

SIPLUS HMI TP1900 Comfort based on 6AV2124-0UC02-0AX1 with conformal coating, 0...+45 °C, Comfort Panel, touch operation, 19" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 24 MB configuration memory, WEC 2013, configurable as of WinCC Comfort V14 SP1 with HSP



Figure similar

| 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                      |
| — 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; Analog-resistive  |
| 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 $I^2t$             | 0.5 A <sup>2</sup> ·s                   |
| <b>Power</b>                               |                                         |
| Active power input, typ.                   | 41 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                                     |
| <b>Interfaces</b>                          |                                         |
| 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                                      |
| <b>Industrial Ethernet</b>                 |                                         |
| • Industrial Ethernet status LED           | 3                                       |
| • Number of ports of the integrated switch | 2                                       |
| <b>Protocols</b>                           |                                         |
| PROFINET                                   | Yes                                     |
| Supports protocol for PROFINET IO          | Yes                                     |
| IRT                                        | Yes                                     |
| 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                                                                                                                                                                                                             |
| Further protocols                                                   |                                                                                                                                                                                                                 |
| • CAN                                                               | No                                                                                                                                                                                                              |
| • MODBUS                                                            | Yes                                                                                                                                                                                                             |
| <b>Interrupts/diagnostics/status information</b>                    |                                                                                                                                                                                                                 |
| Diagnoses                                                           |                                                                                                                                                                                                                 |
| • Diagnostic information readable                                   | Yes; S7 controller                                                                                                                                                                                              |
| <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)                                                   | IP65                                                                                                                                                                                                            |
| IP (rear)                                                           | IP20                                                                                                                                                                                                            |
| NEMA (front)                                                        |                                                                                                                                                                                                                 |
| • Enclosure Type 4 at the front                                     | Yes                                                                                                                                                                                                             |
| • Enclosure Type 4x at the front                                    | Yes                                                                                                                                                                                                             |
| <b>Ambient conditions</b>                                           |                                                                                                                                                                                                                 |
| Suited for indoor use                                               | Yes                                                                                                                                                                                                             |
| Suited for outdoor use                                              | No                                                                                                                                                                                                              |
| Ambient temperature during operation                                |                                                                                                                                                                                                                 |
| Operation (vertical installation)                                   |                                                                                                                                                                                                                 |
| — For vertical installation, min.                                   | 0 °C; = Tmin                                                                                                                                                                                                    |
| — For vertical installation, max.                                   | 45 °C; = Tmax                                                                                                                                                                                                   |
| Operation (max. tilt angle)                                         |                                                                                                                                                                                                                 |
| — At maximum tilt angle, min.                                       | 0 °C; = Tmin                                                                                                                                                                                                    |
| — At maximum tilt angle, max.                                       | 40 °C; = Tmax                                                                                                                                                                                                   |
| Operation (vertical installation, portrait format)                  |                                                                                                                                                                                                                 |
| — For vertical installation, min.                                   | 0 °C; = Tmin                                                                                                                                                                                                    |
| — For vertical installation, max.                                   | 40 °C; = Tmax                                                                                                                                                                                                   |
| Operation (max. tilt angle, portrait format)                        |                                                                                                                                                                                                                 |
| — At maximum tilt angle, min.                                       | 0 °C; = Tmin                                                                                                                                                                                                    |
| — At maximum tilt angle, max.                                       | 35 °C; = Tmax                                                                                                                                                                                                   |
| Ambient temperature during storage/transportation                   |                                                                                                                                                                                                                 |
| • min.                                                              | -20 °C                                                                                                                                                                                                          |
| • max.                                                              | 60 °C                                                                                                                                                                                                           |
| Altitude during operation relating to sea level                     |                                                                                                                                                                                                                 |
| • Installation altitude above sea level, max.                       | 5 000 m                                                                                                                                                                                                         |
| • Ambient air temperature-barometric pressure-altitude              | Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m) |
| Relative humidity                                                   |                                                                                                                                                                                                                 |
| • With condensation, tested in accordance with IEC 60068-2-38, max. | 100 %; RH incl. condensation/frost (no commissioning under condensation conditions)                                                                                                                             |
| <b>Resistance</b>                                                   |                                                                                                                                                                                                                 |
| Coolants and lubricants                                             |                                                                                                                                                                                                                 |
| — Resistant to commercially available coolants and lubricants       | Yes; Incl. diesel and oil droplets in the air                                                                                                                                                                   |
| Use in stationary industrial systems                                |                                                                                                                                                                                                                 |
| — to biologically active substances according to EN 60721-3-3       | Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request                                                                                                              |
| — to chemically active substances according to EN 60721-3-3         | Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *                                                                                                                        |
| — to mechanically active substances according to EN 60721-3-3       | Yes; Class 3S4 incl. sand, dust, *                                                                                                                                                                              |
| Use on ships/at sea                                                 |                                                                                                                                                                                                                 |
| — to biologically active substances according to EN 60721-3-6       | Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request                                                                                                                                   |
| — to chemically active substances according to EN 60721-3-6         | Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *                                                                                                                        |
| — to mechanically active substances according to EN 60721-3-6       | Yes; Class 6S3 incl. sand, dust; *                                                                                                                                                                              |

|                                                                                                                         |                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Usage in industrial process technology                                                                                  |                                                                                                                                                                                     |
| — Against chemically active substances acc. to EN 60654-4                                                               | Yes; Class 3 (excluding trichlorethylene)                                                                                                                                           |
| — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04                            | Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil) |
| Remark                                                                                                                  |                                                                                                                                                                                     |
| — Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04             | * The supplied plug covers must remain in place over the unused interfaces during operation!                                                                                        |
| Conformal coating                                                                                                       |                                                                                                                                                                                     |
| • Coatings for printed circuit board assemblies acc. to EN 61086                                                        | Yes; Class 2 for high reliability                                                                                                                                                   |
| • Protection against fouling acc. to EN 60664-3                                                                         | Yes; Type 1 protection                                                                                                                                                              |
| • Military testing according to MIL-I-46058C, Amendment 7                                                               | Yes; Discoloration of coating possible during service life                                                                                                                          |
| • Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A | Yes; Conformal coating, Class A                                                                                                                                                     |
| Operating systems                                                                                                       |                                                                                                                                                                                     |
| proprietary                                                                                                             | No                                                                                                                                                                                  |
| pre-installed operating system                                                                                          |                                                                                                                                                                                     |
| • Windows CE                                                                                                            | Yes; Windows Embedded Compact 2013                                                                                                                                                  |
| configuration / header                                                                                                  |                                                                                                                                                                                     |
| Message indicator                                                                                                       | Yes                                                                                                                                                                                 |
| Alarm system (incl. buffer and acknowledgment)                                                                          | Yes                                                                                                                                                                                 |
| Process value display (output)                                                                                          | Yes                                                                                                                                                                                 |
| Process value default (input) possible                                                                                  | Yes                                                                                                                                                                                 |
| Recipe management                                                                                                       | Yes                                                                                                                                                                                 |
| Configuration software                                                                                                  |                                                                                                                                                                                     |
| • 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                                                                                                           | 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                                                                                                                                                                                 |
| Message system                                                                                                          |                                                                                                                                                                                     |
| • 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 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     |
| 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     |
| Lists                                                       |         |
| • 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>                             |                   |
| 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>Mechanics/material</b>                              |                   |
| Enclosure material (front)                             |                   |
| • Plastic                                              | No                |
| • Aluminum                                             | Yes               |
| • Stainless steel                                      | No                |
| <b>Dimensions</b>                                      |                   |
| 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             |
| <b>Weights</b>                                         |                   |
| Weight (without packaging)                             | 5.6 kg            |

**last modified:**

9/11/2023 