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## Data sheet 6AG2124-0GC13-1AX0




Figure similar

SIPLUS HMI TP700 outdoor rail based on 6AV2124-0GC13-0AX0 with conformal coating, -30…+60 °C, OT1 with ST1/2 (+70 °C für 10 minutes), TP700 Comfort Outdoor, Comfort Panel, touch operation, 7" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable WinCC Comfort V13 SP1 and higher, HSP

| | |
|---|---|
| **General information** | |
| Product type designation | TP700 Outdoor |
| based on | 6AV2124-0GC13-0AX0 |
| **Display** | |
| Design of display | TFT, bonded, daylight-readable |
| 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) | 50 000 h |
| ● Backlight dimmable | Yes; LED, can be dimmed manually or automatically |
| **Control elements** | |
| Keyboard | |
| ● 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 | |
| ● DP direct LEDs (LEDs as S7 output I/O) | |
| — F1...Fx | 0 |
| ● Direct keys (keys as S7 input I/O) | |
| — F1...Fx | 0 |
| ● Direct keys (touch buttons as S7 input I/O) | 32 |
| **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° |


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| **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) | 0.7 A |
| Starting current inrush I²t | 0.5 A²·s |
| **Power** | |
| Active power input, typ. | 17 W |
| **Processor** | |
| Processor type | X86 |
| **Storage** | |
| Flash | Yes |
| RAM | Yes |
| Memory available for user data | 12 Mbyte |
| **Type of output** | |
| Info LED | No |
| Power LED | No |
| Error LED | No |
| Acoustics | |
| ● Buzzer | No |
| ● Speaker | Yes |
| **Time of day** | |
| Clock | |
| ● Hardware clock (real-time) | Yes |
| ● Software clock | No |
| ● retentive | Yes; Back-up duration typically 6 weeks |
| ● synchronizable | Yes |
| **Interfaces** | |
| 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 SD card slots | 2 |
| With software interfaces | No |
| Industrial Ethernet | |
| ● Industrial Ethernet status LED | 2 |
| ● Number of ports of the integrated switch | 2 |
| **Protocols** | |
| PROFINET | Yes |
| Supports protocol for PROFINET IO | Yes |
| IRT | Yes; WinCC V13 SP1 HSP or higher |
| PROFIBUS | Yes |
| EtherNet/IP | Yes |
| MPI | Yes |
| Protocols (Ethernet) | |
| ● TCP/IP | Yes |
| ● DHCP | Yes |
| ● SNMP | Yes |
| ● DCP | Yes |
| ● LLDP | Yes |
| WEB characteristics | |
| ● HTTP | Yes |


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| ● HTTPS | No |
| ● HTML | Yes |
| ● XML | No |
| ● CSS | Yes |
| ● Active X | No |
| ● JavaScript | Yes |
| ● Java VM | No |
| Redundancy mode | |
| Media redundancy | |
| — MRP | Yes; WinCC V13 SP1 HSP or higher |
| Further protocols | |
| ● CAN | No |
| ● MODBUS | Yes |
| **Isolation** | |
| Isolation tested with | 750 V DC (type test) and according to EN 50155 (routine test) |
| **EMC** | |
| 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 |
| **Degree and class of protection** | |
| IP (at the front) | IP66 |
| IP (rear) | IP20 |
| NEMA (front) | |
| ● Enclosure Type 4 at the front | Yes |
| ● Enclosure Type 4x at the front | Yes |
| **Standards, approvals, certificates** | |
| Railway application | |
| ● EN 50121-3-2 | Yes; EMC for rail vehicles |
| ● EN 50121-4 | Yes; EMC for signal and telecommunications systems |
| ● EN 50124-1 | Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC |
| ● EN 50125-1 | Yes; Rail vehicles - see ambient conditions |
| ● EN 50125-2 | Yes; Stationary electrical equipment - see ambient conditions |
| ● EN 50125-3 | Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track) |
| ● EN 50155 | Yes; rail vehicles - temperature class OT1, ST1/ST2, horizontal at vertical mounting position |
| ● EN 61373 | Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B |
| ● Fire protection acc. to EN 45545-2 | Yes; For proof of conformity, see Service & Support |
| **Ambient conditions** | |
| Suited for indoor use | Yes |
| Suited for outdoor use | Yes; Powder-coated, UV resistant |
| Ambient temperature during operation | |
| Operation (vertical installation) | |
| — For vertical installation, min. | -30 °C; = Tmin (incl. condensation/frost) |
| — For vertical installation, max. | 60 °C; = Tmax; +70 °C for 10 min (OT1, ST1/ST2 acc. to EN 50155) |
| Operation (max. tilt angle) | |
| — At maximum tilt angle, min. | -30 °C; = Tmin |
| — At maximum tilt angle, max. | 50 °C; = Tmax |
| Operation (vertical installation, portrait format) | |
| — For vertical installation, min. | -30 °C; = Tmin |
| — For vertical installation, max. | 50 °C; = Tmax |
| Operation (max. tilt angle, portrait format) | |
| — At maximum tilt angle, min. | -30 °C; = Tmin |
| — At maximum tilt angle, max. | 45 °C; = Tmax |
| Ambient temperature during storage/transportation | |
| ● min. | -30 °C |
| ● max. | 70 °C |
| Altitude during operation relating to sea level | |


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| ● Installation altitude above sea level, max. | 2 000 m |
| ● Ambient air temperature-barometric pressure-altitude | Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) |
| Relative humidity | |
| ● With condensation, tested in accordance with IEC 60068-2-38, max. | 100 %; RH incl. condensation/frost (no commissioning when condensation present), horizontal at vertical mounting position |
| Resistance | |
| 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 land craft, rail vehicles and special-purpose vehicles | |
| — to biologically active substances according to EN 60721-3-5 | Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request |
| — to chemically active substances according to EN 60721-3-5 | Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * |
| — to mechanically active substances according to EN 60721-3-5 | Yes; Class 5S3 incl. sand, dust; * |
| — Against contaminant acc. to EN 60721-3-5 | Yes; Class 5F3 (excluding gasoline) |
| 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 |
| ● Electronic equipment on rolling stock acc. to EN 50155 | Yes; Class PC2 protective coating acc. to EN 50155:2017 |
| ● 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 |
| **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) | 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; WinCC V13 SP1 Update 7 + HSP or higher |
| ● WinCC Advanced (TIA Portal) | Yes; WinCC V13 SP1 Update 7 + HSP or higher |
| ● WinCC Professional (TIA Portal) | Yes; WinCC V13 SP1 Update 7 + HSP or higher |


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| **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 |
| Help system | |
| ● Number of characters per info text | 70 |
| Message system | |
| ● Number of alarm classes | 32 |
| ● Bit messages | |
| — Number of bit messages | 4 000 |
| ● Analog messages | |
| — Number of analog messages | 200 |
| ● S7 alarm number procedure | Yes |
| ● System messages HMI | Yes |
| ● System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ... ) | Yes |
| ● Number of characters per message | 80 |
| ● Number of process values per message | 8 |
| ● Acknowledgment groups | Yes |
| ● Message indicator | Yes |
| ● Message buffer | |
| — Number of entries | 1 024 |
| — Circulating buffer | Yes |
| — retentive | Yes |
| — maintenance-free | Yes |
| Recipe management | |
| ● 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 |
| Variables | |
| ● Number of variables per device | 2 048 |
| ● Number of variables per screen | 400 |
| ● Limit values | Yes |
| ● Multiplexing | Yes |
| ● Structures | Yes |
| ● Arrays | Yes |
| Images | |
| ● Number of configurable images | 500 |
| ● Permanent window/default | Yes |
| ● Global image | Yes |
| ● Image selection by PLC | Yes |
| ● Image number in the PLC | Yes |


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| Image objects | |
| ● 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 |
| Complex image objects | |
| ● Number of complex objects per screen | 20 |
| ● Alarm view | Yes |
| ● Trend view | Yes |
| ● User view | Yes |
| ● Status/control | Yes |
| ● Sm@rtClient view | Yes |
| ● Recipe view | Yes |
| ● f(x) trend view | Yes |
| ● System diagnostics view | Yes |
| ● Media Player | Yes |
| ● HTML browser | Yes |
| ● PDF display | Yes |
| ● IP camera display | Yes; Webcam type see FAQs |
| ● 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 |
| Archiving | |
| ● 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 |


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| ● 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 | Yes; Backup/restore |
| Process coupling | |
| ● S7-1200 | Yes |
| ● S7-1500 | Yes |
| ● S7-200 | Yes |
| ● S7-300/400 | Yes |
| ● LOGO! | Yes |
| ● WinAC | Yes |
| ● SINUMERIK | Yes; with SINUMERIK option package |
| ● SIMOTION | Yes |
| ● Allen Bradley (EtherNet/IP) | Yes |
| ● Allen Bradley (DF1) | Yes |
| ● Mitsubishi (MC TCP/IP) | Yes |
| ● Mitsubishi (FX) | Yes |
| ● OMRON (FINS TCP) | No |
| ● OMRON (Host Link) | Yes |
| ● Modicon (Modbus TCP/IP) | Yes |
| ● Modicon (Modbus RTU) | Yes |
| ● OPC UA Client | Yes |
| ● OPC UA Server | Yes |
| Service tools/configuration aids | |
| ● Backup/Restore manually | Yes |
| ● Backup/Restore automatically | Yes |
| ● Simulation | Yes |
| ● Device switchover | Yes |
| **Peripherals/Options** | |
| Printer | Yes |
| SIMATIC HMI MM memory card: Multi Media Card | Yes |
| SIMATIC HMI SD memory card: Secure Digital memory card | Yes |
| SIMATIC HMI CF memory card Compact Flash Card | No |
| USB memory | Yes; e.g. USB RFID reader, see FAQ entry ID: 99808171 |
| SIMATIC IPC USB Flashdrive (USB stick) | Yes |
| SIMATIC HMI USB stick | Yes |
| Network camera | Yes; See FAQ Entry ID: 62383298 and entry ID: 65647473 |
| **Mechanics/material** | |
| Enclosure material (front) | |
| ● Plastic | No |
| ● Aluminum | Yes; Powder-coated, UV resistant |
| ● Stainless steel | No |
| **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 | 64.6 mm |
| **Weights** | |
| Weight (without packaging) | 1.5 kg |
| Weight (with packaging) | 1.7 kg |
| **Other** | |


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| Note: | for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776 |

## 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

Manufacturer Declaration

China RoHS

### General Product Approval | EMV | Railway

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Confirmation

### Railway

Confirmation

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