



SIMATIC HMI TP700 COMFORT, COMFORT PANEL, TOUCH OPERATION, 7" WIDESCREEN-TFT-DISPLAY, 16 MIL. COLORS, PROFINET INTERFACE, MPI/PROFIBUS DP INTERFACE, 12 MB USER MEMORY, WINDOWS CE 6.0, CONFIGURABLE FROM WINCC COMFORT V11

### Product type designation

#### Display

|                   |            |
|-------------------|------------|
| Design of display | TFT        |
| Screen diagonal   | 7 in       |
| Display width     | 152.4 mm   |
| Display height    | 91.4 mm    |
| Number of colors  | 16 777 216 |

#### Resolution (pixels)

- |                               |     |
|-------------------------------|-----|
| • Horizontal image resolution | 800 |
| • Vertical image resolution   | 480 |

#### Backlighting

- |                                |              |
|--------------------------------|--------------|
| • MTBF backlighting (at 25 °C) | 80 000 h     |
| • Dimmable backlight           | Yes; 0-100 % |

#### Control elements

##### Keyboard

- |                              |                        |
|------------------------------|------------------------|
| • Function keys              |                        |
| — Number of function keys    | 0                      |
| • Keys with LED              | No                     |
| • System keys                | No                     |
| • Numeric/alphabetical input |                        |
| — Numeric keyboard           | Yes; Onscreen keyboard |
| — Alphanumeric keyboard      | Yes; Onscreen keyboard |

##### Touch operation

- |                          |     |
|--------------------------|-----|
| • Design as touch screen | Yes |
|--------------------------|-----|

### Expansions for operator control of the process

|   |    |
|---|----|
| • DP direct LEDs (LEDs as S7 output I/O)<br>— F1...Fx | 0  |
| • Direct keys (keys as S7 input I/O)<br>— F1...Fx     | 0  |
| • Direct keys (touch buttons as S7 input I/O)         | 32 |

### Installation type/mounting

|   |          |
|---|----------|
| Mounting in portrait format possible                                  | Yes      |
| Mounting in landscape format possible                                 | Yes      |
| Mounting position   | vertical |
| maximum permissible angle of inclination without external ventilation | 35°      |

### Supply voltage

|                                     |        |
|-------------------------------------|--------|
| 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 |

### Input current

|                                   |                      |
|-----------------------------------|----------------------|
| Current consumption (rated value) | 0.5 A                |
| Inrush current A <sup>2</sup> s   | 0.5 A <sup>2</sup> s |

### Power

|                         |      |
|-------------------------|------|
| Power consumption, typ. | 12 W |
|-------------------------|------|

### Processor

|                |     |
|----------------|-----|
| Processor type | X86 |
|----------------|-----|

### Memory

|                             |          |
|-----------------------------|----------|
| Flash                       | Yes      |
| RAM                         | Yes      |
| Usable memory for user data | 12 Mbyte |

### Type of output

|           |     |
|-----------|-----|
| Info LED  | No  |
| Power LED | No  |
| Error LED | No  |
| Acoustics |     |
| • Buzzer  | No  |
| • Speaker | Yes |

### Time of day

|                                    |   |
|------------------------------------|---|
| Clock                              |   |
| • Hardware clock (real-time clock) | Yes                                     |
| • Software clock                   | No                                      |
| • Battery-backed                   | Yes; Back-up duration typically 6 weeks |

- Synchronizable

Yes

## Interfaces

|                                  |                        |
|----------------------------------|------------------------|
| Number of RS 485 interfaces      | 1; RS 422/485 combined |
| Number of USB interfaces         | 2; USB 2.0             |
| Number of USB Mini B interfaces  | 1; 5-pole              |
| Number of 20 mA interfaces (TTY) | 0                      |
| Number of RS 232 interfaces      | 0                      |
| Number of RS 422 interfaces      | 1                      |
| Number of parallel interfaces    | 0                      |
| Number of other interfaces       | 0                      |
| Number of SD card slots          | 2                      |
| With software interfaces         | No                     |

## Industrial Ethernet

- Number of industrial Ethernet interfaces 2
- Industrial Ethernet status LED 2
- Number of ports of the integrated switch 2

## Protocols

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

## Protocols (Ethernet)

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

## WEB characteristics

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

## Further protocols

- CAN No
- MODBUS Yes

- Supports protocol for EtherNet/IP

Yes

## EMC

### Emission of radio interference acc. to EN 55 011

- Limit class A, for use in industrial areas
- Limit class B, for use in residential areas

Yes

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

KC approval Yes

cULus Yes

RCM (formerly C-TICK) Yes

### Marine approval

- Germanischer Lloyd (GL) Yes
- American Bureau of Shipping (ABS) Yes
- Bureau Veritas (BV) Yes
- Det Norske Veritas (DNV) Yes
- Lloyds Register of Shipping (LRS) Yes
- Nippon Kaiji Kyokai (Class NK) Yes
- Polski Rejestr Statkow (PRS) No

### Use in hazardous areas

- ATEX Zone 2 Yes
- ATEX Zone 22 Yes
- IECEx Zone 2 Yes
- IECEx Zone 22 Yes
- cULus Class I Zone 1 No
- cULus Class I Zone 2, Division 2 Yes
- FM Class I Division 2 Yes

## Ambient conditions

### Ambient temperature in operation

- Operation (vertical installation)
  - in vertical mounting position, minimum 0 °C
  - in vertical mounting position, maximum 50 °C; (55 °C, see entry ID:64847814)
- Operation (max. tilt angle)
  - at maximum tilt angle, minimum 0 °C
  - at maximum tilt angle, maximum 40 °C
- Operation (vertical installation, portrait format)

|  |        |
|--|--------|
| — in vertical mounting position, minimum       | 0 °C   |
| — in vertical mounting position, maximum       | 40 °C  |
| • Operation (max. tilt angle, portrait format) |        |
| — at maximum tilt angle, minimum               | 0 °C   |
| — at maximum tilt angle, maximum               | 35 °C  |
| <b>Storage/transport temperature</b>           |        |
| • Min.   | -20 °C |
| • max.   | 60 °C  |
| <b>Relative humidity</b>                       |        |
| • Operation, max.                              | 90 %   |

|                                |     |
|--------------------------------|-----|
| <b>Operating systems</b>       |     |
| Pre-installed operating system |     |
| • Windows CE                   | Yes |
| proprietary                    | No  |

|  |     |
|--|-----|
| <b>Configuration</b>                                   |     |
| Message indicator                                      | Yes |
| Alarm logging system (incl. buffer and acknowledgment) | Yes |
| Process value display (output)                         | Yes |
| Process value default (input) possible                 | Yes |
| Recipe administration                                  | 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; from V11 |
| • WinCC Advanced (TIA Portal)      | Yes; from V11 |
| • WinCC Professional (TIA Portal)  | Yes; from V11 |

|                                      |     |
|--------------------------------------|-----|
| <b>Languages</b>                     |     |
| <b>Online languages</b>              |     |
| • Number of online/runtime languages | 32  |
| <b>Languages</b>                     |     |
| • Languages per project              | 32  |
| • Languages                          |     |
| — D                                  | Yes |
| — GB                                 | Yes |
| — F                                  | Yes |
| — I                                  | Yes |

|                       |     |
|-----------------------|-----|
| — E                   | Yes |
| — Chinese traditional | Yes |
| — Chinese simplified  | Yes |
| — DK                  | Yes |
| — FIN                 | Yes |
| — GR                  | Yes |
| — J                   | Yes |
| — KP / ROK            | Yes |
| — NL                  | Yes |
| — N                   | Yes |
| — PL                  | Yes |
| — P                   | Yes |
| — RUS                 | Yes |
| — S                   | Yes |
| — CZ                  | Yes |
| — SK                  | Yes |
| — TR                  | Yes |
| — H                   | Yes |

#### Functionality under WinCC (TIA Portal)

|  |     |
|--|-----|
| Libraries  | Yes |
| Applications/options   |     |
| • Internet Explorer  | 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                             | 70  |
| Message system   |     |
| • Number of alarm classes  | 32  |
| • 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 administration</b>           |         |
| • Number of recipes                    | 300     |
| • Data records per recipe              | 500     |
| • Entries per data record              | 1 000   |
| • Size of internal recipe memory       | 2 Mbyte |
| • Recipe memory expandable             | Yes     |
| <b>Variables</b>                       |         |
| • Number of variables per device       | 2 048   |
| • Number of variables per screen       | 400     |
| • Limit values                         | Yes     |
| • Multiplexing                         | Yes     |
| • Structs                              | Yes     |
| • Arrays                               | Yes     |
| <b>Images</b>                          |         |
| • Number of configurable images        | 500     |
| • Permanent window/default             | Yes     |
| • Global image                         | Yes     |
| • Start screen configurable            | Yes     |
| • Image selection by PLC               | Yes     |
| • Image number in the PLC              | Yes     |
| <b>Image objects</b>                   |         |
| • Number of objects per image          | 400     |
| • 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 view                         | Yes     |
| • Icons                                | Yes     |
| • Geometric objects                    | Yes     |
| <b>Complex image objects</b>           |         |

|  |        |
|--|--------|
| • Number of complex objects per screen | 20     |
| • 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    |
| • 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        | 20 000 |
| • 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    |



| Logging through printer                   |                                    |
|---|------------------------------------|
| • Alarms                                  | Yes                                |
| • Report (shift log)                      | Yes                                |
| • Hardcopy                                | Yes                                |
| • Electronic print to file                | Yes; pdf, html                     |
| Character sets                            |                                    |
| • Keyboard                                |                                    |
| — US American (English)                   | Yes                                |
| • Character sets                          |                                    |
| — Tahoma                                  | Yes                                |
| — Arial                                   | Yes                                |
| — Courier New                             | Yes                                |
| — WinCC flexible Standard                 | Yes                                |
| — Ideographic languages                   | Yes                                |
| • Font size freely scalable               | Yes                                |
| • Additional character sets can be loaded | Yes                                |
| Transfer (upload/download)                |                                    |
| • MPI/PROFIBUS DP                         | Yes                                |
| • USB                                     | Yes                                |
| • Ethernet                                | Yes                                |
| • using external storage medium           | No                                 |
| Process coupling                          |                                    |
| • S7-1200                                 | Yes                                |
| • S7-1500                                 | Yes                                |
| • S7-200                                  | Yes                                |
| • S7-300/400                              | Yes                                |
| • LOGO!                                   | Yes                                |
| • Win AC                                  | 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          |                                    |

|                                |     |
|--------------------------------|-----|
| • Clean screen                 | Yes |
| • Touch calibration            | Yes |
| • Backup/restore               | Yes |
| • Backup/Restore automatically | Yes |
| • Simulation                   | Yes |
| • Device switchover            | Yes |
| • Delta transfer               | Yes |

#### I/O / Options

|                  |     |
|------------------|-----|
| I/O devices      |     |
| • Printer        | Yes |
| • MultiMediaCard | Yes |
| • SD card        | Yes |
| • USB memory     | Yes |
| • Network camera | Yes |

#### Mechanics/material

|                         |     |
|-------------------------|-----|
| Type of housing (front) |     |
| • plastic               | No  |
| • aluminum              | Yes |
| • Stainless steel       | No  |

#### Dimensions

|                            |        |
|----------------------------|--------|
| Width of the housing front | 214 mm |
| Height of housing front    | 158 mm |
| Mounting cutout, width     | 197 mm |
| Mounting cutout, height    | 141 mm |
| Device depth               | 63 mm  |

#### Weights

|                       |            |
|-----------------------|------------|
| Without packaging     | 1.4 kg     |
| With packaging        | 1.6 kg     |
| <b>last modified:</b> | 11.02.2015 |