

SIMATIC HMI TP2200 COMFORT, COMFORT PANEL, TOUCH OPERATION, 22" WIDESCREEN-TFT-DISPLAY, 16 MIL. COLORS, PROFINET INTERFACE, MPI/PROFIBUS DP INTERFACE, 24 MB USER MEMORY, WINDOWS CE 6.0, CONFIGURABLE FROM WINCC COMFORT V11 SP2



## General information

|                          |                            |
|--------------------------|----------------------------|
| Product type designation | SIMATIC HMI TP2200 Comfort |
|--------------------------|----------------------------|

## Display

|                   |            |
|-------------------|------------|
| Design of display | TFT        |
| Screen diagonal   | 21.5 in    |
| Display width     | 495.6 mm   |
| Display height    | 292.2 mm   |
| Number of colors  | 16 777 216 |

## Resolution (pixels)

- |                               |             |
|-------------------------------|-------------|
| • Horizontal image resolution | 1 920 Pixel |
| • Vertical image resolution   | 1 080 Pixel |

## Backlighting

- |                                |              |
|--------------------------------|--------------|
| • MTBF backlighting (at 25 °C) | 30 000 h     |
| • Backlight dimmable           | Yes; 0-100 % |

## Control elements

### Keyboard fonts

- |                           |   |
|---------------------------|---|
| • Function keys           |   |
| — Number of function keys | 0 |

|   |                       |
|---|-----------------------|
| • Keys with LED   | No                    |
| • System keys   | No                    |
| • Numeric/alphabetical input  |                       |
| — Numeric keyboard  | Yes                   |
| — alphanumeric keyboard   | Yes                   |
| <b>Touch operation</b>  |                       |
| • Design as touch screen  | Yes                   |
| <b>Expansions for operator control of the process</b>                 |                       |
| • Direct keys (touch buttons as S7 input I/O)                         | 40                    |
| <b>Installation type/mounting</b>                                     |                       |
| Mounting position   | vertical              |
| Mounting in portrait format possible                                  | Yes                   |
| Mounting in landscape format possible                                 | Yes                   |
| maximum permissible angle of inclination without external ventilation | 35°                   |
| <b>Supply voltage</b>   |                       |
| Type of supply voltage  | DC                    |
| Rated value (DC)  | 24 V                  |
| permissible range, lower limit (DC)                                   | 19.2 V                |
| permissible range, upper limit (DC)                                   | 28.8 V                |
| <b>Input current</b>  |                       |
| Current consumption (rated value)                                     | 2.2 A                 |
| Starting current inrush I <sup>2</sup> t                              | 0.5 A <sup>2</sup> ·s |
| <b>Power</b>  |                       |
| Active power input, typ.  | 53 W                  |
| <b>Processor</b>  |                       |
| Processor type  | X86                   |
| <b>Memory</b>   |                       |
| Flash   | Yes                   |
| RAM   | Yes                   |
| Memory available for user data  | 24 Mbyte              |
| <b>Type of output</b>   |                       |
| Info LED  | No                    |
| Power LED   | No                    |
| Error LED   | No                    |
| Acoustics   |                       |
| • Buzzer  | No                    |
| • Speaker   | Yes                   |
| <b>Time of day</b>  |                       |
| Clock   |                       |

|                              |   |
|------------------------------|---|
| • Hardware clock (real-time) | Yes                                     |
| • Software clock             | Yes                                     |
| • retentive                  | Yes; Back-up duration typically 6 weeks |
| • synchronizable             | Yes                                     |

## Interfaces

|  |  |
|--|--|
| Number of industrial Ethernet interfaces | 2; 2 ports (switch) + independent port |
| Number of RS 485 interfaces              | 1; RS 422/485 combined                 |
| Number of RS 422 interfaces              | 0; together with RS485                 |
| Number of RS 232 interfaces              | 0                                      |
| Number of USB interfaces                 | 2; USB 2.0                             |
| • USB Mini B                             | 1; 5-pole                              |
| Number of 20 mA interfaces (TTY)         | 0                                      |
| Number of parallel interfaces            | 0                                      |
| Number of other interfaces               | 0                                      |
| Number of SD card slots                  | 2                                      |
| With software interfaces                 | No                                     |

## Industrial Ethernet

|  |   |
|--|---|
| • Industrial Ethernet status LED           | 3 |
| • Number of ports of the integrated switch | 2 |

## Protocols

|                                   |                      |
|-----------------------------------|----------------------|
| PROFINET                          | Yes                  |
| Supports protocol for PROFINET IO | Yes                  |
| IRT                               | Yes; As of WinCC V12 |
| MRP                               | Yes                  |
| PROFIBUS                          | Yes                  |
| MPI                               | Yes                  |

## Protocols (Ethernet)

|          |     |
|----------|-----|
| • TCP/IP | Yes |
| • DHCP   | Yes |
| • SNMP   | Yes |
| • DCP    | Yes |
| • LLDP   | Yes |

## WEB characteristics

|              |     |
|--------------|-----|
| • HTTP       | Yes |
| • HTTPS      | Yes |
| • HTML       | Yes |
| • XML        | Yes |
| • CSS        | Yes |
| • Active X   | Yes |
| • JavaScript | Yes |
| • Java VM    | No  |

| Further protocols |     |
|-------------------|-----|
| • CAN             | No  |
| • EtherNet/IP     | Yes |
| • MODBUS          | Yes |

| EMC  |     |
|--|-----|
| Emission of radio interference acc. to EN 55 011 |     |
| • Limit class A, for use in industrial areas     | Yes |
| • 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  | Yes  |
| 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 |

| 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 |

| Use in hazardous areas             |     |
|------------------------------------|-----|
| • ATEX Zone 2                      | No  |
| • ATEX Zone 22                     | No  |
| • IECEx Zone 2                     | No  |
| • IECEx Zone 22                    | No  |
| • cULus Class I Zone 1             | No  |
| • cULus Class I Zone 2, Division 2 | Yes |
| • FM Class I Division 2            | Yes |

| Ambient conditions                   |       |
|--------------------------------------|-------|
| Ambient temperature during operation |       |
| • Operation (vertical installation)  |       |
| — For vertical installation, min.    | 0 °C  |
| — For vertical installation, max.    | 45 °C |
| • Operation (max. tilt angle)        |       |

|  |                        |
|--|------------------------|
| — At maximum tilt angle, min.                            | 0 °C                   |
| — At maximum tilt angle, min.                            | 40 °C                  |
| • Operation (vertical installation, portrait format)     |                        |
| — For vertical installation, min.                        | 0 °C                   |
| — For vertical installation, max.                        | 40 °C                  |
| • Operation (max. tilt angle, portrait format)           |                        |
| — At maximum tilt angle, min.                            | 0 °C                   |
| — At maximum tilt angle, min.                            | 35 °C                  |
| <b>Ambient temperature during storage/transportation</b> |                        |
| • min.   | -20 °C                 |
| • max.   | 60 °C                  |
| <b>Relative humidity</b>                                 |                        |
| • Operation, max.  | 90 %; no condensation  |
| <b>Operating systems</b>                                 |                        |
| proprietary  | No                     |
| <b>pre-installed operating system</b>                    |                        |
| • Windows CE   | Yes                    |
| <b>Configuration</b>                                     |                        |
| Message indicator  | Yes                    |
| Alarm system (incl. buffer and acknowledgment)           | Yes                    |
| Process value display (output)                           | Yes                    |
| Process value default (input) possible                   | Yes                    |
| Recipe management  | Yes                    |
| <b>Configuration software</b>                            |                        |
| • STEP 7 Basic (TIA Portal)                              | No                     |
| • STEP 7 Professional (TIA Portal)                       | No                     |
| • WinCC flexible Compact                                 | No                     |
| • WinCC flexible Standard                                | No                     |
| • WinCC flexible Advanced                                | No                     |
| • WinCC Basic (TIA Portal)                               | No                     |
| • WinCC Comfort (TIA Portal)                             | Yes; V11 SP2 or higher |
| • WinCC Advanced (TIA Portal)                            | Yes; V11 SP2 or higher |
| • WinCC Professional (TIA Portal)                        | Yes; V11 SP2 or higher |
| <b>Languages</b>   |                        |
| <b>Online languages</b>                                  |                        |
| • Number of online/runtime languages                     | 32                     |
| <b>Project languages</b>                                 |                        |
| • Languages per project                                  | 32                     |
| <b>Functionality under WinCC (TIA Portal)</b>            |                        |
| Libraries  | Yes                    |

|  |         |
|--|---------|
| 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     |
| Help system  |         |
| • Number of characters per info text                             | 320     |
| <b>Message system</b>  |         |
| • Number of alarm classes  | 32      |
| • Bit messages   |         |
| — Number of bit messages   | 6 000   |
| • Analog messages  |         |
| — Number of analog messages                                      | 200     |
| • S7 alarm number procedure                                      | Yes     |
| • System messages HMI  | Yes     |
| • System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.) | Yes     |
| • Number of characters per message                               | 80      |
| • Number of process values per message                           | 8       |
| • Acknowledgment groups  | Yes     |
| • Message indicator  | Yes     |
| • Message buffer   |         |
| — Number of entries  | 1 024   |
| — Circulating buffer   | Yes     |
| — retentive  | Yes     |
| — maintenance-free   | Yes     |
| <b>Recipe management</b>   |         |
| • Number of recipes  | 500     |
| • Data records per recipe  | 1 000   |
| • Entries per data record  | 2 000   |
| • Size of internal recipe memory                                 | 4 Mbyte |
| • Recipe memory expandable                                       | Yes     |
| <b>Variables</b>   |         |
| • Number of variables per device                                 | 4 096   |
| • Number of variables per screen                                 | 400     |

|  |     |
|--|-----|
| • Limit values                         | Yes |
| • Multiplexing                         | Yes |
| • Structures                           | Yes |
| • Arrays                               | Yes |
| <b>Images</b>                          |     |
| • Number of configurable images        | 750 |
| • Permanent window/default             | Yes |
| • Global image                         | Yes |
| • Pop-up images                        | Yes |
| • Slide-in images                      | Yes |
| • Image selection by PLC               | Yes |
| • Image number in the PLC              | Yes |
| <b>Image objects</b>                   |     |
| • Number of objects per image          | 600 |
| • Text fields                          | Yes |
| • I/O fields                           | Yes |
| • Graphic I/O fields (graphics list)   | Yes |
| • Symbolic I/O fields (text list)      | Yes |
| • Date/time fields                     | Yes |
| • Switches                             | Yes |
| • Buttons                              | Yes |
| • Graphic display                      | Yes |
| • Icons                                | Yes |
| • Geometric objects                    | Yes |
| <b>Complex image objects</b>           |     |
| • Number of complex objects per screen | 40  |
| • Alarm view                           | Yes |
| • Trend view                           | Yes |
| • User view                            | Yes |
| • Status/control                       | Yes |
| • Sm@rtClient view                     | Yes |
| • Recipe view                          | Yes |
| • f(x) trend view                      | Yes |
| • System diagnostics view              | Yes |
| • Media Player                         | Yes |
| • HTML browser                         | Yes |
| • PDF display                          | Yes |
| • IP camera display                    | Yes |
| • Bar graphs                           | Yes |
| • Sliders                              | Yes |
| • Pointer instruments                  | Yes |

|  |                |
|--|----------------|
| • Analog/digital clock                 | Yes            |
| <b>Lists</b>                           |                |
| • Number of text lists per project     | 500            |
| • Number of entries per text list      | 500            |
| • Number of graphics lists per project | 500            |
| • Number of entries per graphics list  | 500            |
| <b>Archiving</b>                       |                |
| • Number of archives per device        | 50             |
| • Number of entries per archive        | 50 000         |
| • Message archive                      | Yes            |
| • Process value archive                | Yes            |
| • Archiving methods                    |                |
| — Sequential archive                   | Yes            |
| — Short-term archive                   | Yes            |
| • Memory location                      |                |
| — Memory card                          | Yes            |
| — USB memory                           | Yes            |
| — Ethernet                             | Yes            |
| • Data storage format                  |                |
| — CSV                                  | Yes            |
| — TXT                                  | Yes            |
| — RDB                                  | Yes            |
| <b>Security</b>                        |                |
| • Number of user groups                | 50             |
| • Number of user rights                | 32             |
| • Number of users                      | 50             |
| • Password export/import               | Yes            |
| • SIMATIC Logon                        | Yes            |
| <b>Logging through printer</b>         |                |
| • Alarms                               | Yes            |
| • Report (shift log)                   | Yes            |
| • Hardcopy                             | Yes            |
| • Electronic print to file             | Yes; pdf, html |
| <b>Character sets</b>                  |                |
| • Keyboard fonts                       |                |
| — US English                           | Yes            |
| <b>Transfer (upload/download)</b>      |                |
| • MPI/PROFIBUS DP                      | Yes            |
| • USB                                  | Yes            |
| • Ethernet                             | Yes            |
| • using external storage medium        | Yes            |



| Process coupling   |                                    |
|--|------------------------------------|
| • S7-1200  | Yes                                |
| • S7-1500  | Yes                                |
| • S7-200   | Yes                                |
| • S7-300/400   | Yes                                |
| • LOGO!  | Yes                                |
| • WinAC  | Yes                                |
| • SINUMERIK  | Yes; with SINUMERIK option package |
| • 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                                |
| Service tools/configuration aids                         |                                    |
| • Backup/Restore manually                                | Yes                                |
| • Backup/Restore automatically                           | Yes                                |
| • Simulation   | Yes                                |
| • Device switchover                                      | Yes                                |
| 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                    |
| • SIMATIC HMI CF memory card Compact Flash Card          | No                                 |
| • USB memory   | Yes                                |
| • SIMATIC IPC USB Flashdrive (USB stick)                 | Yes; Up to 16 GB                   |
| • SIMATIC HMI USB stick                                  | Yes; Up to 8 GB                    |
| • Network camera   | Yes                                |
| Mechanics/material                                       |                                    |
| Enclosure material (front)                               |                                    |
| • Plastic  | No                                 |
| • Aluminum   | Yes                                |

- Stainless steel

No

### Dimensions

|                            |        |
|----------------------------|--------|
| Width of the housing front | 560 mm |
| Height of housing front    | 380 mm |
| Mounting cutout, width     | 542 mm |
| Mounting cutout, height    | 362 mm |
| Overall depth              | 75 mm  |

### Weights

|                          |        |
|--------------------------|--------|
| Weight without packaging | 7.1 kg |
|--------------------------|--------|

**last modified:**

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