SIMATIC HMI Panels
Operator Panels for All Requirements – and All Demands

siemens.com/hmi

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

Answers for industry.
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.

“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.”

Find out more
www.siemens.com/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. 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:**
  Maximum mobility for operation and monitoring
- **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


Convince yourself of our HMI portfolio in practical applications

[https://webservices.siemens.com/referenzen](https://webservices.siemens.com/referenzen)

Find out more

[www.siemens.com/hmi](http://www.siemens.com/hmi)
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 PROFIenergy 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
The Comfort Panels’ protection against voltage failure ensures cost-efficient data retention – without an additional uninterruptible power supply. The same applies to recipes and archives in RDB format when these are saved on a SIMATIC HMI memory card.

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.
**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

**Printing and documentation**

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

**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
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 or PROFINET
- Archiving via USB stick
- Engineered in the TIA Portal

Find out more
www.siemens.com/basic-panels
SIMATIC HMI Mobile Panels
Maximum mobility for operation and monitoring

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

Innovation by the world market leader
The SIMATIC HMI Mobile Panel 277 IWLAN represents a rugged, wireless operator panel with full HMI and optional safety functionality. It is available in different versions and combines maximum flexibility for mobile operation and monitoring, Industrial Wireless LAN (IWLAN) and integrated safety together with the SIMATIC fail-safe controllers. Safety Category SIL 3 or Performance Level PL e can be attained with the fail-safe Mobile Panels.

High user friendliness and resistance
The Mobile Panels with all-round protection against dust and splash water (IP65) are light and compact and can be effortlessly operated over prolonged periods both by right and left handers. Alternatively, they are also available with a wall mount. They are extremely shock-resistant thanks to their double-walled design and round enclosure form – and for example withstand falls from over one meter. A “protective collar” prevents unintended operation of the STOP button.

Elaborate down to the detail
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.

Sophisticated safety concept
The Mobile Panels allow for the provision of safety functions at any point of the machine or plant. STOP and acknowledgement buttons feature a two-circuit design in accordance with the safety regulations (EN 60204-1). Safety Category 3 in accordance with EN ISO 13849-1 can thus be attained.

Variable connection to various stations
When using a Mobile Panel with STOP button in combination with the “Plus” connection box, the operator panel can be configured for application on various connection points. The “Plus” connection box is also available as SIPLUS extreme version for demanding ambient conditions (aggressive atmosphere, condensation, etc.). Further information: www.siemens.com/siplus

Highlights
- Compact, ergonomic and rugged design
- Intuitive operation via membrane keys or touch screen – also with gloves
- High flexibility thanks to easy replugging during ongoing operation
- Connection point detection
- Plugging and unplugging without interruption of the E-STOP circuit (with “Plus” connection box), 1:1 assignment to the machine with “Basic” connection box
- Sophisticated safety concept
- Integrated interfaces (serial, MPI, PROFIBUS or PROFINET / Ethernet)
- Manifold drivers included in scope of supply – also for third-party controllers
- Short device start-up time after docking

Find out more
www.siemens.com/mobile-panels
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)
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 Monitor PRO 15”
- SIMATIC MP 377 PRO 15”

**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

**Find out more**

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
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
The information provided in this brochure contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

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## Technology Overview

### The innovative operator panels

<table>
<thead>
<tr>
<th>Key Panels</th>
<th>KP8 PN</th>
<th>KP8F PN</th>
<th>KP32F PN</th>
</tr>
</thead>
</table>

#### Operating mode

| Function keys (programmable) | 8      | 8      | 32       |

#### Output type

| Color modes for LED          | 5      |
| (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/outputs¹ | 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

<table>
<thead>
<tr>
<th>SIMATIC S7, WinAC</th>
<th>S7-1200</th>
<th>S7-1500</th>
<th>S7-1200 ⁴⁾</th>
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<tbody>
<tr>
<td></td>
<td>S7-300</td>
<td>S7-400</td>
<td>S7-1500 ⁴⁾</td>
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<td></td>
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<td>S7-300 (F)</td>
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<td></td>
<td></td>
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<td>S7-400 (F)</td>
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</tbody>
</table>

| SIMATIC S5S               |         |         |           |
| 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 |
| Operation (max. tilt angle) in °C     | 0 ... +45 |

#### Dimensions

| Enclosure front (W x H in mm) | 98 x 155     |
| Installation cutout / device depth (W x H / D in mm) | 68 x 129 / 49 |

#### Interfaces

- Serial / MPI / PROFIBUS DP / PROFINET (Ethernet)
- USB host / USB device
- Slot for CF / multimedia / SD

#### Functionality (when configured with WinCC TIA Portal)

- Alarm logging (number of alarms / alarm classes)
- Process screens
- Tags
- Vector graphics
- Bar graphs / curve diagrams
- Faceplates
- Recipes
- Archiving / Visual Basic Scripts
- Programming device functions

#### Connection to controller

- SIMATIC S7 / SIMATIC WinAC
- SIMATIC S5S / SIMATIC S5S
- SINUMERIK / SIMOTION
- Allen Bradley / Mitsubishi
- Modicon / Omron

#### Engineering software

- Configuration

#### Options, applications

- Sm@rtServer / Audit / Logon
- OPC Server / Internet Explorer

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¹⁾ Freely configurable, ²⁾ Device version, ³⁾ Device version DP, ⁴⁾ F-safety if supported by CPUs, ⁵⁾ RS232 with adapter, ⁶⁾ for WinCC Comfort V11, ⁷⁾ Mobile Panel 277F IWLAN, ⁸⁾ Brightness reduction by 50 %, prolongable by means of dimming and ProfiEnergy

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*www.siemens.com/industrymall*
### Basic Panels

Cost-efficient operation and monitoring of simple applications

<table>
<thead>
<tr>
<th>2nd Generation</th>
<th>2nd Generation</th>
<th>2nd Generation</th>
<th>2nd Generation</th>
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<tbody>
<tr>
<td>KTP400 Basic PN</td>
<td>KTP700 Basic DP</td>
<td>KTP900 Basic PN</td>
<td>KTP1200 Basic DP</td>
</tr>
<tr>
<td>4&quot; touch + key</td>
<td>7&quot; touch + key</td>
<td>9&quot; touch + key</td>
<td>12&quot; touch + key</td>
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<tr>
<td>TFT liquid crystal display (LCD), 65536 colors</td>
<td>TFT liquid crystal display (LCD), 65536 colors</td>
<td>TFT liquid crystal display (LCD), 65536 colors</td>
<td>FSTN-LCD monochrome</td>
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<td>480 x 272</td>
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<td>141 x 116</td>
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<td>touch screen and tactile keys</td>
<td>touch screen and tactile keys</td>
<td>touch screen and tactile keys</td>
<td>membrane keypad</td>
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<td>10/10</td>
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<td>WinCC Basic V13 or higher</td>
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<td>WinCC Basic V13 or higher</td>
<td>WinCC Basic V13 or higher</td>
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<td>6AV2123-2GB03-0AX0</td>
<td>6AV2123-2MA03-0AX0</td>
</tr>
</tbody>
</table>

### NOTE

- ¹⁾ Freely configurable
- ²⁾ Device version
- ³⁾ Device version DP
- ⁴⁾ F-safety if supported by CPUs
- ⁵⁾ RS232 with adapter
- ⁶⁾ Only via PROFIBUS DP
- ⁷⁾ Integrated flash, expandable via memory card
- ⁸⁾ Configuration with WinCC flexible
### Comfort Panels

**High-end functionality for demanding applications**

<table>
<thead>
<tr>
<th></th>
<th>KTP600 Basic mono PN</th>
<th>KTP1000 Basic color DP/PN</th>
<th>TP1500 Basic color PN</th>
<th>KTP400 Comfort</th>
<th>TP700 Comfort</th>
<th>TP900 Comfort</th>
<th>TP1200 Comfort</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot; touch + key</td>
<td>15&quot; touch</td>
<td>10&quot; touch + key</td>
<td>4&quot; touch + key</td>
<td>7&quot; touch</td>
<td>9&quot; touch</td>
<td>9&quot; touch</td>
<td>12&quot; touch</td>
</tr>
<tr>
<td>STN liquid crystal display (LCD), 4 gray levels / TFT liquid crystal display (LED), 256 colors</td>
<td>TFT liquid crystal display (LCD), 256 colors</td>
<td>TFT liquid crystal display (LCD), 256 colors</td>
<td>wide-screen TFT, 16 million colors, LED backlight</td>
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<tr>
<td>320 x 240</td>
<td>50,000</td>
<td>214 x 158</td>
<td>touch screen and tactile keys</td>
<td>4.3&quot;</td>
<td>7*</td>
<td>9*</td>
<td>12.1*</td>
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<td>214 x 158</td>
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<td>274 x 190</td>
<td>362 x 230</td>
<td>330 x 241</td>
<td>454 x 289</td>
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<td>6/–</td>
<td>8/–</td>
<td>– / –</td>
<td>– / –</td>
<td>4 (with LED) / 8 (with LED) / •</td>
<td>– / –</td>
<td>24 (with LED) / •</td>
<td>– / –</td>
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<table>
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<tr>
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<th>1 MByte</th>
<th>2 MByte</th>
<th>2 MByte</th>
<th>4 MByte</th>
<th>12 MByte</th>
<th>12 MByte</th>
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<td>/ ~40 KByte</td>
<td>~40 KByte</td>
<td>~40 KByte</td>
<td>4 MByte / 512 KByte</td>
<td>12 MByte / 2 MByte</td>
<td>12 MByte / 2 MByte</td>
<td>12 MByte / 2 MByte</td>
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<td>1 MByte</td>
<td>2 MByte</td>
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<td>4 MByte</td>
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</tr>
<tr>
<td>STATUS / CONTROL, diagnostics viewer</td>
<td>STATUS / CONTROL, diagnostics viewer</td>
<td>STATUS / CONTROL, diagnostics viewer</td>
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</table>

<table>
<thead>
<tr>
<th>WinCC Basic V10.5, WinCC Basic V11, WinCC flex. Compact or higher</th>
<th>WinCC Basic V11, WinCC flex. Compact or higher</th>
<th>WinCC Basic V10.5, WinCC flex. Compact or higher</th>
<th>WinCC Comfort V11 or higher</th>
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<td>WinCC Comfort V11 or higher</td>
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</table>

2008 or higher, \(^{100}\) Only monitoring mode for Mobile Panel 277F IWLAN, \(^{100}\) Brightness reduction by 50%, prolongable by means of dimming and ProfiEnergy
<table>
<thead>
<tr>
<th>HMI tasks</th>
<th>Mobile Panels</th>
<th>Maximum mobility for operation and monitoring</th>
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<tbody>
<tr>
<td><strong>TP1500 Comfort</strong>&lt;br&gt;KP1500 Comfort</td>
<td><strong>TP1900 Comfort</strong>&lt;br&gt;</td>
<td><strong>TP2200 Comfort</strong>&lt;br&gt;</td>
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<td>22&quot; touch</td>
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<tr>
<td>15.4&quot;</td>
<td>18.5&quot;</td>
<td>21.5&quot;</td>
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<tr>
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<td>1,366 x 768</td>
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<tr>
<td>80,000</td>
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<td>415 x 310</td>
<td>483 x 337</td>
<td>560 x 380</td>
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<td>touch screen or membrane keypad</td>
<td>touch screen</td>
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<td>6AV6645-0CA01-0AX0 6AV6645-0BA01-0AX0</td>
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