

Operator panels

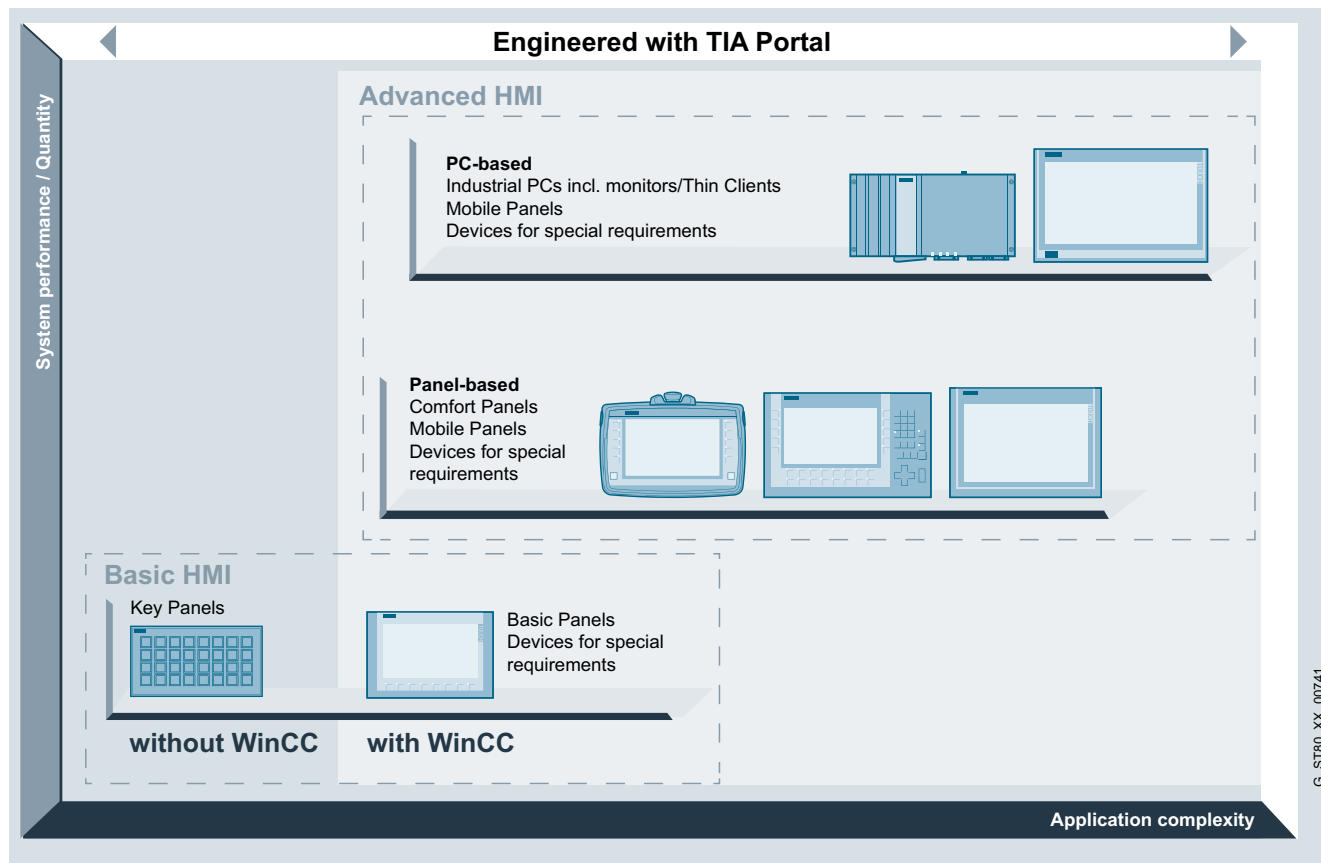


2/2	Overview
2/4	Basic HMI
2/4	Introduction
	<u>Key Panels</u>
2/5	Introduction
2/6	SIMATIC HMI KP8/KP8F/KP32F
2/13	SIPLUS HMI KP8/KP8F/KP32F
	<u>Basic Panels</u>
2/15	Standard devices 2 nd Generation
2/23	SIPLUS Basic Panels (2 nd Generation)
2/26	Advanced HMI – Panel-based
2/26	Introduction
	<u>Comfort Panels</u>
2/27	Comfort Panels – standard devices
2/39	SIPLUS Comfort Panels Standard
2/44	Comfort Panels Outdoor
2/50	SIPLUS Comfort Panels Outdoor
2/52	Comfort Panels PRO
2/66	Comfort Panels INOX and INOX PCT
2/73	<u>Mobile Panels</u>
2/74	Mobile Panels 2 nd Generation
	<u>System components for Mobile Panels</u>
2/83	Connection box for Mobile Panels (2 nd Generation)
2/86	Advanced HMI – PC-based
2/87	System interfaces with WinCC (TIA Portal)
2/87	Introduction
2/88	SIMATIC S7
2/89	Controllers from other manufacturers

Operator panels

HMI devices

Overview



SIMATIC Operator Panels Overview

SIMATIC HMI Panels – HMI devices for efficient machine-level interaction

A complete range of powerful and innovative operator control and monitoring devices is available for implementing efficient, machine-level HMI solutions in the most diverse applications and industries. One unique and highly efficient feature is the integrated configuring via SIMATIC WinCC in the TIA Portal, with which users can achieve significant savings with regard to engineering time, costs and effort.

<http://www.siemens.com/hmi-panels>

Basic HMI

- **Panel-based:**
HMI devices with excellent price-performance ratio for simple visualization tasks.
<http://www.siemens.com/basic-hmi>

Advanced HMI

- **Panel-based:**
Powerful HMI devices for realization of demanding visualization tasks with a high level of convenience.
<http://www.siemens.com/advanced-hmi-panel>
- **PC-based:**
High-performance operator panels for complex, data-intensive, visualization tasks.
<http://www.siemens.com/advanced-hmi-pc>

Rugged and compact for use at machine level

With IP65/NEMA 4 degree of protection at the front, high EMC and extreme vibration resistance, the SIMATIC HMI operator panels are ideally suited for use at machine level in rough industrial environments. Thanks to their compact design with a shallow mounting depth, the stationary operator panels can be fitted anywhere, even where only restricted space is available. For distributed configurations, there are also devices available with all-round IP65/NEMA 4 protection.

The extremely rugged and shock-proof enclosure with degree of protection IP65 makes the Mobile Panels especially suitable for industrial applications. Their low weight and ergonomic design means that they are user-friendly and easy to operate.

One configuration software for everything

SIMATIC WinCC (TIA Portal) is a tool for the uniform configuration of all SIMATIC HMI Panels as well as PC-based systems. Graded variants are available for every task. The software permits simple and efficient configuration. Programming experience is not required.

Once created, configurations can be reused within the family. Key Panels only need to be configured, not programmed.

Overview (continued)**Component of Totally Integrated Automation**

Siemens provides the complete modular system of matched components for automation solutions from one source and — with Totally Integrated Automation — one of the most globally successful automation concepts. SIMATIC WinCC (TIA Portal) is an integral component of this world. It offers crucial advantages. Thanks to the triple uniformity in configuration/programming, data management and communication, automation solution engineering costs are significantly reduced.

Open for a wide variety of automation systems

Despite being consistently incorporated into the SIMATIC world, the panels are nevertheless open for connection to PLCs from many different vendors. The standard delivery includes a comprehensive range of user-friendly drivers.

Innovative operator control and monitoring

The SIMATIC HMI Panels facilitate innovative operator control and monitoring combined with ruggedness, stability and simplicity. On the Comfort Panels in particular, standard hardware and software interfaces, e.g. the Multimedia Card/SD Card, USB, Ethernet, PROFINET, PROFIBUS DP and Visual Basic scripts, provide more flexibility and openness as well as access to the office world.

Worldwide application

The SIMATIC HMI Panels are ideally equipped for global use. Online language switching permits selection of up to 32 languages during operation simply by pressing a button. The wide variety of languages available also includes, for example, Asian logographic languages (Chinese, Taiwanese, Korean, Japanese) and Russian. The configuration interface of WinCC (TIA Portal) including the online help and the complete documentation is also multilingual. Up to 32 languages can be used in one project. And all this is complemented by global service and support from Siemens.

Configuration at a glance

	WinCC (TIA Portal) engineering software				STEP 7
	Basic	Comfort	Advanced	Professional	STEP 7
Key Panels	-	-	-	-	•
Basic Panels 2nd Generation ¹⁾	•	•	•	•	-
Comfort Panels	-	• ³⁾	•	•	-
Mobile Panels 2nd Generation	-	• ²⁾	• ²⁾	• ²⁾	-

• Possible

¹⁾ As of WinCC (TIA Portal) V13

²⁾ As of WinCC (TIA Portal) V13 SP1

³⁾ Outdoor versions from WinCC (TIA Portal) V13 SP1, Update 6 and HSP (download), or Comfort Panels 15" - 22" (-OAX1) from V14 SP1 HSP

WinCC flexible engineering software

	Micro	Compact	Standard	Advanced
Key Panels	-	-	-	-
Basic Panels (1st Generation)				
KTP400 Basic mono PN	-	•	•	•
KTP600 Basic	-	•	•	•
KTP1000 Basic	-	•	•	•
TP1500 Basic	-	•	•	•
Mobile Panels				
Mobile Panel 177	-	•	•	•
Mobile Panel 277	-	-	•	•
Mobile Panel 277(F) IWLAN	-	-	•	•
Micro Panels				
OP 73micro	•	•	•	•
TP 177micro	•	•	•	•
Panels – 70 Series				
OP 73	-	•	•	•
OP 77A/B	-	•	•	•
Panels – 170 Series				
TP 177A	-	•	•	•
TP/OP 177B	-	• ¹⁾	• ¹⁾	• ¹⁾
Panels – 270 Series				
TP 277/OP 277	-	-	• ²⁾	• ²⁾
Multi Panels – 170 Series				
MP 177	-	• ⁵⁾	• ⁴⁾	• ⁴⁾
Multi Panels – 270 Series				
MP 277	-	-	•	•
Panels – 370 Series				
MP 377	-	-	• ³⁾	• ³⁾
WinAC MP				
WinAC MP 177	-	• ⁵⁾	• ⁵⁾	• ⁵⁾
WinAC MP 277	-	-	• ⁵⁾	• ⁵⁾
WinAC MP 377	-	-	• ⁵⁾	• ⁵⁾

• Possible

¹⁾ WinCC flexible 2005 or higher and TP 177B 4" with WinCC flexible 2008 and higher

²⁾ WinCC flexible 2005 SP1 and higher

³⁾ WinCC flexible 2007 and higher: Mobile Panel 277(F) IWLAN V1; WinCC flexible 2008 SP2 and higher: Mobile Panel 277(F) IWLAN V2

⁴⁾ WinCC flexible 2008 and higher

⁵⁾ WinCC flexible 2008 SP1 and higher

Operator panels

Basic HMI

Introduction

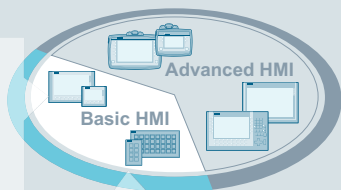
Overview

Basic HMI

Basic Panels

Cost-efficient, fully graphical user guidance?

- Intuitive operation of 4" ... 22"
- Integrated HMI basic functionality
- Perfect interaction with SIMATIC S7-1200 and SIMATIC S7-1500



Key Panels

Flexible expansion with keys – or even safety functions?

- Fast commissioning
- Easy networking
- Intuitive state detection

SIMATIC HMI Key Panels

You can use the Key Panels to realize operator panels quickly, as well as save a lot of time and money setting them up since they are prefabricated and ready for installation.

All illuminated pushbuttons are freely configurable and equipped with five colored LEDs (red, green, blue, yellow and white). All buttons can also easily be inscribed in IP65. On the back, there are integrated IO terminals for connecting actuators and sensors.

SIMATIC HMI Basic Panels

Basic Panels are perfect for the cost-effective implementation of simple visualization tasks at machine level. Their basic features and functionality as well as the especially attractive price make them perfect entry-level devices.

The following modules are available:

- Key Panels
 - SIMATIC HMI KP8/KP8F/KP32F (key devices with multicolored LEDs)
- Basic Panels
 - Standard devices 2nd Generation

Inexpensive realization of simple HMI tasks

Basic HMI is recommended for simple applications with a limited quantity structure, where the price-performance ratio counts as well as fast, intuitive operation.

The devices offer a brilliant display quality and high-power visualization, which significantly simplifies the operation of simple machines and equipment. You can also save valuable time during installation, commissioning and engineering with turnkey and flexible solutions.

Overview

SIMATIC HMI Key Panels

The Key Panels, PROFINET successors to the PROFIBUS-based Push Button Panels, are operator panels which are ready-to-run without any configuration effort at all.

Alternatives to individually wired long-stroke keys. They are designed for direct operator control of the machine.

Key Panels provide many basic functions for direct operator control and monitoring instead of machine operator control, a cost-effective, versatile and space-saving combination, and they reduce configuration and installation costs to a minimum. Furthermore, additional actuators and sensors can also be optionally connected directly on the back of the devices.

The Key Panels can be used directly in line and ring topologies thanks to an integrated switch and two RJ45 PN sockets.

In addition there are two fully configured IP65 installation enclosures for KP8(F) available.

Exact cutouts included. Even supply cables with plugs can easily be connected in IP65 without any drilling or milling. These ready-made enclosures can be used as small local operator stations.

They can be found under Accessories -> Fasteners, and depending on the version, can come supplied with features such as EMERGENCY OFF buttons.

- SIMATIC HMI blank front design
- SIMATIC HMI KP8 PN
- SIMATIC HMI KP8F PN (shared device with GSD file possible)
- SIMATIC HMI KP32F PN (PROFIsafe can be switched off)
- Installation enclosure KP8 (Accessories -> Fasteners)
- Installation enclosure KP8F (Accessories -> Fasteners)

More information is available at:

<http://www.siemens.com/key-panels>

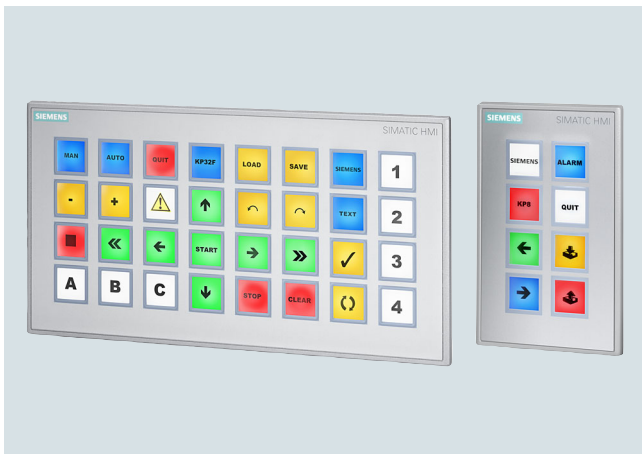
Operator panels

Basic HMI

Key Panels

SIMATIC HMI KP8/KP8F/KP32F

Overview



SIMATIC HMI KP32F and HMI KP8



KeyPanel, empty front, at the front and at the back

SIMATIC HMI Key Panels

- Optimum operability thanks to large mechanical keys and multi-colored LED backlighting (daylight readable)
- Over 60% time savings for wiring and installation (Plug&Play)
- More than 30% savings in material costs compared to conventional keypad operator panels
- 2 PROFINET ports (incl. switch) already integrated for setting up line and ring topologies
- Freely configurable digital I/Os on the rear for connecting key-operated switches, indicator lamps, etc.
- Connection of fail-safe emergency stop buttons or other fail-safe signals with KP8F and KP32F (in SIL2 or SIL3)
- Functionally compatible with all standard PROFINET master CPUs, also non-Siemens
- KP8 and empty front design, also optimized for installation in IPC Extension Units in IP65
- Maximum flexibility due to parameterization
- Empty front design for standardized assembly of flexible operator panels
- Installation enclosure, fully enclosed IP65, no drilling or milling necessary, KP8(F) not included; for accessories see technical specifications for installation enclosure

Technical specifications

Article number	6AV3688-3AY36-0AX0 SIMATIC HMI KP8 PN	6AV3688-3AF37-0AX0 SIMATIC HMI KP8F PN	6AV3688-3EH47-0AX0 SIMATIC HMI KP32F PN
General information			
Product type designation	KP8 PN	KP8F PN	KP32F PN
Control elements			
With parameterizable keys	Yes	Yes	Yes
Keyboard fonts			
• Membrane keyboard			
- user-definable label membrane keys	Yes	Yes	Yes
• Function keys			
- Number of function keys	8	8	32
• Short-stroke keys			
- Number of short-stroke keys	8	8	32
Expansions for operator control of the process			
• DP direct LEDs (LEDs as S7 output I/O)	8; Adjustable brightness	8; Adjustable brightness	8; Adjustable brightness
• Number of color modes for LED	5; Red, green, blue, yellow, white	5; Red, green, blue, yellow, white	5; Red, green, blue, yellow, white
• Direct keys (keys as S7 input I/O)	8	8	32
Installation type/mounting			
Mounting type	Clamp terminals	Mounting clip	Mounting clip
Rack mounting	No	No	No
Front mounting	Yes; Compatible with Extension Units dimensions	Yes; Compatible with Extension Units dimensions	Yes
Rail mounting	No	No	No
Wall mounting/direct mounting	No	No	No
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
maximum permissible angle of inclination without external ventilation	30°; To the front/rear	30°; To the front/rear	30°; To the front/rear
Number of slots for command devices and signaling units	0	0	0
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V; 24 V looped through at connector, no interruption on pulling	24 V; 24 V can be looped through connector, interrupted when pulled	24 V; 24 V looped through at connector, no interruption on pulling
Digital inputs			
Number of digital inputs	8; Max. 8 inputs and outputs (total)	8; Total inputs and outputs max. 8 and 1x SIL 2 or 2x SIL 3	32; Total inputs and outputs max. 32 and 2x SIL 2 or 4x SIL 3
Input voltage			
• Rated value (DC)	24 V	24 V	24 V

Operator panels

Basic HMI

Key Panels

SIMATIC HMI KP8/KP8F/KP32F

Technical specifications (continued)

Article number	6AV3688-3AY36-0AX0 SIMATIC HMI KP8 PN	6AV3688-3AF37-0AX0 SIMATIC HMI KP8F PN	6AV3688-3EH47-0AX0 SIMATIC HMI KP32F PN
Digital outputs			
Number of digital outputs	8; Max. 8 inputs and outputs (total)	8; Max. 8 inputs and outputs (total)	16; Max. 32 inputs and outputs (total)
Short-circuit protection	Yes	Yes	Yes
Switching capacity of the outputs			
• with resistive load, max.	100 mA	100 mA	100 mA
Output voltage			
• Rated value (DC)	24 V; Non-isolated	24 V; Non-isolated	24 V; Non-isolated
Total current of the outputs			
• Current per channel, max.	100 mA	100 mA	100 mA
• Current per group, max.	800 mA	800 mA	800 mA
Interfaces			
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch	2; Incl. switch	2; Incl. switch
Industrial Ethernet			
• Number of ports of the integrated switch	2; Per port	2; Per port	2; Per port
Protocols			
PROFINET	Yes; also 3rd party PLC	Yes; also 3rd party PLC	Yes; incl. shared device, 3rd party PLC
PROFINET CBA	No	No	No
IRT	Yes	Yes	Yes
PROFIsafe	No	Yes; 1x SIL 3 (two-channel) or 2x SIL 2 (single-channel) emergency stop sensors	Yes; 2x SIL 3 (two-channel) or 4x SIL 2 (single-channel) emergency stop sensors
PROFIBUS	No	No	No
Redundancy mode			
• MRP	Yes	Yes	Yes
Test commissioning functions			
Illuminant test	Yes; During switch on	Yes; During switch on	Yes; During switch on
Key and signal lamp test	Yes; Automatically when switching on	Yes; Automatically when switching on	Yes; Automatically when switching on
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4 at the front	No	No	No
Enclosure Type 4x at the front	Yes; Incl. NEMA12	Yes; Incl. NEMA12	Yes; Incl. NEMA12
IP (rear)	IP20	IP20	IP20

Technical specifications (continued)

Article number	6AV3688-3AY36-0AX0 SIMATIC HMI KP8 PN	6AV3688-3AF37-0AX0 SIMATIC HMI KP8F PN	6AV3688-3EH47-0AX0 SIMATIC HMI KP32F PN
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
CCC		No; not necessary	No; not necessary
Suitable for safety functions	No	Yes	Yes
Use in hazardous areas			
• ATEX Zone 2	Yes	Yes	No
• ATEX Zone 22	Yes	Yes	No
• cULus Class I Zone 2, Division 2	Yes	Yes	No
• FM Class I Division 2	Yes	Yes	No
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C
Relative humidity			
• Operation, max.	95 %; no condensation	95 %; no condensation	95 %; no condensation
Configuration			
Configuration software			
• STEP 7 Basic (TIA Portal)	Yes	Yes	Yes
• STEP 7 Professional (TIA Portal)	Yes	Yes	Yes
Functionality under WinCC (TIA Portal)			
Process coupling			
• S7-1200	Yes; with ET 200pro CPU and ET 200S CPU	Yes; with ET 200pro CPU and ET 200S CPU	Yes; with ET 200pro CPU and ET 200S CPU
• S7-1500	Yes	Yes	Yes
• S7-200	No	No	No
• S7-300/400	Yes; STEP 7 or SIMATIC STEP 7 Basic V11 or higher	Yes; with F-CPU: STEP 7 V11 SP1 (or higher) and Safety V11 (or higher) or SIMATIC STEP 7 Basic V11 (or higher)	Yes; with F-CPU: STEP 7 V11 SP1 or higher and Safety V11 (or higher), without F-CPU STEP 7 or SIMATIC STEP 7 Basic V11 (or higher)
• LOGO!	No	No	No
• WinAC	Yes	Yes	Yes
• SIMOTION	No	No	No
• Allen Bradley (EtherNet/IP)	No	No	No
• Allen Bradley (DF1)	No	No	No
• Mitsubishi (MC TCP/IP)	No	No	No
• Mitsubishi (FX)	No	No	No
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	No	No	No
• Modicon (Modbus TCP/IP)	No	No	No
• Modicon (Modbus)	No	No	No

Operator panels

Basic HMI

Key Panels

SIMATIC HMI KP8/KP8F/KP32F

Technical specifications (continued)

Article number	6AV3688-3AY36-0AX0 SIMATIC HMI KP8 PN	6AV3688-3AF37-0AX0 SIMATIC HMI KP8F PN	6AV3688-3EH47-0AX0 SIMATIC HMI KP32F PN
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes	Yes	No
• Aluminum	No	No	Yes
Service life			
• Short-stroke keys (in switching cycles)	1 500 000	1 500 000	1 500 000
• LEDs (ON period)	100 %	100 %	100 %
Dimensions			
Width of the housing front	98 mm	98 mm	295 mm
Height of housing front	155 mm	155 mm	155 mm
Mounting cutout, width	68 mm; Max. thickness of mounting plate 2 - 6 mm	68 mm; Max. thickness of mounting plate 2 - 6 mm	277 mm; Max. thickness of mounting plate 2 - 6 mm
Mounting cutout, height	129 mm	129 mm	137 mm
Overall depth	49 mm; Incl. angled SIMATIC Ethernet connector	49 mm; Incl. angled SIMATIC Ethernet connector	69 mm; Incl. angled SIMATIC Ethernet connector
Weights			
Weight without packaging	270 g	280 g	1 220 g

2

Technical specifications (continued)

Article number	6AV3688-3XY38-3AX0 KP8 Design blank Front
General information	
Product type designation	Empty front design
Control elements	
With parameterizable keys	No
Keyboard fonts	
• Function keys	
- Number of function keys	0
Installation type/mounting	
Mounting type	Clamp terminals
Rack mounting	No
Front mounting	Yes; Compatible with Extension Units dimensions
Rail mounting	No
Wall mounting/direct mounting	No
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	180°; To the front/rear
Number of slots for command devices and signaling units	5; Max. 5 possible
Supply voltage	
Type of supply voltage	external
Type of output	
LED colors	
• red	No
• yellow	No
• green	No
• white	No
• blue	No
Interfaces	
Number of USB interfaces	0
Test commissioning functions	
Key and signal lamp test	No
EMC	
Emission of radio interference acc. to EN 55 011	
• Limit class A, for use in industrial areas	No
• Limit class B, for use in residential areas	No
Degree and class of protection	
IP (at the front)	IP65
Enclosure Type 4 at the front	No
Enclosure Type 4x at the front	No
IP (rear)	IP20

Article number	6AV3688-3XY38-3AX0 KP8 Design blank Front
Standards, approvals, certificates	
CE mark	Yes
cULus	No
RCM (formerly C-TICK)	No
Use in hazardous areas	
• ATEX Zone 2	No
• ATEX Zone 22	No
• cULus Class I Zone 1	No
• cULus Class I Zone 2, Division 2	No
• FM Class I Division 2	No
Marine approval	
• Germanischer Lloyd (GL)	No
• American Bureau of Shipping (ABS)	No
• Bureau Veritas (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
• Nippon Kaiji Kyokai (Class NK)	No
• Polski Rejestr Statkow (PRS)	No
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	55 °C
Relative humidity	
• Operation, max.	95 %
Mechanics/material	
Enclosure material (front)	
• Plastic	No
• Aluminum	Yes
• Stainless steel	No
Dimensions	
Width of the housing front	98 mm
Height of housing front	155 mm
Mounting cutout, width	68 mm; Max. thickness of mounting plate 2 - 6 mm
Mounting cutout, height	129 mm
Overall depth	49 mm
Weights	
Weight without packaging	240 g
Other	
Merchandise	Yes
Manufacturer name	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany

Operator panels

Basic HMI

Key Panels

SIMATIC HMI KP8/KP8F/KP32F

Ordering data	Article No.
SIMATIC HMI KP8 PN Key Panel, 8 short-stroke keys with multicolored LEDs, PROFINET interfaces, 2 x parameterizable with STEP 7 V5.5 or higher	6AV3688-3AY36-0AX0
SIMATIC HMI KP8F PN Key Panel, 8 short-stroke keys with multicolored LEDs, PROFINET interfaces with PROFI-safe, parameterizable with STEP 7 V5.5 or higher; 4 additional fail-safe inputs. Can be used as 2 x SIL 2 or 1 x SIL 3	6AV3688-3AF37-0AX0
SIMATIC HMI KP32F PN Key Panel, 32 short-stroke keys with multicolored LEDs, PROFINET interfaces with PROFI-safe, parameterizable with STEP 7 V5.5 or higher; including 8 fail-safe inputs. Can be used as 4 x SIL 2 or 2 x SIL 3	6AV3688-3EH47-0AX0
Empty front design for standard 22.5 mm operator controls, same mounting dimensions as KP8	6AV3688-3XY38-3AX0
Documentation You can find the manual for the Key Panels on the Internet at:	http://support.automation.siemens.com/WW/view/en/56652789
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

More information is available on the Internet at:

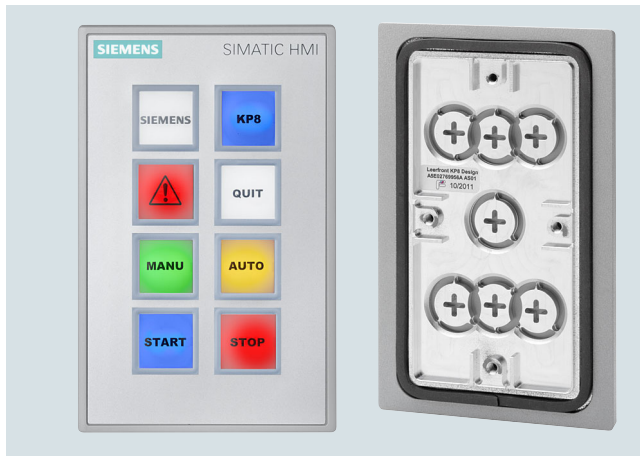
<http://www.siemens.com/key-panels>

For accessories see "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized Automation", where you will find information about additional and generally available sector-specific products, as well as options for customer-specific modifications and adaptations.

Overview



SIPLUS HMI KP8 PN and empty front

SIPLUS HMI Key Panels

- Optimum operability thanks to large mechanical keys and multicolored LED backlighting (daylight readable)
- Over 60% time savings for wiring and installation (Plug&Play)
- More than 30% savings in material costs compared to conventional keypad operator panels
- 2 PROFINET ports (incl. switch) already integrated for setting up line and ring topologies
- Freely configurable digital I/Os on the rear for connecting key-operated switches, indicator lamps, etc.
- Connection of fail-safe emergency stop buttons or other fail-safe signals with KP8F and KP32F (in SIL 2 or SIL 3)
- Functionally compatible with all standard PROFINET master CPUs, also non-Siemens
- KP8 and empty front design, also optimized for installation in IPC Extension Units in IP65
- Maximum flexibility due to parameterization
- Empty front design for standardized assembly of flexible operator panels

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

Technical specifications

Article number	6AG1688-3AY36-2AX0 SIPLUS HMI KP8 PN	6AG1688-3AF37-2AX0 SIPLUS HMI KP8F PN	6AG1688-3EH47-2AX0 SIPLUS HMI KP32F PN
General information			
Product type designation	KP8 PN	KP8F PN	KP32F PN
Ambient conditions			
Ambient temperature during operation			
• min.	-40 °C; = Tmin; Startup @ -25 °C	-20 °C; = Tmin (incl. condensation/frost)	-20 °C; = Tmin (incl. condensation/frost)
• max.	60 °C; = Tmax	55 °C; = Tmax	55 °C; = Tmax
Altitude during operation relating to sea level			
• Installation altitude above sea level, max.	5 000 m	2 000 m	2 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
Resistance			
Coolants and lubricants			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request		
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *

Operator panels

Basic HMI
Key Panels

SIPLUS HMI KP8/KP8F/KP32F

Technical specifications (continued)

Article number	6AG1688-3AY36-2AX0 SIPLUS HMI KP8 PN	6AG1688-3AF37-2AX0 SIPLUS HMI KP8F PN	6AG1688-3EH47-2AX0 SIPLUS HMI KP32F PN
Use on ships/at sea			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request		
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
Remark	* The supplied plug covers must remain in place over the unused interfaces during operation!		
Conformal coating			
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high availability	Yes; Class 2 for high availability	Yes; Class 2 for high availability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

Ordering data

Ordering data	Article No.	Ordering data	Article No.
SIPLUS HMI KP8 PN (extended temperature range and exposure to environmental substances) Key Panel, 8 short-stroke keys with multicolored LEDs, PROFINET interfaces, 2 x parameterizable with STEP 7 V5.5 or higher	6AG1688-3AY36-2AX0	Empty front design (Exposure to environmental substances) For standard 22.5 mm operator controls, same mounting dimensions as KP8	6AG1688-3XY38-2AX0
SIPLUS HMI KP8F PN (extended temperature range and exposure to environmental substances) Key Panel, 8 short-stroke keys with multicolored LEDs, PROFINET interfaces with PROFI-safe, parameterizable with STEP 7 V5.5 or higher; 4 additional fail-safe inputs. Can be used as 2 x SIL 2 or 1 x SIL 3	6AG1688-3AF37-2AX0	Documentation You can find the manual for the Key Panels on the Internet at:	http://support.automation.siemens.com/WW/view/en/56652789
SIPLUS HMI KP32F PN (extended temperature range and exposure to environmental substances) Key Panel, 32 short-stroke keys with multicolored LEDs, PROFINET interfaces with PROFI-safe, parameterizable with STEP 7 V5.5 or higher; including 8 fail-safe inputs. Can be used as 4 x SIL 2 or 2 x SIL 3	6AG1688-3EH47-2AX0	Accessories	See SIMATIC HMI accessories

Overview



Basic Panels (2nd Generation)

SIMATIC HMI Basic Panels (2nd Generation) with their fully developed HMI basic functions are the ideal entry-level series for simple HMI applications.

The device family offers panels with 4", 7", 9" and 12" displays, as well as combined key and touch operation.

The innovative high-resolution widescreen displays with 64 000 colors are also suitable for upright installation, and they can be dimmed down to 100%. The innovative operator interface with improved usability opens up a diverse range of options thanks to new controls and graphics.

The new USB interface enables the connection of keyboard, mouse or barcode scanner, and supports the simple archiving of data on a USB flash drive as well as the manual backup and restoring of the complete panel.

The integrated Ethernet or RS 485/422 interface (version-specific) enables simple connection to the controller.

<http://www.siemens.com/basic-panels>

Technical specifications

Article number	6AV2123-2DB03-0AX0	6AV2123-2GB03-0AX0	6AV2123-2GA03-0AX0
	SIMATIC HMI KTP400 Basic	SIMATIC HMI KTP700 Basic	SIMATIC HMI KTP700 Basic DP
General information			
Product type designation	KTP400 Basic color PN	KTP700 Basic color PN	KTP700 Basic color DP
Display			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	4.3 in	7 in	7 in
Number of colors	65 536	65 536	65 536
Resolution (pixels)			
• Horizontal image resolution	480 Pixel	800 Pixel	800 Pixel
• Vertical image resolution	272 Pixel	480 Pixel	480 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	20 000 h	20 000 h	20 000 h
• Backlight dimmable	Yes	Yes	Yes
Keyboard fonts			
• Function keys			
- Number of function keys	4	8	8
- Number of function keys with LEDs	0		
Touch operation			
• Design as touch screen	Yes	Yes	Yes
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
Memory			
Memory available for user data	10 Mbyte	10 Mbyte	10 Mbyte
Type of output			
Acoustics			
• Buzzer	Yes	Yes	Yes

Operator panels

Basic HMI

Basic Panels

Standard devices 2nd Generation

Technical specifications (continued)

Article number	6AV2123-2DB03-0AX0 SIMATIC HMI KTP400 Basic	6AV2123-2GB03-0AX0 SIMATIC HMI KTP700 Basic	6AV2123-2GA03-0AX0 SIMATIC HMI KTP700 Basic DP
Time of day			
Clock			
• Software clock	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
Interfaces			
Number of industrial Ethernet interfaces	1	1	0
Number of RS 485 interfaces	0	0	1
Number of USB interfaces	1; Up to 16 GB	1; Up to 16 GB	1; Up to 16 GB
Number of SD card slots	0	0	0
Protocols			
PROFINET	Yes	Yes	No
IRT	No	No	No
PROFIBUS	No	No	Yes
MPI	No	No	Yes
Redundancy mode			
• MRP	No	No	No
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	IP20	IP20	IP20
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
Use in hazardous areas			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• FM Class I Division 2	No	No	No
Marine approval			
• Germanischer Lloyd (GL)	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	No	No	No
• Chinese Classification Society (CCS)	No	No	No
Ambient conditions			
Suited for indoor use	Yes		Yes
Suited for outdoor use	No		No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation

Technical specifications (continued)

Article number	6AV2123-2DB03-0AX0 SIMATIC HMI KTP400 Basic	6AV2123-2GB03-0AX0 SIMATIC HMI KTP700 Basic	6AV2123-2GA03-0AX0 SIMATIC HMI KTP700 Basic DP
Configuration			
Configuration software			
• STEP 7 Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)
• WinCC flexible Compact	No	No	No
• WinCC Basic (TIA Portal)	Yes	Yes	Yes
Languages			
Online languages			
• Number of online/runtime languages	10	10	10
Functionality under WinCC (TIA Portal)			
Applications/options			
• Web browser	Yes	Yes	No
• SIMATIC WinCC Sm@rtServer	Yes; Available with WinCC (TIA Portal) V14 or higher		No
Number of Visual Basic Scripts	No	No	No
Task planner	Yes	Yes	Yes
• time-controlled	No	No	No
• task-controlled	Yes	Yes	Yes
Message system			
• Bit messages			
- Number of bit messages	1 000	1 000	1 000
• Analog messages			
- Number of analog messages	25	25	25
• Message buffer			
- Number of entries	256	256	256
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
Recipe management			
• Number of recipes	50	50	50
• Size of internal recipe memory	256 kbyte	256 kbyte	256 kbyte
• Recipe memory expandable	No	No	No
Variables			
• Number of variables per device	800	800	800
• Number of variables per screen	100	100	100
Images			
• Number of configurable images	250	250	250
Archiving			
• Number of archives per device	2; One message and one process value archive		
• Number of entries per archive	10 000	10 000	10 000
• Message archive	Yes	Yes	Yes
• Process value archive	Yes	Yes	Yes
• Archiving methods			
- Sequential archive	Yes	Yes	Yes
- Short-term archive	Yes	Yes	Yes
• Memory location			
- Memory card	No	No	No
- USB memory	Yes	Yes	Yes
- Ethernet	No	No	No
• Data storage format			
- CSV	No	No	No
- TXT	Yes	Yes	Yes
- RDB	No	No	No
Security			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	No	No	No
Transfer (upload/download)			
• MPI/PROFIBUS DP	No	No	Yes
• Ethernet	Yes	Yes	No

Operator panels

Basic HMI

Basic Panels

Standard devices 2nd Generation

Technical specifications (continued)

Article number	6AV2123-2DB03-0AX0 SIMATIC HMI KTP400 Basic	6AV2123-2GB03-0AX0 SIMATIC HMI KTP700 Basic	6AV2123-2GA03-0AX0 SIMATIC HMI KTP700 Basic DP
Process coupling			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	No
• Allen Bradley (DF1)	No	No	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	No
• Mitsubishi (FX)	No	No	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	No	No	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	No
• Modicon (Modbus)	No	No	Yes
Peripherals/Options			
Peripherals			
• Printer	No	No	No
• SIMATIC HMI MM memory card: Multi Media Card	No	No	No
• SIMATIC HMI SD memory card: Secure Digital memory card	No	No	No
• USB memory	Yes	Yes	Yes
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No
Dimensions			
Width of the housing front	141 mm	214 mm	214 mm
Height of housing front	116 mm	158 mm	158 mm
Mounting cutout, width	123 mm	197 mm	197 mm
Mounting cutout, height	99 mm	141 mm	141 mm
Overall depth	33 mm	39 mm	39 mm
Weights			
Weight without packaging	360 g	780 g	800 g

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 Basic	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 Basic	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 Basic DP
General information			
Product type designation	KTP900 Basic color PN	KTP1200 Basic color PN	KTP1200 Basic color DP
Display			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	9 in	12 in	12 in
Number of colors	65 536	65 536	65 536
Resolution (pixels)			
• Horizontal image resolution	800 Pixel	1 280 Pixel	1 280 Pixel
• Vertical image resolution	480 Pixel	800 Pixel	800 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	20 000 h	20 000 h	20 000 h
• Backlight dimmable	Yes	Yes	Yes
Keyboard fonts			
• Function keys			
- Number of function keys	8	10	10
Touch operation			
• Design as touch screen	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 Basic	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 Basic	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 Basic DP
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
Memory			
Memory available for user data	10 Mbyte	10 Mbyte	10 Mbyte
Type of output			
Acoustics			
• Buzzer	Yes	Yes	Yes
Time of day			
Clock			
• Software clock	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
Interfaces			
Number of industrial Ethernet interfaces	1	1	0
Number of RS 485 interfaces	0	0	1
Number of USB interfaces	1; Up to 16 GB	1; Up to 16 GB	1; Up to 16 GB
Number of SD card slots	0	0	0
Protocols			
PROFINET	Yes	Yes	No
IRT	No	No	No
PROFIBUS	No	No	Yes
MPI	No	No	Yes
Redundancy mode			
• MRP	No	No	No
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	IP20	IP20	IP20
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
Use in hazardous areas			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• FM Class I Division 2	No	No	No
Marine approval			
• Germanischer Lloyd (GL)	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	No	No	No
• Chinese Classification Society (CCS)	No	No	No

Operator panels

Basic HMI

Basic Panels

Standard devices 2nd Generation

Technical specifications (continued)

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 Basic	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 Basic	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 Basic DP
Ambient conditions			
Suited for indoor use			Yes
Suited for outdoor use			No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration			
Configuration software			
• STEP 7 Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)
• WinCC flexible Compact	No	No	No
• WinCC Basic (TIA Portal)	Yes	Yes	Yes
Languages			
Online languages			
• Number of online/runtime languages	10	10	10
Functionality under WinCC (TIA Portal)			
Applications/options			
• Web browser	Yes	Yes	No
• SIMATIC WinCC Sm@rtServer	Yes; Available with WinCC (TIA Portal) V14 or higher	Yes; Available with WinCC (TIA Portal) V14 or higher	No
Number of Visual Basic Scripts	No	No	No
Task planner	Yes	Yes	Yes
• time-controlled	No	No	No
• task-controlled	Yes	Yes	Yes
Message system			
• Bit messages			
- Number of bit messages	1 000	1 000	1 000
• Analog messages			
- Number of analog messages	25	25	25
• Message buffer			
- Number of entries	256	256	256
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
Recipe management			
• Number of recipes	50	50	50
• Size of internal recipe memory	256 kbyte	256 kbyte	256 kbyte
• Recipe memory expandable	No	No	No
Variables			
• Number of variables per device	800	800	800
• Number of variables per screen	100	100	100
Images			
• Number of configurable images	250	250	250

Technical specifications (continued)

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 Basic	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 Basic	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 Basic DP
Archiving			
• Number of archives per device	2; One message and one process value archive	2; One message and one process value archive	2; One message and one process value archive
• Number of entries per archive	10 000	10 000	10 000
• Message archive	Yes	Yes	Yes
• Process value archive	Yes	Yes	Yes
• Archiving methods			
- Sequential archive	Yes	Yes	Yes
- Short-term archive	Yes	Yes	Yes
• Memory location			
- Memory card	No	No	No
- USB memory	Yes	Yes	Yes
- Ethernet	No	No	No
• Data storage format			
- CSV	No	No	No
- TXT	Yes	Yes	Yes
- RDB	No	No	No
Security			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	No	No	No
Transfer (upload/download)			
• MPI/PROFIBUS DP	No	No	Yes
• Ethernet	Yes	Yes	No
Process coupling			
• S7-1200/S7-1500	Yes/Yes	Yes/Yes	Yes/Yes
• S7-200/S7-300/400	Yes/Yes	Yes/Yes	Yes/Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	No
• Allen Bradley (DF1)	No	No	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	No
• Mitsubishi (FX)	No	No	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	No	No	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	No
• Modicon (Modbus)	No	No	Yes
Peripherals/Options			
Peripherals			
• Printer	No	No	No
• SIMATIC HMI MM memory card: Multi Media Card	No	No	No
• SIMATIC HMI SD memory card: Secure Digital memory card	No	No	No
• USB memory	Yes	Yes	Yes
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No
Dimensions			
Width of the housing front	267 mm	330 mm	330 mm
Height of housing front	182 mm	245 mm	245 mm
Mounting cutout, width	251 mm	310 mm	310 mm
Mounting cutout, height	166 mm	221 mm	221 mm
Overall depth	55 mm	60 mm	60 mm
Weights			
Weight without packaging	1 130 g	1 710 g	1 710 g

Operator panels

Basic HMI

Basic Panels

Standard devices 2nd Generation

Ordering data	Article No.	Ordering data	Article No.
SIMATIC HMI Basic Panels (2nd Generation) Key and Touch devices SIMATIC HMI KTP400 Basic Key/touch-screen operation; 4" TFT widescreen display, 65 536 colors, PROFINET interface		Starter kits Starter kit SIMATIC S7-1200 + KP300 Basic mono PN Starter kits with an S7-1200 consist of: <ul style="list-style-type: none"> the respective SIMATIC HMI Basic Panel SIMATIC HMI KP300 Basic mono PN SIMATIC HMI KTP400 Basic SIMATIC HMI KTP700 Basic SIMATIC S7-1200 CPU 1212C AC/DC/Rly SIMATIC S7-1200 Simulator Module SIM 12 SIMATIC STEP 7 BASIC CD SIMATIC S7-1200 HMI Manual Collection CD Ethernet CAT5 cable, 2 m 	
	6AV2123-2DB03-0AX0		6AV6651-7HA01-3AA4
SIMATIC HMI KTP700 Basic Key/touch-screen operation; 7" TFT widescreen display, 65 536 colors, PROFINET interface		Starter Kit SIMATIC S7-1200 + KTP400 Basic	
	6AV2123-2GB03-0AX0		6AV6651-7KA01-3AA4
SIMATIC HMI KTP700 Basic DP Key/touch-screen operation; 7" TFT widescreen display, 65 536 colors, PROFIBUS interface		Starter Kit SIMATIC S7-1200 + KTP700 Basic	
	6AV2123-2GA03-0AX0		6AV6651-7DA01-3AA4
SIMATIC HMI KTP900 Basic Key/touch-screen operation; 9" TFT widescreen display, 65 536 colors, PROFINET interface		Starter kit LOGO! + KP300 Basic mono PN Starter kits with a LOGO! consist of: <ul style="list-style-type: none"> the respective SIMATIC HMI Basic Panel SIMATIC HMI KP300 Basic mono PN SIMATIC HMI KTP400 Basic SIMATIC HMI KTP700 Basic LOGO! 12/24 RCE LOGO! POWER 24 V 1.3 A LOGO! SOFT COMFORT V7 WINCC BASIC (TIA Portal) Ethernet CAT5 cable, 2 m 	
	6AV2123-2JB03-0AX0		6AV2132-0KA00-0AA1
SIMATIC HMI KTP1200 Basic Key/touch-screen operation; 12" TFT widescreen display, 65 536 colors, PROFINET interface		Starter kit LOGO! + KTP700 Basic	
	6AV2123-2MB03-0AX0		6AV2132-3GB00-0AA1
SIMATIC HMI KTP1200 Basic DP Key/touch-screen operation; 12" TFT widescreen display, 65 536 colors, PROFIBUS interface		Documentation You can find the manual for the Basic Panels on the Internet at:	
	6AV2123-2MA03-0AX0		http://support.automation.siemens.com
		Accessories See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"	

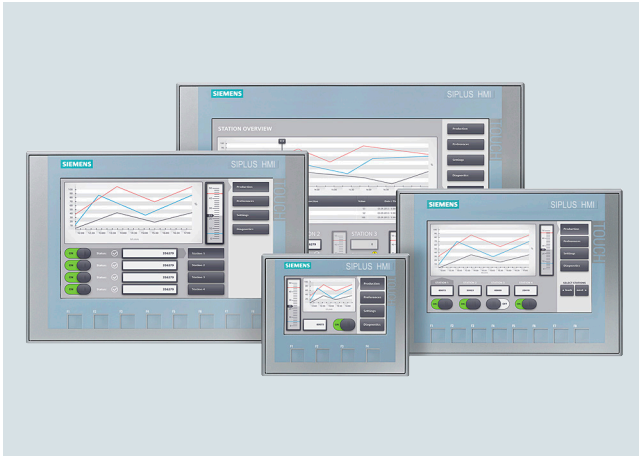
More information is available on the Internet at:

<http://www.siemens.com/basic-panels>

Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional and generally available sector-specific products, as well as options for customer-specific modifications and adaptations.

Overview



With their fully developed HMI basic functions, 2nd Generation SIPLUS Basic Panels are the ideal entry-level series for simple HMI applications.

The device family offers panels with 4", 7", 9" and 12" displays, as well as combined key and touch operation.

The innovative high-resolution widescreen displays with 64 000 colors are also suitable for upright installation, and they can be dimmed down to 100%. The innovative operator interface with improved usability opens up a diverse range of options thanks to new controls and graphics. The new USB interface enables the connection of keyboard, mouse or barcode scanner, and supports the simple archiving of data on a USB flash drive.

The integrated Ethernet or RS 485/422 interface (version-specific) enables simple connection to the controller.

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

Technical documentation on SIPLUS can be found here:

<http://www.siemens.com/siplus-extreme>

Technical specifications

Article number	6AG1123-2DB03-2AX0 SIPLUS HMI KTP400 BASIC	6AG1123-2GB03-2AX0 SIPLUS HMI KTP700 BASIC	6AG1123-2GA03-2AX0 SIPLUS HMI KTP700 BASIC DP
General information			
Product type designation	KTP400 Basic color PN	KTP700 Basic color PN	KTP700 Basic color DP
Ambient conditions			
Suited for indoor use		Yes	Yes
Suited for outdoor use		No	No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	-20 °C; = Tmin	-20 °C	-20 °C; = Tmin
- For vertical installation, max.	60 °C; = Tmax	50 °C	50 °C
Altitude during operation relating to sea level			
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)		
Relative humidity			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning when condensation present), vertical mounting position
Resistance			
Coolants and lubricants			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request		
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *

Operator panels

Basic HMI

Basic Panels

SIPLUS Basic Panels (2nd Generation)

Technical specifications (continued)

Article number	6AG1123-2DB03-2AX0 SIPLUS HMI KTP400 BASIC	6AG1123-2GB03-2AX0 SIPLUS HMI KTP700 BASIC	6AG1123-2GA03-2AX0 SIPLUS HMI KTP700 BASIC DP
Use on ships/at sea			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request		
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
Remark	* The supplied plug covers must remain in place over the unused interfaces during operation!		
Conformal coating			
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high availability	Yes; Class 2 for high availability	Yes; Class 2 for high availability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A
Article number	6AG1123-2JB03-2AX0 SIPLUS HMI KTP900 BASIC	6AG1123-2MB03-2AX0 SIPLUS HMI KTP1200 BASIC	6AG1123-2MA03-2AX0 SIPLUS HMI KTP1200 BASIC DP
General information			
Product type designation	KTP900 Basic color PN	KTP1200 Basic color PN	KTP1200 Basic color DP
Ambient conditions			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	-20 °C	-10 °C; = Tmin	-10 °C; = Tmin
- For vertical installation, max.	50 °C	50 °C	50 °C
Altitude during operation relating to sea level			
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)		
Relative humidity			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)		

Ordering data Article No. Article No. (continued)

Article number	6AG1123-2JB03-2AX0 SIPLUS HMI KTP900 BASIC	6AG1123-2MB03-2AX0 SIPLUS HMI KTP1200 BASIC	6AG1123-2MA03-2AX0 SIPLUS HMI KTP1200 BASIC DP
Resistance			
Coolants and lubricants			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request		
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request		
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
Remark	* The supplied plug covers must remain in place over the unused interfaces during operation!		
Conformal coating			
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high availability	Yes; Class 2 for high availability	Yes; Class 2 for high availability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

Ordering data

Article No.

Article No.

SIPLUS HMI Basic Panels,
Key and Touch

SIPLUS HMI KTP400 Basic

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -20 ... +60 °C

6AG1123-2DB03-2AX0

SIPLUS HMI KTP700 Basic

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -20 ... +50 °C

6AG1123-2GB03-2AX0

SIPLUS HMI KTP700 Basic DP

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -20 ... +50 °C

6AG1123-2GA03-2AX0

SIPLUS HMI KTP900 Basic

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -20 ... +50 °C

6AG1123-2JB03-2AX0

SIPLUS HMI KTP1200 Basic

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -10 ... +50 °C

6AG1123-2MB03-2AX0

SIPLUS HMI KTP1200 Basic DP

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -10 ... +50 °C

6AG1123-2MA03-2AX0

Accessories

See SIMATIC Basic Panels 2nd Generation

Operator panels

Advanced HMI Panel-based

Introduction

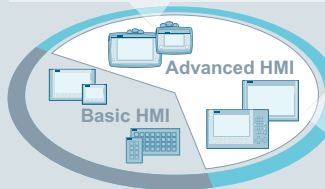
Overview

Advanced HMI

Mobile Panels

Maximum mobility and flexibility?

- Innovative operation of 4"... 9" with and without cable
- Robust for site-related local operation
- Integrated safety concept



Comfort Panels

Highest demands in terms of performance and functionality?

- Brilliant widescreen displays from 4"... 22"
- Innovative commissioning and service concept
- Energy management with PROfenergy

G_ST80_XX_00743

SIMATIC HMI Comfort Panels

SIMATIC HMI Comfort Panels are designed for implementing high-performance visualization tasks at machine-level. High performance, functionality and numerous integrated interfaces offer the greatest convenience in high-end applications.

The following modules are available:

- Comfort Panels
 - Comfort Panels Standard devices
 - Comfort Panels Outdoor
 - Comfort Panels PRO
 - Comfort Panels INOX

SIMATIC HMI Mobile Panels

Take power and safety directly in your hands. Choose Mobile Panels for high-end mobile applications, fail-safe machines and widely distributed plants. The process communication can be wired or via WLAN.

The following modules are available:

- Mobile Panels
 - Mobile Panels 2nd generation

Realization of demanding, complex HMI tasks with a high level of user convenience

If you are looking for a panel-based solution for more demanding applications with larger quantity scales, make a decision for Advanced HMI. The user benefits from excellent functionality and a wide range of devices and applications, with key or touch operation. Both stationary and mobile solutions are available.

Overview



Comfort Panel family, KP, TP, KTP

SIMATIC HMI Comfort Panels – Standard devices

- Excellent HMI functionality for demanding applications
- Widescreen TFT displays with 4", 7", 9", 12", 15", 19" and 22" diagonals (all 16 million colors) with up to 40% more visualization area as compared to the predecessor devices
- Integrated high-end functionality with archives, scripts, PDF/Word/Excel viewer, Internet Explorer, Media Player and Web Server
- Dimmable displays from 0 to 100% via PROFIenergy, via the HMI project or via a controller
- Modern industrial design, cast aluminum fronts for 7" upwards
- Upright installation for all touch devices
- Data security in the event of a power failure for the device and for the SIMATIC HMI Memory Card
- Innovative service and commissioning concept
- Maximum performance with short screen refresh times
- Suitable for extremely harsh industrial environments thanks to extended approvals such as ATEX 2/22 and marine approvals
- All versions can be used as an OPC UA client or as a server
- Key-operated devices with LED in every function key and new text input mechanism, similar to the keypads of mobile phones
- All keys have a service life of 2 million operations
- Configuring with the WinCC engineering software of the TIA Portal engineering framework

Note:

A 7" and a 15" Comfort Outdoor version are available. These devices have been specially designed for outdoor applications in difficult environments. Best display quality, even under sunlight, UV-resistant fronts and much more.

For further information, please go to:

<http://www.siemens.com/comfort-panels>

Technical specifications

Article number	6AV2124-2DC01-0AX0 SIMATIC HMI KTP400 Comfort
General information	
Product type designation	KTP400 Comfort
Display	
Design of display	TFT
Screen diagonal	4.3 in
Number of colors	16 777 216
Resolution (pixels)	
• Horizontal image resolution	480 Pixel
• Vertical image resolution	272 Pixel
Backlighting	
• MTBF backlighting (at 25 °C)	80 000 h
• Backlight dimmable	Yes; 0-100 %
Keyboard fonts	
• Function keys	
- Number of function keys	4
Touch operation	
• Design as touch screen	Yes
Installation type/mounting	
Mounting in portrait format possible	Yes
Supply voltage	
Type of supply voltage	DC
Rated value (DC)	24 V
Memory	
Memory available for user data	4 Mbyte
Type of output	
Acoustics	
• Speaker	No

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels standard devices

Technical specifications (continued)

Article number	6AV2124-2DC01-0AX0 SIMATIC HMI KTP400 Comfort
Time of day	
Clock	
• Hardware clock (real-time)	Yes
• retentive	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes
Interfaces	
Number of industrial Ethernet interfaces	1
Number of RS 485 interfaces	1; RS 422 / 485 combined
Number of USB interfaces	1; USB 2.0
• USB Mini B	1; 5-pole
Number of SD card slots	2
Industrial Ethernet	
• Number of ports of the integrated switch	1; No switch integrated
Protocols	
PROFINET	Yes
IRT	No
PROFIBUS	Yes
MPI	Yes
Redundancy mode	
• MRP	No
Degree and class of protection	
IP (at the front)	IP65
Enclosure Type 4x at the front	Yes
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
Use in hazardous areas	
• ATEX Zone 2	Yes
• ATEX Zone 22	Yes
• IECEx Zone 2	Yes
• IECEx Zone 22	Yes
• cULus Class I Zone 2, Division 2	Yes
• FM Class I Division 2	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
• Polski Rejestr Statkow (PRS)	No

Article number	6AV2124-2DC01-0AX0 SIMATIC HMI KTP400 Comfort
Ambient conditions	
Ambient temperature during operation	
• Operation (vertical installation)	
- For vertical installation, min.	0 °C
- For vertical installation, max.	50 °C
Relative humidity	
• Operation, max.	90 %; no condensation
Configuration	
Configuration software	
• WinCC Comfort (TIA Portal)	Yes; from V11
Languages	
Online languages	
• Number of online/runtime languages	32
Functionality under WinCC (TIA Portal)	
Applications/options	
• Web browser	Yes
• Pocket Word	Yes
• Pocket Excel	Yes
• PDF Viewer	Yes
• Media Player	Yes
• SIMATIC WinCC Sm@rtServer	Yes
• SIMATIC WinCC Audit	Yes
Number of Visual Basic Scripts	Yes
Task planner	
• time-controlled	Yes
• task-controlled	Yes
Message system	
• Bit messages	
- Number of bit messages	2 000
• Analog messages	
- Number of analog messages	50
• Message buffer	
- Number of entries	256
- Circulating buffer	Yes
- retentive	Yes
Recipe management	
• Number of recipes	100
• Size of internal recipe memory	512 kbyte
• Recipe memory expandable	Yes
Variables	
• Number of variables per device	1 024
• Number of variables per screen	50
Images	
• Number of configurable images	500

Technical specifications (continued)

Article number	6AV2124-2DC01-0AX0 SIMATIC HMI KTP400 Comfort
Archiving	
• Number of archives per device	10
Security	
• Number of user groups	50
• Number of users	50
• SIMATIC Logon	Yes
Logging through printer	
• Alarms	Yes
• Report (shift log)	Yes
• Hardcopy	Yes
• Electronic print to file	Yes; PDF, HTML
Transfer (upload/download)	
• MPI/PROFIBUS DP	Yes
• Ethernet	Yes
Process coupling	
• S7-1200	Yes
• S7-1500	Yes
• S7-200	Yes
• S7-300/400	Yes
• LOGO!	Yes
• WinAC	Yes
• SIMOTION	Yes
• Allen Bradley (EtherNet/IP)	Yes
• Allen Bradley (DF1)	Yes
• Mitsubishi (MC TCP/IP)	Yes
• Mitsubishi (FX)	Yes
• OMRON (FINS TCP)	No
• OMRON (LINK/Multilink)	Yes
• Modicon (Modbus TCP/IP)	Yes
• Modicon (Modbus)	Yes
• OPC UA Client	Yes
• OPC UA Server	Yes

Article number	6AV2124-2DC01-0AX0 SIMATIC HMI KTP400 Comfort
Peripherals/Options	
Peripherals	
• Printer	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB
• USB memory	Yes
• Network camera	Yes
Mechanics/material	
Enclosure material (front)	
• Plastic	Yes
• Aluminum	No
• Stainless steel	No
Dimensions	
Width of the housing front	140 mm
Height of housing front	116 mm
Mounting cutout, width	123 mm
Mounting cutout, height	99 mm
Overall depth	49 mm
Weights	
Weight without packaging	0.6 kg

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels standard devices

Technical specifications (continued)

Article number	6AV2124-1DC01-0AX0 SIMATIC HMI KP400 Comfort	6AV2124-1GC01-0AX0 SIMATIC HMI KP700 Comfort	6AV2124-1JC01-0AX0 SIMATIC HMI KP900 Comfort	6AV2124-1MC01-0AX0 SIMATIC HMI KP1200 Comfort	6AV2124-1QC02-0AX1 SIMATIC HMI KP1500 Comfort
Display					
Design of display	TFT	TFT	TFT	TFT	TFT
Screen diagonal	4.3 in	7 in	9 in	12.1 in	15.4 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
Resolution (pixels)					
• Horizontal image resolution	480 Pixel	800 Pixel	800 Pixel	1 280 Pixel	1 280 Pixel
• Vertical image resolution	272 Pixel	480 Pixel	480 Pixel	800 Pixel	800 Pixel
Backlighting					
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h	80 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; LED, dimmable
Keyboard fonts					
• Function keys					
- Number of function keys	8	24	26	34	36
Touch operation					
• Design as touch screen	No	No	No	No	No
Installation type/mounting					
Mounting in portrait format possible	No	No	No	No	No
Supply voltage					
Type of supply voltage	DC	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
Memory					
Memory available for user data	4 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte	24 Mbyte
Type of output					
Acoustics					
• Speaker	No	Yes	Yes	Yes	Yes
Time of day					
Clock					
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks				
• synchronizable	Yes	Yes	Yes	Yes	Yes
Interfaces					
Number of industrial Ethernet interfaces	1	1; 2 ports (switch)	1; 2 ports (switch)	1; 2 ports (switch)	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	1; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole	1; 5-pole	1; 5-pole	
Number of SD card slots	2	2	2	2	2
Industrial Ethernet					
• Number of ports of the integrated switch	1; No switch integrated	2	2	2	2
Protocols					
PROFINET	Yes	Yes	Yes	Yes	Yes
IRT	No	Yes; As of WinCC V12			Yes
PROFIBUS	Yes	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes	Yes
Redundancy mode					
• MRP	No	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes
Degree and class of protection					
IP (at the front)	IP65	IP65	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes
IP (rear)	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)					Yes

Technical specifications (continued)

Article number	6AV2124-1DC01-0AX0 SIMATIC HMI KP400 Comfort	6AV2124-1GC01-0AX0 SIMATIC HMI KP700 Comfort	6AV2124-1JC01-0AX0 SIMATIC HMI KP900 Comfort	6AV2124-1MC01-0AX0 SIMATIC HMI KP1200 Comfort	6AV2124-1QC02-0AX1 SIMATIC HMI KP1500 Comfort
Use in hazardous areas					
• ATEX Zone 2/22	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes	No
• IECEx Zone 2/22	Yes	Yes	Yes	Yes	No
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes	Yes	Yes; For inscription on device rating plate
• cULus Class II Division 2					No; Available soon
• FM Class I Division 2	Yes	Yes	Yes	Yes	Yes; For inscription on device rating plate
• FM Class II Division 2					No; Available soon
Marine approval					
• Germanischer Lloyd (GL)	Yes	Yes	Yes	Yes; As of product version: 10	No
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes; As of product version: 10	No
• Bureau Veritas (BV)	Yes	Yes	Yes	Yes; As of product version: 10	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes; As of product version: 10	No
• Korean Register of Shipping (KRS)					No
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes; As of product version: 10	No
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes	Yes; As of product version: 10	No
• Polski Rejestr Statkow (PRS)	No	No	No	No	No
• Chinese Classification Society (CCS)					No
Ambient conditions					
Ambient temperature during operation					
• Operation (vertical installation)					
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C; (55 °C, see entry ID: 64847814)			
Relative humidity					
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration					
Configuration software					
• WinCC Comfort (TIA Portal)	Yes; from V11	Yes; from V11	Yes; from V11	Yes; from V11	Yes; V14 SP1 HSP and higher
Languages					
• Number of online/runtime languag.	32	32	32	32	32
Functionality under WinCC (TIA Portal)					
Applications/options					
• Web browser	Yes	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes
Task planner					
• time-controlled	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes
Message system					
• Number of bit messages	2 000	4 000	4 000	4 000	6 000
• Number of analog messages	50	200	200	200	200
• Message buffer					
- Number of entries	256	1 024	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes
Recipe management					
• Number of recipes	100	300	300	300	500
• Size of internal recipe memory	512 kbyte	2 Mbyte	2 Mbyte	2 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels standard devices

Technical specifications (continued)

Article number	6AV2124-1DC01-0AX0 SIMATIC HMI KP400 Comfort	6AV2124-1GC01-0AX0 SIMATIC HMI KP700 Comfort	6AV2124-1JC01-0AX0 SIMATIC HMI KP900 Comfort	6AV2124-1MC01-0AX0 SIMATIC HMI KP1200 Comfort	6AV2124-1QC02-0AX1 SIMATIC HMI KP1500 Comfort
Variables					
• Number of variables per device	1 024	2 048	2 048	2 048	4 096
• Number of variables per screen	50	400	400	400	400
Images					
• Number of configurable images	500	500	500	500	750
Archiving					
• Number of archives per device	10	50	50	50	50
Security					
• Number of user groups	50	50	50	50	50
• Number of users	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes
Logging through printer					
• Alarms	Yes	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
Transfer (upload/download)					
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes	Yes
Process coupling					
• S7-1200	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes
Peripherals/Options					
Peripherals					
• Printer	Yes	Yes	Yes	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes	Yes	Yes	Yes
• Network camera	Yes	Yes	Yes	Yes	Yes
Mechanics/material					
Enclosure material (front)					
• Plastic	Yes	No	No	No	No
• Aluminum	No	Yes	Yes	Yes	Yes
• Stainless steel	No	No	No	No	No
Dimensions					
Width of the housing front	152 mm	308 mm	362 mm	454 mm	483 mm
Height of housing front	188 mm	204 mm	230 mm	289 mm	310 mm
Mounting cutout, width	135 mm	281 mm	338 mm	434 mm	450 mm
Mounting cutout, height	171 mm	177 mm	206 mm	269 mm	291 mm
Overall depth	49 mm	63 mm	63 mm	65 mm	75 mm
Weights					
Weight without packaging	0.8 kg	2.2 kg	2.7 kg	4.4 kg	4.7 kg

Technical specifications (continued)

Article number	6AV2124-0GC01-0AX0 SIMATIC HMI TP700 Comfort	6AV2124-0JC01-0AX0 SIMATIC HMI TP900 Comfort	6AV2124-0MC01-0AX0 SIMATIC HMI TP1200 Comfort	6AV2124-0QC02-0AX1 SIMATIC HMI TP1500 Comfort	6AV2124-0UC02-0AX1 SIMATIC HMI TP1900 Comfort	6AV2124-0XC02-0AX1 SIMATIC HMI TP2200 Comfort
General information						
Product type designation	TP700 Comfort	TP900 Comfort	TP1200 Comfort	TP1500 Comfort	TP1900 Comfort	TP2200 Comfort
Display						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	7 in	9 in	12.1 in	15.4 in	18.5 in	21.5 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
Resolution (pixels)						
• Horizontal image resolution	800 Pixel	800 Pixel	1 280 Pixel	1 280 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	480 Pixel	480 Pixel	800 Pixel	800 Pixel	768 Pixel	1 080 Pixel
Backlighting						
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h	50 000 h	30 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts						
• Function keys						
- Number of function keys	0	0	0	0	0	0
Touch operation						
• Design as touch screen	Yes	Yes	Yes	Yes	Yes	Yes
Installation type/mounting						
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
Supply voltage						
Type of supply voltage	DC	DC	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V	24 V	24 V
Memory						
Memory available for user data	12 Mbyte	12 Mbyte	12 Mbyte	24 Mbyte	24 Mbyte	24 Mbyte
Type of output						
Acoustics						
• Speaker	Yes	Yes	Yes	Yes	Yes	Yes
Time of day						
Clock						
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes	Yes	Yes	Yes
Interfaces						
Number of industrial Ethernet interf.	1; 2 ports (switch)	1; 2 ports (switch)	1; 2 ports (switch)	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole	1; 5-pole			
Number of SD card slots	2	2	2	2	2	2
Industrial Ethernet						
• Number of ports of the integrated switch	2	2	2	2	2	2
Protocols						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
IRT	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes	Yes	Yes
Redundancy mode						
• MRP	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes	Yes	Yes

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels standard devices

Technical specifications (continued)

Article number	6AV2124-0GC01-0AX0 SIMATIC HMI TP700 Comfort	6AV2124-0JC01-0AX0 SIMATIC HMI TP900 Comfort	6AV2124-0MC01-0AX0 SIMATIC HMI TP1200 Comfort	6AV2124-0QC02-0AX1 SIMATIC HMI TP1500 Comfort	6AV2124-0UC02-0AX1 SIMATIC HMI TP1900 Comfort	6AV2124-0XC02-0AX1 SIMATIC HMI TP2200 Comfort
Degree and class of protection						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
IP (rear)	IP20	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)				Yes	Yes	Yes
Use in hazardous areas						
• ATEX Zone 2	Yes	Yes	Yes	No	No	No
• ATEX Zone 22	Yes	Yes	Yes	No	No	No
• IECEx Zone 2	Yes	Yes	Yes	No	No	No
• IECEx Zone 22	Yes	Yes	Yes	No	No	No
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• cULus Class II Division 2				No; Available soon	No; Available soon	No; Available soon
• FM Class I Division 2	Yes	Yes	Yes	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• FM Class II Division 2				No; Available soon	No; Available soon	No; Available soon
Marine approval						
• Germanischer Lloyd (GL)	Yes	Yes	Yes; As of product version: 10	No	No	No
• American Bureau of Shipping (ABS)	Yes	Yes	Yes; As of product version: 10	No	No	No
• Bureau Veritas (BV)	Yes	Yes	Yes; As of product version: 10	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes; As of product version: 10	No	No	No
• Korean Register of Shipping (KRS)				No	No	No
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes; As of product version: 10	No	No	No
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes; As of product version: 10	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No	No	No	No
• Chinese Classification Society (CCS)				No	No	No
Ambient conditions						
Suited for indoor use				Yes	Yes	Yes
Suited for outdoor use				No	No	No
Ambient temperature during operation						
• Operation (vertical installation)						
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C; (55 °C, see entry ID: 64847814)	50 °C; (55 °C, see entry ID: 64847814)	50 °C; (55 °C, see entry ID: 64847814)	50 °C; (55 °C, see entry ID: 64847814)	45 °C	45 °C
Relative humidity						
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration						
Configuration software						
• WinCC Comfort (TIA Portal)	Yes; from V11	Yes; from V11	Yes; from V11	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher
Languages						
Online languages						
• Number of online/runtime languag.	32	32	32	32	32	32

Technical specifications (continued)

Article number	6AV2124-0GC01-0AX0 SIMATIC HMI TP700 Comfort	6AV2124-0JC01-0AX0 SIMATIC HMI TP900 Comfort	6AV2124-0MC01-0AX0 SIMATIC HMI TP1200 Comfort	6AV2124-0QC02-0AX1 SIMATIC HMI TP1500 Comfort	6AV2124-0UC02-0AX1 SIMATIC HMI TP1900 Comfort	6AV2124-0XC02-0AX1 SIMATIC HMI TP2200 Comfort
Functionality under WinCC (TIA Portal)						
Applications/options						
• Web browser	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes	Yes
Task planner						
• time-controlled	Yes	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes	Yes
Message system						
• Bit messages						
- Number of bit messages	4 000	4 000	4 000	6 000	6 000	6 000
• Analog messages						
- Number of analog messages	200	200	200	200	200	200
• Message buffer						
- Number of entries	1 024	1 024	1 024	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes	Yes
Recipe management						
• Number of recipes	300	300	300	500	500	500
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes	Yes
Variables						
• Number of variables per device	2 048	2 048	2 048	4 096	4 096	4 096
• Number of variables per screen	400	400	400	400	400	400
Images						
• Number of configurable images	500	500	500	750	750	750
Archiving						
• Number of archives per device	50	50	50	50	50	50
Security						
• Number of user groups	50	50	50	50	50	50
• Number of users	50	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes	Yes
Logging through printer						
• Alarms	Yes	Yes	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
Transfer (upload/download)						
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes	Yes	Yes

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels standard devices

Technical specifications (continued)

Article number	6AV2124-0GC01-0AX0 SIMATIC HMI TP700 Comfort	6AV2124-0JC01-0AX0 SIMATIC HMI TP900 Comfort	6AV2124-0MC01-0AX0 SIMATIC HMI TP1200 Comfort	6AV2124-0QC02-0AX1 SIMATIC HMI TP1500 Comfort	6AV2124-0UC02-0AX1 SIMATIC HMI TP1900 Comfort	6AV2124-0XC02-0AX1 SIMATIC HMI TP2200 Comfort
Process coupling						
• S7-1200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes	Yes
Peripherals/Options						
Peripherals						
• Printer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes	Yes	Yes	Yes	Yes
• Network camera	Yes	Yes	Yes	Yes	Yes	Yes
Mechanics/material						
Enclosure material (front)						
• Plastic	No	No	No	No	No	No
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Stainless steel	No	No	No	No	No	No
Dimensions						
Width of the housing front	214 mm	274 mm	330 mm	415 mm	483 mm	560 mm
Height of housing front	158 mm	190 mm	241 mm	310 mm	337 mm	380 mm
Mounting cutout, width	197 mm	251 mm	310 mm	396 mm	465 mm	542 mm
Mounting cutout, height	141 mm	166 mm	221 mm	291 mm	319 mm	362 mm
Overall depth	63 mm	63 mm	65 mm	75 mm	75 mm	75 mm
Weights						
Weight without packaging	1.4 kg	1.9 kg	2.8 kg	4.4 kg	5.6 kg	6.7 kg

Technical specifications (continued)

Article number	6AV2181-4DB20-0AX0 Starter Kit KTP400 Comfort	6AV2181-4GB00-0AX0 Starter Kit TP700 Comfort	6AV2181-4JB00-0AX0 Starter Kit TP900 Comfort	6AV2181-4MB00-0AX0 Starter Kit TP1200 Comfort	6AV2181-4QB00-0AX0 Starter Kit TP1500 Comfort	6AV2181-4UB00-0AX0 Starter Kit TP1900 Comfort	6AV2181-4XB00-0AX0 Starter Kit TP2200 Comfort
General information							
Product type designation	KTP400 Comfort	TP700 Comfort	TP900 Comfort	TP1200 Comfort	TP1500 Comfort	TP1900 Comfort	TP2200 Comfort
Display							
Design of display	TFT	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	4.3 in	7 in	9 in	12.1 in	15.4 in	18.5 in	21.5 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
Resolution (pixels)							
• Horizontal image resolution	480 Pixel	800 Pixel	800 Pixel	1 280 Pixel	1 280 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	272 Pixel	480 Pixel	480 Pixel	800 Pixel	800 Pixel	768 Pixel	1 080 Pixel
Keyboard fonts							
• Function keys							
- Number of function keys	4						
Touch operation							
• Design as touch screen	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Memory							
Memory available for user data	4 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte	24 Mbyte	24 Mbyte	24 Mbyte
Interfaces							
Number of industrial Ethernet interfaces	1	2	2	2	3	3	3
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	1; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0
Protocols							
PROFIBUS	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Degree and class of protection							
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65	IP65
Languages							
Online languages							
• Number of online/runtime languages	32	32	32	32	32	32	32
Security							
• Number of user groups	50	50	50	50	50	50	50
Peripherals/Options							
Peripherals							
• Printer	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dimensions							
Width of the housing front	140 mm	214 mm	274 mm	330 mm	415 mm	483 mm	560 mm
Height of housing front	116 mm	158 mm	190 mm	241 mm	310 mm	337 mm	380 mm
Overall depth	49 mm	63 mm	63 mm	65 mm	75 mm	75 mm	75 mm

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels standard devices

Ordering data	Article No.
SIMATIC HMI Comfort Panels	
Key and touch devices	
SIMATIC HMI KTP400 Comfort Key/touch-screen operation; 4" widescreen display	6AV2124-2DC01-0AX0
Touch devices	
SIMATIC HMI TP700 Comfort Touch-screen operation; 7" widescreen display	6AV2124-0GC01-0AX0
SIMATIC HMI TP900 Comfort Touch-screen operation; 9" widescreen display	6AV2124-0JC01-0AX0
SIMATIC HMI TP1200 Comfort Touch-screen operation; 12" widescreen display	6AV2124-0MC01-0AX0
SIMATIC HMI TP1500 Comfort Touch-screen operation; 15" widescreen display	6AV2124-0QC02-0AX1
SIMATIC HMI TP1900 Comfort Touch-screen operation; 19" widescreen display	6AV2124-0UC02-0AX1
SIMATIC HMI TP2200 Comfort Touch-screen operation; 22" widescreen display	6AV2124-0XC02-0AX1
Key devices	
SIMATIC HMI KP400 Comfort Key operation; 4" widescreen display	6AV2124-1DC01-0AX0
SIMATIC HMI KP700 Comfort Key operation; 7" widescreen display	6AV2124-1GC01-0AX0
SIMATIC HMI KP900 Comfort Key operation; 9" widescreen display	6AV2124-1JC01-0AX0
SIMATIC HMI KP1200 Comfort Key operation; 12" widescreen display	6AV2124-1MC01-0AX0
SIMATIC HMI KP1500 Comfort Key operation; 15" widescreen display	6AV2124-1QC02-0AX1
Starter kits for SIMATIC HMI Comfort Panels Consisting of: the respective SIMATIC HMI Comfort Panel, SIMATIC WinCC Comfort, Ethernet cable, 2 m SIMATIC HMI Memory Card 2 GB , 10 protective films for touch screen devices	
Starter kit for SIMATIC HMI KTP400 Comfort, Key and Touch	6AV2181-4DB20-0AX0
Starter kit for SIMATIC HMI TP700 Comfort, Touch	6AV2181-4GB00-0AX0
Starter kit for SIMATIC HMI TP900 Comfort, Touch	6AV2181-4JB00-0AX0
Starter kit for SIMATIC HMI TP1200 Comfort, Touch	6AV2181-4MB00-0AX0
Starter kit for SIMATIC HMI TP1500 Comfort, Touch	6AV2181-4QB00-0AX0
Starter kit for SIMATIC HMI TP1900 Comfort, Touch	6AV2181-4UB00-0AX0
Starter kit for SIMATIC HMI TP2200 Comfort, Touch	6AV2181-4XB00-0AX0
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

More information is available on the Internet at:

<http://www.siemens.com/comfort-panels>

You can find an overview of approved printers, supply sources and printer settings on the Internet at:

<http://support.automation.siemens.com/WW/view/en/11376409>

Certain SIMATIC HMI Comfort Panels allow the application of a customer name or logo, or selection of the membrane color in accordance with the customer's corporate design. This is also possible for small quantities.

More information is available at:

<http://www.siemens.com/express-hmi-tool>

Overview



- Wide range of communication options: PROFIBUS and PROFINET onboard; 2x PROFINET with integrated switch for 7" models or larger; plus 1 additional PROFINET with Gigabit support for 15" models or larger
 - All variants can be used as an OPC UA client or as an OPC DA server
 - Key-operated devices with LED in every function key and new text input mechanism, similar to the keypads of mobile phones
 - Key-operated devices with stamped keys for optimum tactile feedback
 - All keys have a service life of 2 million operations
 - Configuring with the WinCC engineering software of the TIA Portal
- Note:**
- SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.
- Excellent HMI functionality for demanding applications
 - Widescreen TFT displays with 4", 7", 9", 12", 15", 19" and 22" diagonals (all 16 million colors) with up to 40% more visualization area as compared to the predecessor devices
 - Integrated high-end functionality with archives, scripts, PDF/Word/Excel viewer, Internet Explorer, Media Player
 - Dimmable displays from 0 to 100% via PROFIenergy, via the HMI project or via a controller
 - Modern industrial design, cast aluminum fronts for 7" upwards
 - Upright installation for all touch devices
 - Optimal selection option: seven touch and five key versions are available
 - Data security in the event of a power failure for the device and for the SIMATIC HMI Memory Card
 - Innovative service and commissioning concept through second SD card (automatic backup)
 - Easy project transfer via standard cable (standard Ethernet cable, standard USB cable)
 - Maximum performance with short screen refresh times
 - Suitable for extremely harsh industrial environments thanks to extended approvals such as ATEX 2/22

Operator panels

Advanced HMI Panel-based Comfort Panels

SIPLUS Comfort Panels Standard

Technical specifications

Article number	6AG1124-2DC01-4AX0 SIPLUS HMI KTP400 COMFORT	6AG1124-0GC01-4AX0 SIPLUS HMI TP700 COMFORT	6AG1124-0JC01-4AX0 SIPLUS HMI TP900 COMFORT	6AG1124-0MC01-4AX0 SIPLUS HMI TP1200 COMFORT
General information				
Product type designation	KTP400 Comfort	TP700 Comfort	TP900 Comfort	TP1200 Comfort
Ambient conditions				
Suited for indoor use	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No
Ambient temperature during operation				
• Operation (vertical installation)				
- For vertical installation, min.	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin
- For vertical installation, max.	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax
Altitude during operation relating to sea level				
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity				
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)			
Resistance				
Coolants and lubricants				
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems				
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request			
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *			
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea				
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request			
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *			
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust, *	Yes; Class 6S3 incl. sand, dust, *	Yes; Class 6S3 incl. sand, dust, *	Yes; Class 6S3 incl. sand, dust, *
Remark				
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!			
Conformal coating				
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high availability			
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

Technical specifications (continued)

Article number	6AG1124-1DC01-4AX0 SIPLUS HMI KP400 COMFORT	6AG1124-1GC01-4AX0 SIPLUS HMI KP700 COMFORT	6AG1124-1JC01-4AX0 SIPLUS HMI KP900 COMFORT	6AG1124-1MC01-4AX0 SIPLUS HMI KP1200 COMFORT	6AG1124-1QC02-4AX1 SIPLUS HMI KP1500 Comfort
General information					
Product type designation	KP400 Comfort	KP700 Comfort	KP900 Comfort	KP1200 Comfort	KP1500 Comfort
Ambient conditions					
Suited for indoor use	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No
Ambient temperature during operation					
• Operation (vertical installation)					
- For vertical installation, min.	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin	0 °C
- For vertical installation, max.	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax	50 °C; (55 °C, see entry ID: 64847814)
Altitude during operation relating to sea level					
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)				
Relative humidity					
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)				
Resistance					
Coolants and lubricants					
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems					
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request				
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *				
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust; *	Yes; Class 3S4 incl. sand, dust; *	Yes; Class 3S4 incl. sand, dust; *	Yes; Class 3S4 incl. sand, dust; *	Yes; Class 3S4 incl. sand, dust; *
Use on ships/at sea					
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request				
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *				
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
Remark					
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!				
Conformal coating					
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high availability	Yes; Class 2 for high availability	Yes; Class 2 for high availability	Yes; Class 2 for high availability	Yes; Class 2 for high availability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

Operator panels

Advanced HMI Panel-based Comfort Panels

SIPLUS Comfort Panels Standard

Technical specifications (continued)

Article number	6AG1124-0QC02-4AX1 SIPLUS HMI TP1500 Comfort	6AG1124-0UC02-4AX1 SIPLUS HMI TP1900 Comfort	6AG1124-0XC02-4AX1 SIPLUS HMI TP2200 Comfort
Ambient conditions			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C; = Tmin	0 °C; = Tmin
- For vertical installation, max.	50 °C; (55 °C, see entry ID: 64847814)	45 °C; = Tmax	45 °C; = Tmax
Altitude during operation relating to sea level			
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 080 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax - 20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance			
Coolants and lubricants			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
Remark			
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating			
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high availability	Yes; Class 2 for high availability	Yes; Class 2 for high availability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

Ordering data	Article No.
SIPLUS HMI Comfort Panels, Keys and Touch	
SIPLUS HMI KTP400 Comfort	6AG1124-2DC01-4AX0
SIPLUS HMI Comfort Panels, Touch	
SIPLUS HMI TP700 Comfort	6AG1124-0GC01-4AX0
SIPLUS HMI TP900 Comfort	6AG1124-0JC01-4AX0
SIPLUS HMI TP1200 Comfort	6AG1124-0MC01-4AX0
SIPLUS HMI TP1500 Comfort	6AG1124-0QC02-4AX1
SIPLUS HMI TP1900 Comfort	6AG1124-0UC02-4AX1
SIPLUS HMI TP2200 Comfort	6AG1124-0XC02-4AX1
SIPLUS HMI Comfort Panels, Keys	
SIPLUS HMI KP400 Comfort	6AG1124-1DC01-4AX0
SIPLUS HMI KP700 Comfort	6AG1124-1GC01-4AX0
SIPLUS HMI KP900 Comfort	6AG1124-1JC01-4AX0
SIPLUS HMI KP1200 Comfort	6AG1124-1MC01-4AX0
SIPLUS HMI KP1500 Comfort	6AG1124-1QC02-4AX1
Accessories	See HMI accessories

More information

More information is available on the Internet at:

<http://www.siemens.com/comfort-panels>

You can find an overview of approved printers, supply sources and printer settings on the Internet at:

<http://support.automation.siemens.com/WW/view/en/11376409>

Certain SIMATIC HMI Comfort Panels allow the application of a customer name or logo, or selection of the membrane color in accordance with the customer's corporate design. This is also possible for small quantities.

More information is available at:

<http://www.siemens.com/express-hmi-tool>

Operator panels

Advanced HMI Panel-based
Comfort Panels

SIMATIC HMI Comfort Panels Outdoor

Overview



- For outdoor operation without additional measures
- 7" and 15" daylight-readable display, widescreen
- Automatic, central or manual dimming of the backlight, with integrated sensor
- Panel front 100% UV protected
- Front resistant to salt mist
- Front IP66 and Nema4 x (indoor/outdoor)
- Numerous explosion protection and shipbuilding certifications
- Extended operating temperature range: from -30 °C to +60 °C at 3 000 m installation altitude
- TIA Portal central engineering tool (WinCC V13 SP1&HSP or higher)
- Comfort Panel functionality and performance

Notice:

The 7" Comfort Panel Outdoor corresponds to a 7" Comfort Panel Standard, the 15" Comfort Panel Outdoor corresponds to a 12" Comfort Panel Standard in respect of performance, functionality and quantity structure.

<http://www.siemens.com/comfort-panels-outdoor>

SIMATIC HMI Comfort Panels Outdoor

Special HMI Panels have been developed which are designed to withstand outdoor environments.

It's not only extreme temperatures which call for robust hardware. Direct sunlight, too, must not be allowed to impair display readability and the panel front must be protected from UV radiation. The specially-bonded Outdoor fronts and the rugged hardware of the Outdoor Panels make the SIMATIC HMI Comfort Panels Outdoor a reliable partner in this environment.

Technical specifications

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
General information		
Product type designation	TP700 Comfort Outdoor	TP1500 Comfort Outdoor
Display		
Design of display	TFT, bonded, daylight-readable	TFT, bonded, daylight-readable
Screen diagonal	7 in	15.4 in
Number of colors	16 777 216	16 777 216
Resolution (pixels)		
• Horizontal image resolution	800 Pixel	1 280 Pixel
• Vertical image resolution	480 Pixel	800 Pixel
Backlighting		
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h
• Backlight dimmable	Yes; LED, can be dimmed manually or automatically	
Keyboard fonts		
• Function keys		
- Number of function keys	0	0
Touch operation		
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
Installation type/mounting		
Mounting in portrait format possible	Yes	Yes
Supply voltage		
Type of supply voltage	DC	DC
Rated value (DC)	24 V	24 V
Memory		
Memory available for user data	12 Mbyte	12 Mbyte
Type of output		
Acoustics		
• Speaker	Yes	Yes
Time of day		
Clock		
• Hardware clock (real-time)	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes

Technical specifications (continued)

Article number	6AV2124-0GC13-0AX0 SIMATIC HMI TP700 Comfort Outdoor	6AV2124-0QC13-0AX0 SIMATIC HMI TP1500 Comfort Outdoor
Interfaces		
Number of industrial Ethernet interfaces	2	2
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole
Number of SD card slots	2	2
Industrial Ethernet		
• Number of ports of the integrated switch	2	2
Protocols		
PROFINET	Yes	Yes
IRT	Yes; WinCC V13 SP1 HSP or higher	Yes; WinCC V13 SP1 HSP or higher
PROFIBUS	Yes	Yes
MPI	Yes	Yes
Redundancy mode		
• MRP	Yes; WinCC V13 SP1 HSP or higher	Yes; WinCC V13 SP1 HSP or higher
Degree and class of protection		
IP (at the front)	IP66	IP66
Enclosure Type 4x at the front	Yes	Yes
IP (rear)	IP20	IP20
Standards, approvals, certificates		
CE mark	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
Use in hazardous areas		
• ATEX Zone 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• ATEX Zone 22	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• IECEx Zone 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• IECEx Zone 22	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• cULus Class I Zone 2, Division 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• FM Class I Division 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate

Article number	6AV2124-0GC13-0AX0 SIMATIC HMI TP700 Comfort Outdoor	6AV2124-0QC13-0AX0 SIMATIC HMI TP1500 Comfort Outdoor
Marine approval		
• Germanischer Lloyd (GL)	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes
• Bureau Veritas (BV)	Yes; Available soon	Yes; Available soon
• Det Norske Veritas (DNV)	Yes	Yes
• Korean Register of Shipping (KRS)	No; Available soon	No; Available soon
• Lloyds Register of Shipping (LRS)	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes; Available soon	Yes; Available soon
• Polski Rejestr Statkow (PRS)	No	No
• Chinese Classification Society (CCS)	Yes; Available soon	Yes; Available soon
• Compass working clearance	5 m	5 m
Ambient conditions		
Suited for indoor use	Yes	Yes
Suited for outdoor use	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
Ambient temperature during operation		
• Operation (vertical installation)		
- For vertical installation, min.	-30 °C	-30 °C
- For vertical installation, max.	60 °C; (55 °C, see entry ID: 64847814)	60 °C; (55 °C, see entry ID: 64847814)
Altitude during operation relating to sea level		
• Installation altitude above sea level, max.	3 000 m; Depending on the operating temperature	3 000 m; Depending on the operating temperature
Relative humidity		
• Operation, max.	90 %; no condensation	90 %; no condensation
Configuration		
Configuration software		
• WinCC Comfort (TIA Portal)	Yes; WinCC V13 SP1 Update 7 + HSP or higher	Yes; WinCC V13 SP1 Update 7 + HSP or higher
Languages		
Online languages		
• Number of online/runtime languages	32	32

Operator panels

Advanced HMI Panel-based Comfort Panels

SIMATIC HMI Comfort Panels Outdoor

Technical specifications (continued)

Article number	6AV2124-0GC13-0AX0 SIMATIC HMI TP700 Comfort Outdoor	6AV2124-0QC13-0AX0 SIMATIC HMI TP1500 Comfort Outdoor
Functionality under WinCC (TIA Portal)		
Applications/options		
• Web browser	Yes	Yes
• Pocket Word	Yes	Yes
• Pocket Excel	Yes	Yes
• PDF Viewer	Yes	Yes
• Media Player	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes
Task planner		
• time-controlled	Yes	Yes
• task-controlled	Yes	Yes
Message system		
• Bit messages		
- Number of bit messages	4 000	4 000
• Analog messages		
- Number of analog messages	200	200
• Message buffer		
- Number of entries	1 024	1 024
- Circulating buffer	Yes	Yes
- retentive	Yes	Yes
Recipe management		
• Number of recipes	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes
Variables		
• Number of variables per device	2 048	2 048
• Number of variables per screen	400	400
Images		
• Number of configurable images	500	500
Archiving		
• Number of archives per device	50	50
Security		
• Number of user groups	50	50
• Number of users	50	50
• SIMATIC Logon	Yes	Yes
Logging through printer		
• Alarms	Yes	Yes
• Report (shift log)	Yes	Yes
• Hardcopy	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML
Transfer (upload/download)		
• MPI/PROFIBUS DP	Yes	Yes
• Ethernet	Yes	Yes

Article number	6AV2124-0GC13-0AX0 SIMATIC HMI TP700 Comfort Outdoor	6AV2124-0QC13-0AX0 SIMATIC HMI TP1500 Comfort Outdoor
Process coupling		
• S7-1200	Yes	Yes
• S7-1500	Yes	Yes
• S7-200	Yes	Yes
• S7-300/400	Yes	Yes
• LOGO!	Yes	Yes
• WinAC	Yes	Yes
• SIMOTION	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes
• Mitsubishi (FX)	Yes	Yes
• OMRON (FINS TCP)	No	No
• OMRON (LINK/Multilink)	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes
• Modicon (Modbus)	Yes	Yes
• OPC UA Client	Yes	Yes
• OPC UA Server	Yes	Yes
Peripherals/Options		
Peripherals		
• Printer	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes	Yes
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes
• USB memory	Yes; e.g. USB RFID reader, see FAQ entry ID: 99808171	Yes; e.g. USB RFID reader, see FAQ entry ID: 99808171
• Network camera	Yes; See FAQ Entry ID: 62383298 and entry ID: 65647473	Yes; See FAQ Entry ID: 62383298 and entry ID: 65647473
Accessories		
Expansion module	Optional e.g. USB RFID reader, see FAQ entry ID: 99808171	Optional e.g. USB RFID reader, see FAQ entry ID: 99808171
Further accessories are available	Yes; Mounting clips and 2-pin power supply connector	Yes; Mounting clips and 2-pin power supply connector
Mechanics/material		
Enclosure material (front)		
• Plastic	No	No
• Aluminum	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
• Stainless steel	No	No
Dimensions		
Width of the housing front	214 mm	415 mm
Height of housing front	158 mm	310 mm
Mounting cutout, width	197 mm	396 mm
Mounting cutout, height	141 mm	291 mm
Overall depth	67 mm	77 mm
Weights		
Weight without packaging	1.5 kg	4 kg
Other		
Note:	Power, quantity structure and performance correspond to a standard 7" Comfort Panel	Power, quantity structure and performance correspond to a standard 12" Comfort Panel

Technical specifications (continued)

Article number	6AV2124-0GC10-0SA0 Starter kit TP700 Comfort Outdoor	6AV2124-0QC10-0SA0 Starter kit TP1500 Comfort Outdoor
General information		
Product type designation	TP700 Outdoor	TP1500 Outdoor
Display		
Design of display	TFT, bonded, daylight-readable	TFT, bonded, daylight-readable
Screen diagonal	7 in	15.4 in
Number of colors	16 777 216	16 777 216
Resolution (pixels)		
• Horizontal image resolution	800 Pixel	1 280 Pixel
• Vertical image resolut.	480 Pixel	800 Pixel
Backlighting		
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h
• Backlight dimmable	Yes; LED, can be dimmed manually or automatically	Yes; LED, can be dimmed manually or automatically
Keyboard fonts		
• Function keys		
- Number of function keys	0	0
Touch operation		
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive
Installation type/mounting		
Mounting in portrait format possible	Yes	Yes
Supply voltage		
Type of supply voltage	DC	DC
Rated value (DC)	24 V	24 V
Memory		
Memory available for user data	12 Mbyte	12 Mbyte
Type of output		
Acoustics		
• Speaker	Yes	Yes
Time of day		
Clock		
• Hardware clock (real-time)	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes
Interfaces		
Number of industrial Ethernet interfaces	2	2
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole
Number of SD card slots	2	2
Industrial Ethernet		
• Number of ports of the integrated switch	2	2
Protocols		
PROFINET	Yes	Yes
IRT	Yes; WinCC V13 SP1 HSP or higher	Yes; WinCC V13 SP1 HSP or higher
PROFIBUS	Yes	Yes
MPI	Yes	Yes
Redundancy mode		
• MRP	Yes; WinCC V13 SP1 HSP or higher	Yes; WinCC V13 SP1 HSP or higher

Article number	6AV2124-0GC10-0SA0 Starter kit TP700 Comfort Outdoor	6AV2124-0QC10-0SA0 Starter kit TP1500 Comfort Outdoor
Degree and class of protection		
IP (at the front)/ (rear)	IP66/IP20	IP66/IP20
Enclosure Type 4x at the front	Yes	Yes
Standards, approvals, certificates		
CE mark	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
Use in hazardous areas		
• ATEX Zone 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• ATEX Zone 22	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• IECEx Zone 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• IECEx Zone 22	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• cULus Class I Zone 2, Division 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• FM Class I Division 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
Marine approval		
• Germanischer Lloyd (GL)	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes
• Bureau Veritas (BV)	Yes; Available soon	Yes; Available soon
• Det Norske Veritas (DNV)	Yes	Yes
• Korean Register of Shipping (KRS)	No; Available soon	No; Available soon
• Lloyds Register of Shipping (LRS)	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes; Available soon	Yes; Available soon
• Polski Rejestr Statkow (PRS)	No	No
• Chinese Classification Society (CCS)	Yes; Available soon	Yes; Available soon
• Compass working clearance	5 m	5 m
Ambient conditions		
Suited for indoor use	Yes	Yes
Suited for outdoor use	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
Ambient temperature during operation		
• Operation (vertical installation)		
- For vertical installation, min.	-30 °C	-30 °C
- For vertical installation, max.	60 °C; (55 °C, see entry ID: 64847814)	60 °C; (55 °C, see entry ID: 64847814)
Altitude during operation relating to sea level		
• Installation altitude above sea level, max.	3 000 m; Depending on the operating temperature	3 000 m; Depending on the operating temperature
Relative humidity		
• Operation, max.	90 %; no condensation	90 %; no condensation
Configuration		
Configuration software		
• WinCC Comfort (TIA Portal)	Yes; WinCC V13 SP1 Update 7 + HSP or higher	Yes; WinCC V13 SP1 Update 7 + HSP or higher
Languages		
Online languages		
• Number of online/runtime languages	32	32

Operator panels

Advanced HMI Panel-based Comfort Panels

SIMATIC HMI Comfort Panels Outdoor

Technical specifications (continued)

Article number	6AV2124-0GC10-0SA0 Starter kit TP700 Comfort Outdoor	6AV2124-0QC10-0SA0 Starter kit TP1500 Comfort Outdoor
Functionality under WinCC (TIA Portal)		
Applications/options		
• Web browser	Yes	Yes
• Pocket Word	Yes	Yes
• Pocket Excel	Yes	Yes
• PDF Viewer	Yes	Yes
• Media Player	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes
Task planner		
• time-controlled	Yes	Yes
• task-controlled	Yes	Yes
Message system		
• Bit messages		
- Number of bit messages	4 000	4 000
• Analog messages		
- Number of analog messages	200	200
• Message buffer		
- Number of entries	1 024	1 024
- Circulating buffer	Yes	Yes
- retentive	Yes	Yes
Recipe management		
• Number of recipes	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes
Variables		
• Number of variables per device	2 048	2 048
• Number of variables per screen	400	400
Images		
• Number of configurable images	500	500
Archiving		
• Number of archives per device	50	50
Security		
• Number of user groups	50	50
• Number of users	50	50
• SIMATIC Logon	Yes	Yes
Logging through printer		
• Alarms	Yes	Yes
• Report (shift log)	Yes	Yes
• Hardcopy	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML
Transfer (upload/download)		
• MPI/PROFIBUS DP	Yes	Yes
• Ethernet	Yes	Yes

Article number	6AV2124-0GC10-0SA0 Starter kit TP700 Comfort Outdoor	6AV2124-0QC10-0SA0 Starter kit TP1500 Comfort Outdoor
Process coupling		
• S7-1200	Yes	Yes
• S7-1500	Yes	Yes
• S7-200	Yes	Yes
• S7-300/400	Yes	Yes
• LOGO!	Yes	Yes
• WinAC	Yes	Yes
• SIMOTION	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes
• Mitsubishi (FX)	Yes	Yes
• OMRON (FINS TCP)	No	No
• OMRON (LINK/Multilink)	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes
• Modicon (Modbus)	Yes	Yes
• OPC UA Client	Yes	Yes
• OPC UA Server	Yes	Yes
Peripherals/Options		
Peripherals		
• Printer	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes	Yes
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes
• USB memory	Yes; e.g. USB RFID reader, see FAQ entry ID: 99808171	
• Network camera	Yes; See FAQ Entry ID: 62383298 and entry ID: 65647473	
Accessories		
Expansion module	Optional e.g. USB RFID reader, see FAQ entry ID: 99808171	
Further accessories are available	Yes; Incl. 1x outdoor SD system card, 1x touch pen system for resistive and capacitive touch displays, and current engineering system WinCC Comfort	
Mechanics/material		
Enclosure material (front)		
• Plastic	No	No
• Aluminum	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
• Stainless steel	No	No
Dimensions		
Width of the housing front	214 mm	415 mm
Height of housing front	158 mm	310 mm
Mounting cutout, width	197 mm	396 mm
Mounting cutout, height	141 mm	291 mm
Overall depth	67 mm	77 mm
Weights		
Weight without packaging	1.8 kg	4.3 kg
Other		
Note:	Power, quantity structure and performance correspond to a standard 7" Comfort Panel	

Ordering data	Article No.	More information
<p>SIMATIC HMI Comfort Panels Outdoor</p> <p>SIMATIC TP700 Comfort Panel Outdoor</p> <p>Touch operation, 7" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable as from WinCC Comfort V13, SP1, HSP</p>	6AV2124-0GC13-0AX0	<p>More information is available on the Internet at: http://www.siemens.com/comfort-panels-outdoor</p> <p><u>Note:</u></p> <p>The TP700 Comfort Panel Outdoor is comparable with the TP700 Comfort Panel Standard.</p> <p>The TP1500 Comfort Panel Outdoor is comparable with the TP1200 Comfort Panel Standard with a 15" display.</p> <p>A TP1500 Comfort Standard unit with the maximum possible configuration cannot be installed on a TP1500 Comfort Panel Outdoor.</p>
<p>SIMATIC TP1500 Comfort Panel Outdoor</p> <p>Touch operation, 15" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable as from WinCC Comfort V13, SP1, HSP</p>	6AV2124-0QC13-0AX0	
<p>Starter kit for SIMATIC HMI TP700 Comfort Panel Outdoor</p> <p>Contents:</p> <ul style="list-style-type: none"> • 1x touch panel • 1x SD system outdoor card • 1x touch pen system • 1x SIMATIC WinCC Comfort 	6AV2124-0GC10-0SA0	
<p>Starter kit for SIMATIC HMI TP1500 Comfort Panel Outdoor</p> <p>Contents:</p> <ul style="list-style-type: none"> • 1x touch panel • 1x SD system outdoor card • 1x touch pen system • 1x SIMATIC WinCC Comfort 	6AV2124-0QC10-0SA0	
<p>Accessories</p>	<p>See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"</p>	

Operator panels

Advanced HMI Panel-based
Comfort Panels

SIPLUS Comfort Panels Outdoor

Overview



SIPLUS HMI Comfort Panels Outdoor

Special HMI Panels have been developed which are designed to withstand outdoor environments.

It's not only extreme temperatures which call for robust hardware. Direct sunlight, too, must not be allowed to impair display readability and the panel front must be protected from UV radiation. The specially-bonded Outdoor fronts and the rugged hardware of the Outdoor Panels make the SIMATIC HMI Comfort Panels Outdoor a reliable partner in this environment.

- For outdoor operation without additional measures
- 7" and 15" daylight-readable display, widescreen
- Automatic, central or manual dimming of the backlight, with integrated sensor
- Panel front 100% UV protected
- Front resistant to salt mist
- Front IP66 and Nema4 x (indoor/outdoor)
- Many explosion protection and shipbuilding certifications
- Extended operating temperature range: from -30 °C to +60 °C at 3 000 m installation altitude
- TIA Portal central engineering tool (WinCC V13 SP1&HSP or higher)
- Comfort Panel functionality and performance

Notice:

The SIPLUS HMI 7" Comfort Panel Outdoor corresponds to a SIPLUS HMI 7" Comfort Panel Standard, the SIPLUS HMI 15" Comfort Panel Outdoor corresponds to a SIPLUS HMI 12" Comfort Panel Standard in respect of performance, functionality and quantity structure.

<http://www.siemens.com/comfort-panels-outdoor>

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

Technical specifications

Article number	6AG1124-0GC13-2AX0	6AG1124-0QC13-2AX0
	SIPLUS HMI TP700 COMFORT OUTDOOR	SIPLUS HMI TP1500 Comfort Outdoor
Ambient conditions		
Suited for indoor use	Yes	Yes
Suited for outdoor use	No	No
Ambient temperature during operation		
• Operation (vertical installation)		
- For vertical installation, min.	-30 °C; = Tmin	-30 °C; = Tmin
- For vertical installation, max.	60 °C; (55 °C, see entry ID: 64847814)	60 °C; (55 °C, see entry ID: 64847814)
Altitude during operation relating to sea level		
• Installation altitude above sea level, max.	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	

Article number	6AG1124-0GC13-2AX0	6AG1124-0QC13-2AX0
	SIPLUS HMI TP700 COMFORT OUTDOOR	SIPLUS HMI TP1500 Comfort Outdoor
Relative humidity		
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning when condensation present), vertical mounting position	
Resistance		
Coolants and lubricants		
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems		
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *

Technical specifications (continued)

Article number	6AG1124-0GC13-2AX0 SIPLUS HMI TP700 COMFORT OUTDOOR	6AG1124-0QC13-2AX0 SIPLUS HMI TP1500 Comfort Outdoor
Use on ships/at sea		
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
Remark		
- Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating		
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high availability	Yes; Class 2 for high availability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

Ordering data

Article No.

SIPLUS HMI Comfort Outdoor Panels

SIPLUS HMI TP700 Comfort Panel Outdoor

6AG1124-0GC13-2AX0

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -30 ... +60 °C

Touch operation, 7" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable as from WinCC Comfort V13, SP1, HSP

SIPLUS HMI TP1500 Comfort Panel Outdoor

6AG1124-0QC13-2AX0

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -30 ... +60 °C

Touch operation, 15" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable as from WinCC Comfort V13, SP1, HSP

Accessories

See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

Additional information is available on the Internet at:

<http://www.siemens.com/comfort-panels-outdoor>

Note:

The SIPLUS HMI TP700 Comfort Panel Outdoor is comparable with the SIPLUS HMI TP700 Comfort Panel Standard.

The SIPLUS HMI TP1500 Comfort Panel Outdoor is comparable with the SIPLUS HMI TP1200 Comfort Panel Standard with a 15" display.

A TP1500 Comfort Standard unit with the maximum possible configuration cannot be installed on a SIPLUS HMI TP1500 Comfort Panel Outdoor.

Operator panels

Advanced HMI Panel-based
Comfort Panels

Comfort Panels PRO

Overview



SIMATIC IFP PRO, ITC PRO, IPC PRO, Comfort PRO, for pedestal (extendable, flange below)

SIMATIC HMI Comfort PRO: The new Comfort Panel PRO with all-round IP65 protection – powerful, ready-to-use, and can be installed directly at the machine

SIMATIC HMI Comfort Panels PRO with 12", 15", 19" and 22" widescreen format expand the Comfort Panel portfolio to include devices with glass fronts.

The rugged aluminum housing enables it to be used directly at the machine and guarantees durability, even in harsh and extreme operating environments.

Highlights:

- All-round IP65 protection
- Comfort Panel functionality and performance
- Rugged, industrial 12", 15", 19" and 22" widescreen displays
- Slim, modern design
- Can be adapted to support arm system of various manufacturers
- Integration of operator controls with Extension Units
- High degree of investment security
- Fast integration capability

12", 15", 19" and 22" SIMATIC HMI Comfort Panels PRO are available in three different versions, depending on the application:

- For support arm (extendable, round tube): mounting by means of standard 48 mm round tube or Siemens flange adapter
- For support arm (not extendable, flange on top): mounting by means of basic adapter and flange on top, included in scope of delivery
- For pedestal (extendable, flange below): mounting by means of basic adapter and flange below, included in scope of delivery

For more information, please go to:

<http://siemens.com/simatic-hmi-pro>

System components for fully enclosed IP65 devices

System components for PRO devices are only suitable for SIMATIC HMI/IPC PRO devices.

In combination with the SIMATIC HMI PRO basic devices, these components enable easy adaptation to individual customer requirements for operator control and monitoring at the machine level, as well as offering a versatile and attractive solution for visualization and automation without a control cabinet.

The following system components are available:

- Fasteners
 - Adapter sets
 - Basic adapter
 - Flange mount
- Extension Units 12" - 22" with operator controls
- Extension components
 - Stainless steel keyboard
 - Tool and keyboard tray

For more detailed information about system components refer to "PC-based Automation" -> "Devices for special requirements" -> "System components".

Technical specifications

Article number	6AV2124-0MC24-0AX0 SIMATIC HMI TP1200 Comfort Pro	6AV2124-0MC24-1AX0 SIMATIC HMI TP1200 Comfort Pro	6AV2124-0MC24-0BX0 SIMATIC HMI TP1200 Comfort Pro
General information			
Product type designation	TP1200 PRO	TP1200 PRO	TP1200 PRO
Display			
Design of display	TFT	TFT	TFT
Screen diagonal	12.1 in	12.1 in	12.1 in
Number of colors	16 777 216	16 777 216	16 777 216
Resolution (pixels)			
• Horizontal image resolution	1 280 Pixel	1 280 Pixel	1 280 Pixel
• Vertical image resolution	800 Pixel	800 Pixel	800 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h
• Backlight dimmable	Yes; LED, dimmable	Yes; LED, dimmable	Yes; LED, dimmable
Touch operation			
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
Installation type/mounting			
Mounting	Support arm	Pedestal	Support arm
Mounting in portrait format possible	No	No	No
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
Memory			
Memory available for user data	12 Mbyte	12 Mbyte	12 Mbyte
Type of output			
Acoustics			
• Speaker	Yes	Yes	Yes
Time of day			
Clock			
• Hardware clock (real-time)	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
Interfaces			
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0
Number of SD card slots	2	2	2
Industrial Ethernet			
• Number of ports of the integrated switch	2	2	2
Protocols			
PROFINET	Yes	Yes	Yes
IRT	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes
MPI	Yes	Yes	Yes
Redundancy mode			
• MRP	Yes	Yes	Yes
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	IP65	IP65	IP65
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon
EAC (formerly Gost-R)	No; Available soon	No; Available soon	No; Available soon

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels PRO

Technical specifications (continued)

Article number	6AV2124-0MC24-0AX0 SIMATIC HMI TP1200 Comfort Pro	6AV2124-0MC24-1AX0 SIMATIC HMI TP1200 Comfort Pro	6AV2124-0MC24-0BX0 SIMATIC HMI TP1200 Comfort Pro
Ambient conditions			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	45 °C	45 °C	45 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration			
Configuration software			
• WinCC Comfort (TIA Portal)	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher
Languages			
Online languages			
• Number of online/runtime lang.	32	32	32
Functionality under WinCC (TIA Portal)			
Applications/options			
• Web browser	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes
Task planner			
• time-controlled	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes
Message system			
• Bit messages			
- Number of bit messages	4 000	4 000	4 000
• Analog messages			
- Number of analog messages	200	200	200
• Message buffer			
- Number of entries	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
Recipe management			
• Number of recipes	300	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes	Yes
Variables			
• Number of variables per device	2 048	2 048	2 048
• Number of variables per screen	400	400	400
Images			
• Number of configurable images	500	500	500
Archiving			
• Number of archives per device	50	50	50

Technical specifications (continued)

Article number	6AV2124-0MC24-0AX0 SIMATIC HMI TP1200 Comfort Pro	6AV2124-0MC24-1AX0 SIMATIC HMI TP1200 Comfort Pro	6AV2124-0MC24-0BX0 SIMATIC HMI TP1200 Comfort Pro
Security			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	Yes	Yes	Yes
Logging through printer			
• Alarms	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
Transfer (upload/download)			
• MPI/PROFIBUS DP	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes
Process coupling			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes
Peripherals/Options			
Peripherals			
• Printer	Yes	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes	Yes
• Network camera	Yes	Yes	Yes
Mechanics/material			
Enclosure material (front)			
• Plastic	No	No	No
• Aluminum	Yes	Yes	Yes
• Stainless steel	No	No	No
Dimensions			
Width of the housing front	313 mm	313 mm	313 mm
Height of housing front	226 mm; Without basic adapter	226 mm; Without basic adapter	226 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
Weights			
Weight without packaging	4.9 kg	4.9 kg	4.5 kg

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels PRO

Technical specifications (continued)

Article number	6AV2124-0QC24-0AX0 SIMATIC HMI TP1500 Comfort PRO	6AV2124-0QC24-0BX0 SIMATIC HMI TP1500 Comfort PRO	6AV2124-0QC24-1AX0 SIMATIC HMI TP1500 Comfort PRO
General information			
Product type designation	TP1500 Comfort PRO	TP1500 Comfort PRO	TP1500 Comfort PRO
Display			
Design of display	TFT	TFT	TFT
Screen diagonal	15.6 in	15.6 in	15.6 in
Number of colors	16 777 216	16 777 216	16 777 216
Resolution (pixels)			
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 366 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts			
• Function keys			
- Number of function keys	0	0	0
Touch operation			
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
Installation type/mounting			
Mounting	Support arm	Support arm	Pedestal
Mounting in portrait format possible	No	No	No
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
Memory			
Memory available for user data	24 Mbyte	24 Mbyte	24 Mbyte
Type of output			
Acoustics			
• Speaker	Yes	Yes	Yes
Time of day			
Clock			
• Hardware clock (real-time)	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
Interfaces			
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0
Number of SD card slots	2	2	2
Industrial Ethernet			
• Number of ports of the integrated switch	2	2	2
Protocols			
PROFINET	Yes	Yes	Yes
IRT	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes
MPI	Yes	Yes	Yes
Redundancy mode			
• MRP	Yes	Yes	Yes
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	IP65	IP65	IP65

Technical specifications (continued)

Article number	6AV2124-0QC24-0AX0	6AV2124-0QC24-0BX0	6AV2124-0QC24-1AX0
	SIMATIC HMI TP1500 Comfort PRO	SIMATIC HMI TP1500 Comfort PRO	SIMATIC HMI TP1500 Comfort PRO
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon
EAC (formerly Gost-R)	No; Available soon	No; Available soon	No; Available soon
Ambient conditions			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	45 °C	45 °C	45 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration			
Configuration software			
• WinCC Comfort (TIA Portal)	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher
Languages			
Online languages			
• Number of online/runtime lang.	32	32	32
Functionality under WinCC (TIA Portal)			
Applications/options			
• Web browser	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes
Task planner			
• time-controlled	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes
Message system			
• Bit messages			
- Number of bit messages	6 000	6 000	6 000
• Analog messages			
- Number of analog messages	200	200	200
• Message buffer			
- Number of entries	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
Recipe management			
• Number of recipes	500	500	500
• Size of internal recipe memory	4 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes
Variables			
• Number of variables per device	4 096	4 096	4 096
• Number of variables per screen	400	400	400
Images			
• Number of configurable images	750	750	750
Archiving			
• Number of archives per device	50	50	50

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels PRO

Technical specifications (continued)

Article number	6AV2124-0QC24-0AX0 SIMATIC HMI TP1500 Comfort PRO	6AV2124-0QC24-0BX0 SIMATIC HMI TP1500 Comfort PRO	6AV2124-0QC24-1AX0 SIMATIC HMI TP1500 Comfort PRO
Security			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	Yes	Yes	Yes
Logging through printer			
• Alarms	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
Transfer (upload/download)			
• MPI/PROFIBUS DP	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes
Process coupling			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes
Peripherals/Options			
Peripherals			
• Printer	Yes	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes	Yes
• Network camera	Yes	Yes	Yes
Mechanics/material			
Enclosure material (front)			
• Plastic	No	No	No
• Aluminum	Yes	Yes	Yes
• Stainless steel	No	No	No
Dimensions			
Width of the housing front	396 mm	396 mm	396 mm
Height of housing front	256 mm; Without basic adapter	256 mm; Without basic adapter	256 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
Weights			
Weight without packaging	6.3 kg	6.3 kg	6.3 kg

Technical specifications (continued)

Article number	6AV2124-0UC24-0AX0 SIMATIC HMI TP1900 Comfort PRO	6AV2124-0UC24-0BX0 SIMATIC HMI TP1900 Comfort PRO	6AV2124-0UC24-1AX0 SIMATIC HMI TP1900 Comfort PRO
General information			
Product type designation	TP1900 Comfort PRO	TP1900 Comfort PRO	TP1900 Comfort PRO
Display			
Design of display	TFT	TFT	TFT
Screen diagonal	18.5 in	18.5 in	18.5 in
Number of colors	16 777 216	16 777 216	16 777 216
Resolution (pixels)			
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 366 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts			
• Function keys			
- Number of function keys		0	0
Touch operation			
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
Installation type/mounting			
Mounting	Support arm	Support arm	Pedestal
Mounting in portrait format possible	No	No	No
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
Memory			
Memory available for user data	24 Mbyte	24 Mbyte	24 Mbyte
Type of output			
Acoustics			
• Speaker	Yes	Yes	Yes
Time of day			
Clock			
• Hardware clock (real-time)	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
Interfaces			
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0
Number of SD card slots	2	2	2
Industrial Ethernet			
• Number of ports of the integrated switch	2	2	2
Protocols			
PROFINET	Yes	Yes	Yes
IRT	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes
MPI	Yes	Yes	Yes
Redundancy mode			
• MRP	Yes	Yes	Yes
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	IP65	IP65	IP65

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels PRO

Technical specifications (continued)

Article number	6AV2124-0UC24-0AX0	6AV2124-0UC24-0BX0	6AV2124-0UC24-1AX0
	SIMATIC HMI TP1900 Comfort PRO	SIMATIC HMI TP1900 Comfort PRO	SIMATIC HMI TP1900 Comfort PRO
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon
EAC (formerly Gost-R)	No; Available soon	No; Available soon	No; Available soon
Ambient conditions			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	45 °C	45 °C	45 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration			
Configuration software			
• WinCC Comfort (TIA Portal)	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher
Languages			
Online languages			
• Number of online/runtime languag.	32	32	32
Functionality under WinCC (TIA Portal)			
Applications/options			
• Web browser	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes
Task planner			
• time-controlled	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes
Message system			
• Bit messages			
- Number of bit messages	6 000	6 000	6 000
• Analog messages			
- Number of analog messages	200	200	200
• Message buffer			
- Number of entries	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
Recipe management			
• Number of recipes	500	500	500
• Size of internal recipe memory	4 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes
Variables			
• Number of variables per device	4 096	4 096	4 096
• Number of variables per screen	400	400	400
Images			
• Number of configurable images	750	750	750
Archiving			
• Number of archives per device	50	50	50

Technical specifications (continued)

Article number	6AV2124-0UC24-0AX0 SIMATIC HMI TP1900 Comfort PRO	6AV2124-0UC24-0BX0 SIMATIC HMI TP1900 Comfort PRO	6AV2124-0UC24-1AX0 SIMATIC HMI TP1900 Comfort PRO
Security			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	Yes	Yes	Yes
Logging through printer			
• Alarms	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
Transfer (upload/download)			
• MPI/PROFIBUS DP	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes
Process coupling			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes
Peripherals/Options			
Peripherals			
• Printer	Yes	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes	Yes
• Network camera	Yes	Yes	Yes
Mechanics/material			
Enclosure material (front)			
• Plastic	No	No	No
• Aluminum	Yes	Yes	Yes
• Stainless steel	No	No	No
Dimensions			
Width of the housing front	462 mm	462 mm	462 mm
Height of housing front	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
Weights			
Weight without packaging	7.4 kg	7.4 kg	7.4 kg

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels PRO

Technical specifications (continued)

Article number	6AV2124-0XC24-0AX0 SIMATIC HMI TP2200 Comfort PRO	6AV2124-0XC24-0BX0 SIMATIC HMI TP2200 Comfort PRO	6AV2124-0XC24-1AX0 SIMATIC HMI TP2200 Comfort PRO
General information			
Product type designation	TP2200 Comfort PRO	TP2200 Comfort PRO	TP2200 Comfort PRO
Display			
Design of display	TFT	TFT	TFT
Screen diagonal	21.5 in	21.5 in	21.5 in
Number of colors	16 777 216	16 777 216	16 777 216
Resolution (pixels)			
• Horizontal image resolution	1 920 Pixel	1 920 Pixel	1 920 Pixel
• Vertical image resolution	1 080 Pixel	1 080 Pixel	1 080 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	30 000 h	30 000 h	30 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts			
• Function keys			
- Number of function keys	0	0	0
Touch operation			
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
Installation type/mounting			
Mounting	Support arm	Support arm	Pedestal
Mounting in portrait format possible	No	No	No
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
Memory			
Memory available for user data	24 Mbyte	24 Mbyte	24 Mbyte
Type of output			
Acoustics			
• Speaker	Yes	Yes	Yes
Time of day			
Clock			
• Hardware clock (real-time)	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
Interfaces			
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0
Number of SD card slots	2	2	2
Industrial Ethernet			
• Number of ports of the integrated switch	2	2	2
Protocols			
PROFINET	Yes	Yes	Yes
IRT	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes
MPI	Yes	Yes	Yes
Redundancy mode			
• MRP	Yes	Yes	Yes
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	IP65	IP65	IP65

Technical specifications (continued)

Article number	6AV2124-0XC24-0AX0	6AV2124-0XC24-0BX0	6AV2124-0XC24-1AX0
	SIMATIC HMI TP2200 Comfort PRO	SIMATIC HMI TP2200 Comfort PRO	SIMATIC HMI TP2200 Comfort PRO
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon
EAC (formerly Gost-R)	No; Available soon	No; Available soon	No; Available soon
Ambient conditions			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	45 °C	45 °C	45 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration			
Configuration software			
• WinCC Comfort (TIA Portal)	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher
Languages			
Online languages			
• Number of online/runtime languages	32	32	32
Functionality under WinCC (TIA Portal)			
Applications/options			
• Web browser	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes
Task planner			
• time-controlled	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes
Message system			
• Bit messages			
- Number of bit messages	6 000	6 000	6 000
• Analog messages			
- Number of analog messages	200	200	200
• Message buffer			
- Number of entries	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
Recipe management			
• Number of recipes	500	500	500
• Size of internal recipe memory	4 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes
Variables			
• Number of variables per device	4 096	4 096	4 096
• Number of variables per screen	400	400	400
Images			
• Number of configurable images	750	750	750
Archiving			
• Number of archives per device	50	50	50

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels PRO

Technical specifications (continued)

Article number	6AV2124-0XC24-0AX0	6AV2124-0XC24-0BX0	6AV2124-0XC24-1AX0
	SIMATIC HMI TP2200 Comfort PRO	SIMATIC HMI TP2200 Comfort PRO	SIMATIC HMI TP2200 Comfort PRO
Security			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	Yes	Yes	Yes
Logging through printer			
• Alarms	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
Transfer (upload/download)			
• MPI/PROFIBUS DP	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes
Process coupling			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes
Peripherals/Options			
Peripherals			
• Printer	Yes	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes	Yes
• Network camera	Yes	Yes	Yes
Mechanics/material			
Enclosure material (front)			
• Plastic	No	No	No
• Aluminum	Yes	Yes	Yes
• Stainless steel	No	No	No
Dimensions			
Width of the housing front	527 mm	527 mm	527 mm
Height of housing front	330 mm; Without basic adapter	330 mm; Without basic adapter	330 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
Weights			
Weight without packaging	8.5 kg	8.5 kg	8.5 kg

Ordering data	Article No.
Comfort Panels PRO	
TP1200 Comfort PRO 12.1" TFT display, 1 280 x 800 pixels, 16 M colors; touch screen; 1 x MPI/PROFIBUS DP, 1 x PROFINET/Industrial Ethernet interface with MRP and RT/IRT support (2 ports); 1 x Ethernet (Gigabit); 2 x SD card slots; 2 x USB <ul style="list-style-type: none"> • For support arm (not extendable, flange on top) • For support arm (extendable, round tube) • For pedestal (extendable, flange below) 	6AV2124-0MC24-0AX0 6AV2124-0MC24-0BX0 6AV2124-0MC24-1AX0
TP1500 Comfort PRO 15.6" TFT display, 1 366 x 768 pixels, 16 M colors; touch screen; 1 x MPI/PROFIBUS DP, 1 x PROFINET/Industrial Ethernet Interface with MRP and RT/IRT support (2 ports); 1 x Ethernet (Gigabit); 2 x SD card slots; 2 x USB <ul style="list-style-type: none"> • For support arm (not extendable, flange on top) • For support arm (extendable, round tube) • For pedestal (extendable, flange below) 	6AV2124-0QC24-0AX0 6AV2124-0QC24-0BX0 6AV2124-0QC24-1AX0
TP1900 Comfort PRO 18.5" TFT display, 1 366 x 768 pixels, 16 M colors; touch screen; 1 x MPI/PROFIBUS DP, 1 x PROFINET/Industrial Ethernet Interface with MRP and RT/IRT support (2 ports); 1 x Ethernet (Gigabit); 2 x SD Card slots; 2 x USB <ul style="list-style-type: none"> • For support arm (not extendable, flange on top) • For support arm (extendable, round tube) • For pedestal (extendable, flange below) 	6AV2124-0UC24-0AX0 6AV2124-0UC24-0BX0 6AV2124-0UC24-1AX0
TP2200 Comfort PRO 21.5" TFT display, 1 920 x 1 080 pixels, 16 M colors; touch screen; 1 x MPI/PROFIBUS DP, 1 x PROFINET/Industrial Ethernet Interface with MRP and RT/IRT support (2 ports); 1 x Ethernet (Gigabit); 2 x SD Card slots; 2 x USB <ul style="list-style-type: none"> • For support arm (not extendable, flange on top) • For support arm (extendable, round tube) • For pedestal (extendable, flange below) 	6AV2124-0XC24-0AX0 6AV2124-0XC24-0BX0 6AV2124-0XC24-1AX0

Operator panels

Advanced HMI Panel-based
Comfort Panels

Comfort Panels INOX and INOX PCT

Overview



SIMATIC HMI TP1200 Comfort INOX PCT

SIMATIC HMI TP Comfort Panels INOX and INOX PCT (PCT = Projected Capacitive Touchscreen)

Panels with touch screens (analog-resistive or projective-capacitive) and stainless steel fronts are designed for use in the food, beverages and tobacco industry, the pharmaceutical industry, fine chemicals and in other hygiene areas for machine-level operator control and monitoring.

For this reason, the devices with stainless steel front have been developed in compliance with EN 1672-2 "Food processing machinery – Safety and Hygiene Requirements".

<http://www.siemens.com/comfort-panels-inox>

Technical specifications

Article number	6AV2144-8GC10-0AA0	6AV2144-8JC10-0AA0	6AV2144-8MC10-0AA0	6AV2144-8QC10-0AA0	6AV2144-8UC10-0AA0
	SIMATIC HMI TP700 COMFORT INOX	SIMATIC HMI TP900 COMFORT INOX	SIMATIC HMI TP1200 COMFORT INOX	SIMATIC HMI TP1500 COMFORT INOX	SIMATIC HMI TP1900 COMFORT INOX
General information					
Product type designation	TP700 Comfort INOX	TP900 INOX	TP1200 Comfort INOX	TP1500 INOX	TP1900 Comfort INOX
Display					
Design of display	TFT	TFT	TFT	TFT	TFT
Screen diagonal	7 in	9 in	12.1 in	15.4 in	18.5 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
Resolution (pixels)					
• Horizontal image resolution	800 Pixel	800 Pixel	1 280 Pixel	1 280 Pixel	1 366 Pixel
• Vertical image resolution	480 Pixel	480 Pixel	800 Pixel	800 Pixel	768 Pixel
Backlighting					
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h	50 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts					
• Function keys					
- Number of function keys	0	0	0	0	0
Touch operation					
• Design as touch screen	Yes	Yes	Yes	Yes	Yes
Installation type/mounting					
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
Supply voltage					
Type of supply voltage	DC	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
Memory					
Memory available for user data	12 Mbyte	12 Mbyte	12 Mbyte	24 Mbyte	24 Mbyte
Type of output					
Acoustics					
• Speaker	Yes	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV2144-8GC10-0AA0 SIMATIC HMI TP700 COMFORT INOX	6AV2144-8JC10-0AA0 SIMATIC HMI TP900 COMFORT INOX	6AV2144-8MC10-0AA0 SIMATIC HMI TP1200 COMFORT INOX	6AV2144-8QC10-0AA0 SIMATIC HMI TP1500 COMFORT INOX	6AV2144-8UC10-0AA0 SIMATIC HMI TP1900 COMFORT INOX
Time of day					
Clock					
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks				
• synchronizable	Yes	Yes	Yes	Yes	Yes
Interfaces					
Number of industrial Ethernet interfaces	1; 2 ports (switch)	1; 2 ports (switch)	1; 2 ports (switch)	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined				
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole	1; 5-pole	1; 5-pole	1; 5-pole
Number of SD card slots	2	2	2	2	2
Industrial Ethernet					
• Number of ports of the integrated switch	2	2	2	2	2
Protocols					
PROFINET	Yes	Yes	Yes	Yes	Yes
IRT	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12
PROFIBUS	Yes	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes	Yes
Redundancy mode					
• MRP	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes	Yes
Degree and class of protection					
IP (at the front)	IP66K	IP66K	IP66K	IP66K	IP66K
Enclosure Type 4x at the front	Yes; indoor use only	Yes; indoor use only	Yes; indoor use only	Yes; indoor use only	Yes; indoor use only
IP (rear)	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
FM approval	Yes		Yes		
RCM (formerly C-TICK)	Yes		Yes		
KC approval	Yes		Yes		
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes
Use in hazardous areas					
• ATEX Zone 2	Yes	Yes	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes	Yes	Yes
• FM Class I Division 2	Yes	No	Yes	No	No
Marine approval					
• Germanischer Lloyd (GL)	No	No	No	Yes	Yes
• American Bureau of Shipping (ABS)	No	No	No	Yes	Yes
• Bureau Veritas (BV)	No	No	No	Yes	Yes
• Det Norske Veritas (DNV)	No	No	No	Yes	Yes
• Korean Register of Shipping (KRS)			No		
• Lloyds Register of Shipping (LRS)	No	No	No	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	No	No	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No	Yes	Yes
Ambient conditions					
Ambient temperature during operation					
• Operation (vertical installation)					
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C	50 °C	45 °C
Relative humidity					
• Operation, max.	90 %; no condensation	90 %; no condensation	80 %; no condensation	80 %; no condensation	70 %; no condensation

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels INOX and INOX PCT

Technical specifications (continued)

Article number	6AV2144-8GC10-0AA0 SIMATIC HMI TP700 COMFORT INOX	6AV2144-8JC10-0AA0 SIMATIC HMI TP900 COMFORT INOX	6AV2144-8MC10-0AA0 SIMATIC HMI TP1200 COMFORT INOX	6AV2144-8QC10-0AA0 SIMATIC HMI TP1500 COMFORT INOX	6AV2144-8UC10-0AA0 SIMATIC HMI TP1900 COMFORT INOX
Configuration					
Configuration software					
• WinCC Comfort (TIA Portal)	Yes; from V11	Yes; from V11	Yes; from V11	Yes; V11 SP2 or higher	Yes; V11 SP2 or higher
Languages					
Online languages					
• Number of online/runtime languag.	32	32	32	32	32
Functionality under WinCC (TIA Portal)					
Applications/options					
• Web browser	Yes	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes
Task planner					
• time-controlled	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes
Message system					
• Bit messages					
- Number of bit messages	4 000	4 000	4 000	6 000	6 000
• Analog messages					
- Number of analog messages	200	200	200	200	200
• Message buffer					
- Number of entries	1 024	1 024	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes
Recipe management					
• Number of recipes	300	300	300	500	500
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes
Variables					
• Number of variables per device	2 048	2 048	2 048	4 096	4 096
• Number of variables per screen	400	400	400	400	400
Images					
• Number of configurable images	500	500	500	750	750
Archiving					
• Number of archives per device	50	50	50	50	50
Security					
• Number of user groups	50	50	50	50	50
• Number of users	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes
Logging through printer					
• Alarms	Yes	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
Transfer (upload/download)					
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV2144-8GC10-0AA0 SIMATIC HMI TP700 COMFORT INOX	6AV2144-8JC10-0AA0 SIMATIC HMI TP900 COMFORT INOX	6AV2144-8MC10-0AA0 SIMATIC HMI TP1200 COMFORT INOX	6AV2144-8QC10-0AA0 SIMATIC HMI TP1500 COMFORT INOX	6AV2144-8UC10-0AA0 SIMATIC HMI TP1900 COMFORT INOX
Process coupling					
• S7-1200	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes
Peripherals/Options					
Peripherals					
• Printer	Yes	Yes	Yes	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes	Yes	Yes	Yes
• Network camera	Yes	Yes	Yes	Yes	Yes
Mechanics/material					
Enclosure material (front)					
• Plastic	No	No	No	No	No
• Aluminum	No	No	No	No	No
• Stainless steel	Yes	Yes	Yes	Yes	Yes
Dimensions					
Width of the housing front	214 mm	274 mm	330 mm	415 mm	483 mm
Height of housing front	158 mm	190 mm	241 mm	310 mm	337 mm
Mounting cutout, width	197 mm	250 mm	310 mm	396 mm	465 mm
Mounting cutout, height	141 mm	166 mm	221 mm	291 mm	319 mm
Overall depth	65 mm	65 mm	67 mm	75 mm	73 mm
Weights					
Weight without packaging	1.9 kg	2.5 kg	3.6 kg	6.6 kg	8.5 kg

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels INOX and INOX PCT

Technical specifications (continued)

Article number	6AV2144-8JC20-0AA0 SIMATIC HMI TP900 COMFORT INOX PCT	6AV2144-8MC20-0AA0 SIMATIC HMI TP1200 COMFORT INOX PCT
General information		
Product type designation	TP900 Comfort INOX PCT	TP1200 Comfort INOX PCT
Display		
Design of display	TFT	TFT
Screen diagonal	9 in	12.1 in
Number of colors	16 777 216	16 777 216
Resolution (pixels)		
• Horizontal image resolution	800 Pixel	1 280 Pixel
• Vertical image resolution	480 Pixel	800 Pixel
Backlighting		
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts		
• Function keys		
- Number of function keys	0	0
Touch operation		
• Design as touch screen	Yes	Yes
• Design as multi-touch screen	No	No
• Monitor keyboard	Yes	Yes
Installation type/mounting		
Mounting in portrait format possible	Yes	Yes
Supply voltage		
Type of supply voltage	DC	DC
Rated value (DC)	24 V	24 V
Memory		
Memory available for user data	12 Mbyte	12 Mbyte
Type of output		
Acoustics	Speaker	Speaker
• Speaker	Yes	Yes
Time of day		
Clock		
• Hardware clock (real-time)	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes
Interfaces		
Number of industrial Ethernet interfaces	1; 2 ports (switch)	1; 2 ports (switch)
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole
Number of SD card slots	2	2
Industrial Ethernet		
• Number of ports of the integrated switch	2	2

Article number	6AV2144-8JC20-0AA0 SIMATIC HMI TP900 COMFORT INOX PCT	6AV2144-8MC20-0AA0 SIMATIC HMI TP1200 COMFORT INOX PCT
Protocols		
PROFINET	Yes	Yes
IRT	Yes; As of WinCC V15	Yes; As of WinCC V15
PROFIBUS	Yes	Yes
MPI	Yes	Yes
Redundancy mode		
• MRP	Yes; As of WinCC V15	Yes; As of WinCC V15
Degree and class of protection		
IP (at the front)	IP69K	IP69K
IP66 at the front	Yes; IP66K	Yes; IP66K
NEMA (front)		NEMA 4, NEMA 12 (when installed)
Enclosure Type 4x at the front	No	Yes
Enclosure Type 12 at the front	No	Yes
IP (rear)	IP20	IP20
Standards, approvals, certificates		
CE mark	Yes	Yes
cULus	No	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	No	No
Use in hazardous areas		
• ATEX Zone 2	No	No
• ATEX Zone 22	No	No
• IECEx Zone 2	No	No
• IECEx Zone 22	No	No
• cULus Class I Zone 2, Division 2	No	No
• cULus Class II Division 2	No	No
• FM Class I Division 2	No	No
• FM Class II Division 2	No	No
Ambient conditions		
Suited for indoor use	Yes	Yes
Suited for outdoor use	No	No
Ambient temperature during operation		
• Operation (vertical installation)	0 to +50 °C	0 to +50 °C
- For vertical installation, min.	0 °C	0 °C
- For vertical installation, max.	50 °C; (55 °C, see entry ID: 64847814)	50 °C
Altitude during operation relating to sea level		
• Installation altitude above sea level, max.	2 000 m	2 000 m
Relative humidity		
• Operation, max.	90 %; no condensation	90 %; no condensation
Configuration		
Configuration software		
• WinCC Comfort (TIA Portal)	Yes; As of WinCC V15	Yes; As of WinCC V15

Technical specifications (continued)

Article number	6AV2144-8JC20-0AA0 SIMATIC HMI TP900 COMFORT INOX PCT	6AV2144-8MC20-0AA0 SIMATIC HMI TP1200 COMFORT INOX PCT
Languages		
Online languages		
• Number of online/runtime languages	32	32
Functionality under WinCC (TIA Portal)		
Applications/options	Internet Explorer, PDF/Word/Excel Viewer, Sm@rtService, Sm@rtAccess, ProAgent	
• Web browser	Yes	Yes
• Pocket Word	Yes; Viewer	Yes; Viewer
• Pocket Excel	Yes; Viewer	Yes; Viewer
• PDF Viewer	Yes	Yes
• Media Player	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes
Task planner	Yes	Yes
• time-controlled	Yes	Yes
• task-controlled	Yes	Yes
Message system		
• Bit messages		
- Number of bit messages	4 000	4 000
• Analog messages		
- Number of analog messages	200	200
• Message buffer	Ring buffer (n x 1024 entries), retentive, maintenance-free	
- Number of entries	1 024	1 024
- Circulating buffer	Yes	Yes
- retentive	Yes	Yes
Recipe management		
• Number of recipes	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes
Variables		
• Number of variables per device	2 048	2 048
• Number of variables per screen	400	400
Images		
• Number of configurable images	500	500
Archiving		
• Number of archives per device	50	50
Security		
• Number of user groups	50	50
• Number of users	50	50
• SIMATIC Logon	Yes	Yes
Logging through printer		
• Alarms	Yes	Yes
• Report (shift log)	Yes	Yes
• Hardcopy	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML

Article number	6AV2144-8JC20-0AA0 SIMATIC HMI TP900 COMFORT INOX PCT	6AV2144-8MC20-0AA0 SIMATIC HMI TP1200 COMFORT INOX PCT
Transfer (upload/download)		
• MPI/PROFIBUS DP	Yes	Yes
• Ethernet	Yes	Yes
Process coupling		
• S7-1200	Yes	Yes
• S7-1500	Yes	Yes
• S7-200	Yes	Yes
• S7-300/400	Yes	Yes
• LOGO!	Yes	Yes
• WinAC	Yes	Yes
• SIMOTION	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes
• Mitsubishi (FX)	Yes	Yes
• OMRON (FINS TCP)	No	No
• OMRON (LINK/Multilink)	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes
• Modicon (Modbus)	Yes	Yes
• OPC UA Client	Yes	Yes
• OPC UA Server	Yes	Yes
Peripherals/Options		
Peripherals		
• Printer	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes
• Network camera	Yes	Yes
Accessories		
Further accessories are available	Yes; Service Pack (seal, mounting clips, clamping frame, power supply connector)	Yes; Service Pack (seal, mounting clips, clamping frame, power supply connector)
Mechanics/material		
Enclosure material (front)		
• Plastic	No	No
• Aluminum	No	No
• Stainless steel	Yes	Yes
• Glass	Yes; Hardened	Yes; Hardened
Dimensions		
Width	274 mm	330 mm
Height	190 mm	241 mm
Depth	75 mm	73 mm
Width of the housing front	274 mm	330 mm
Height of housing front	190 mm	241 mm
Mounting cutout, width	251 mm	310 mm
Mounting cutout, height	166 mm	221 mm
Overall depth	66 mm	65 mm
Weights		
Weight without packaging	2.9 kg	4.2 kg

Operator panels

Advanced HMI Panel-based Comfort Panels

Comfort Panels INOX and INOX PCT

Ordering data	Article No.
SIMATIC HMI TP Comfort Panel INOX With analog-resistive touch and front film SIMATIC HMI TP700 Comfort Panel INOX With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	6AV2144-8GC10-0AA0
SIMATIC HMI TP900 Comfort Panel INOX With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	6AV2144-8JC10-0AA0
SIMATIC HMI TP1200 Comfort Panel INOX With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	6AV2144-8MC10-0AA0
SIMATIC HMI TP1500 Comfort Panel INOX With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	6AV2144-8QC10-0AA0
SIMATIC HMI TP1900 Comfort Panel INOX With accessory pack comprising: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	6AV2144-8UC10-0AA0
SIMATIC HMI TP Comfort Panel INOX PCT With projective-capacitive touch and front glass SIMATIC HMI TP900 Comfort Panel INOX PCT With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	6AV2144-8JC20-0AA0
SIMATIC HMI TP1200 Comfort Panel INOX PCT With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	6AV2144-8MC20-0AA0
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

The device seals can be replaced using the corresponding service packages from the accessories.

More information

Customer-specific modifications

- Customized design (logo, type designation and background color)
- Protection against condensation and corrosive gases

Quotation preparation

- Customized automation specialists define the product modifications precisely in accordance with customer requirements.
The quotation is then prepared with
 - Non-recurring costs
 - Prototype costs
 - Serial device prices and
 - the general conditions in the form of a product agreement (e.g. minimum quantity).
- The defined device can then be ordered easily using this product agreement and a customized order number.

More information is available on the Internet at:

<http://www.siemens.com/comfort-panels-inox>

Overview**SIMATIC Mobile Panels****Mobile Panels 2nd Generation**

The second generation of SIMATIC HMI Mobile Panels impresses with its convenience, performance and quality.

The highlights: A brilliant widescreen display, particularly simple configuration and the unique illuminated emergency stop button.

This series of devices offers panels with 7", 9" and 10" displays, some of which are available with or without safety-related operator controls.

The Mobile Panels of the 2nd Generation are the successors to the SIMATIC HMI Mobile Panels x77 with cable connections.

- SIMATIC HMI KTP700F Mobile HW
- SIMATIC HMI KTP700F Mobile HW/OR
- SIMATIC HMI TP1000F Mobile
- SIMATIC HMI KTP400F Mobile
- SIMATIC HMI KTP700 Mobile
- SIMATIC HMI KTP700F Mobile
- SIMATIC HMI KTP900 Mobile
- SIMATIC HMI KTP900F Mobile

<http://www.siemens.com/mobile-panels>

Operator panels

Advanced HMI Panel-based
Mobile Panels

Mobile Panels 2nd Generation

Overview



- SIMATIC HMI KTP700F Mobile HW
- SIMATIC HMI KTP700F Mobile HW/OR
- SIMATIC HMI TP1000F Mobile
- SIMATIC HMI KTP400F Mobile
- SIMATIC HMI KTP700 Mobile
- SIMATIC HMI KTP700F Mobile
- SIMATIC HMI KTP900 Mobile
- SIMATIC HMI KTP900F Mobile

Mobile Panels 2nd Generation

Technical specifications

Article number	6AV2125-2DB23-0AX0 SIMATIC HMI KTP400F Mobile	6AV2125-2GB03-0AX0 SIMATIC HMI KTP700 Mobile	6AV2125-2GB23-0AX0 SIMATIC HMI KTP700F Mobile	6AV2125-2JB03-0AX0 SIMATIC HMI KTP900 Mobile	6AV2125-2JB23-0AX0 SIMATIC HMI KTP900F Mobile
General information					
Product type designation	KTP400F Mobile	KTP700 Mobile	KTP700F Mobile	KTP900 Mobile	KTP900F Mobile
Display					
Design of display	TFT	TFT widescreen display, LED backlighting			
Screen diagonal	4.3 in	7 in	7 in	9 in	9 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
Resolution (pixels)					
• Horizontal image resolution	480 Pixel	800 Pixel	800 Pixel	800 Pixel	800 Pixel
• Vertical image resolution	272 Pixel	480 Pixel	480 Pixel	480 Pixel	480 Pixel
Backlighting					
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h	50 000 h	50 000 h
Control elements					
Keyboard fonts					
• Function keys					
- Number of function keys	4	8	8	10	10
Touch operation					
• Design as touch screen	Yes	Yes	Yes	Yes	Yes
• Design as multi-touch screen	No	No	No	No	No
Special operator controls					
• Stop button (forced blocking)	Yes	No	Yes	No	Yes
• Emergency stop button (illuminated and forced blocking)	Yes	No	Yes	No	Yes
• Acknowledgement button (3-stage)	Yes	No	Yes	No	Yes
• Key-operated switch	No	No	Yes	No	Yes
• Illuminated pushbutton	Yes	Yes	Yes	Yes	Yes
Camera					
• integrated camera	No	No	No	No	No
Expansions for operator control of the process					
• DP direct LEDs (LEDs as S7 output I/O)					
- F1...Fx	4	8	8	10	10
• Direct keys (keys as S7 input I/O)					
- F1...Fx	4	8	8	10	10
• Direct keys (touch buttons as S7 input I/O)	32	32	32	32	32

Technical specifications (continued)

Article number	6AV2125-2DB23-0AX0 SIMATIC HMI KTP400F Mobile	6AV2125-2GB03-0AX0 SIMATIC HMI KTP700 Mobile	6AV2125-2GB23-0AX0 SIMATIC HMI KTP700F Mobile	6AV2125-2JB03-0AX0 SIMATIC HMI KTP900 Mobile	6AV2125-2JB23-0AX0 SIMATIC HMI KTP900F Mobile
Supply voltage					
Type of supply voltage	DC	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
Memory					
Memory available for user data	4 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte
Time of day					
Clock					
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes
Interfaces					
Number of industrial Ethernet interfaces	1	1	1	1	1
Number of PROFINET interfaces	1	1	1	1	1
Number of RS 485 interfaces	0	0	0	0	0
Number of RS 422 interfaces	0	0	0	0	0
Number of RS 232 interfaces	0	0	0	0	0
Number of USB interfaces	1; USB 2.0	1; USB 2.0	1; USB 2.0	1; USB 2.0	1; USB 2.0
Number of wireless interfaces	0	0	0	0	0
Number of SD card slots	0	1	1	1	1
Protocols					
PROFINET	Yes	Yes	Yes	Yes	Yes
PROFIsafe	Yes	No	Yes	No	Yes
PROFIBUS	No	No	No	No	No
Protocols (Ethernet)					
• TCP/IP	Yes	Yes	Yes	Yes	Yes
• DHCP	Yes	Yes	Yes	Yes	Yes
• SNMP	Yes	Yes	Yes	Yes	Yes
• DCP	Yes	Yes	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes	Yes	Yes
WEB characteristics					
• HTTP	Yes	Yes	Yes	Yes	Yes
• HTTPS	Yes	Yes	Yes	Yes	Yes
• HTML	Yes	Yes	Yes	Yes	Yes
• XML	No	No	No	No	No
• CSS	Yes	Yes	Yes	Yes	Yes
• Active X	No	No	No	No	No
• JavaScript	Yes	Yes	Yes	Yes	Yes
• Java VM	No	No	No	No	No
Further protocols					
• EtherNet/IP	Yes	Yes	Yes	Yes	Yes
• MODBUS	Yes	Yes	Yes	Yes	Yes
Communication functions					
Wireless communication					
• supported standards					
- Radio standard WLAN 802.11	No	No	No	No	No
- Bluetooth radio standard	No	No	No	No	No
Degree and class of protection					
IP65 (all-round)	Yes	Yes	Yes	Yes	Yes

Operator panels

Advanced HMI Panel-based Mobile Panels

Mobile Panels 2nd Generation

Technical specifications (continued)

Article number	6AV2125-2DB23-0AX0 SIMATIC HMI KTP400F Mobile	6AV2125-2GB03-0AX0 SIMATIC HMI KTP700 Mobile	6AV2125-2GB23-0AX0 SIMATIC HMI KTP700F Mobile	6AV2125-2JB03-0AX0 SIMATIC HMI KTP900 Mobile	6AV2125-2JB23-0AX0 SIMATIC HMI KTP900F Mobile
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
Suitable for safety functions	Yes	No	Yes	No	Yes
Marine approval	Yes	Yes	Yes	Yes	Yes
Highest safety class achievable in safety mode					
• Performance level according to ISO 13849-1	PLe	none	PLe	none	PLe
• SIL acc. to IEC 61508	SIL 3	No	SIL 3	No	SIL 3
Use in hazardous areas					
• ATEX Zone 2	No	No	No	No	No
• ATEX Zone 22	No	No	No	No	No
• IECEx Zone 2	No	No	No	No	No
• IECEx Zone 22	No	No	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No	No	No
• FM Class I Division 2	No	No	No	No	No
Ambient conditions					
Free fall					
• Fall height, max.	1.2 m	1.2 m	1.2 m	1.2 m	1.2 m
Ambient temperature during operation					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C	45 °C	45 °C
Relative humidity					
• Operation, max.	90 %	90 %	90 %	90 %	90 %
Languages					
Online languages					
• Number of online/runtime languages	32	32	32	32	32
Functionality under WinCC (TIA Portal)					
Applications/options					
• Web browser	Yes	Yes	Yes	Yes	Yes
• Pocket Word	No	No	No	No	No
• Pocket Excel	No	No	No	No	No
• PDF Viewer	Yes	Yes	Yes	Yes	Yes
• Media Player	No	No	No	No	No
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes
Task planner					
• time-controlled	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes
Multiproject					
• Number of projects (internal)	0	0	0	0	0
• Number of projects (external)	0	0	0	0	0

Technical specifications (continued)

Article number	6AV2125-2DB23-0AX0 SIMATIC HMI KTP400F Mobile	6AV2125-2GB03-0AX0 SIMATIC HMI KTP700 Mobile	6AV2125-2GB23-0AX0 SIMATIC HMI KTP700F Mobile	6AV2125-2JB03-0AX0 SIMATIC HMI KTP900 Mobile	6AV2125-2JB23-0AX0 SIMATIC HMI KTP900F Mobile
Message system					
• Bit messages					
- Number of bit messages	4 000	4 000	4 000	4 000	4 000
• Analog messages					
- Number of analog messages	200	200	200	200	200
• Message buffer					
- Number of entries	1 024	1 024	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes
Recipe management					
• Number of recipes	300	300	300	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes
Variables					
• Number of variables per device	2 048	2 048	2 048	2 048	2 048
• Number of variables per screen	50	400	400	400	400
Images					
• Number of configurable images	500	500	500	500	500
Archiving					
• Number of archives per device	50	50	50	50	50
• Number of entries per archive	20 000	20 000	20 000	20 000	20 000
Security					
• Number of user groups	50	50	50	50	50
• Number of users	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes
Process coupling					
• S7-1200	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes; WinAC RTX	Yes; WinAC RTX	Yes; WinAC RTX	Yes; WinAC RTX	Yes; WinAC RTX
• SIMOTION	Yes	Yes	Yes	Yes	Yes
Peripherals/Options					
Peripherals					
• SIMATIC HMI MM memory card: Multi Media Card	No	Yes	Yes	Yes	Yes
• SIMATIC HMI SD memory card: Secure Digital memory card	No	Yes	Yes	Yes	Yes
• USB memory	Yes	Yes	Yes	Yes	Yes
Mechanics/material					
Enclosure material (front)					
• Plastic	Yes	Yes	Yes	Yes	Yes
• Aluminum	No	No	No	No	No
• Stainless steel	No	No	No	No	No
Dimensions					
Width of the housing front	194 mm	248.4 mm	248.4 mm	307.5 mm	307.5 mm
Height of housing front	166 mm	171.7 mm	194.9 mm	200.9 mm	223.5 mm
Weights					
Weight without packaging	0.7 kg	1.2 kg	1.3 kg	1.5 kg	1.6 kg

Operator panels

Advanced HMI Panel-based Mobile Panels

Mobile Panels 2nd Generation

Technical specifications (continued)

Article number	6AV2145-8GB00-0AA0	6AV2145-8GB01-0AA0	6AV2145-6KB20-0AS0
	SIMATIC HMI KTP700F Mobile HW	SIMATIC HMI KTP700F Mobile HW/OR	SIMATIC HMI TP1000F MOBILE
General information			
Product type designation	SIMATIC HMI KTP700F Mobile HW	SIMATIC HMI KTP700F Mobile HW/ OR	TP1000F Mobile
Display			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	7 in	7 in	10.1 in
Number of colors	16 000 000	16 000 000	16 777 216
Resolution (pixels)			
• Horizontal image resolution	800 Pixel	800 Pixel	1 280 Pixel
• Vertical image resolution	480 Pixel	480 Pixel	800 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h
Control elements			
Keyboard fonts			
• Function keys			
- Number of function keys	6	6	0
Touch operation			
• Design as touch screen	Yes	Yes	Yes
• Design as multi-touch screen	No	No	No
Special operator controls			
• Stop button (forced blocking)	Yes	Yes	Yes
• Emergency stop button (illuminated and forced blocking)	Yes	Yes	Yes
• Acknowledgement button (3-stage)	Yes	Yes	Yes
• Key-operated switch	Yes	Yes	Yes
• Illuminated pushbutton	Yes	Yes	Yes
• Handwheel	Yes	Yes	No
Camera			
• integrated camera	No	No	No
Expansions for operator control of the process			
• DP direct LEDs (LEDs as S7 output I/O)			
- F1...Fx	6	6	0
• Direct keys (keys as S7 input I/O)			
- F1...Fx	6	6	0
• Direct keys (touch buttons as S7 input I/O)	32	32	0
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
Memory			
Memory available for user data	12 Mbyte	12 Mbyte	12 Mbyte
Time of day			
Clock			
• Hardware clock (real-time)	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV2145-8GB00-0AA0 SIMATIC HMI KTP700F Mobile HW	6AV2145-8GB01-0AA0 SIMATIC HMI KTP700F Mobile HW/OR	6AV2145-6KB20-0AS0 SIMATIC HMI TP1000F MOBILE
Interfaces			
Number of industrial Ethernet interfaces	1	1	1
Number of PROFINET interfaces	1	1	1
Number of RS 485 interfaces	0	0	0
Number of RS 422 interfaces	0	0	0
Number of RS 232 interfaces	0	0	0
Number of USB interfaces	1; USB 2.0	1; USB 2.0	1; USB 2.0
Number of wireless interfaces	0	0	0
Number of SD card slots	1	1	1
Protocols			
PROFINET	Yes	Yes	Yes
PROFIsafe	Yes	Yes	Yes
PROFIBUS	No	No	No
Protocols (Ethernet)			
• TCP/IP	Yes	Yes	Yes
• DHCP	Yes	Yes	Yes
• SNMP	Yes	Yes	Yes
• DCP	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes
WEB characteristics			
• HTTP	Yes	Yes	Yes
• HTTPS	Yes	Yes	Yes
• HTML	Yes	Yes	Yes
• XML	No	No	No
• CSS	Yes	Yes	Yes
• Active X	No	No	No
• JavaScript	Yes	Yes	Yes
• Java VM	No	No	No
Further protocols			
• EtherNet/IP	Yes	Yes	Yes
• MODBUS	Yes	Yes	Yes
Communication functions			
Wireless communication			
• supported standards			
- Radio standard WLAN 802.11	No	No	No
- Bluetooth radio standard	No	No	No
Degree and class of protection			
IP65 (all-round)	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
UL approval	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	No	No	No
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	No	No	No
EAC (formerly Gost-R)	Yes	Yes	Yes
Suitable for safety functions	Yes	Yes	Yes
Marine approval	No	No	No
Highest safety class achievable in safety mode			
• Performance level according to ISO 13849-1	PLe	PLe	PLe
• SIL acc. to IEC 61508	SIL 3	SIL 3	SIL 3

Operator panels

Advanced HMI Panel-based Mobile Panels

Mobile Panels 2nd Generation

Technical specifications (continued)

Article number	6AV2145-8GB00-0AA0	6AV2145-8GB01-0AA0	6AV2145-6KB20-0AS0
	SIMATIC HMI KTP700F Mobile HW	SIMATIC HMI KTP700F Mobile HW/OR	SIMATIC HMI TP1000F MOBILE
Use in hazardous areas			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• cULus Class II Division 2	No	No	No
• FM Class I Division 2	No	No	No
• FM Class II Division 2	No	No	No
Ambient conditions			
Free fall			
• Fall height, max.	1.2 m	1.2 m	1.2 m
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
Languages			
Online languages			
• Number of online/runtime languag.	32	32	32
Functionality under WinCC (TIA Portal)			
Applications/options			
• Web browser	Yes	Yes	Yes
• Pocket Word	No	No	No
• Pocket Excel	No	No	No
• PDF Viewer	Yes	Yes	Yes
• Media Player	No	No	No
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes
Task planner			
• time-controlled	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes
Multiproject			
• Number of projects (internal)	0	0	0
• Number of projects (external)	0	0	0
Message system			
• Bit messages			
- Number of bit messages	4 000	4 000	4 000
• Analog messages			
- Number of analog messages	200	200	200
• Message buffer			
- Number of entries	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
Recipe management			
• Number of recipes	300	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes	Yes
Variables			
• Number of variables per device	2 048	2 048	2 048
• Number of variables per screen	400	400	400

Technical specifications (continued)

Article number	6AV2145-8GB00-0AA0 SIMATIC HMI KTP700F Mobile HW	6AV2145-8GB01-0AA0 SIMATIC HMI KTP700F Mobile HW/OR	6AV2145-6KB20-0AS0 SIMATIC HMI TP1000F MOBILE
Images			
• Number of configurable images	500	500	500
Archiving			
• Number of archives per device	50	50	50
• Number of entries per archive	20 000	20 000	20 000
Security			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	Yes	Yes	Yes
Process coupling			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	No	No	Yes; WinAC RTX
• SIMOTION	Yes	Yes	Yes
Peripherals/Options			
Peripherals			
• SIMATIC HMI MM memory card: Multi Media Card	Yes	Yes	Yes
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes	Yes
• USB memory	Yes	Yes	Yes
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No
Dimensions			
Width of the housing front			307.5 mm
Height of housing front			223.5 mm
Weights			
Weight without packaging	1.48 kg	1.48 kg	1.6 kg

Operator panels

Advanced HMI Panel-based
Mobile Panels

Mobile Panels 2nd Generation

Ordering data	Article No.
SIMATIC Mobile Panels for 2nd Generation ¹⁾ SIMATIC HMI KTP700F Mobile HW 7.0" TFT display, 800 x 480 pixels, 16 million colors, key and touch operation, 6 function keys, 2 illuminated pushbuttons, 1x PROFINET/Industrial Ethernet interface, 1x Multimedia card, 1x USB, key-operated switch, acknowledgment button, emergency stop button, handwheel, configurable as from WinCC Comfort V15	6AV2145-8GB00-0AA0
SIMATIC HMI KTP700F Mobile HW/OR 7.0" TFT display, 800 x 480 pixels, 16 million colors, key and touch operation, 6 function keys, 2 illuminated pushbuttons, 1x PROFINET/Industrial Ethernet interface, 1x Multimedia card, 1x USB, key-operated switch, acknowledgment button, emergency stop button, handwheel and override, configurable as from WinCC Comfort V15	6AV2145-8GB01-0AA0
SIMATIC HMI TP1000F Mobile 10.0" TFT display, 1 280 x 800 pixels, 16 million colors, touch operation, touch pen, 1x PROFINET/Industrial Ethernet interface, 1x Multimedia card, 1x USB, key-operated switch, acknowledgment button, emergency stop button, configurable as from WinCC Comfort V14	6AV2145-6KB20-0AS0
KTP400F Mobile	6AV2125-2DB23-0AX0
KTP700 Mobile	6AV2125-2GB03-0AX0
KTP700F Mobile	6AV2125-2GB23-0AX0
KTP900 Mobile	6AV2125-2JB03-0AX0
KTP900F Mobile	6AV2125-2JB23-0AX0
Starter kit Mobile Panel Consisting of: 1x KTP700F Mobile, 1x connection box standard, 1x connecting cable 2 m, 1x wall bracket, 1x WinCC Comfort (TIA Portal)	6AV2133-5GA00-0AA0
Accessories Connecting cable and accessories for Mobile Panels	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

¹⁾ The system components (connecting cables and connection boxes) have to be ordered separately.

More information

More information is available on the Internet at:

<http://www.siemens.com/mobile-panels>

Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional and generally available sector-specific products, as well as options for customer-specific modifications and adaptations.

Connection box for Mobile Panels (2nd Generation)

Overview



Mobile Panels with emergency stop buttons can be wired into the emergency stop circuit of a machine or plant by means of the connection boxes.

Pressing the emergency stop button on the Mobile Panel activates the emergency stop function.

The emergency stop button on the Mobile Panel supplements, but does not replace, the emergency stop equipment permanently installed on the machine.

2

Technical specifications

Article number	6AV2125-2AE03-0AX0	6AV2125-2AE13-0AX0	6AV2125-2AE23-0AX0
	SIMATIC HMI Connection Box Compact	SIMATIC HMI Connection Box Standard	SIMATIC HMI Connection Box Advanced
General information			
Product type designation	Compact	Standard	Advanced
Product function			
• Web-based management	No	Yes	Yes
FH technology			
Safety evaluation through direct wiring			
• Reconnection without emergency stop circuit interruption	No	No	Yes
• Reconnection with emergency stop circuit interruption	Yes	Yes	No
• Monitoring the STOP button	Yes	Yes	Yes
• Monitoring of emergency stop button	Yes	Yes	Yes
• Monitoring of acknowledgement button	Yes	Yes	Yes
Safety evaluation via PROFIsafe			
• Reconnection without emergency stop circuit interruption	Yes	Yes	Yes
• Reconnection with emergency stop circuit interruption	No	No	No
• Monitoring the STOP button	Yes	Yes	Yes
• Monitoring of emergency stop button	Yes	Yes	Yes
• Monitoring of acknowledgement button	Yes	Yes	Yes
Installation type/mounting			
Wall mounting/direct mounting	No	Yes	Yes
Control cabinet installation	Yes	No	No
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
Input current			
Current consumption (rated value)	18 mA	96 mA	95 mA
Starting current inrush I ^{2t}	0.003 A ² ·s	0.15 A ² ·s	0.16 A ² ·s
Power			
Active power input, typ.	0.43 W	2.3 W	2.3 W

Operator panels

Advanced HMI Panel-based Mobile Panels

Connection box for Mobile Panels (2nd Generation)

Technical specifications (continued)

Article number	6AV2125-2AE03-0AX0 SIMATIC HMI Connection Box Compact	6AV2125-2AE13-0AX0 SIMATIC HMI Connection Box Standard	6AV2125-2AE23-0AX0 SIMATIC HMI Connection Box Advanced
Interfaces			
Number of industrial Ethernet interfaces	2	3	3
Number of PROFINET interfaces	2	3	3
Connection point identification	Yes	Yes	Yes
Industrial Ethernet			
• Industrial Ethernet status LED	0	3	3
Protocols			
PROFINET	Yes; No switch functionality	Yes	Yes
IRT	No	No	Yes
PROFIsafe	Yes; No switch functionality	Yes	Yes
AS-Interface	No	No	No
EIB/KNX	No	No	No
Protocols (Ethernet)			
• TCP/IP	Yes; No switch functionality	Yes	Yes
• DHCP	No	Yes	Yes
• SNMP	No	Yes	Yes
• DCP	No	Yes	Yes
• LLDP	No	Yes	Yes
Redundancy mode			
• MRP	No	No	Yes
Further protocols			
• AS-Interface Safety at Work	No	No	No
• CAN	No	No	No
• Data-Highway	No	No	No
• DeviceNet	No	No	No
• DeviceNet Safety	No	No	No
• EtherNet/IP	Yes	Yes	Yes
• Foundation Fieldbus	No	No	No
• INTERBUS	No	No	No
• INTERBUS-Safety	No	No	No
• Local Operating Network	No	No	No
• MODBUS	Yes	Yes	Yes
• SafetyBUS p	No	No	No
• SERCOS	No	No	No
• SUCOnet	No	No	No
• other bus systems	No	No	No
EMC			
Emission of radio interference acc. to EN 55 011			
• Limit class A, for use in industrial areas	Yes; EN 61000-6-4, interference emission: Intended for use in industrial areas.	No	No
• Limit class B, for use in residential areas	No	No	No
Degree and class of protection			
IP degree of protection		IP65	IP65
IP65 (all-round)		Yes	Yes
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP20		
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon
Suitable for safety functions	Yes	Yes	Yes
Highest safety class achievable in safety mode			
• Performance level according to ISO 13849-1	PLe	PLe	PLe
• SIL acc. to IEC 61508	SIL 3	SIL 3	SIL 3

Technical specifications (continued)

Article number	6AV2125-2AE03-0AX0 SIMATIC HMI Connection Box Compact	6AV2125-2AE13-0AX0 SIMATIC HMI Connection Box Standard	6AV2125-2AE23-0AX0 SIMATIC HMI Connection Box Advanced
Use in hazardous areas			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• FM Class I Division 2	No	No	No
Marine approval			
• Germanischer Lloyd (GL)	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes
• Bureau Veritas (BV)	No; Available soon	No; Available soon	No; Available soon
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Korean Register of Shipping (KRS)	No	No	No
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	No	No	No
• Chinese Classification Society (CCS)	No	No	No
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
Configuration			
Configuration software			
• STEP 7 Professional (TIA Portal)	No	No	No
• WinCC Comfort (TIA Portal)	No	Yes; Optional	Yes; Optional
• WinCC Advanced (TIA Portal)	No	Yes; Optional	Yes; Optional
• WinCC Professional (TIA Portal)	No	Yes; Optional	Yes; Optional
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No
Dimensions			
Width of the housing front	96 mm	230 mm	230 mm
Height of housing front	125 mm	145 mm	145 mm
Depth of housing	78 mm	76 mm	76 mm
Mounting cutout, width	77.5 mm		
Mounting cutout, height	106.5 mm		
Overall depth	30 mm		
Weights			
Weight without packaging	0.25 kg	0.72 kg	0.72 kg
Weight incl. packaging	0.29 kg	0.8 kg	0.8 kg

Ordering data

Article No.

Connection boxes for SIMATIC Mobile Panels 2nd Generation

- Connection Box, Compact
- Connection Box, Standard
- Connection Box, Advanced

6AV2125-2AE03-0AX0
6AV2125-2AE13-0AX0
6AV2125-2AE23-0AX0

Connecting cable and accessories for Mobile Panels

See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

More information is available on the Internet at:
<http://www.siemens.com/mobile-panels>

Operator panels

Advanced HMI PC-based

Overview

SIMATIC HMI Advanced – efficient realization of even the most demanding and sophisticated HMI tasks

A PC-based system is recommended if the production places particularly high demands on the quantity and type of information to be processed and documented.

It offers the appropriate options for sufficient storage space, processor performance and data connection. The user can either opt for a centralized solution in which the visualization and PC are combined in a single unit, or for a distributed solution with an industrial monitor as thin client.

SIMATIC Industrial Panel PCs

The most complex visualization and control tasks can be realized centrally on the machine with extremely compact industrial panel PCs. You can always find an optimum solution in our portfolio – from the embedded to the high-end industrial PC – to meet the many requirements of manufacturing and process automation.

SIMATIC IFP and SIMATIC ITC

Two innovative options are available for distributed control concepts. SIMATIC industrial monitors and thin clients are used as desktop devices for control centers, as built-in devices for operator panels or as PC-based visualization and control solutions, in which the control unit is operated separately.

The following modules are available:

- Panel PC
- Industrial monitors and thin clients
- Embedded bundles/software packages

Overview

The SIMATIC Basic Panel, Comfort Panel and Mobile Panel offer HMI functionality for the control systems:

- SIMATIC S7
- Non-Siemens controllers:
 - Allen Bradley
 - Mitsubishi
 - Modicon
 - Omron

For more detailed information, refer to the WinCC (TIA Portal) user manual, the "Windows-based systems communication" manual, or the WinCC (TIA Portal) online help.

OPC communication and HTTP communication are offered for Comfort Panels and Mobile Panels with an integrated Ethernet interface. Both OPC and HTTP communication can be used in parallel with the process links to SIMATIC S7 or non-Siemens PLCs.

Note:

Interface options for HMI devices: See the individual device descriptions.

OPC communication

OPC Data Access is an open standard for exchanging both local and remote variables between various applications via Industrial Ethernet.

HTTP communication for variable exchange between SIMATIC HMI systems

Communication based on HTTP message frames enables variables to be exchanged between SIMATIC HMI systems.

Communication standard	SIMATIC HMI				
	Version	Comfort Panel	Mobile Panel 177 PN/ 277	Mobile Panel KTPx00	WinCC Runtime Advanced
OPC Data Access V2.05a + OPC UA Data Access V1.01 + OPC Data Access XML V1.00					
OPC DA client (COM/DCOM)		–	–	–	•
OPC DA server (COM/DCOM)		–	–	–	•
OPC UA DA client		•	–	•	•
OPC UA DA server		•	–	•	•
HTTP communication for variable exchange between SIMATIC HMI systems					
HTTP client		•	•	•	•
HTTP server		•	•	•	•

- System interface possible
- System interface not possible

Operator panels

System interfaces with WinCC (TIA Portal)

SIMATIC S7

Overview

The following types of interface are differentiated in respect of the link between the SIMATIC Panels and SIMATIC S7 controllers:

- PROFINET interface:
Coupling of SIMATIC Panel to SIMATIC S7 controllers via Industrial Ethernet TCP/IP using the integrated PROFINET interface of the CPU or, alternatively, a PROFINET interface module.
- MPI/PROFIBUS interface:
Coupling of SIMATIC Panel to SIMATIC S7 controllers via MPI/PROFIBUS using the integrated MPI/PROFIBUS interface of the CPU or the integrated PPI interface of the CPU in the case of S7-200 or, alternatively, a PROFIBUS interface module in the case of S7-1200, S7-1500, S7-300 and S7-400.
- PPI interface:
Coupling of SIMATIC Panel to SIMATIC S7-200 via PPI network using the integrated PPI interface of the CPU.

The maximum possible number of S7 connections of one CPU is determined by its performance capacity (see Catalog ST 70); from the point of view of the SIMATIC Panel, the following restrictions apply:

- Basic Panel, Comfort Panel 4", Mobile Panel 177: max. 4 connections
- Comfort Panels from 7" to 22" (incl. Outdoor), Mobile Panel 2nd Generation: max. 8 connections
- Mobile Panel 277: max. 6 connections
- PC with WinCC Runtime Advanced: max. 8 connections

PPI interface

The PPI interface is a point-to-point connection between a SIMATIC Panel (PPI master) or alternatively a PG (PPI master) and an S7-200 (PPI slave).

MPI/PROFIBUS interface or PROFINET interface

The corresponding multipoint-enabled SIMATIC Panel and SIMATIC S7 communication interfaces are used. The following are possible:

- Interface between one or more SIMATIC Panels (MPI master) and one or more S7-1200/S7-1500/S7-300/S7-400s or WinAC (MPI master) (possible network topology: MPI/PROFIBUS or Industrial Ethernet TCP/IP)
- Interface between one or more SIMATIC Panels (MPI master) and one or more S7-200s (MPI slave)¹⁾ (possible network topology: PPI, MPI/PROFIBUS)

Unlike PPI connections, MPI connections are static connections that are set up during booting and then monitored.

In principle this type of information exchange between SIMATIC Panels and SIMATIC S7 is independent of the network used, PPI, MPI/PROFIBUS or Industrial Ethernet: SIMATIC Panels are S7 clients and SIMATIC S7 CPUs are S7 servers.

Controller	SIMATIC HMI			
	Basic Panel	Comfort Panel	KTPx00(F) Mobile ¹⁾	WinCC Runtime Advanced
Target hardware (PROTOCOL) (physics)				
SIMATIC S7-1200²⁾				
over Ethernet (TCP/IP)	• ³⁾	•	•	•
over MPI or PROFIBUS network	• ⁴⁾	•	–	• ⁵⁾
SIMATIC S7-1500²⁾				
over Ethernet (TCP/IP)	• ³⁾	•	•	•
over PROFIBUS network	• ³⁾	•	–	• ⁵⁾
SIMATIC S7-300, -400, Win AC²⁾				
over Ethernet (TCP/IP)	• ³⁾	•	•	•
over MPI or PROFIBUS network		•	–	• ⁵⁾
SIMATIC S7-200²⁾				
over Ethernet (TCP/IP) (MPI protocol)	• ³⁾	•	•	•
over MPI or PROFIBUS network	• ⁴⁾	• ⁶⁾	–	• ^{5) 6)}
over PPI network (MPI protocol)	• ⁴⁾	–	–	–
over PPI network (PPI protocol)	–	• ⁷⁾	–	• ^{5) 7)}

- System interface possible
- System interface not possible

¹⁾ Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable layout

²⁾ Controllers can be combined as desired

³⁾ Basic Panel PN and Mobile Panel 177 PN only

⁴⁾ Basic Panel DP and Mobile Panel 177 DP only

⁵⁾ Connection via integrated MPI/PROFIBUS interface; in the case of a standard PC, a communications processor (CP) is to be used (e.g. CP 5612/5622)

⁶⁾ Only on passive S7-200

⁷⁾ Can be interfaced via PPI to max. 1 x S7-200 (PPI); network operation (parallel PG, etc.) is possible

Note:

For detailed information on cable assignment, refer to WinCC Online Help.

Overview

The SIMATIC Basic Panels, Comfort Panels and Mobile Panels, as well as the SIMATIC HMI software package for PC WinCC Runtime Advanced support the following protocols for linking the control systems of other manufacturers:

- Allen Bradley
 - Ethernet IP protocol
 - DF1 protocol
- Mitsubishi
 - MC TCP/IP protocol
 - FX protocol

- Modicon
 - Modbus TCP/IP protocol
 - Modbus RTU protocol
- Omron
 - Link/Multi-Link protocol

The following table contains more detailed information.

Connection overview

Controller Target hardware (PROTOCOL) (physics)	SIMATIC HMI			
	Basic Panel	Comfort Panel Outdoor	KTPx00(F) Mobile	WinCC Runtime Advanced
Allen Bradley (Ethernet IP)				
via Ethernet TCP/IP network to max. 4 x controllers ²⁾	• ³⁾	•	•	•
<ul style="list-style-type: none"> • ControlLogix 1756-L6x, -L6xS with Ethernet module 1756-ENBT • GuardLogix System • CompactLogix 1769-L2xE, -L3xE • CompactLogix 1769-L4x with Ethernet module 1768-ENBT • SLC 5/05 • MicroLogix 1100, 1400 				
Allen Bradley (DF1)				
to max. 1 x controller	• ^{4) 5)}	• ⁴⁾	-	• ⁶⁾
<ul style="list-style-type: none"> • SLC 5/03, /04, /05 • MicroLogix (RS 232) 				
to max. 1 x controller	• ^{4) 5)}	• ⁴⁾	-	• ⁷⁾
<ul style="list-style-type: none"> • PLC5/11, /20, /30, /40, /60, /80 (RS 232) 				
via KF2 gateway and DH+ network to max. 4 x controllers ²⁾	• ^{4) 5)}	• ⁴⁾	-	• ^{7) 8)}
<ul style="list-style-type: none"> • SLC 5/04 • PLC5/11, /20, /30, /40, /60, /80 (RS 232) 				
via KF2 gateway and DH+ network to max. 4 x controllers ²⁾	• ⁵⁾	•	-	-
<ul style="list-style-type: none"> • SLC 5/04 • PLC5/11, /20, /30, /40, /60, /80 (RS 422) 				
via KF3 gateway and DH485 network to max. 4 x controllers ²⁾	• ^{4) 5)}	• ⁴⁾	-	• ^{7) 8)}
<ul style="list-style-type: none"> • SLC 500 • MicroLogix (RS 232) 				

- System interface possible
- System interface not possible

- ¹⁾ Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable layout
- ²⁾ The following listed controllers can be combined as required
- ³⁾ Basic Panel PN and Mobile Panel 177 PN only
- ⁴⁾ The RS 422/RS 232 adapter 6AV6671-8XE00-0AX0 is required for Basic Panels and Comfort Panels
- ⁵⁾ Basic Panel DP and Mobile Panel 177 DP only
- ⁶⁾ Connection via Allen Bradley PC cable 1747 CP3
- ⁷⁾ Connection via Allen Bradley PC cable 1784 CP10
- ⁸⁾ For connection to KF2/KF3 gateway, a gender-changer (25-pin socket/25-pin socket) is required on the gateway side

Note:

For detailed information on cable assignment, refer to WinCC Online Help; see also FAQs:

<http://support.automation.siemens.com/WW/view/en/29034071>

Operator panels

System interfaces with WinCC (TIA Portal)

Controllers from other manufacturers

Overview (continued)

Controller	SIMATIC HMI			
	Target hardware (PROTOCOL) (physics)	Basic Panel	Comfort Panel Outdoor	KTPx00(F) Mobile
Mitsubishi (MC TCP/IP)				
via Ethernet IP network to max. 4 x controllers ²⁾	• ³⁾	•	•	•
<ul style="list-style-type: none"> FX series FX3G, FX3U, FX3UC with Ethernet module FX3U ENET, Series Q with Ethernet module QJ71E71-100 iQ series/QnUD QnUDEH 				
Mitsubishi FX (serial)				
to max. 1 x controller FX series FX1N, FX2N (RS 232)	• ⁴⁾	•	–	• ⁵⁾

- System interface possible
- System interface not possible

- 1) Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable layout
- 2) The following listed controllers can be combined as required
- 3) Basic Panel PN only
- 4) Basic Panel DP only
- 5) Connection using a Mitsubishi PC cable SC-09 with integrated level converter RS 232/RS 422

Note:

For detailed information on cable assignment, refer to WinCC Online Help; see also FAQs:

<http://support.automation.siemens.com/WW/view/en/29034071>

Controller	SIMATIC HMI			
	Target hardware (PROTOCOL) (physics)	Basic Panel	Comfort Panel Outdoor	KTPx00(F) Mobile
Modicon (MODBUS TCP/IP)				
via MODBUS TCP/IP network to max. 4 x controllers ²⁾	• ³⁾	•	•	•
<ul style="list-style-type: none"> Concept Quantum, Unity Quantum Momentum Premium (TSX57) TSX Micro (TSX37) Modicon M340 20x0 (except 2010) 				
via TCP/IP Modbus Plus Bridge 174 CEV 200 40 and MODBUS PLUS network to max. 4 x controllers ²⁾	• ³⁾	•	•	•
<ul style="list-style-type: none"> Concept Quantum, Unity Quantum Momentum Compact 				
Modicon (MODBUS RTU)				
to max. 1 x controller	• ⁴⁾ ⁵⁾	• ⁴⁾	–	•
<ul style="list-style-type: none"> Concept Quantum Momentum Compact (RS 232) 				
via bridge BM85-000 or PLC with bridge functionality and MODBUS PLUS network to max. 4 x controllers ²⁾	• ⁴⁾ ⁵⁾	• ⁴⁾	–	•
<ul style="list-style-type: none"> Concept Quantum Compact (RS 232) 				

- System interface possible
- System interface not possible

- 1) Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable layout
- 2) The following listed controllers can be combined as required
- 3) Basic Panel PN only
- 4) The RS 422/RS 232 adapter 6AV6671-8XE00-0AX0 is required for Basic Panels and Mobile Panels
- 5) Basic Panel DP only

Note:

For detailed information on cable assignment, refer to WinCC Online Help; see also FAQs:

<http://support.automation.siemens.com/WW/view/en/29034071>

Overview (continued)

Controller	SIMATIC HMI			
	Target hardware (PROTOCOL) (physics)	Basic Panel	Comfort Panel Outdoor	KTPx00(F) Mobile
Omron (Link/Multi Link)				
to max. 1 x controller • CP1L, CP1H, CP1E • CJ1M, CJ1H, CJ1G • CJ2H • CS1G, CS1H, CS1D • CP2MC (RS 232)	–	• ³⁾	–	•
via converter NT-AL001 and RS 422 network to max. 4 x controllers ²⁾ • CP1L, CP1H, CP1E • CJ1M, CJ1H, CJ1G • CJ2H • CS1G, CS1H, CS1D • CP2MC (RS 232)	–	• ³⁾	–	•
via RS 422 network to max. 4 x controllers ²⁾ • CP1L, CP1H, CP1E • CJ1M, CJ1H, CJ1G (RS 422)	• ⁴⁾	•	–	–
via RS422 network to max. 4 x controllers ²⁾ • CJ2H • CS1G, CS1H, CS1D • CP2MC (RS 422)	–	–	–	–

- System interface possible
- System interface not possible

¹⁾ Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable layout

²⁾ The controllers listed below can be combined in any way required; connection via RS 422 interface of the controller or via RS 422 module

³⁾ The RS 422/RS 232 adapter 6AV6671-8XE00-0AX0 is required for Basic Panels

⁴⁾ Basic Panel DP only

Note:

For detailed information on cable assignment, refer to WinCC Online Help; see also FAQs:

<http://support.automation.siemens.com/WW/view/en/29034071>

Operator panels

Notes

2