

SIPLUS HMI KP700 Comfort for medial exposure with conformal coating based on 6AV2124-1GC01-0AX0



Figure similar

| General information            |               |
|--------------------------------|---------------|
| Product type designation       | KP700 Comfort |
| Display                        |               |
| Design of display              | TFT           |
| Screen diagonal                | 7 in          |
| Display width                  | 152.4 mm      |
| Display height                 | 91.4 mm       |
| Number of colors               | 16 777 216    |
| Resolution (pixels)            |               |
| • Horizontal image resolution  | 800 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   | 24                           |
| • Keys with LED   | Yes                          |
| • System keys   | Yes                          |
| • Numeric keyboard  | Yes                          |
| • alphanumeric keyboard   | Yes; similar to mobile phone |
| <b>Touch operation</b>  |                              |
| • Design as touch screen  | No                           |
| <b>Expansions for operator control of the process</b>                 |                              |
| • DP direct LEDs (LEDs as S7 output I/O)                              |                              |
| — F1...Fx   | 24                           |
| • Direct keys (keys as S7 input I/O)                                  |                              |
| — F1...Fx   | 24                           |
| • Direct keys (touch buttons as S7 input I/O)                         | 0                            |
| <b>Installation type/mounting</b>                                     |                              |
| Mounting position   | vertical                     |
| Mounting in portrait format possible                                  | No                           |
| Mounting in landscape format possible                                 | Yes                          |
| maximum permissible angle of inclination without external ventilation | 35°                          |
| <b>Supply voltage</b>   |                              |
| Type of supply voltage  | DC                           |
| Rated value (DC)  | 24 V                         |
| permissible range, lower limit (DC)                                   | 19.2 V                       |
| permissible range, upper limit (DC)                                   | 28.8 V                       |
| <b>Input current</b>  |                              |
| Current consumption (rated value)                                     | 0.5 A                        |
| Starting current inrush I <sup>2</sup> t                              | 0.5 A <sup>2</sup> ·s        |
| <b>Power</b>  |                              |
| Active power input, typ.  | 12 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  | Yes                          |
| Power LED   | No                           |
| Error LED   | No                           |

|  |                                     |
|--|-------------------------------------|
| <b>Acoustics</b>                           |                                     |
| • Buzzer                                   | No                                  |
| • Speaker                                  | Yes                                 |
| <b>Time of day</b>                         |                                     |
| <b>Clock</b>                               |                                     |
| • Hardware clock (real-time)               | Yes                                 |
| • Software clock                           | No                                  |
| • retentive                                | Yes                                 |
| • synchronizable                           | Yes                                 |
| <b>Interfaces</b>                          |                                     |
| Number of industrial Ethernet interfaces   | 2                                   |
| Number of RS 485 interfaces                | 1; RS 422 / 485 combined            |
| Number of RS 422 interfaces                | 1                                   |
| 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; With WinCC, subsequent version |
| PROFIBUS                                   | 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                                    | No                                  |
| • HTML                                     | Yes                                 |
| • XML                                      | No                                  |

|  |                                     |
|--|-------------------------------------|
| • CSS  | Yes                                 |
| • Active X   | No                                  |
| • JavaScript   | Yes                                 |
| • Java VM  | No                                  |
| <b>Redundancy mode</b>                                   |                                     |
| • MRP  | Yes; With WinCC, subsequent version |
| <b>Further protocols</b>                                 |                                     |
| • CAN  | No                                  |
| • EtherNet/IP  | Yes                                 |
| • MODBUS   | Yes                                 |
| <b>Interrupts/diagnostics/status information</b>         |                                     |
| <b>Diagnostic messages</b>                               |                                     |
| • Diagnostic information readable                        | Yes; S7 controller                  |
| <b>EMC</b>   |                                     |
| <b>Emission of radio interference acc. to EN 55 011</b>  |                                     |
| • 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                                |
| Enclosure Type 4 at the front                            | Yes                                 |
| Enclosure Type 4x at the front                           | Yes                                 |
| IP (rear)  | IP20                                |
| <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; = Tmin                        |
| — For vertical installation, max.                        | 50 °C; = Tmax                       |
| • Operation (max. tilt angle)                            |                                     |
| — At maximum tilt angle, min.                            | 0 °C; = Tmin                        |
| — At maximum tilt angle, min.                            | 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, min.                            | 35 °C; = Tmax                       |
| <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.   | 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) |
| <b>Relative humidity</b>  |   |
| • With condensation, tested in accordance with IEC 60068-2-38, max.   | 100 %; RH incl. condensation/frost (no commissioning under condensation conditions)   |
| <b>Resistance</b>   |   |
| <b>Coolants and lubricants</b>  |   |
| — Resistant to commercially available coolants and lubricants   | Yes; Incl. diesel and oil droplets in the air   |
| <b>Use in stationary industrial systems</b>   |   |
| — 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, *  |
| <b>Use on ships/at sea</b>  |   |
| — 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; *  |
| <b>Remark</b>   |   |
| — Note regarding classification of environmental conditions acc. to EN 60721  | * The supplied plug covers must remain in place over the unused interfaces during operation!  |
| <b>Conformal coating</b>  |   |
| • Coatings for printed circuit board assemblies acc. to EN 61086  | Yes; Class 2 for high availability  |
| • 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   |
| <b>Operating systems</b>  |   |
| proprietary   | No  |
| <b>pre-installed operating system</b>   |   |
| • Windows CE  | Yes   |

## Configuration

|  |               |
|--|---------------|
| 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; from V11 |
| • WinCC Advanced (TIA Portal)                  | Yes; from V11 |
| • WinCC Professional (TIA Portal)              | Yes; from V11 |

## Languages

|                                      |    |
|--------------------------------------|----|
| <b>Online languages</b>              |    |
| • Number of online/runtime languages | 32 |
| <b>Project languages</b>             |    |
| • 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   |
| 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 messages, other (SIMATIC S7, Sinumerik, Simotion, etc.) | Yes     |
| • Number of characters per message                               | 80      |
| • Number of process values per message                           | 8       |
| • Acknowledgment groups  | Yes     |
| • Message indicator  | Yes     |
| • Message buffer   |         |
| — Number of entries  | 1 024   |
| — Circulating buffer   | Yes     |
| — retentive  | Yes     |
| — maintenance-free   | Yes     |
| <b>Recipe management</b>   |         |
| • Number of recipes  | 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     |
| • 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    |
| • Bar graphs                           | Yes    |
| • Sliders                              | Yes    |
| • Pointer instruments                  | Yes    |
| • Analog/digital clock                 | Yes    |
| <b>Lists</b>                           |        |
| • Number of text lists per project     | 500    |
| • Number of entries per text list      | 500    |
| • Number of graphics lists per project | 500    |
| • Number of entries per graphics list  | 500    |
| <b>Archiving</b>                       |        |
| • Number of archives per device        | 50     |
| • Number of entries per archive        | 20 000 |
| • Message archive                      | Yes    |
| • Process value archive                | Yes    |
| • Archiving methods                    |        |
| — Sequential archive                   | Yes    |
| — Short-term archive                   | Yes    |
| • Memory location                      |        |
| — Memory card                          | Yes    |
| — USB memory                           | Yes    |
| — Ethernet                             | Yes    |
| • Data storage format                  |        |
| — CSV                                  | Yes    |
| — TXT                                  | Yes    |
| — RDB                                  | Yes    |



| Security                         |                                    |
|----------------------------------|------------------------------------|
| • Number of user groups          | 50                                 |
| • Number of user rights          | 32                                 |
| • Number of users                | 50                                 |
| • Password export/import         | Yes                                |
| • SIMATIC Logon                  | Yes                                |
| Logging through printer          |                                    |
| • Alarms                         | Yes                                |
| • Report (shift log)             | Yes                                |
| • Hardcopy                       | Yes                                |
| • Electronic print to file       | Yes; PDF, HTML                     |
| Character sets                   |                                    |
| • Keyboard fonts                 |                                    |
| — US English                     | Yes                                |
| Transfer (upload/download)       |                                    |
| • MPI/PROFIBUS DP                | Yes                                |
| • USB                            | Yes                                |
| • Ethernet                       | Yes                                |
| • using external storage medium  | No                                 |
| Process coupling                 |                                    |
| • S7-1200                        | Yes                                |
| • S7-1500                        | Yes                                |
| • S7-200                         | Yes                                |
| • S7-300/400                     | Yes                                |
| • LOGO!                          | Yes                                |
| • WinAC                          | Yes                                |
| • SINUMERIK                      | No                                 |
| • SIMOTION                       | No; With WinCC, subsequent version |
| • 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                                |
| Service tools/configuration aids |                                    |
| • Backup/Restore manually        | Yes                                |
| • Backup/Restore automatically   | Yes                                |
| • Simulation                     | Yes                                |
| • Device switchover              | Yes                                |

## Peripherals/Options

### Peripherals

- |  |     |
|--|-----|
| • Printer  | Yes |
| • SIMATIC HMI MM memory card: Multi Media Card           | Yes |
| • SIMATIC HMI SD memory card: Secure Digital memory card | Yes |
| • USB memory   | Yes |

## Mechanics/material

### Enclosure material (front)

- |                   |     |
|-------------------|-----|
| • Plastic         | No  |
| • Aluminum        | Yes |
| • Stainless steel | No  |

## Dimensions

|                            |        |
|----------------------------|--------|
| Width of the housing front | 308 mm |
| Height of housing front    | 204 mm |
| Mounting cutout, width     | 281 mm |
| Mounting cutout, height    | 177 mm |
| Overall depth              | 63 mm  |

## Weights

|                          |        |
|--------------------------|--------|
| Weight without packaging | 2.2 kg |
| Weight incl. packaging   | 2.8 kg |

**last modified:** 04/12/2019