

SIMATIC HMI TP1900 Comfort, Comfort Panel, Touch operation, 19" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 24 MB configuration memory, WEC 2013, configurable from WinCC Comfort V14 SP1 with HSP



### General information

|                          |                |
|--------------------------|----------------|
| Product type designation | TP1900 Comfort |
|--------------------------|----------------|

### Display

|                   |            |
|-------------------|------------|
| Design of display | TFT        |
| Screen diagonal   | 18.5 in    |
| Display width     | 409.8 mm   |
| Display height    | 230.4 mm   |
| Number of colors  | 16 777 216 |

### Resolution (pixels)

|                               |             |
|-------------------------------|-------------|
| • Horizontal image resolution | 1 366 Pixel |
| • Vertical image resolution   | 768 Pixel   |

### Backlighting

|                                |              |
|--------------------------------|--------------|
| • MTBF backlighting (at 25 °C) | 50 000 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 keyboard                                                    | Yes; Onscreen keyboard |
| • alphanumeric keyboard                                               | Yes; Onscreen keyboard |
| Touch operation                                                       |                        |
| • Design as touch screen                                              | Yes                    |
| Expansions for operator control of the process                        |                        |
| • Direct keys (touch buttons as S7 input I/O)                         | 40                     |
| Installation type/mounting                                            |                        |
| Mounting position                                                     | vertical               |
| Mounting in portrait format possible                                  | Yes                    |
| Mounting in landscape format possible                                 | Yes                    |
| 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)                                     | 1.7 A                  |
| Starting current inrush I <sup>2</sup> t                              | 0.5 A <sup>2</sup> ·s  |
| Power                                                                 |                        |
| Active power input, typ.                                              | 41 W                   |
| Processor                                                             |                        |
| Processor type                                                        | X86                    |
| Memory                                                                |                        |
| Flash                                                                 | Yes                    |
| RAM                                                                   | Yes                    |
| Memory available for user data                                        | 24 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)                                          | Yes                    |

- Software clock
- retentive
- synchronizable

Yes  
Yes; Back-up duration typically 6 weeks  
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 RS 485                |
| Number of RS 232 interfaces              | 0                                      |
| Number of USB interfaces                 | 2; USB 2.0                             |
| 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
- Number of ports of the integrated switch

3  
2

## Protocols

|                                   |     |
|-----------------------------------|-----|
| PROFINET                          | Yes |
| Supports protocol for PROFINET IO | Yes |
| IRT                               | Yes |
| PROFIBUS                          | Yes |
| MPI                               | Yes |

## Protocols (Ethernet)

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

Yes  
Yes  
Yes  
Yes  
Yes

## WEB characteristics

- HTTP
- HTTPS
- HTML
- XML
- CSS
- Active X
- JavaScript
- Java VM

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
No

## Redundancy mode

- MRP

Yes

## Further protocols

- CAN
- EtherNet/IP
- MODBUS

No  
Yes  
Yes

## Interrupts/diagnostics/status information

### Diagnostic messages

- Diagnostic information readable

Yes; S7 controller

## 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 |
| cULus                 | Yes |
| RCM (formerly C-TICK) | Yes |
| KC approval           | Yes |
| EAC (formerly Gost-R) | Yes |

### Use in hazardous areas

- ATEX Zone 2
- ATEX Zone 22
- IECEx Zone 2
- IECEx Zone 22
- cULus Class I Zone 1
- cULus Class I Zone 2, Division 2
- cULus Class II Division 2
- FM Class I Division 2
- FM Class II Division 2

No  
No  
No  
No  
No  
Yes; For inscription on device rating plate  
No; Available soon  
Yes; For inscription on device rating plate  
No; Available soon

### Marine approval

- Germanischer Lloyd (GL)
- American Bureau of Shipping (ABS)
- Bureau Veritas (BV)
- Det Norske Veritas (DNV)
- Korean Register of Shipping (KRS)
- Lloyds Register of Shipping (LRS)
- Nippon Kaiji Kyokai (Class NK)
- Polski Rejestr Statkow (PRS)

No  
No  
No  
No  
No  
No  
No  
No

|                                                          |                                    |
|----------------------------------------------------------|------------------------------------|
| • Chinese Classification Society (CCS)                   | No                                 |
| <b>Ambient conditions</b>                                |                                    |
| Suited for indoor use                                    | Yes                                |
| Suited for outdoor use                                   | No                                 |
| <b>Ambient temperature during operation</b>              |                                    |
| • 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; Windows Embedded Compact 2013 |
| <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; V14 SP1 HSP and higher        |
| • WinCC Advanced (TIA Portal)                            | Yes; V14 SP1 HSP and higher        |

- WinCC Professional (TIA Portal)

Yes; V14 SP1 HSP and higher

## Languages

### Online languages

- Number of online/runtime languages

32

### Project languages

- Languages per project

32

## Functionality under WinCC (TIA Portal)

### Libraries

Yes

### Applications/options

- Web browser
- Pocket Word
- Pocket Excel
- PDF Viewer
- Media Player
- SIMATIC WinCC Sm@rtServer
- SIMATIC WinCC Audit

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes

### Number of Visual Basic Scripts

Yes

### Task planner

- time-controlled
- task-controlled

Yes  
Yes

### Help system

- Number of characters per info text

320

### Message system

- Number of alarm classes
- Bit messages
  - Number of bit messages
- Analog messages
  - Number of analog messages
- S7 alarm number procedure
- System messages HMI
- System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.)
- Number of characters per message
- Number of process values per message
- Acknowledgment groups
- Message indicator
- Message buffer
  - Number of entries
  - Circulating buffer
  - retentive
  - maintenance-free

32  
6 000  
200  
Yes  
Yes  
Yes  
80  
8  
Yes  
Yes  
1 024  
Yes  
Yes  
Yes

|                                        |         |
|----------------------------------------|---------|
| Recipe management                      |         |
| • 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     |
| Variables                              |         |
| • Number of variables per device       | 4 096   |
| • Number of variables per screen       | 400     |
| • Limit values                         | Yes     |
| • Multiplexing                         | Yes     |
| • Structures                           | Yes     |
| • Arrays                               | Yes     |
| Images                                 |         |
| • 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     |
| Image objects                          |         |
| • 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     |
| Complex image objects                  |         |
| • 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                                                            |
| <b>Process coupling</b>                                  |                                                                |
| • S7-1200                                                | Yes                                                            |
| • S7-1500                                                | Yes                                                            |
| • S7-200                                                 | Yes                                                            |
| • S7-300/400                                             | Yes                                                            |
| • LOGO!                                                  | Yes                                                            |
| • WinAC                                                  | Yes                                                            |
| • SINUMERIK                                              | Yes; With SINUMERIK option package as from WinCC V15 or higher |
| • 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                                                            |
| <b>Service tools/configuration aids</b>                  |                                                                |
| • Backup/Restore manually                                | Yes                                                            |
| • Backup/Restore automatically                           | Yes                                                            |
| • Simulation                                             | Yes                                                            |
| • Device switchover                                      | Yes                                                            |
| <b>Peripherals/Options</b>                               |                                                                |
| <b>Peripherals</b>                                       |                                                                |
| • 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 | 483 mm |
| Height of housing front    | 337 mm |
| Mounting cutout, width     | 465 mm |
| Mounting cutout, height    | 319 mm |
| Overall depth              | 75 mm  |

#### Weights

|                          |        |
|--------------------------|--------|
| Weight without packaging | 5.6 kg |
|--------------------------|--------|

**last modified:** 10/24/2018 