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Data sheet 6AG2647-0AH11-1AX1

SIPLUS HMI KP300 Basic mono PN RAIL, OT1: -25...+55 °C ST1/2: 70 °C for 10 minutes with conformal coating based on 6AV6647-0AH11-3AX1 Basic Panel, key operation, 3" FSTN LCD display, black/white, PROFINET interface, configurable as of WinCC Basic V11/ STEP 7 Basic V11, contains open-source software, which is provided free of charge see enclosed CD



Figure similar

General information	
Product type designation	KP300 Basic mono PN
based on	6AV6647-0AH11-3AX1
Display	
Design of display	FSTN
Screen diagonal	3.6 in
Display width	87 mm
Display height	31 mm
Number of colors	4; backlit display only (white, red, green, yellow)
Resolution (pixels)	
● Horizontal image resolution	240 pixel
● Vertical image resolution	80 pixel
Backlighting	
● MTBF backlighting (at 25 °C)	50 000 h
● Backlight dimmable	No
Control elements	
Keyboard fonts	
● Function keys	
— Number of function keys	10
— Number of function keys with LEDs	0
● Keys with LED	No
● System keys	Yes
● Numeric keyboard	Yes; Keyboard
● alphanumeric keyboard	Yes; Keyboard
Touch operation	
● Design as touch screen	No; without
Installation type/mounting	
Mounting position	vertical
Rack mounting	No
Wall mounting/direct mounting	No
Mounting in portrait format possible	No
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

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Input current	
Current consumption (rated value)	0.1 A
Starting current inrush I²t	0.5 A²·s
Power	
Active power input, typ.	3 W
Processor	
Processor type	RISC 32 bit
Memory	
Flash	Yes
RAM	Yes
Memory available for user data	1 Mbyte
Type of output	
Acoustics	
● Buzzer	No
● Speaker	No
Time of day	
Clock	
● Hardware clock (real-time)	No
● Software clock	Yes
● retentive	No
● synchronizable	Yes
Interfaces	
Number of industrial Ethernet interfaces	1
Number of RS 485 interfaces	0
Number of RS 422 interfaces	0
Number of RS 232 interfaces	0
Number of USB interfaces	0
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	2
Protocols	
PROFINET	Yes
Supports protocol for PROFINET IO	No
IRT	No
PROFIBUS	No
EtherNet/IP	Yes
MPI	No
Protocols (Ethernet)	
● TCP/IP	Yes
● DHCP	Yes
● SNMP	Yes
● DCP	Yes
● LLDP	Yes
WEB characteristics	
● HTTP	No
● HTML	No
Further protocols	
● CAN	No
● MODBUS	Yes; Modicon (MODBUS TCP/IP)
Interrupts/diagnostics/status information	
Diagnoses	
● Diagnostic information readable	No
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	

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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	
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	
Ambient temperature during operation	
Operation (vertical installation)	
— For vertical installation, min.	-25 °C; = Tmin
— 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.	-25 °C; = Tmin
— At maximum tilt angle, max.	40 °C; = Tmax
Ambient temperature during storage/transportation	
● min.	-25 °C
● max.	60 °C
Altitude during operation relating to sea level	
● 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; *
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	

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— 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	Yes
pre-installed operating system	
● Windows CE	No
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)	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	5
Project languages	
● Languages per project	32
Functionality under WinCC (TIA Portal)	
Libraries	Yes
Applications/options	none
● Web browser	No
● SIMATIC WinCC Sm@rtServer	No
Task planner	
● time-controlled	No
● task-controlled	Yes
Help system	Yes
● Number of characters per info text	320
Message system	
● Number of alarm classes	32
● Bit messages	Yes
— Number of bit messages	200
● Analog messages	Yes
— Number of analog messages	15
● System messages HMI	Yes
● System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ...)	No
● Number of characters per message	80
● Number of process values per message	8
● Message indicator	Yes
● Message buffer	
— Number of entries	256
— Circulating buffer	Yes

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— retentive	Yes
— maintenance-free	Yes
Recipe management	
● Number of recipes	5
● Data records per recipe	20
● Entries per data record	20
● Size of internal recipe memory	40 kbyte
● Recipe memory expandable	No
Variables	
● Number of variables per device	250
● Number of variables per screen	30
● Limit values	Yes
● Multiplexing	Yes
● Structures	No
● Arrays	Yes
Images	
● Number of configurable images	50
● Permanent window/default	Yes
● Global image	Yes
● Image selection by PLC	Yes
● Image number in the PLC	Yes
Image objects	
● Number of objects per image	30
● 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	5
● 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	No
● Media Player	No
● Bar graphs	Yes
● Sliders	No
● Pointer instruments	No
● Analog/digital clock	No
Lists	
● Number of text lists per project	150
● Number of entries per text list	30
● Number of graphics lists per project	100
● Number of entries per graphics list	30
Archiving	
● Number of archives per device	0
Security	
● Number of user groups	50
● Number of user rights	32
● Number of users	50
● Password export/import	No
● SIMATIC Logon	No

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Character sets	
● Keyboard fonts	
— US English	Yes
Transfer (upload/download)	
● MPI/PROFIBUS DP	No
● USB	No
● 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
● Allen Bradley (EtherNet/IP)	Yes
● Allen Bradley (DF1)	No
● Mitsubishi (MC TCP/IP)	Yes
● Mitsubishi (FX)	No
● OMRON (FINS TCP)	No
● OMRON (LINK/Multilink)	No
● Modicon (Modbus TCP/IP)	Yes
● Modicon (Modbus)	No
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
USB memory	No
Mechanics/material	
Enclosure material (front)	
● Plastic	Yes
● Aluminum	No
● Stainless steel	No
Dimensions	
Width of the housing front	165 mm
Height of housing front	97 mm
Mounting cutout, width	149 mm
Mounting cutout, height	82 mm
Overall depth	30 mm
Weights	
Weight (without packaging)	0.25 kg
Weight (with packaging)	0.38 kg

Classifications

	Version	Classification
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

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ETIM	10	EC001412
ETIM	9	EC001412
ETIM	8	EC001412
ETIM	7	EC001412

Approvals / Certificates

General Product Approval					Railway
Manufacturer Declaration	UKCA	CE EG-Konf.	China RoHS	UL	Confirmation

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