



SIMATIC HMI TP900 Comfort INOX Stainless steel front, Glass pane, capacitive touch, Degree of protection front IP69K, 9" widescreen TFT display, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, (Microsoft Support included Security updates discontinued) configurable from WinCC Comfort V15

| General information                                                   |                        |
|-----------------------------------------------------------------------|------------------------|
| Product type designation                                              | TP900 Comfort INOX PCT |
| Display                                                               |                        |
| Design of display                                                     | TFT                    |
| Screen diagonal                                                       | 9 in                   |
| Display width                                                         | 195 mm                 |
| Display height                                                        | 117 mm                 |
| Number of colors                                                      | 16 777 216             |
| Resolution (pixels)                                                   |                        |
| • Horizontal image resolution                                         | 800 pixel              |
| • Vertical image resolution                                           | 480 pixel              |
| Backlighting                                                          |                        |
| • MTBF backlighting (at 25 °C)                                        | 80 000 h               |
| • Backlight dimmable                                                  | Yes; 0-100 %           |
| Control elements                                                      |                        |
| Keyboard fonts                                                        |                        |
| • Function keys                                                       |                        |
| — Number of function keys                                             | 0                      |
| — Number of function keys with LEDs                                   | 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; capacitive        |
| • Design as multi-touch screen                                        | No                     |
| • Monitor keyboard                                                    | Yes                    |
| Expansions for operator control of the process                        |                        |
| • DP direct LEDs (LEDs as S7 output I/O)                              |                        |
| — F1...Fx                                                             | 0                      |
| • Direct keys (keys as S7 input I/O)                                  |                        |
| — F1...Fx                                                             | 0                      |
| • 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                                  |
| <b>Input current</b>                       |                                         |
| Current consumption (rated value)          | 0.75 A                                  |
| Starting current inrush I <sup>2</sup> t   | 0.5 A <sup>2</sup> ·s                   |
| <b>Power</b>                               |                                         |
| Active power input, typ.                   | 18 W                                    |
| <b>Processor</b>                           |                                         |
| Processor type                             | X86                                     |
| <b>Memory</b>                              |                                         |
| Flash                                      | Yes                                     |
| RAM                                        | Yes                                     |
| Memory available for user data             | 12 Mbyte                                |
| <b>Type of output</b>                      |                                         |
| Info LED                                   | No                                      |
| Power LED                                  | No                                      |
| Error LED                                  | No                                      |
| Acoustics                                  | Speaker                                 |
| • 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                                     |
| <b>Interfaces</b>                          |                                         |
| Number of industrial Ethernet interfaces   | 1; 2 ports (switch)                     |
| 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                              |
| • 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                                      |
| <b>Industrial Ethernet</b>                 |                                         |
| • Industrial Ethernet status LED           | 2                                       |
| • Number of ports of the integrated switch | 2                                       |
| <b>Protocols</b>                           |                                         |
| PROFINET                                   | Yes                                     |
| Supports protocol for PROFINET IO          | Yes                                     |
| IRT                                        | Yes; As of WinCC V15                    |
| PROFIBUS                                   | Yes                                     |
| EtherNet/IP                                | Yes                                     |
| MPI                                        | Yes                                     |
| <b>Protocols (Ethernet)</b>                |                                         |
| • TCP/IP                                   | Yes                                     |
| • DHCP                                     | Yes                                     |
| • SNMP                                     | Yes                                     |
| • DCP                                      | Yes                                     |
| • LLDP                                     | Yes                                     |
| <b>WEB characteristics</b>                 |                                         |
| • HTTP                                     | Yes                                     |
| • HTTPS                                    | Yes                                     |
| • HTML                                     | Yes                                     |

|                                                          |                                        |
|----------------------------------------------------------|----------------------------------------|
| • XML                                                    | Yes                                    |
| • CSS                                                    | Yes                                    |
| • Active X                                               | Yes                                    |
| • JavaScript                                             | Yes                                    |
| • Java VM                                                | No                                     |
| <b>Redundancy mode</b>                                   |                                        |
| Media redundancy                                         |                                        |
| — MRP                                                    | Yes; As of WinCC V15                   |
| <b>Further protocols</b>                                 |                                        |
| • CAN                                                    | No                                     |
| • MODBUS                                                 | Yes                                    |
| <b>EMC</b>                                               |                                        |
| 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                                     |
| <b>Degree and class of protection</b>                    |                                        |
| IP (at the front)                                        | IP66 / IPx6K and IP69 / IPx9K          |
| IP (rear)                                                | IP20                                   |
| NEMA (front)                                             |                                        |
| • Enclosure Type 4 at the front                          | No                                     |
| • Enclosure Type 4x at the front                         | No                                     |
| • Enclosure Type 12 at the front                         | No                                     |
| <b>Standards, approvals, certificates</b>                |                                        |
| CE mark                                                  | Yes                                    |
| cULus                                                    | Yes                                    |
| RCM (formerly C-TICK)                                    | Yes                                    |
| KC approval                                              | No                                     |
| EAC (formerly Gost-R)                                    | Yes                                    |
| <b>Use in hazardous areas</b>                            |                                        |
| • 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                                    |
| • cULus Class II Division 2                              | No                                     |
| • FM Class I Division 2                                  | No                                     |
| • FM Class II Division 2                                 | 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.                        | 50 °C; (55 °C, see entry ID: 64847814) |
| Operation (max. tilt angle)                              |                                        |
| — At maximum tilt angle, min.                            | 0 °C                                   |
| — At maximum tilt angle, max.                            | 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, max.                            | 35 °C                                  |
| <b>Ambient temperature during storage/transportation</b> |                                        |
| • min.                                                   | -20 °C                                 |
| • max.                                                   | 60 °C                                  |
| <b>Altitude during operation relating to sea level</b>   |                                        |
| • Installation altitude above sea level, max.            | 2 000 m                                |
| <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 / header</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; As of WinCC V15                                                          |
| • WinCC Advanced (TIA Portal)                               | Yes; As of WinCC V15                                                          |
| • WinCC Professional (TIA Portal)                           | Yes; As of WinCC V15                                                          |
| <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                                        | Internet Explorer, PDF/Word/Excel Viewer, Sm@rtService, Sm@rtAccess, ProAgent |
| • Web browser                                               | Yes                                                                           |
| • Pocket Word                                               | Yes; Viewer                                                                   |
| • Pocket Excel                                              | Yes; Viewer                                                                   |
| • PDF Viewer                                                | Yes                                                                           |
| • Media Player                                              | Yes                                                                           |
| • SIMATIC WinCC Sm@rtServer                                 | Yes                                                                           |
| • SIMATIC WinCC Audit                                       | Yes                                                                           |
| Number of Visual Basic Scripts                              | Yes                                                                           |
| Task planner                                                | Yes                                                                           |
| • time-controlled                                           | Yes                                                                           |
| • task-controlled                                           | Yes                                                                           |
| Help system                                                 |                                                                               |
| • Number of characters per info text                        | 70                                                                            |
| <b>Message system</b>                                       |                                                                               |
| • Number of alarm classes                                   | 32                                                                            |
| • Bit messages                                              |                                                                               |
| — Number of bit messages                                    | 4 000                                                                         |
| • Analog messages                                           |                                                                               |
| — Number of analog messages                                 | 200                                                                           |
| • S7 alarm number procedure                                 | Yes                                                                           |
| • System messages HMI                                       | Yes                                                                           |
| • System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ...) | 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                    | 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     |
| • Structures                           | Yes     |
| • Arrays                               | Yes     |
| <b>Images</b>                          |         |
| • Number of configurable images        | 500     |
| • 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          | 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 display                      | 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     |
| • 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        | 20 000  |
| • Message archive                      | Yes     |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Process value archive</li> <li>• Archiving methods <ul style="list-style-type: none"> <li>— Sequential archive</li> <li>— Short-term archive</li> </ul> </li> <li>• Memory location <ul style="list-style-type: none"> <li>— Memory card</li> <li>— USB memory</li> <li>— Ethernet</li> </ul> </li> <li>• Data storage format <ul style="list-style-type: none"> <li>— CSV</li> <li>— TXT</li> <li>— RDB</li> </ul> </li> </ul>                                            | Yes<br>Sequential log, circular log, alarm log, process value archive<br>Yes<br>Yes<br>SD/MMC card, Ethernet, USB memory stick<br>Yes<br>Yes<br>Yes<br>CSV file, readable, e.g. with MS Excel, MS Access<br>Yes<br>Yes<br>Yes |
| <b>Security</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• Number of user groups</li> <li>• Number of user rights</li> <li>• Number of users</li> <li>• Password export/import</li> <li>• SIMATIC Logon</li> </ul>                                                                                                                                                                                                                                                                                                                    | 50<br>32<br>50<br>Yes<br>Yes                                                                                                                                                                                                  |
| <b>Logging through printer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• Alarms</li> <li>• Report (shift log)</li> <li>• Hardcopy</li> <li>• Electronic print to file</li> </ul>                                                                                                                                                                                                                                                                                                                                                                    | Yes<br>Yes<br>Yes<br>Yes; PDF, HTML                                                                                                                                                                                           |
| <b>Character sets</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• Keyboard fonts <ul style="list-style-type: none"> <li>— US English</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                  | US American (English)<br>Yes                                                                                                                                                                                                  |
| <b>Transfer (upload/download)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• MPI/PROFIBUS DP</li> <li>• USB</li> <li>• Ethernet</li> <li>• using external storage medium</li> </ul>                                                                                                                                                                                                                                                                                                                                                                     | Yes<br>Yes<br>Yes<br>Yes                                                                                                                                                                                                      |
| <b>Process coupling</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• S7-1200</li> <li>• S7-1500</li> <li>• S7-200</li> <li>• S7-300/400</li> <li>• LOGO!</li> <li>• WinAC</li> <li>• SINUMERIK</li> <li>• SIMOTION</li> <li>• Allen Bradley (EtherNet/IP)</li> <li>• Allen Bradley (DF1)</li> <li>• Mitsubishi (MC TCP/IP)</li> <li>• Mitsubishi (FX)</li> <li>• OMRON (FINS TCP)</li> <li>• OMRON (LINK/Multilink)</li> <li>• Modicon (Modbus TCP/IP)</li> <li>• Modicon (Modbus)</li> <li>• OPC UA Client</li> <li>• OPC UA Server</li> </ul> | Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes; with SINUMERIK option package<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>No<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes                                                                      |
| <b>Service tools/configuration aids</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• Backup/Restore manually</li> <li>• Backup/Restore automatically</li> <li>• Simulation</li> <li>• Device switchover</li> </ul>                                                                                                                                                                                                                                                                                                                                              | Yes<br>Yes<br>Yes<br>Yes                                                                                                                                                                                                      |
| <b>Peripherals/Options</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                                                                              |
| <b>Accessories</b>                     |                                                                                  |
| Further accessories are available      | Yes; Service Pack (seal, mounting clips, clamping frame, power supply connector) |
| <b>Mechanics/material</b>              |                                                                                  |
| Enclosure material (front)             |                                                                                  |
| • Plastic                              | No                                                                               |
| • Aluminum                             | No                                                                               |
| • Stainless steel                      | Yes                                                                              |
| <b>Dimensions</b>                      |                                                                                  |
| Width of the housing front             | 274 mm                                                                           |
| Height of housing front                | 190 mm                                                                           |
| Mounting cutout, width                 | 251 mm                                                                           |
| Mounting cutout, height                | 166 mm                                                                           |
| Overall depth                          | 66 mm                                                                            |
| <b>Weights</b>                         |                                                                                  |
| Weight (without packaging)             | 2.9 kg                                                                           |
| Weight (with packaging)                | 3.6 kg                                                                           |

**last modified:**

9/7/2023 