SIEMENS

SIMATIC HMI

HMI devices
Smart 700/1000 IE V5, Smart Plus 700/1000 IE

Operating Instructions

06/2025
A5E53807433-AB

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.

⚠ DANGER

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

⚠ WARNING

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

⚠ CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

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 product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

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Disclaimer of Liability

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.

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Preface

Purpose of the operating instructions

These operating instructions provide information based on the requirements defined by IEC 62079 for documentation. This information relates to the HMI device, its storage, transportation, place of use, installation, use and maintenance.

These operating instructions are intended for a variety of target groups. The following table shows the chapters of these operating instructions that are of particular importance for the respective target group.

Target group	Chapter
All	"Safety instructions"
Operators The operator operates and monitors the system during the process control phase.	"Overview" "Operating the device"
Commissioning engineers The commissioning engineer integrates the HMI device into the system and ensures the operating capability of the HMI device for the process control phase.	All chapters. Depending on the use of the HMI device, certain chapters may not be of relevance to the commissioning engineer, e.g. the section "Maintenance and care."
Service technicians Service technicians rectify faults that occur during the process control phase.	All chapters. Depending on the use of the HMI device, certain chapters may not be of relevance to the service technicians, e.g. the section "Maintenance and care."
Maintenance technicians Maintenance technicians carry out servicing and maintenance work during the process control phase.	Maintenance and care

The WinCC flexible SMART online help contains additional information. The online help contains instructions, examples and reference information in electronic form.

Scope

These operating instructions apply to the following Smart HMI devices:

Product name	MLFB number
SIMATIC HMI Smart 700 IE V5	6AV6648-0EC11-3AX0
SIMATIC HMI Smart 1000 IE V5	6AV6648-0EE11-3AX0
SIMATIC HMI Smart Plus 700 IE	6AV6648-2AC11-3AX0
SIMATIC HMI Smart Plus 1000 IE	6AV6648-2AE11-3AX0

Note

For Smart 700/1000 IE V5, the firmware version must be V5.0.1.0 and later versions.

9.6 Technical data

9.6.1 Smart panels and Smart Plus panels

The following table lists the product comparison information between Smart panels and Smart Plus panels:

Parameter category		**Smart IE V5**		**Smart Plus**	
		Smart 700 IE V5	**Smart 1000 IE V5**	**Smart Plus 700 IE**	**Smart Plus 1000 IE**
Order number		6AV6648-0EC11-3AX0	6AV6648-0EE11-3AX0	6AV6648-2AC11-3AX0	6AV6648-2AE11-3AX0
Weight (Weight without packaging**)**		562 g	994 g	568 g	1019.6 g
Display	Type	TFT-LCD			
	Active display area	153.84 x 85.63 mm	222.72 x 125.28 mm	153.84 x 85.63 mm	222.72 x 125.28 mm
	Resolution	800 x 480 pixels	1024 x 600 pixels	800 x 480 pixels	1024 x 600 pixels
	Possible colors	16M colors			
	Brightness control	Typical 350 cd/m²		Typical 450 cd/m²	
	Backlighting Half Brightness Life Time (MTBF) MTBF: Operating hours after which the maximum brightness is reduced by half compared to the original value. MTBF is increased by using the integrated dimming function when the panel is at a lower brightness.	LED 20,000 h			
	Pixel error class in accordance with EN ISO 9241-307	II			
Input device type		Touch screen, analog resistive			
Memory	flash memory	256 MBytes		512 MBytes	
	Porgram memory	256 MBytes		256 MBytes	
Interfaces	1 x RS 422/485/232	RS 422/485: max. 187.5 Kbits/s; RS 232: max. 115.2 Kbits/s;			
	1 x Industrial Ethernet RJ45	10/100 Mbits/s, with auto-crossover			
	1 x USB 2.0	max. 500 mA			
	1 x micro SD card socket	max. 25 Mbits/s			

Parameter category			**Smart IE V5**		**Smart Plus**	
			Smart 700 IE V5	**Smart 1000 IE V5**	**Smart Plus 700 IE**	**Smart Plus 1000 IE**
Supply voltage	Rated voltage Permitted voltage range		+24 V DC 19.2 to 28.8 V (–20%, +20%)			
	Maximum permitted transients		35 V (500 ms)			
	Minimum time between two transients		50 s			
	Power consumption The power loss generally corresponds to the specified value for power consumption.		8.1 W	10.2 W	10.3 W	12.2 W
	Current consumption	Typical	Approx. 220 mA	Approx. 250 mA	Approx. 260 mA	Approx. 290 mA
		Maximum constant current	Approx. 420 mA	Approx. 530 mA	Approx. 540 mA	Approx. 635 mA
		Inrush current I^2t	Approx. 0.1 A^2s			
	Fuse, internal		Electronic			
Buffered real-time clock , can be synchronized **Note**: Typical buffer time: 3 years in the ambient temperature 25 °C; battery type: CR2032; battery rated voltage: 3 V; battery max. abnormal charging current: 10 mA.			YES			
Acoustic feedback			YES			
Storage temperature			–20 °C to +60 °C			
Operating temperature	Temperature, device in landscape format	Vertical installation	0 °C to 50 °C			
		Inclined installation up to 35°	0 °C to 40 °C			
	Temperature, device in portrait format	Vertical installation	0 °C to 40 °C			
		Inclined installation up to 35°	0 °C to 35 °C			
Panel size (mm): wide x height			209.39 x 155.38	276 x 218	209.39 x 155.38	276 x 218
Mounting cutout size (mm) wide x height		Horizontal mounting position	192 x 138	259 x 201	192 x 138	259 x 201
		Vertical mounting position	138 x 192	201 x 259	138 x 192	201 x 259

Parameter category		Smart IE V5		Smart Plus	
		Smart 700 IE V5	**Smart 1000 IE V5**	**Smart Plus 700 IE**	**Smart Plus 1000 IE**
Communication driver	Communication driver type	Freeport Protocol LOGO! Mitsubishi FX Mitsubishi Protocol 4 Modicon MODBUS Omron Hostlink / Multilink SIMATIC S7-200 SIMATIC S7-200 SMART MODBUS RTU		Freeport Protocol LOGO! Mitsubishi FX Mitsubishi Protocol 4 Modicon MODBUS Omron Hostlink / Multilink SIMATIC S7-200 SIMATIC S7-200 SMART MODBUS RTU MODBUS TCP/IP SIMATIC S7 1200/1500 (S7 Plus Communication) SIMATIC S7 1200/1500 (S7 PUT/GET Communication)	
	Communication driver number	Number of MODBUS RTU connections : 16		Number of MODBUS RTU connections : 16	
		Number of connections excluding Modbus RTU Connections : 4		Number of connections excluding Modbus RTU Connections : 8	
Tag number		1000		2000	
Alarm buffer capacity		512 alarms		1024 alarms	

Parameter category		Smart IE V5		Smart Plus	
		Smart 700 IE V5	**Smart 1000 IE V5**	**Smart Plus 700 IE**	**Smart Plus 1000 IE**
Logs	Number of logs	2 (1 data log and 1 alarm log)		4 (2 data logs and 2 alarm logs)	
	Support for storing Data Logs in HMI Memory	NO		YES Total size of logs stored internally in the HMI: 150 MB	
	Number of tags per log	40		200	
	Number of log entries	If storage type is File-TXT(Unicode) Note: The number of entries for all segmented circular logs is valid for the "segmented circular log" logging method. The product derived from the number of circular logs times the number of data records in this log may not be exceeded.	500,000	2000,000 (Only supports logs with storage type "File-SQLite Database")	
		If storage type is File-SQLite Database,	2000,000		
SIMICAS connection (VPN remote access for debugging and data upload)		YES		YES Note: IOT module is only sold in China mainland.	
MQTT connection		YES			
Project file "*.srt"		20 MB		30 MB	
Transferring project files from HMI devices		YES			
Project file size for backtransfer		20 MB		50 MB	