "Enable PROFIsafe" button.
	        The button can only be activated if the "IO device" check box has been checked.
	
	    PROFIsafe parameters
	    - F-parameters: If necessary, manually modify the F-monitoring time.
	
	        F-destination address:
	        The F-destination address you set here must match the PROFIsafe address on the Mobile Panel.
	• In the area navigation, open the "**PROFINET interface [X1]**" property.
	  - **Operating mode**
	    - I-device communication: Now you can modify the transfer areas for the input and output range for "IO failsafe".
	        In the F-program, these addresses are evaluated in the **"F_FB_KTP_Mobile"** block.

2.	**Connection box**
	
	• In the area navigation, open the "**PROFINET interface [X1]**" property.
	  - **Ethernet addresses**
	    - Interface: Select a subnet from the drop-down list.
	    - IP protocol: Enter the IP address.
	    - PROFINET: Specify a PROFINET device name.
	        The name is not further evaluated.

3.	**Assigning the IO controller** • In the Device configuration, open the Network view. • Assign an IO controller to the connection box.

3 Mobile Panel F-Program

This chapter shows the F-blocks that are required for the KTP Mobile.

OB83

Insert/remove module

OB86

Rack failure

FOB_RTG (F-runtime group)

STEP 7 Safety automatically inserts the following F-blocks for an F-runtime group.

- Main_Safety_RTG1 (FB1)
  - Call of the lower-level F-blocks (e.g., "ESTOP1", etc.)
- Safety_RTG1_DB (DB1)

ESTOP1

This FB implements an emergency stop shutdown with acknowledgment for Stop Categories
0 and 1.

F_FB_KTP_Mobile

This block is used to integrate the Mobile Panel. One "F_FB_KTP_Mobile" is required for each Mobile Panel used.

For a detailed description of how to parameterize the FB, please refer to the online help.

F_FB_KTP_RNG

This block is used to evaluate the signals of the emergency stop button and the enabling button of the Mobile Panel.
For a detailed description of how to parameterize the FB, please refer to the online help.

Note	The F_FB_KTP_Mobile and F_FB_KTP_RNG blocks are implemented in "Instructions > Communication > Fail-safe HMI Mobile Panels" (requires that a safety program block be open).

F_FB_KTP_Mobile and F_FB_RNG connection diagram

Figure 3-1
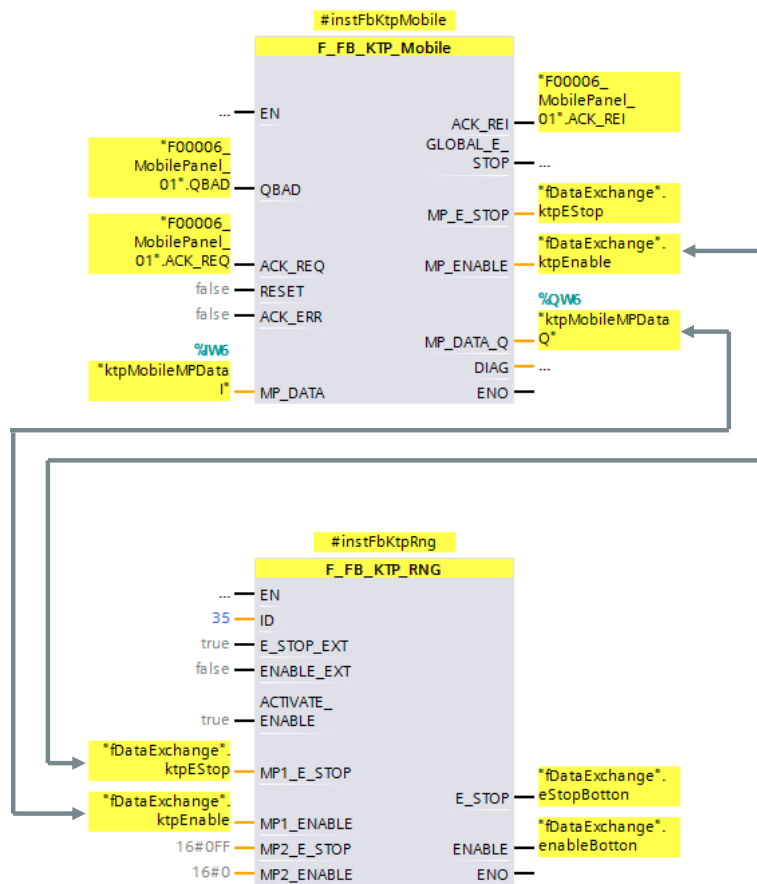
QBAD / ACK_REQ / ACK_REI parameters

When the Mobile Panel was parameterized, a start address for IO failsafe was stored in Properties, "Transfer areas".
The system will create an F-I/O DB of this transfer area.

The name is composed of:
"F000""failsafe address"_"Name of Mobile Panel""[F-I/O DB number]"

Example: "F00006_MobilePanel_01 [DB30017]".

MP_Data / MP_Data_Q parameters

- For a SIMATIC S7-1500, use a tag of the "INTEGER" type

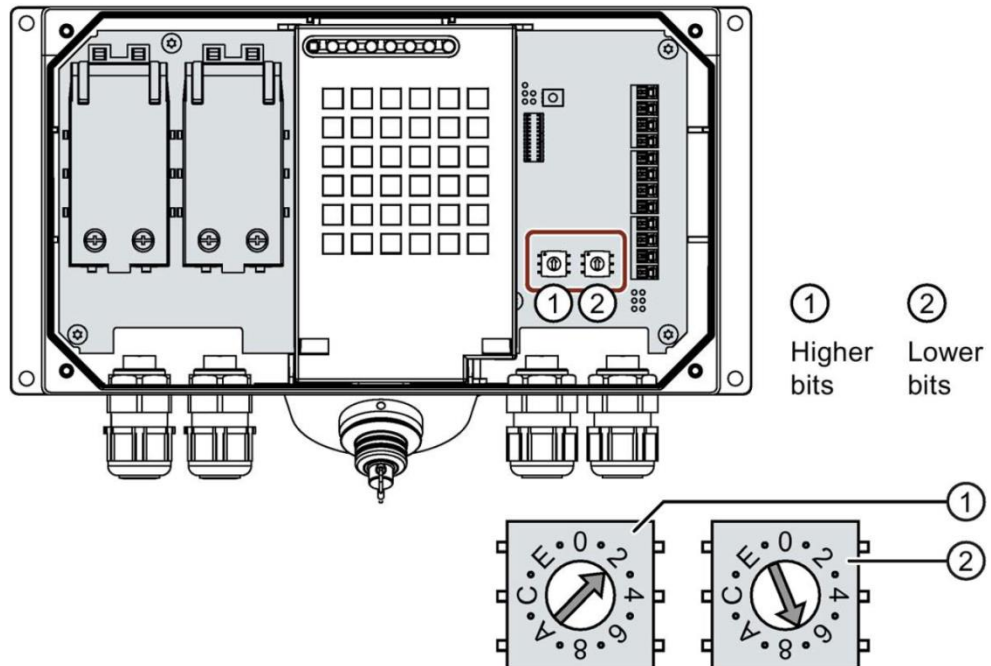- For a SIMATIC S7-300, use a tag of the "WORD" type

4 Device Settings

This chapter shows the settings that are made directly on the hardware.

4.1.1 Connection box

Connection box ID

The connection box is uniquely identified by the ID set on the connection box. The ID must be unique throughout the plant.

Figure 4-1

4.1.2 Mobile Panel

Settings in the Control Panel

The following parameters must match the settings made in the hardware configuration.

- Assign Ethernet address
- Assign password
- Enter PROFINET name
- Enter PROFIsafe address
- Safety Operation (evaluation of emergency stop button via PROFIsafe)

5 Links & Literature

Table 5-1

	Topic	Title
\1\	Siemens Industry Online Support	https://support.industry.siemens.com
\2\	Download page of the entry	https://support.industry.siemens.com/cs/ww/en/view/103497649
\3\	Manual	Overview of various Mobile Panel manuals https://support.industry.siemens.com/cs/ww/en/ps/14746/man
\4\	Manual	SIMATIC ET 200SP Manual Collection https://support.industry.siemens.com/cs/ww/en/view/84133942
\5\	Manual	SIMATIC Industrial Software SIMATIC Safety – Configuring and Programming https://support.industry.siemens.com/cs/ww/en/view/54110126
\6\	Manual	SIMATIC Industrial Software SIMATIC Safety V13 – Getting Started https://support.industry.siemens.com/cs/ww/en/view/101177693

6 History

Table 6-1

Version	Date	Modifications
V1.0	06/2014	First version
V1.1	02/2016	S7 Distributed Safety -> STEP 7 Safety Advanced
V1.2	10/2016	Tag names modified
V2.0	10/2017	Texts modified
V2.1	08/2018	Figure 4-1 changed (site 8)