

# SIEMENS



Engineered  
with  
TIA Portal

## SIMATIC HMI Panels

Efficient to a new level

[siemens.com/hmi](http://siemens.com/hmi)

کاتالوگ مانیتور صنعتی HMI زیمنس



The TIA Portal represents the intuitive, efficient and proven engineering framework for all automation tasks.



“I don’t compromise when it comes to operation and monitoring. This is why I rely on the equally proven and innovative solutions by the world market leader – for all applications.”

## New productivity benchmarks for sustainable competitive advantages

Against the background of increasing global competition, the consistent utilization of all optimization potentials throughout the entire lifecycle of a machine or plant has never been more important than today. Optimized processes facilitate reduced total cost of ownership, minimized time-to-market and enhanced quality.

Totally Integrated Automation is perfectly attuned to meet these targets while also being open for international standards and third-party systems. With its special system characteristics, Totally Integrated Automation supports the entire lifecycle of a machine or plant.

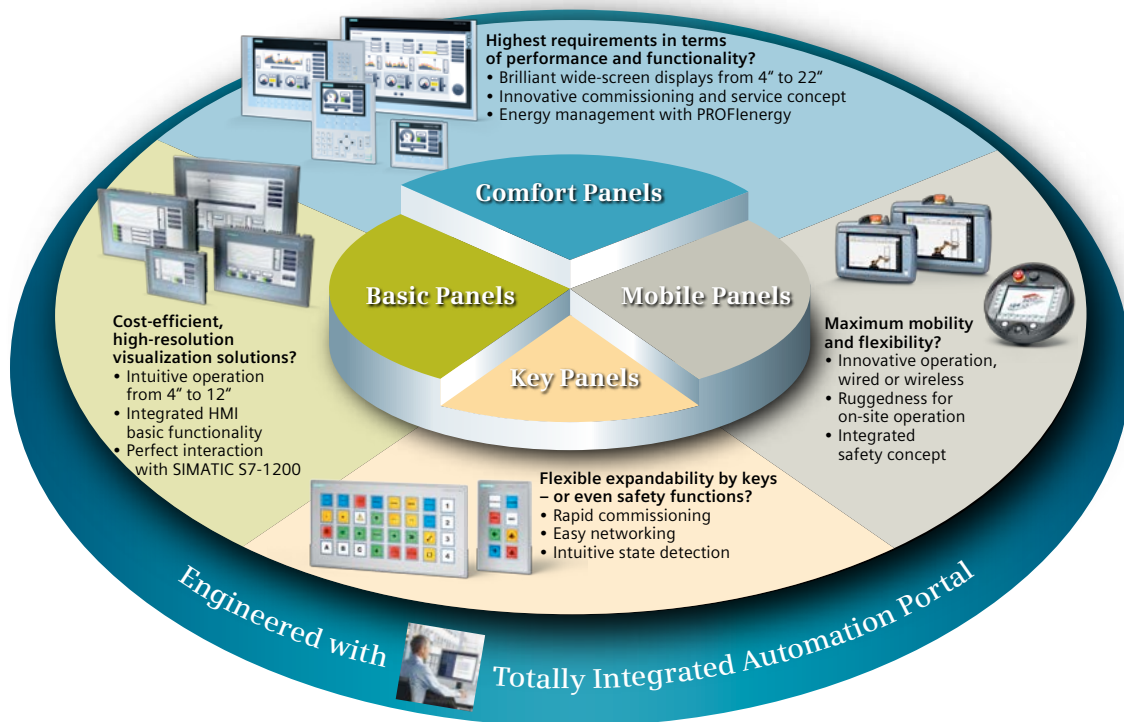
SIMATIC, the world’s leading automation system, represents a core component of Totally Integrated Automation and comprises a multitude of standardized, flexible and scalable products. For example: SIMATIC operator panels, which are presented in this brochure.

### The integrated engineering framework for controllers, HMI and drives: TIA Portal

With the Totally Integrated Automation Portal (TIA Portal), Siemens offers an engineering framework which facilitates the implementation of automation solutions in all sectors worldwide. From automation system planning, commissioning, operation and maintenance down to expansion – the TIA Portal offers significant saving potentials in terms of engineering time, costs and expenditures.

Find out more  
[www.siemens.com/tia-portal](http://www.siemens.com/tia-portal)

TIA Portal



# SIMATIC HMI Panels

## First choice for efficient operation and monitoring

SIMATIC HMI Panels have been tried and tested in the most various applications throughout all sectors for years. They not only feature an innovative design and high performance – as a unique highlight, they can be configured via SIMATIC WinCC in the TIA Portal. Users can thus benefit from unprecedented engineering efficiency.

### Integrated functionality across all display sizes

The hardware's functionality is identical throughout a device range. Simply select the optimum display size for your application and choose between operation via touch screen and/or keys. As the software is scalable, you can start with a small solution and further expand it any time as required – for example by increasing the number of tags or variables.

Innovative graphical user interfaces open up completely new possibilities in terms of intuitive operation and monitoring.

Integrated functionality across all display sizes

- **SIMATIC HMI Comfort Panels:**  
First choice for demanding applications
- **SIMATIC HMI Basic Panels:**  
Basic functions for simple HMI applications
- **SIMATIC HMI Mobile Panels:**  
Power and safety in your hands
- **SIMATIC HMI Key Panels:**  
Innovative operator panels – for turnkey operation

### Unique engineering efficiency

SIMATIC HMI Panels can be intuitively configured in the TIA Portal via the scalable SIMATIC WinCC software. This results in increased engineering efficiency when further components from the Totally Integrated Automation portfolio are used – e.g. SIMATIC controllers. The perfect interaction with STEP 7 does away with multiple entries and ensures maximum data consistency.

### Long-term value maintenance

SIMATIC products facilitate long-term investment protection. Existing projects can be easily and directly migrated to the successor product. Following the phase-out period of a model range, we support you with long-term spare parts availability. Moreover, the matching accessories for each product are available throughout the entire product lifecycle.

The TIA Selection Tool helps you to select the suitable device for your application

[www.siemens.com/tia-selection-tool](http://www.siemens.com/tia-selection-tool)

Convince yourself of our HMI portfolio in practical applications

[www.siemens.com/hmi-success-stories](http://www.siemens.com/hmi-success-stories)

Find out more

[www.siemens.com/hmi](http://www.siemens.com/hmi)

HMI Panels



# SIMATIC HMI Comfort Panels

First choice for demanding HMI tasks



## Various display sizes – identical functionality

All SIMATIC HMI Comfort Panels consistently offer the same high-end functionality. Featuring high-resolution wide-screen displays from 4" to 22", optionally with touch or key operation, they can be optimally adjusted to any application. Furthermore, they offer numerous innovations:

## Flexible high-resolution displays

With up to 40% more visualization space, the wide-screen format offers extended display options for complex operating screens – and a clear differentiation between application monitoring and operation. The high resolution with 16 million colors facilitates detailed process visualization and optimum readability. Together with the wide reading angle of 170°, this ensures optimum readability. The displays' high brightness is 100 % dimmable to allow for optimum adjustability to individual requirements – this is for example important for applications on ships and ensures reduced energy consumption.

## New innovative graphical user interface

A new, innovative graphical user interface opens up completely new possibilities in terms of intuitive machine operation and monitoring.

## Integrated high-end functionality

SIMATIC HMI Comfort Panels are characterized by their high performance which amongst others ensures rapid image build. Irrespective of the display size, all devices offer archives, VB scripts and various viewers for the display of plant documentation (e.g. as PDF) and Internet websites. The system diagnostics options in interaction with SIMATIC controllers represent an innovation. Diagnostics information which could previously only be obtained via programming device can now be read out via the Comfort Panel.

## Efficient energy management

The standardized PROFenergy protocol supports the coordinated central disconnection of redundant energy loads and the detection of measured energy values. This facilitates disconnection of the Comfort Panels' displays even during short break times for reduced energy consumption. PROFINET as a standard facilitates easy integration in existing plant structures and offers high investment protection.

## Maximum data security if power fails

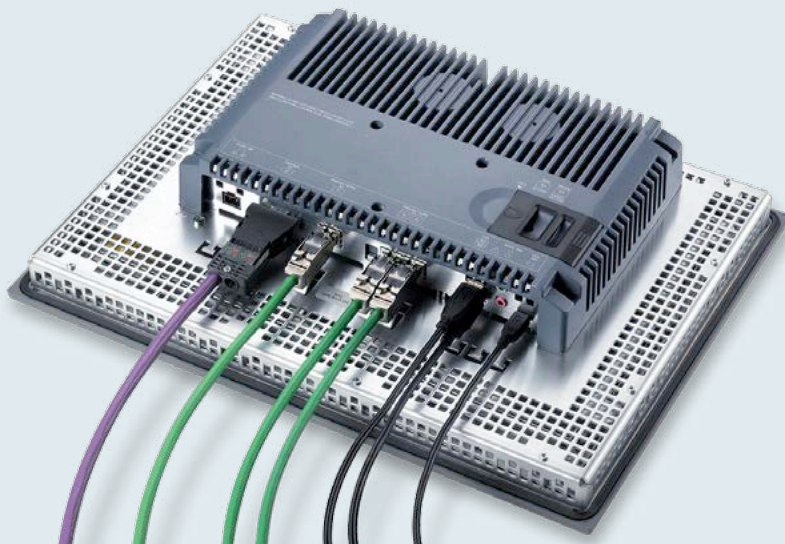
In case of a power failure, Comfort Panels buffer sufficient energy to correctly terminate all active archives and to back up the data already archived in RDB format. This ensures the retention of all data in the archive in a cost-efficient manner and without the use of a maintenance-intensive battery.\*

## Suitability for harsh environments

The rugged SIMATIC HMI Comfort Panels come with numerous approvals for application in various countries and for use in sectors subject to increased requirements. From 7" upward, the devices are equipped with particularly durable aluminum die-cast fronts. All Comfort Panels are approved for application in explosive areas in accordance with UL CL.I, Div.2. Furthermore, devices up to 12" are certified for Zones 2 and 22 in accordance with ATEX and offer various marine approvals such as GL or ABS.



\* To fully ensure the retention of individual, not yet archived data, the use of an uninterruptible power supply unit is recommended



### Integrated interfaces

SIMATIC HMI Comfort Panels are suitable for integration in PROFINET and PROFIBUS networks and feature interfaces for the connection of USB I/O. From 7" upwards, the devices come with a 2-port Ethernet switch and from 15" upwards with an additional Gigabit PROFINET interface.

### Eased project transfer

Standard cables can be used for loading HMI projects via PROFINET / Ethernet or USB – no special cables are required. Device settings are made during configuration, additional settings on the device itself are done away with. This ensures eased commissioning. The project data and device settings are saved to a system card integrated in the device and automatically updated. The system card can be used for project transfer to a further device.

### New: Monitoring with network cameras

The download option plant monitoring via network camera and camera control allows for:

- Monitoring of multiple remote processes on the Comfort Panel
- Monitoring of difficult-to-access areas
- Documentation and saving of machine states

Camera control download via:

[www.siemens.com/comfort-panels](http://www.siemens.com/comfort-panels)

### Printing and documentation

- Paperless printing in PDF / HTML format
- Screenshots for rapid documentation
- Archiving of process values and reports

### Extremely flexible for any outdoor application

For extreme ambient conditions, e.g. in cold storage warehouses, on ships or in oil and gas applications, SIMATIC HMI Outdoor Panels are in preparation. They offer:

- Rugged and durable UV-protected device front (IP65)
- Non-reflecting 7- und 15-inch wide-screen displays with automatic dimming for use in all light conditions
- Location- and sector-independent applicability through wide temperature range from –30°C to +60°C with max. 90% humidity and comprehensive certifications

### Highlights

- Device variety from 4" to 22", with touch screen and/or control keys
- Brilliant displays in widescreen format
- All touch devices also support vertical installation – for optimum plant space utilization or for special machine designs
- Integrated high-end functionality: Archives, VB scripts and various viewers for plant documentation display – e.g. as PDF or in the form of Internet websites as standard
- Maximum data security
- Easy commissioning, rapid service
- Integrated system diagnostics
- Cross-sector and cross-regional applicability
- Multiple interfaces for process communication
- Integrated PROFINET switch from 7"

### Migration made easy

Opt for SIMATIC HMI systems of the latest generation to make your HMI applications even more efficient.

Further information:

[www.siemens.com/panel-innovation](http://www.siemens.com/panel-innovation)

Find out more

[www.siemens.com/comfort-panels](http://www.siemens.com/comfort-panels)

SIMATIC HMI Comfort Panel Starter Kits

[www.siemens.com/comfort-panels-starter-kits](http://www.siemens.com/comfort-panels-starter-kits)

Comfort  
Panels

# SIMATIC HMI Basic Panels 2<sup>nd</sup> Generation

Cost-efficient, high-resolution  
visualization solutions



## Improved process quality

Visualization allows for considerably increased process quality with compact plants or smaller applications. Featuring all important HMI basic functions, SIMATIC HMI Basic Panels 2nd Generation thus open up completely new possibilities in terms of operation and monitoring also in the field of mechanical engineering at a particularly attractive price.

## High-resolution wide-screen displays

SIMATIC HMI Basic Panels 2nd Generation are available with high-resolution wide-screen displays from 4" to 12". These also support vertical configuration. Their high resolution and color depth of 64,000 colors facilitate improved process visualization. The displays' brightness is dimmable up to 100 %, offering optimum flexibility.

## Innovative graphical user interface

The new innovative user interface provides a great variety in terms of experiencing and operation. The new SIMATIC HMI Basic Panels feature user-friendly touch screens and particularly handy, freely configurable keys.

## Improved usability

The new USB interface facilitates the connection of keyboard, mouse or barcode scanner and supports easy data archiving on a USB stick.

## Perfect interaction

Thanks to a PROFIBUS or PROFINET interface, SIMATIC HMI Basic Panels 2nd Generation allow for connection with various PLCs. The visualization of applications of the modular compact controller SIMATIC S7-1200 offers particularly great added value.

## Highlights

- Ideal entry-level range for simple HMI applications
- Installation compatibility with SIMATIC HMI Comfort Panels and existing SIMATIC HMI Basic Panels 4" and 6"
- Flexible scalability within the HMI range
- High-resolution, dimmable wide-screen displays with 64,000 colors
- Innovative user interface and improved usability thanks to new controls and graphics
- Touch / key functionality for intuitive operation
- Interface for connection with various PLCs
- Versions for PROFIBUS and PROFINET
- Archiving via USB stick
- Engineered in the TIA Portal

Find out more

[www.siemens.com/basic-panels](http://www.siemens.com/basic-panels)

Basic  
Panels

# SIMATIC HMI Mobile Panels 2<sup>nd</sup> Generation

Power and safety  
in your hands



Irrespective of sector or application: Mobile operator panels – both wired and wireless – offer decisive advantages when mobility is required for the on-site operation and monitoring of machines and plants.

## Wired: SIMATIC HMI Mobile Panels 2<sup>nd</sup> Generation

Efficient engineering – the basis for perfect design and operation. Engineering in the TIA Portal allows for a faster and easier creation of your visualization than ever before. Using the innovative Style Editor, the operating screens can now both be configured for stationary as well as mobile applications. The user selects the new Mobile Panel and creates its configuration, incl. the specific functions for mobile application such as connection point detection or safety operator control evaluation.

## Performance and brilliance for mobile high-end applications

The Mobile Panels' high performance and high-end functionality allow for the realization of demanding mobile applications. The 7" or 9" wide-screen display is 100% infinitely dimmable and can be adjusted to various environments. It offers razor-sharp, bright and detailed images in 16 million colors and also supports the representation of complex operating screens or graphics thanks to its 40% increased display size.

## On the safe side – with safety

The Mobile Panels can be configured for alternation of the corresponding user interface according to connection point. Machine-specific HMI authorizations or actions can be realized independently of the selected connection point via the connection box ID. PROFINET connection boxes can be connected in series via integrated switches.

- Permanently wired safety relays (e.g. SIRIUS 3SK1)
- Fail-safe I/Os (e.g. SIMATIC ET 200)
- PROFIsafe with fail-safe controllers (e.g. SIMATIC S7-1500F)

## Highlights SIMATIC HMI Mobile Panels 2nd Gen.

- Connection point detection for location-dependent operator functions
- Optimum usability through illuminated E-STOP button
- Flexible evaluation option for safety operator controls
- Extended connection options through connection boxes (compact, standard, advanced)

## Compact connection option

The new connection box compact requires only one third the space of the normal connection box. It is simply screwed onto the control cabinet door's outside and then completely wired from the inside. It can be virtually accommodated anywhere on the machine or plant, thanks to which connections for the Mobile Panels can always be installed at the ideal position for the operator.

## Wireless: SIMATIC HMI Mobile Panel 277 IWLAN

The SIMATIC HMI Mobile Panel 277(F) IWLAN represents a rugged operator panel for wireless applications with optional safety functionality. It offers:

- Maximum flexibility for mobile operation and monitoring through Industrial Wireless LAN (IWLAN)
- High safety according to SIL 3 or PL e
- Consistently integrated safety in interaction with SIMATIC fail-safe controllers

## Highlights SIMATIC HMI Mobile Panels 277 IWLAN

- Large field of action through use of multiple access points (with iPCF, rapid roaming)
- Location-dependent operator functions which can be enabled via transponder
- E-STOP and acknowledgement button for wireless applications

Find out more  
[www.siemens.com/mobile-panels](http://www.siemens.com/mobile-panels)

Mobile  
Panels



# SIMATIC HMI Key Panels

Innovative operator panels  
for up to 60 % time savings  
in terms of mounting



The compact SIMATIC HMI Key Panels replace conventional operator panels at a way more cost-favorable price. Thanks to the devices' turnkey pre-assembly, they support time savings of up to 60 % in terms of mounting.

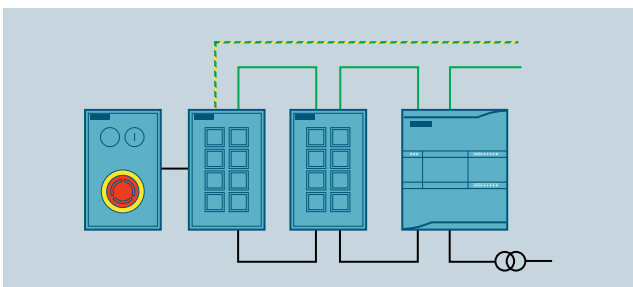
## Flexible mounting and service

The devices are dimensioned for direct switchboard installation and can also be mounted to third-party support arm and stand systems as a standard by means of flexible mechanics. This supports their optimum use on machines in any application – for ergonomic operation at various points of plants or production lines.

As power supply and bus cables are directly looped through on the Key Panel, no separate terminals are required. Furthermore, the F-versions support the direct connection of E-STOP devices or safety-related sensors, which further minimizes the wiring expenditures.

## Highlights

- Large mechanical buttons and multi-color LEDs (daylight-readable)
- Maximum flexibility through parameterization options
- Wiring time savings of over 60 % and material cost reductions of over 30 %
- Easy-to-label keys in IP65
- 2 PROFINET ports (incl. switch) for the assembly of line and ring structures
- Integrated digital I/Os on the device's rear for the connection of key switches, indicator lights, etc.
- Direct connection of E-STOP and other fail-safe sensors with F-versions
- Functional compatibility with all standard PROFINET master CPUs (also by third-party manufacturers)



Reduced hardware costs through integrated PROFINET 2-port switch and support of the shared device functionality KP8 or KP8F

Find out more

[www.siemens.com/key-panels](http://www.siemens.com/key-panels)

Key  
Panels



# SIMATIC HMI Devices with All-Round Protection

Device versions for  
special requirements



Our portfolio of proven SIMATIC HMI operator panels is supplemented by versions with all-round degree of protection IP65 for support arm or stand mounting. The devices are based on standard devices from our portfolio which have been tried-and-tested in countless applications worldwide.

## Flexible mounting and service

The devices can be mounted to third-party support arm and stand systems as a standard by means of flexible mechanics. This supports their optimum use on machines in any application – for ergonomic operation at various points of plants or production lines.

The rear panel's easy replaceability, also with device mounting on the machine, ensures outstanding service friendliness – e.g. for subsequent wiring or replacement of memory cards. Moreover, the operator panels can be easily adjusted to various requirements by means of modular expansion units, e.g. by equipping them with plant-specific mechanical pushbuttons or E-STOP devices.

## The range's technology is based on existing installation devices

- SIMATIC HMI IPC477C PRO 15" and 19"
- SIMATIC Flat Panel Monitor PRO 15" and 19"
- SIMATIC Thin Client PRO 15"
- SIMATIC MP 377 PRO 15"

## High flexibility through IP20 backplane cover concept

IP20 backplane covers with VESA mount are available for SIMATIC HMI devices with 15", 19" und 22" wide-screen fronts. Special covers facilitate rapid and service-friendly access to interfaces and memory cards in installed state.

## Highlights

- Easy support arm or stand mounting
- High service friendliness
- High compactness and low weight
- Easy adjustability and modular expandability, e.g. with SIMATIC HMI Key Panels KP8 and KP8F



SIMATIC Flat Panel Monitor PRO 19" and HMI IPC477C PRO 15" with expansion units, incl. SIMATIC HMI Key Panels

Find out more  
[www.siemens.com/ip65-hmi-devices](http://www.siemens.com/ip65-hmi-devices)

All-Round  
Protection

# Customized Automation

Matched to your requirements



From minor design changes to OEM solutions, down to turnkey products: Customized products from our SIMATIC portfolio offer you the high quality and functionality of our proven SIMATIC products.

## Customized design

Our SIMATIC products can be modified in terms of design to facilitate their seamless adjustment to your individual machine and plant design and your special operating and control philosophy. These design products are fully compatible with the standard products with regard to technology and functionality and are completely integrated in Totally Integrated Automation.

## OEM product modifications

We offer special product modifications for our OEM customers (original equipment manufacturers) which support the realization of individual automation solutions which cannot be implemented with standard products or devices with design modifications. For this purpose, we assemble a SIMATIC OEM device from our standard components, customer-specific components and additionally required software function expansions – analogous to a modular system.

## Customized turnkey products

These ready-to-install turnkey products are realized exactly according to your specifications to meet your individual technical requirements. They are based on our standard products which are combined and assembled specifically for you. Turnkey products comprise all wiring, connections, enclosure solutions and suitable automation components, including the required software filling with customer-specific images.

## Sector products for typical applications

Customized SIMATIC products can be equipped with additional characteristics for application in special industrial sectors.

- Renewable energies
- Automotive industry
- General mechanical engineering
- Food, beverages and tobacco industry / pharmaceutical industry
- Oil and gas / chemical industry and shipbuilding

## Highlights

### Time savings

- You benefit from our comprehensive customization know-how and our long-standing experience.
- You need not acquire any additional know-how and can fully concentrate on your own core competencies.

### Increased profitability

- You benefit from the hardware modifications' flexible combinability on the basis of standards, which makes customized solutions attractive in terms of costs even for small quantities.
- You determine the optimum cost-performance ratio for you by specifying the customization type and scope.

### Strengthened competitive advantage

- You rely on SIMATIC products which comply with the strictest quality standards, offer optimum performance and thus ensure maximized productivity and minimum downtimes.
- You are provided with customized products which can be excellently integrated in Totally Integrated Automation.

Find out more

[www.siemens.com/customized-automation](http://www.siemens.com/customized-automation)

Customized  
Automation

# SIMATIC WinCC (TIA Portal)

One engineering tool  
for all HMI panels



WinCC (TIA Portal) is the software for all HMI applications – from simple operation solutions with Basic Panels, down to process visualizations on PC-based multi-user systems.

## Maximum configuration efficiency

WinCC (TIA Portal) facilitates the use of device-independent configuration data on various target systems without conversion. The interface adjusts itself to the functional properties of the target device. Joint project data (alarm class, project texts, etc.) are centrally managed in the TIA Portal and can be used across different devices. Furthermore, an assistant for HMI configurations is available independently of the device which supports the rapid and easy creation of the visualization's basic structure.

## Image editor for efficient and fast image configuration

- Generation of interlinked image objects via drag & drop, e.g. tags for the generation of input/output fields with process connection
- Definition of image templates and functions
- Layer technology with up to 32 layers

## Object-oriented data management

- Comfortable search and change options
- Configuration of messages and archives directly on the HMI tags, no alternation between various editors
- Cross-reference list with direct access to all objects, e.g. for changes or selection

## Libraries for configuration objects

- Archiving of all configuration objects – whether pre-defined or user-defined – in the library, e.g. of blocks as well as complete images or tags
- Faceplates can be compiled from simple image objects in a customer- and project-specific manner; faceplate changes can be effected centrally via the block definition

## Test and commissioning support

- Simulation of HMI projects on the engineering PC
- Marking of incomplete or faulty configurations directly in the respective editor
- Jump to the fault cause on the basis of the compiler's messages

## Migration of existing HMI projects

- Complete data import from projects created in WinCC flexible

Find out more  
[www.siemens.com/wincc-tia-portal](http://www.siemens.com/wincc-tia-portal)

SIMATIC  
WinCC

Find out more:

[www.siemens.com/hmi](http://www.siemens.com/hmi)

SIMATIC  
HMI Panels –  
take a look



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# SIEMENS



Engineered  
with  
TIA Portal

## SIMATIC HMI Panels

Technical Data



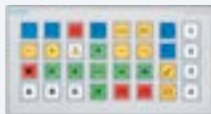
[siemens.com/hmi](http://siemens.com/hmi)








Intuitive, efficient, proven:  
TIA Portal redefines engineering.

# Technology Overview

Technology Overview

|   | Key Panels  |   |   |
|---|---|---|---|
|   | The innovative operator panels  |   |   |
|   |  |  |  |
|   | KP8 PN  | KP8F PN   | KP32F PN  |
| Operating mode  |   |   |   |
| Function keys (programmable)                                  | 8   | 8   | 32  |
| Output type   |   |   |   |
| Color modes for LED   | 5<br>(green, red, yellow, blue, white)  |   |   |
| Typical service life  |   |   |   |
| Short-stroke keys (in switching cycles)                       | 1,500,000   |   |   |
| LEDs (ON period in %)   | 100%  |   |   |
| Interfaces  |   |   |   |
| Digital inputs / outputs <sup>1)</sup>                        | 8   | 8   | 16  |
| Fail-safe inputs SIL2 / SIL3                                  | – / –   | 2 / 1   | 4 / 2   |
| PROFINET  | 2   | 2   | 2   |
| Functionality   |   |   |   |
| Key and lamp test   | •   |   |   |
| Degree of protection  |   |   |   |
| Front / rear  | IP65 / IP20   |   |   |
| Connection to controller                                      |   |   |   |
| SIMATIC S7, WinAC   | S7-1200<br>S7-1500<br>S7-300<br>S7-400  | S7-1200 <sup>2)</sup><br>S7-1500 <sup>2)</sup><br>S7-300 (F)<br>S7-400 (F)          |   |
| SIMATIC S5  | •   |   |   |
| PLC   | •   |   |   |
| SINUMERIK   | •   |   |   |
| SIMOTION  | •   |   |   |
| Engineering software  |   |   |   |
| Configuration   | STEP 7 V5.5 or STEP 7 Basic V11 or higher   |   |   |
| Ambient conditions  |   |   |   |
| Installation position   | portrait or landscape   |   |   |
| Max. permissible tilt angle without forced ventilation (in °) | + / – 30  |   |   |
| Max. relative humidity (in %)                                 | < 90  |   |   |
| Temperature   |   |   |   |
| Operation (vertical installation) in °C                       | 0 ... +55   | 0 ... +55   | 0 ... +55   |
| Operation (max. tilt angle) in °C                             | 0 ... +45   | 0 ... +45   | 0 ... +45   |
| Dimensions  |   |   |   |
| Enclosure front (W x H in mm)                                 | 98 x 155  | 98 x 155  | 295 x 155   |
| Installation cutout / device depth (W x H / D in mm)          | 68 x 129 / 49   | 68 x 129 / 49   | 275 x 135 / 39  |
| Article No. <sup>1)</sup>                                     | 6AV3688-3AY36-0AX0  | 6AV3688-3AF37-0AX0  | 6AV3688-3EH47-0AX0  |








<sup>1)</sup> Current ordering data as well as terms of sale and delivery are listed in the catalog ST 80 / ST PC and on the Internet at [www.siemens.com/industrymall](http://www.siemens.com/industrymall)

|   | Basic Panels  |   |   |   |   |
|---|---|---|---|---|---|
|   | Cost-efficient operation and monitoring of simple applications                    |   |   |   |   |
|   | 2 <sup>nd</sup> Generation  | 2 <sup>nd</sup> Generation  | 2 <sup>nd</sup> Generation  | 2 <sup>nd</sup> Generation  |   |
|   |  |  |  |  |  |
|   | KTP400 Basic  | KTP700 Basic DP<br>KTP700 Basic   | KTP900 Basic  | KTP1200 Basic DP<br>KTP1200 Basic   | KP300 Basic mono PN<br>KP400 Basic color PN   |
| Type of operation                                     | 4" touch + key  | 7" touch + key  | 9" touch + key  | 12" touch + key   | 3.6" key<br>4" key  |
| Display   | Wide-screen TFT, 65k colors, LED backlight  |   |   |   | FSTN-LCD black-white<br>TFT liquid crystal  |
| Size (in inches)                                      | 4.3"  | 7"  | 9"  | 12.1"   | 3.6"<br>4.3"  |
| Resolution (W x H in pixels)                          | 480 x 272   | 800 x 480   | 800 x 480   | 1,280 x 800   | 240 x 80<br>480 x 272   |
| MTBF <sup>6)</sup> of backlight (in h)                | 20,000  | 20,000  | 20,000  | 20,000  | 50,000  |
| Front dimensions (in mm)                              | 141 x 116   | 214 x 158   | 267 x 182   | 330 x 245   | 165 x 97<br>150 x 186   |
| Control elements                                      | touch screen and tactile keys   | touch screen and tactile keys   | touch screen and tactile keys   | touch screen and tactile keys   | membrane keypad   |
| Function keys (programmable) / system keys            | 4 / –   | 8 / –   | 8 / –   | 10 / –  | 10 / •<br>8 / 26  |
| Usable memory   |   |   |   |   |   |
| User memory   | 10 MByte  | 10 MByte  | 10 MByte  | 10 MByte  | 1 MByte   |
| Memory for options / recipes <sup>4)</sup>            | – / 256 KByte   | – / 256 KByte   | – / 256 KByte   | – / 256 KByte   | – / 40 KByte  |
| Message buffer  | •   | •   | •   | •   | •   |
| Interfaces  |   |   |   |   |   |
| Serial / MPI / PROFIBUS DP / PROFINET (Ethernet)      | – / – / – / •   | – / • / • / –<br>– / – / – / •  | – / – / – / •   | – / • / • / –<br>– / – / – / •  | – / – / – / •   |
| USB host / USB device                                 | 1 / –   | 1 / –   | 1 / –   | 1 / –   | –   |
| Slot for CF / multimedia / SD                         | – / – / –   | – / – / –   | – / – / –   | – / – / –   | – / – / –   |
| Functionality (when configured with WinCC TIA Portal) |   |   |   |   |   |
| Alarm logging (number of alarms / alarm classes)      | 1,000 / 32  | 1,000 / 32  | 1,000 / 32  | 1,000 / 32  | 200 / 32  |
| Process screens                                       | 100   | 100   | 100   | 100   | 50  |
| Tags  | 800   | 800   | 800   | 800   | 200<br>250  |
| Vector graphics                                       | •   | •   | •   | •   | •   |
| Bar graphs / curve diagrams                           | • / f(t)  | • / f(t)  | • / f(t)  | • / f(t)  | • / f(t)  |
| Faceplates  | –   | –   | –   | –   | –   |
| Recipes   | 50  | 50  | 50  | 50  | 5   |
| Archiving / Visual Basic Scripts                      | • / –   | • / –   | • / –   | • / –   | – / –   |
| Programming device functions                          | –   | –   | –   | –   | –   |
| Connection to controller                              |   |   |   |   |   |
| SIMATIC S7 / SIMATIC WinAC                            | • / •   | • / •   | • / •   | • / •   | • / •   |
| SINUMERIK / SIMOTION                                  | • / •   | • / •   | • / •   | • / •   | – / –   |
| Allen Bradley / Mitsubishi                            | • / •   | • / •   | • / •   | • / •   | • / •<br>• / –  |
| Modicon / Omron                                       | • / –   | • / •<br>• / –  | • / –   | • / •<br>• / –  | • / –   |
| Engineering software                                  |   |   |   |   |   |
| Configuration   | WinCC Basic V13 or higher   | WinCC Basic V13 or higher   | WinCC Basic V13 or higher   | WinCC Basic V13 or higher   | WinCC Basic V11 or higher   |
| Options, applications                                 |   |   |   |   |   |
| Sm@rtServer / Audit / Logon                           | – / – / –   | – / – / –   | – / – / –   | – / – / –   | – / – / –   |
| OPC Server / Internet Explorer                        | – / –   | – / –   | – / –   | – / –   | – / –   |
| Article No. <sup>3)</sup>                             | 6AV2123-2DB03-0AX0  | 6AV2123-2GA03-0AX0<br>6AV2123-2GB03-0AX0  | 6AV2123-2JB03-0AX0  | 6AV2123-2MA03-0AX0<br>6AV2123-2MB03-0AX0  | 6AV6647-0AH11-3AX0<br>6AV6647-0AJ11-3AX0  |

<sup>1)</sup> Freely configurable, <sup>2)</sup> Fail-safe if supported by CPUs, <sup>3)</sup> RS232 with adapter, <sup>4)</sup> Integrated flash, expandable via memory card, <sup>5)</sup> Monitoring mode only for Mobile Panel 277F IWLAN, <sup>6)</sup>




## Comfort Panels

### High-end functionality for demanding HMI tasks

|  |   |   |   |  |   |   |
|--|---|---|---|--|---|---|
|  |  |  |  |  |  |  |
| KTP400 Comfort<br>KP400 Comfort  | TP700 Comfort<br>KP700 Comfort  | TP900 Comfort<br>KP900 Comfort  | TP1200 Comfort<br>KP1200 Comfort  | TP1500 Comfort<br>KP1500 Comfort   | TP1900 Comfort  | TP2200 Comfort  |
| 4" touch + key<br>4" key   | 7" touch<br>7" key  | 9" touch<br>9" key  | 12" touch<br>12" key  | 15" touch<br>15" key   | 19" touch   | 22" touch   |
| Wide-screen TFT, 16 million colors, LED backlight                                |   |   |   |  |   |   |
| 4.3"   | 7"  | 9"  | 12.1"   | 15.4"  | 18.5"   | 21.5"   |
| 480 x 272  | 800 x 480   | 800 x 480   | 1,280 x 800   | 1,280 x 800  | 1,366 x 768   | 1,920 x 1,080   |
| 80,000   | 80,000  | 80,000  | 80,000  | 80,000   | 50,000  | 30,000  |
| 140 x 116<br>152 x 188   | 214 x 158<br>308 x 204  | 274 x 190<br>362 x 230  | 330 x 241<br>454 x 289  | 415 x 310<br>483 x 310   | 483 x 337   | 560 x 380   |
| touch screen or<br>membrane keypad   | touch screen or<br>membrane keypad  | touch screen or<br>membrane keypad  | touch screen or<br>membrane keypad  | touch screen or<br>membrane keypad   | touch screen  | touch screen  |
| 4 (with LED) / –<br>8 (with LED) / •   | – / –<br>24 (with LED) / •  | – / –<br>26 (with LED) / •  | – / –<br>34 (with LED) / •  | – / –<br>36 (with LED) / •   | – / –   | – / –   |
| 4 MByte  | 12 MByte  | 12 MByte  | 12 MByte  | 24 MByte   | 24 MByte  | 24 MByte  |
| 4 MByte / 512 KByte  | 12 MByte / 2 MByte  | 12 MByte / 2 MByte  | 12 MByte / 2 MByte  | 24 MByte / 4 MByte   | 24 MByte / 4 MByte  | 24 MByte / 4 MByte  |
| •  | •   | •   | •   | •  | •   | •   |
| • <sup>3)</sup> / • / • / 1  | • <sup>3)</sup> / • / • / 2   | • <sup>3)</sup> / • / • / 2   | • <sup>3)</sup> / • / • / 2   | • <sup>3)</sup> / • / • / 3  | • <sup>3)</sup> / • / • / 3   | • <sup>3)</sup> / • / • / 3   |
| 1 / 1  | 2 / 1   | 2 / 1   | 2 / 1   | 2 / 1  | 2 / 1   | 2 / 1   |
| – / • / •  | – / • / •   | – / • / •   | – / • / •   | – / • / •  | – / • / •   | – / • / •   |
| 2,000 / 32   | 4,000 / 32  | 4,000 / 32  | 4,000 / 32  | 6,000 / 32   | 6,000 / 32  | 6,000 / 32  |
| 500  | 500   | 500   | 500   | 750  | 750   | 750   |
| 1,024  | 2,048   | 2,048   | 2,048   | 4,096  | 4,096   | 4,096   |
| •  | •   | •   | •   | •  | •   | •   |
| • / f(t), f(x)   | • / f(t), f(x)  | • / f(t), f(x)  | • / f(t), f(x)  | • / f(t), f(x)   | • / f(t), f(x)  | • / f(t), f(x)  |
| •  | •   | •   | •   | •  | •   | •   |
| 100  | 300   | 300   | 300   | 500  | 500   | 500   |
| • / •  | • / •   | • / •   | • / •   | • / •  | • / •   | • / •   |
| STATUS / CONTROL,<br>diagnostics viewer  | STATUS / CONTROL,<br>diagnostics viewer   | STATUS / CONTROL,<br>diagnostics viewer   | STATUS / CONTROL,<br>diagnostics viewer   | STATUS / CONTROL,<br>diagnostics viewer  | STATUS / CONTROL,<br>diagnostics viewer   | STATUS / CONTROL,<br>diagnostics viewer   |
| • / •  | • / •   | • / •   | • / •   | • / •  | • / •   | • / •   |
| • / •  | • / •   | • / •   | • / •   | • / •  | • / •   | • / •   |
| • / •  | • / •   | • / •   | • / •   | • / •  | • / •   | • / •   |
| • / •  | • / •   | • / •   | • / •   | • / •  | • / •   | • / •   |
| WinCC Comfort V11<br>or higher   | WinCC Comfort V11<br>or higher  | WinCC Comfort V11<br>or higher  | WinCC Comfort V11<br>or higher  | WinCC Comfort V11<br>or higher   | WinCC Comfort V11<br>or higher  | WinCC Comfort V11<br>or higher  |
| • / • / •  | • / • / •   | • / • / •   | • / • / •   | • / • / •  | • / • / •   | • / • / •   |
| • / •  | • / •   | • / •   | • / •   | • / •  | • / •   | • / •   |
| 6AV2124-2DC01-0AX0<br>6AV2124-1DC01-0AX0   | 6AV2124-0GC01-0AX0<br>6AV2124-1GC01-0AX0  | 6AV2124-0JC01-0AX0<br>6AV2124-1JC01-0AX0  | 6AV2124-0MC01-0AX0<br>6AV2124-1MC01-0AX0  | 6AV2124-0QC02-0AX0<br>6AV2124-1QC02-0AX0   | 6AV2124-0UC02-0AX0  | 6AV2124-0XC02-0AX0  |

Brightness reduction by 50%, may be prolongable by means of dimming and ProfiEnergy



| Mobile Panels  |   |   |   |
|--|---|---|---|
| Power and safety in your hands   |   |   |   |
| 2 <sup>nd</sup> Generation   | 2 <sup>nd</sup> Generation  |   |   |
|  |  |  |   |
| KTP700 Mobile<br>KTP700F Mobile  | KTP900 Mobile<br>KTP900F Mobile   | Mobile Panel 277 IWLAN V2<br>Mobile Panel 277 (F) IWLAN V2                        |   |
| 7" touch + key   | 9" touch + key  | 8" touch + key  | Type of operation                                   |
| Wide-screen TFT, 16 million colors,<br>LED backlight                             |   | TFT display (LCD), 64k colors   | Display   |
| 7"   | 9"  | 7.5"  | Size (in inches)                                    |
| 800 x 480  | 800 x 480   | 640 x 480   | Resolution (W x H in pixels)                        |
| 50,000   | 50,000  | 50,000  | MTBF <sup>6)</sup> of backlight<br>(in h)           |
| 248 x 172<br>248 x 195   | 307 x 201<br>307 x 224  | diameter 290  | Front dimensions (in mm)                            |
| touch screen or<br>membrane keypad   | touch screen or<br>membrane keypad  | touch screen or<br>membrane keypad  | Control elements                                    |
| 8 (with LED) / –   | 10 (with LED) / –   | 18 / –  | Function keys (programmable) /<br>system keys       |
|  |   |   | Usable memory                                       |
| 12 MByte   | 12 MByte  | 6 MByte   | User memory   |
| 12 MByte / 2 MByte   | 12 MByte / 2 MByte  | 1,024 KByte / 64 KByte  | Memory for options / recipes <sup>4)</sup>          |
| •  | •   | •   | Message buffer                                      |
|  |   |   | Interfaces  |
| – / – / – / 1  | – / – / – / 1   | – / – / – / (• via IWLAN)   | Serial / MPI / PROFIBUS DP /<br>PROFINET (Ethernet) |
| 1 / –  | 1 / –   | • / –   | USB host / USB device                               |
| – / • / •  | – / • / •   | – / • / •   | Slot for CF / multimedia / SD                       |
| Functionality (when configured with WinCC TIA Portal)                            |   |   |   |
| 4,000 / 32   | 4,000 / 32  | 4,000 / 32  | Alarm logging<br>(number of alarms / alarm classes) |
| 500  | 500   | 500   | Process screens                                     |
| 2,048  | 2,048   | 2,048   | Tags  |
| •  | •   | •   | Vector graphics                                     |
| • / f(t), f(x)   | • / f(t), f(x)  | • / • f(t)  | Bar graphs / curve diagrams                         |
| •  | •   | •   | Faceplates  |
| 300  | 300   | 300   | Recipes   |
| • / •  | • / •   | • / •   | Archiving / Visual Basic Scripts                    |
| STATUS / CONTROL,<br>diagnostics viewer  | STATUS / CONTROL,<br>diagnostics viewer   | STATUS / CONTROL  | Programming device functions                        |
|  |   |   | Connection to controller                            |
| • / –  | • / –   | • / •   | SIMATIC S7 / SIMATIC WinAC                          |
| • / •  | • / •   | – / • (Safety variant from Service<br>Pack 3 for SIMATIC WinCC flexible<br>2008)  | SINUMERIK / SIMOTION                                |
| • / •  | • / •   | – / –   | Allen Bradley / Mitsubishi                          |
| • / •  | • / •   | – / –   | Modicon / Omron                                     |
|  |   |   | Engineering software                                |
| WinCC Comfort V13 SP1<br>or higher   | WinCC Comfort V13 SP1<br>or higher  | WinCC Comfort V11,<br>WinCC flexible Standard,<br>Advanced or higher              | Configuration                                       |
|  |   |   | Options, applications                               |
| • / • / •  | • / • / •   | • / • / – <sup>5)</sup>   | Sm@rtServer / Audit / Logon                         |
| – / •  | – / •   | • / •   | OPC Server / Internet Explorer                      |
| 6AV2125-2GB03-0AX0<br>6AV2125-2GB23-0AX0   | 6AV2125-2JB03-0AX0<br>6AV2125-2JB23-0AX0  | 6AV6645-0..01-0AX1  | Article No. <sup>7)</sup>                           |