SIEMENS

## Data sheet 6AV2123-2GA03-0AX0

SIMATIC HMI, KTP700 Basic DP, Basic Panel, Key/touch operation, 7" TFT display, 65536 colors, PROFIBUS interface, configurable as of WinCC Basic V13/ STEP 7 Basic V13, contains open-source software, which is provided free of charge see enclosed CD




| | |
|---|---|
| **General information** | |
| Product type designation | KTP700 Basic color DP |
| **Display** | |
| Design of display | TFT widescreen display, LED backlighting |
| Screen diagonal | 7 in |
| Display width | 154.1 mm |
| Display height | 85.9 mm |
| Number of colors | 65 536 |
| Resolution (pixels) | |
| ● Horizontal image resolution | 800 pixel |
| ● Vertical image resolution | 480 pixel |
| Backlighting | |
| ● MTBF backlighting (at 25 °C) | 20 000 h |
| ● Backlight dimmable | Yes |
| **Control elements** | |
| Keyboard | |
| ● Function keys | |
| — Number of function keys | 8 |
| — 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 |
| **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) | 230 mA |
| Starting current inrush I²t | 0.2 A²·s |


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| | |
|---|---|
| **Power** | |
| Active power input, typ. | 5.5 W |
| **Processor** | |
| Processor type | ARM |
| **Storage** | |
| Flash | Yes |
| RAM | Yes |
| Memory available for user data | 10 Mbyte |
| **Type of output** | |
| Acoustics | |
| ● Buzzer | Yes |
| ● Speaker | No |
| **Time of day** | |
| Clock | |
| ● Hardware clock (real-time) | Yes |
| ● Software clock | Yes |
| ● retentive | Yes; Back-up duration typically 6 weeks |
| ● synchronizable | Yes |
| **Interfaces** | |
| Number of industrial Ethernet interfaces | 0 |
| Number of RS 485 interfaces | 1 |
| Number of RS 422 interfaces | 1; together with RS 485 |
| Number of RS 232 interfaces | 0; with optional adapter |
| Number of USB interfaces | 1; Up to 16 GB |
| Number of 20 mA interfaces (TTY) | 0 |
| Number of parallel interfaces | 0 |
| Number of other interfaces | 0 |
| Number of SD card slots | 0 |
| With software interfaces | No |
| Industrial Ethernet | |
| ● Industrial Ethernet status LED | 0 |
| **Protocols** | |
| PROFINET | No |
| Supports protocol for PROFINET IO | No |
| IRT | No |
| PROFIBUS | Yes |
| EtherNet/IP | No |
| MPI | Yes |
| Protocols (Ethernet) | |
| ● TCP/IP | No |
| ● DHCP | No |
| ● SNMP | No |
| ● DCP | No |
| ● LLDP | No |
| WEB characteristics | |
| ● HTTP | No |
| ● HTML | No |
| Redundancy mode | |
| Media redundancy | |
| — MRP | No |
| Further protocols | |
| ● CAN | No |
| ● MODBUS | Yes; Modicon (MODBUS RTU) |
| **Interrupts/diagnostics/status information** | |
| Diagnoses | |
| ● Diagnostic information readable | No |
| **EMC** | |
| Emission of radio interference acc. to EN 55 011 | |


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|---|---|
| ● Limit class A, for use in industrial areas | Yes |
| ● Limit class B, for use in residential areas | No |
| **Degree and class of protection** | |
| IP (at the front) | IP65 |
| IP (rear) | IP20 |
| NEMA (front) | |
| ● Enclosure Type 4 at the front | Yes |
| ● Enclosure Type 4x at the front | Yes |
| **Standards, approvals, certificates** | |
| CE mark | Yes |
| cULus | Yes |
| RCM (formerly C-TICK) | Yes |
| KC approval | Yes |
| Ecological footprint | |
| ● environmental product declaration | Yes |
| Global warming potential | |
| — global warming potential, (total) [CO2 eq] | 85 kg |
| — global warming potential, (during production) [CO2 eq] | 26.2 kg |
| — global warming potential, (during operation) [CO2 eq] | 59.2 kg |
| — global warming potential, (after end of life cycle) [CO2 eq] | -0.682 kg |
| Use in hazardous areas | |
| ● ATEX Zone 2 | No |
| ● ATEX Zone 22 | No |
| ● IECEx Zone 2 | No |
| ● IECEx Zone 22 | No |
| ● cULus Class I Zone 1 | No |
| ● cULus Class I Zone 2, Division 2 | No |
| ● FM Class I Division 2 | No |
| Marine approval | |
| ● Germanischer Lloyd (GL) | Yes |
| ● American Bureau of Shipping (ABS) | Yes |
| ● Bureau Veritas (BV) | Yes |
| ● Det Norske Veritas (DNV) | Yes |
| ● Lloyds Register of Shipping (LRS) | Yes |
| ● Nippon Kaiji Kyokai (Class NK) | Yes |
| ● Polski Rejestr Statkow (PRS) | No |
| ● Chinese Classification Society (CCS) | No |
| **Ambient conditions** | |
| Suited for indoor use | Yes |
| Suited for outdoor use | No |
| Ambient temperature during operation | |
| Operation (vertical installation) | |
| — For vertical installation, min. | 0 °C |
| — For vertical installation, max. | 50 °C |
| 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 |
| Ambient temperature during storage/transportation | |
| ● min. | -20 °C |
| ● max. | 60 °C |
| Relative humidity | |


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|---|---|
| ● Operation, max. | 90 %; no condensation |
| **Operating systems** | |
| proprietary | Yes |
| pre-installed operating system | |
| ● Windows CE | No |
| **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 |
| Configuration software | |
| ● STEP 7 Basic (TIA Portal) | Yes; via integrated WinCC Basic (TIA Portal) |
| ● STEP 7 Professional (TIA Portal) | Yes; via integrated WinCC Basic (TIA Portal) |
| ● WinCC flexible Compact | No |
| ● WinCC flexible Standard | No |
| ● WinCC flexible Advanced | No |
| ● WinCC Basic (TIA Portal) | Yes |
| ● WinCC Comfort (TIA Portal) | Yes |
| ● WinCC Advanced (TIA Portal) | Yes |
| ● WinCC Professional (TIA Portal) | Yes |
| **Languages** | |
| Online languages | |
| ● Number of online/runtime languages | 10 |
| Project languages | |
| ● Languages per project | 32 |
| **Functionality under WinCC (TIA Portal)** | |
| Libraries | Yes |
| Applications/options | |
| ● Web browser | No |
| ● SIMATIC WinCC Sm@rtServer | No |
| Number of Visual Basic Scripts | No |
| Task planner | Yes |
| ● time-controlled | No |
| ● task-controlled | Yes |
| Help system | Yes |
| ● Number of characters per info text | 500 |
| Message system | |
| ● Number of alarm classes | 32 |
| ● Bit messages | |
| — Number of bit messages | 1 000 |
| ● Analog messages | |
| — Number of analog messages | 25 |
| ● S7 alarm number procedure | No |
| ● System messages HMI | Yes |
| ● System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ... ) | Yes; System message buffer of the SIMATIC S7-1200 and S7-1500 |
| ● Number of characters per message | 80 |
| ● Number of process values per message | 8 |
| ● Acknowledgment groups | Yes |
| ● Message indicator | Yes |
| ● Message buffer | |
| — Number of entries | 256 |
| — Circulating buffer | Yes |
| — retentive | Yes |
| — maintenance-free | Yes |
| Recipe management | |
| ● Number of recipes | 50 |
| ● Data records per recipe | 100 |


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| | |
|---|---|
| ● Entries per data record | 100 |
| ● Size of internal recipe memory | 256 kbyte |
| ● Recipe memory expandable | No |
| Variables | |
| ● Number of variables per device | 800 |
| ● Number of variables per screen | 100 |
| ● Limit values | Yes |
| ● Multiplexing | Yes |
| ● Structures | No |
| ● Arrays | Yes |
| Images | |
| ● Number of configurable images | 250 |
| ● Permanent window/default | Yes |
| ● Global image | Yes |
| ● Pop-up images | No |
| ● Slide-in images | No |
| ● Image selection by PLC | Yes |
| ● Image number in the PLC | Yes |
| Image objects | |
| ● Number of objects per image | 100 |
| ● 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 | 10 |
| ● Alarm view | Yes |
| ● Trend view | Yes |
| ● User view | Yes |
| ● Status/control | No |
| ● Sm@rtClient view | No |
| ● Recipe view | Yes |
| ● f(x) trend view | No |
| ● System diagnostics view | Yes; System message buffer of the SIMATIC S7-1200 and S7-1500 |
| ● Media Player | No |
| ● HTML browser | No |
| ● PDF display | No |
| ● IP camera display | No |
| ● Bar graphs | Yes |
| ● Sliders | No |
| ● Pointer instruments | No |
| ● Analog/digital clock | No |
| Lists | |
| ● Number of text lists per project | 300 |
| ● Number of entries per text list | 100 |
| ● Number of graphics lists per project | 100 |
| ● Number of entries per graphics list | 100 |
| Archiving | |
| ● Number of archives per device | 2; One message and one process value archive |
| ● Number of entries per archive | 10 000 |
| ● Message archive | Yes |
| ● Process value archive | Yes |
| ● Archiving methods | |


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| | |
|---|---|
| — Sequential archive | Yes |
| — Short-term archive | Yes |
| ● Memory location | |
| — Memory card | No |
| — USB memory | Yes |
| — Ethernet | No |
| ● Data storage format | |
| — CSV | No |
| — TXT | Yes |
| — RDB | No |
| Security | |
| ● Number of user groups | 50 |
| ● Number of user rights | 32 |
| ● Number of users | 50 |
| ● Password export/import | Yes |
| ● SIMATIC Logon | No |
| Character sets | |
| ● Keyboard fonts | |
| — US English | Yes |
| Transfer (upload/download) | |
| ● MPI/PROFIBUS DP | Yes |
| ● USB | No |
| ● Ethernet | No |
| ● using external storage medium | Yes |
| Process coupling | |
| ● S7-1200 | Yes |
| ● S7-1500 | Yes |
| ● S7-200 | Yes |
| ● S7-300/400 | Yes |
| ● LOGO! | Yes |
| ● WinAC | Yes |
| ● SINUMERIK | Yes; No access to NCK data |
| ● SIMOTION | Yes |
| ● Allen Bradley (EtherNet/IP) | No |
| ● Allen Bradley (DF1) | Yes |
| ● Mitsubishi (MC TCP/IP) | No |
| ● Mitsubishi (FX) | Yes |
| ● OMRON (FINS TCP) | No |
| ● OMRON (Host Link) | Yes |
| ● Modicon (Modbus TCP/IP) | No |
| ● Modicon (Modbus RTU) | Yes |
| Service tools/configuration aids | |
| ● Backup/Restore manually | Yes |
| ● Backup/Restore automatically | No |
| ● Simulation | Yes |
| ● Device switchover | Yes |
| **Peripherals/Options** | |
| Printer | No |
| SIMATIC HMI MM memory card: Multi Media Card | No |
| SIMATIC HMI SD memory card: Secure Digital memory card | No |
| SIMATIC HMI CF memory card Compact Flash Card | No |
| USB memory | Yes |
| SIMATIC IPC USB Flashdrive (USB stick) | Yes |
| SIMATIC HMI USB stick | Yes |
| **Mechanics/material** | |
| Enclosure material (front) | |
| ● Plastic | Yes |
| ● Aluminum | No |
| ● Stainless steel | No |


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| Dimensions | |
|---|---|
| Width of the housing front | 214 mm |
| Height of housing front | 158 mm |
| Mounting cutout, width | 198 mm |
| Mounting cutout, height | 142 mm |
| mounting depth | 39 mm |

| Weights | |
|---|---|
| Weight (without packaging) | 800 g |
| Weight (with packaging) | 1 kg |

**Classifications**

| | Version | Classification |
|---|---|---|
| eClass | 16 | 27-33-02-01 |
| eClass | 14 | 27-33-02-01 |
| eClass | 12 | 27-33-02-01 |
| eClass | 9.1 | 27-33-02-01 |
| eClass | 9 | 27-33-02-01 |
| eClass | 8 | 27-24-23-02 |
| eClass | 7.1 | 27-24-23-02 |
| eClass | 6 | 27-24-23-02 |
| ETIM | 10 | EC001412 |
| ETIM | 9 | EC001412 |
| ETIM | 8 | EC001412 |
| ETIM | 7 | EC001412 |
| IDEA | 4 | 6607 |
| UNSPSC | 15 | 43-21-15-06 |

**Approvals / Certificates**

**General Product Approval**

Miscellaneous

Manufacturer Declaration

**General Product Approval**

China RoHS

**Maritime application**

**Maritime application**

NK / Nippon Kaiji Kyokai

CCS (China Classification Society)

KR (Korean Register of Shipping)

**Environment**

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