Operator Interfaces to suit all requirements

simatic hmi

SIEMENS

The device classes
Operator interfaces from SIMATIC HMI

Comprehensive product family

SIMATIC HMI® offers the full product family for machine-level human machine interfaces from a single source: starting with Push Button Panels, Panels, Multi Panels and Mobile Panels, right up to PC-based solutions with Panel PCs and the ProTool/Pro® Runtime visualization software.

The innovative hardware and software solutions are scalable in price and performance as well as in the degree of openness and expandability offered. As the global leader, hundreds of thousands of SIMATIC operator interfaces are in use in the most diverse industries and applications.

Micro Panels

- Tailored to applications with the SIMATIC S7-200 micro PLC, either with text-oriented display or touch screen. The Micro Panels are configured with STEP 7-Micro/WIN, the programming software of the S7-200, or with TP-Designer.

Mobile Panels

- The portable operator panels can be used as human machine interfaces direct on site. They enable immediate access to the process and visualize what is going on. They can be connected and disconnected during operation for flexible use at machines or in plants.

Panels

- Text Panels
  as Text Displays (TDs) purely for message display or as Operator Panels (OPs) for human machine interface with membrane keyboard.

- 170/270 series
  with pixel graphics display for realistic representation of processes (also in color), either as Touch Panels (TPs) with touch-sensitive displays or as Operator Panels (OPs) with membrane keyboards.

Multi Panels

- 270/370 series
  Offers versions with touch screen or membrane keyboard operation that can be used like the Panels for human machine interface functionality. Multi Panels (MPs) also allow the installation of additional applications and enable the integration of several automation tasks on a single platform using the soft PLC WinAC MP, as an example.

Rugged and compact for machine-level use

With degree of protection IP65 on the front, a high level of electromagnetic compatibility, and extreme vibration immunity, the SIMATIC operator interfaces are eminently suitable for machine-level use in harsh industrial environments. Thanks to their compact design with shallow installation depth, the stationary operating interfaces can fit in anywhere, even where installation space is restricted.

Mobile Panels are industry-compatible thanks to their extremely rugged and shock-proof housing of allround degree of protection IP65. Their low weight and ergonomic design make them especially user-friendly.

All SIMATIC operator interfaces at a glance

	TD 200	TP 070	Mobile Panel 170
Display	LC display, backlit	LC display, STN, blue mode, 4 blue levels	LC display, STN, 16 colors
Resolution	2 x 20 (lines x characters)	320 x 240 pixels	320 x 240 pixels
Size in inches / W x H in mm	–	5,7" / 115 x 86	5,7" / 115 x 86
Character height in mm	5	Freely scalable	Freely scalable
MTBF backlighting (at 25°C)	–	50.000 h	50.000 h
Operating elements	Membrane keyboard	Touch screen	Touch screen, Membrane keyboard
Function keys (programmable, can be labeled freely)	4	–	14
System keys	5	–	–
STOP button, enabling button, other operating elements	–	–	•
External keyboard, mouse, barcode reader	–	–	–
Memory, integrated (available for application data)	128 kB flash	128 kB flash	768 kB flash
Interfaces			
Serial / MPI / PROFIBUS DP	• / – / –	• / • / –	• / • / •
USB / Ethernet	– / –	– / –	– / –
CF / PC card slot	– / –	– / –	• / –
Functionality			
Event messages/alarm messages	• / •	– / –	• / •
Message buffer	–	–	•
Graphic objects	–	Pixel graphics	Pixel/vector graphics
Numeric/alphanumeric input	– / –	• / A-F	• / •
DP direct control keys	–	–	•
Password protection	•	–	•
Help texts	–	–	•
Print functions	–	–	•
Online languages	1	1	5
Bar charts/trend diagrams (pixel graphics)	– / –	• / –	• / •
Recipes	–	–	•
Archiving	–	–	–
Visual basic scripts	–	–	–
PG functions (STATUS / CONTROL)	–	–	–
Connection to controller			
SIMATIC S7 / SIMATIC WinAC	S7- 200[1] only / –	S7- 200[1] only / –	• / •
SIMATIC S5 / SIMATIC 505	– / –	– / –	• / •
SINUMERIK / SIMOTION	– / –	– / –	– / •
Allen Bradley / Télémécanique / Mitsubishi	– / – / –	– / – / –	• / • / •
AEG Modicon / Omron / GE-Fanuc	– / – / –	– / – / –	• / • / •
Lucky Goldstar	–	–	•
Applications, optional	–	–	–
Configuration software	STEP 7-Micro/WIN 32	STEP 7-Micro/WIN 32 (TP- Designer)	SIMATIC ProTool/Lite, SIMATIC ProTool, SIMATIC ProTool/Pro Configuration (from V6 + SP2)

1) Point-to-point connection

Panels

Text Panels
The small versatile units that pack a punch

170 series
The clever way to start – low cost and innovative

	TD17	OP3	OP7	OP17	TP 170A	TP 170...
	LC display, backlit with LED	LC display, backlit with LED	LC display, backlit with LED	LC display, backlit with LED	LC display, STN, blue mode, 4 blue levels	LC display, STN, blue mo..., 4 blue levels ...
	x 20 o. 8 x 40 (lines x characters)	2 x 20 (lines x characters)	2 x 20 (lines x characters)	4 x 20 o. 8 x 40 (lines x characters)	320 x 240 pixels	320 x 240 pix...
	—	—	—	—	5,7" / 115 x 86	5,7" / 115 x 8...
	1 or 6	5	8	11 or 6	Freely scalable	Freely scalabl...
		—	—	—	50.000 h	50.000 h
	Membrane keyboard	Membrane keyboard	Membrane keyboard	Membrane keyboard	Touch screen	Touch screen
		5 (labeling fixed)	8	24	—	—
		18	22	22	—	—
		—	—	—	—	—
		—	—	—		
	28 kB flash	128 kB flash	128 kB flash	256 kB flash	320 kB flash	768 kB flash
	• / • / •	• / • / —	• / • / •	• / • / •	• / • / •	• / • / •
	— / —	— / —	— / —	— / —	— / —	— / —
	— / —	— / —	— / —	— / —	— / —	• / —
	• / —	• / —	• / •	• / •	• / —	• / •
		•	•	•	•	•
	—	—	Character graphics	Character graphics	Pixel graphics	Pixel/vector g...
	• / —	• / —	• / •	• / —	• / A-F	• / •
		—	•	•	—	•
		•	•	•	•	•
		—	•	•	—	—
		—	•	•	—	—
	3	3	3	3	1	5
	• / —	— / —	— / —	— / —	• / —	• / •
		—	•	•	—	•
		—	—	—	—	—
		—	—	—	—	—
	On SIMATIC S5/S7	On SIMATIC S5/S7	On SIMATIC S5/S7	—	—	
	• / •	• / —	• / •	• / •	• / •	• / •
	• / •	— / —	• / •	• / •	• / •	• / •
	• / —	— / —	• / —	• / —	— / —	• / •
	• / • / •	— / — / —	• / • / •	• / • / •	• / • / •	• / • / •
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	—	—	—	—	—	—

SIMATIC ProTool/Lite, SIMATIC ProTool, SIMATIC ProTool/Pro Configuration

SIMATIC ProTool/Lit... SIMATIC ProTool/...

270 series
The all-rounder with optimal power and performance

	OP 170B	TP 270		OP 270	
le or color, r 16 colors els	LC display, STN, blue mode, 4 blue levels	LC display, STN, 256 colors	LC display, STN, 256 colors	LC display, STN, 256 colors	LC display, STN, 256 colors
	320 x 240 pixels	320 x 240 pixels	640 x 480 pixels	320 x 240 pixels	640 x 480 pixels
	5,7" / 115 x 86	5,7" / 115 x 86	10,4" / 211 x 158	5,7" / 115 x 86	10,4" / 211 x 158
	Freely scalable	Freely scalable	Freely scalable	Freely scalable	Freely scalable
	50.000 h	40.000 h	60.000 h	40.000 h	60.000 h
	Membrane keyboard	Touch screen	Touch screen	Membrane keyboard	Membrane keyboard
	24	—	—	24	36
	35	—	—	36	38
	—	—	—	—	—
		via USB	via USB	via USB	via USB
	768 kB flash	2 MB flash	2 MB flash	2 MB flash	2 MB flash
	• / • / •	• / • / •	• / • / •	• / • / •	• / • / •
	— / —	• / optional	• / optional	• / optional	• / optional
	• / —	• / —	• / —	• / —	• / —
	• / •	• / •	• / •	• / •	• / •
aphics	Pixel/vector graphics	Pixel/vector graphics	Pixel/vector graphics	Pixel/vector graphics	Pixel/vector graphics
	• / •	• / •	• / •	• / •	• / •
	•	•	•	•	•
	•	•	•	•	•
	•	•	•	•	•
	•	•	•	•	•
	5	5	5	5	5
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	•	•	•	•	•
	—	•	•	•	•
	—	•	•	•	•
	—	On SIMATIC S5/S7	On SIMATIC S5/S7	On SIMATIC S5/S7	On SIMATIC S5/S7
	• / •	• / •	• / •	• / •	• / •
	• / •	• / •	• / •	• / •	• / •
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	—	SIMATIC ProAgent	SIMATIC ProAgent	SIMATIC ProAgent	SIMATIC ProAgent

e, SIMATIC ProTool, Pro Configuration

SIMATIC ProTool, SIMATIC ProTool/Pro Configuration

Multi Panels

270 series

Convincing in power,
performance and expandability

370 series

Meets the highest demands for power,
performance and expandability

MP 270B		MP 370		
LC display, TFT, 256 colors, 640 x 480 pixels, 10,4" / 211 x 158, Freely scalable, 50.000 h	LC display, TFT, 256 colors, 640 x 480 pixels, 10,4" / 211 x 158, Freely scalable, 50.000 h	LC display, TFT, 256 colors, 800 x 600 pixels, 12,1" / 246 x 185, Freely scalable, 50.000 h	LC display, TFT, 256 colors, 800 x 600 pixels, 12,1" / 246 x 185, Freely scalable, 50.000 h	LC display, TFT, 256 colors, 1024 x 768 pixels, 15,1" / 308 x 232, Freely scalable, 50.000 h
Membrane keyboard	Touch screen	Membrane keyboard	Touch screen	Touch screen
36	–	36	–	–
38	–	38	–	–
–	–	–	–	via USB
via USB	via USB	via USB	via USB	
5 MB flash[2]	5 MB flash[2]	12 MB flash[3]	12 MB flash[3]	12 MB flash[3]
• / • / •	• / • / •	• / • / •	• / • / •	• / • / •
• / •	• / •	• / •	• / •	• / •
• / •	• / •	• / •	• / •	• / •
• / •	• / •	• / •	• / •	• / •
•	•	•	•	•
Pixel/vector graphics	Pixel/vector graphics	Pixel/vector graphics	Pixel/vector graphics	Pixel/vector graphics
• / •	• / •	• / •	• / •	• / •
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
5	5	5	5	5
• / •	• / •	• / •	• / •	• / •
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
On SIMATIC S5/S7	On SIMATIC S5/S7	On SIMATIC S5/S7	On SIMATIC S5/S7	On SIMATIC S5/S7
• / •	• / •	• / •	• / •	• / •
• / •	• / •	• / •	• / •	• / •
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•	•	•	•	•
SIMATIC ProAgent, Pocket Internet Explorer (included in scope of supply)	SIMATIC ProAgent, Pocket Internet Explorer (included in scope of supply), SIMATIC ThinClient/MP	SIMATIC ProAgent, Pocket Internet Explorer (included in scope of supply), SIMATIC WinAC MP	SIMATIC ProAgent, Pocket Internet Explorer (included in scope of supply), SIMATIC ThinClient/MP, SIMATIC WinAC MP	SIMATIC ProAgent, Pocket Internet Explorer (included in scope of supply), SIMATIC ThinClient/MP

SIMATIC ProTool,
SIMATIC ProTool/Pro Configuration
(MP 370 15" Touch from V6 + SP2)

2) of which 4 MB max. for ProTool configuration

3) of which 7 MB max. for ProTool configuration

The right decision
Operator interfaces from SIMATIC HMI

One configuration software fits all

SIMATIC® ProTool® is the tool for integrated configuration of all SIMATIC Panels as well as for PC-based systems with the ProTool/Pro Runtime visualization software. ProTool is available in three graded versions depending on the task. It enables simple and efficient configuration, and knowledge of programming is not required.

Once created, configurations can easily be re-used within the family. It is possible to convert a project for another HMI system in just a few steps, even in the case of higher or lower screen resolution. All display contents are automatically zoomed to the new resolution. The engineering work involved is carried out once and can then be scaled and transferred to different HMI platforms. This results in reductions in maintenance overhead, and improved future security.

Component part of Totally Integrated Automation

Siemens supplies the complete set of modular components for automation solutions from a single source – and one of the world's most successful automation concepts in Totally Integrated Automation. SIMATIC ProTool is an integral part of this world, guaranteeing decisive advantages. The triple integration in configuring/programming, data management and communications significantly reduces the engineering costs involved in an automation solution.

Open for the most diverse automation systems

Despite consistent integration into the SIMATIC world, the Panels remain open for connection to controllers from the widest possible range of manufacturers. An extensive range of user-friendly drivers is provided as standard.

Innovative human machine interface

Based on the Windows CE operating system, the Mobile Panels, Panels and Multi Panels of the 170, 270 and 370 series enable innovative human machine interface functionality combined with ruggedness, stability and simplicity. Standard hardware and software interfaces such as PC/CF card, USB, Ethernet, PROFIBUS DP, Visual Basic Scripts, or customized ActiveX Controls guarantee more flexibility and openness, and access to the office world.

Export-oriented

The SIMATIC Panels are optimally equipped for global use. With online language switching, you can change between up to five languages during operation at the touch of a button. The host of languages offered includes Chinese, Taiwanese, Korean, Japanese, and Russian.

The configuration interface of ProTool, including the online help and the complete documentation, are also multi-language. As well as English, German, French, Spanish and Italian, ProTool versions are also available in Asian languages. Up to 32 languages can be managed in one project. And all that with the global service and support offered by Siemens.

The highlights at a glance

- Rugged and compact
- High degree of flexibility trough stationary or mobile operator panels
- Bright displays for the best possible readability
- Simple and secure operation with ergonomically designed keypad or intuitively with touch panel
- Long service life of the display backlighting
- One configuration software fits all

- Simple and fast configuring
- Remote download for configuration and firmware
- Integrated into the SIMATIC world
- PLCs from the most diverse manufacturers can be connected
- Drivers and available interfaces already onboard – at no additional cost
- Global in use with comprehensive language support, including Asian languages

One configuration software fits all
SIMATIC ProTool

	ProTool/Lite V6.0 + SP2	ProTool V6.0 + SP2	ProTool/Pro V6.0 + SP2
Configuration software for	TD17, OP3, OP7, OP17, Mobile Panel 170, TP 170A, TP 170B, OP 170B	TD17, OP3, OP7, OP17, Mobile Panel 170, TP 170A, TP 170B, OP 170B, TP 270, OP 270, MP 270B, MP 370	TD17, OP3, OP7, OP17, Mobile Panel 170, TP 170A, TP 170B, OP 170B, TP 270, OP 270, MP 270B, MP 370 and PC-based systems
Runtime software for	–	–	PC-based systems
Operating system	Windows 98 SE/ME/ NT4.0/2000/XP Professional	Windows 98 SE/ME/ NT4.0/2000/XP Professional	Windows 98 SE/ME/ NT4.0/2000/XP Professional

Highlights

- Short learning time for the configuration software thanks to standard Windows operating system and integrated online help system
- Simple and fast operation of the configuration software thanks to standard Windows operating mechanisms and WYSIWYG representation of text and graphics
- Simple further processing of configuration sections using several simultaneously open configurations (multiple document interface) and cross-project copying using the clipboard with drag&drop or copy&paste.
- Clear, easy to modify configurations thanks to object-oriented symbolic data management and cross-reference lists with direct data access at the click of a mouse.

- Access to symbol lists and communications parameters of the controller configuration with integrated installation under SIMATIC STEP® 7.
- Use of the familiar work environment for graphics generation through connection of the graphics editors via OLE interface or import of pixel-graphics objects.
- Export/import of all texts (e.g. for ease of translation).
- Support for Asian logographic or character-based languages.
- Extensive image editor and graphics libraries with off-the-shelf image objects
- Protocol editor on Windows systems
- Configuration test using simulation on the PC even without PLC and Panel
- Zooming of configurations for different display resolutions

Software Update Service
- Automatic supply of the latest software release (upgrade/service packs).
- Runtime 1 year from ordering with automatic extension.
- Low-cost and user-friendly method of keeping the software up-to-date at all times.

Optional software packages
- **ProAgent:** targeted and fast process fault diagnostics in plants and machines in conjunction with SIMATIC S7
- **ThinClient/MP:** Multi Panels as terminal clients of a Windows 2000 terminal server (from ProTool V6 + SP2)
- **WinAC MP:** software PLC based on Windows CE, runs on the MP 370 multifunctional platform MP 370 12"