Data sheet

SIPLUS HMI KP400 Comfort for medial exposure with conformal coating based on 6AV2124-1DC01-0AX0



Figure similar

General information	
Product type designation	KP400 Comfort
Display	
Design of display	TFT
Screen diagonal	4.3 in
Display width	95 mm
Display height	53.8 mm
Number of colors	16 777 216
Resolution (pixels)	
Horizontal image resolution	480 Pixel
 Vertical image resolution 	272 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	8
Number of function keys with LEDs	8
Keys with LED	Yes
System keys	Yes
Numeric keyboard	Yes
alphanumeric keyboard	Yes; similar to mobile phone
Touch operation	To the second process
Design as touch screen	No
Expansions for operator control of the process	
DP direct LEDs (LEDs as S7 output I/O)	
— F1Fx	8
Direct keys (keys as S7 input I/O)	
— F1Fx	8
Direct keys (touch buttons as S7 input I/O)	0
• Direct keys (touch buttons as 37 input 170)	ŭ
Installation type/mounting	
Mounting position	vertical
Mounting in portrait format possible	No
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without	35°
external ventilation	
Supply voltage	
Supply voltage Type of supply voltage	DC
	DC 24 V
Type of supply voltage Rated value (DC) permissible range, lower limit (DC)	24 V 19.2 V
Type of supply voltage Rated value (DC)	24 V
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC)	24 V 19.2 V
Type of supply voltage Rated value (DC) permissible range, lower limit (DC)	24 V 19.2 V
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current	24 V 19.2 V 28.8 V
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t	24 V 19.2 V 28.8 V 0.13 A
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t	24 V 19.2 V 28.8 V 0.13 A 0.5 A ² ·s
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush l²t	24 V 19.2 V 28.8 V 0.13 A
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t Power Active power input, typ.	24 V 19.2 V 28.8 V 0.13 A 0.5 A ² ·s
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t Power Active power input, typ.	24 V 19.2 V 28.8 V 0.13 A 0.5 A ² ·s
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t Power Active power input, typ. Processor Processor type	24 V 19.2 V 28.8 V 0.13 A 0.5 A ² ·s
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t Power Active power input, typ.	24 V 19.2 V 28.8 V 0.13 A 0.5 A ² ·s
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t Power Active power input, typ. Processor Processor type Memory	24 V 19.2 V 28.8 V 0.13 A 0.5 A ² ·s
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t Power Active power input, typ. Processor Processor type Memory Flash	24 V 19.2 V 28.8 V 0.13 A 0.5 A ² ·s 3.1 W ARM
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t Power Active power input, typ. Processor Processor type Memory Flash RAM Memory available for user data	24 V 19.2 V 28.8 V 0.13 A 0.5 A ² ·s 3.1 W ARM
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t Power Active power input, typ. Processor Processor type Memory Flash RAM Memory available for user data Type of output	24 V 19.2 V 28.8 V 0.13 A 0.5 A²-s 3.1 W ARM Yes Yes 4 Mbyte
Type of supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Starting current inrush I²t Power Active power input, typ. Processor Processor type Memory Flash RAM Memory available for user data	24 V 19.2 V 28.8 V 0.13 A 0.5 A ² ·s 3.1 W ARM

Error LED	No
Acoustics	
Buzzer	Yes
Speaker	No
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	1
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	1; 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
Industrial Ethernet	
 Industrial Ethernet status LED 	2
 Number of ports of the integrated switch 	1
Protocols	
PROFINET	Yes
Supports protocol for PROFINET IO	Yes
IRT	No
PROFIBUS	Yes

	. 66
Supports protocol for PROFINET IO	Yes
IRT	No
PROFIBUS	Yes
MPI	Yes
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
WEB characteristics	
• HTTP	Yes
• HTTPS	No
• HTML	Yes

• XML	No
• CSS	Yes
Active X	No
JavaScript	Yes
● Java VM	No
Redundancy mode	
• MRP	No
Further protocols	
• CAN	No
• EtherNet/IP	Yes
• MODBUS	Yes
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	
Degree and class of protection IP (at the front)	IP65
Enclosure Type 4 at the front	Yes
Enclosure Type 4x at the front	Yes
IP (rear)	IP20
A Little of the Control of the Contr	
Ambient conditions	Voc
Suited for indoor use	Yes
Suited for indoor use Suited for outdoor use	Yes No
Suited for indoor use Suited for outdoor use Ambient temperature during operation	
Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation)	No
Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min.	No 0 °C; = Tmin
Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max.	No
Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle)	0 °C; = Tmin 50 °C; = Tmax
Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min.	No 0 °C; = Tmin 50 °C; = Tmax 0 °C; = Tmin
Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min. — At maximum tilt angle, min.	0 °C; = Tmin 50 °C; = Tmax
Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min. — At maximum tilt angle, min. • Operation (vertical installation, portrait format)	No 0 °C; = Tmin 50 °C; = Tmax 0 °C; = Tmin
Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min. — At maximum tilt angle, min. • Operation (vertical installation, portrait format) — For vertical installation, min.	0 °C; = Tmin 50 °C; = Tmax 0 °C; = Tmin 40 °C; = Tmax
Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min. — At maximum tilt angle, min. • Operation (vertical installation, portrait format) — For vertical installation, min. — For vertical installation, max.	0 °C; = Tmin 50 °C; = Tmax 0 °C; = Tmin 40 °C; = Tmax 0 °C; = Tmin
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Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min. — At maximum tilt angle, min. • Operation (vertical installation, portrait format) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle, portrait format)	0 °C; = Tmin 50 °C; = Tmax 0 °C; = Tmin 40 °C; = Tmax 0 °C; = Tmin 40 °C; = Tmax 0 °C; = Tmin
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Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min. — At maximum tilt angle, min. • Operation (vertical installation, portrait format) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle, portrait format) — At maximum tilt angle, min. — At maximum tilt angle, min. Ambient temperature during storage/transportation • min.	0 °C; = Tmin 50 °C; = Tmax 0 °C; = Tmin 40 °C; = Tmax 0 °C; = Tmin 40 °C; = Tmax 0 °C; = Tmin 35 °C; = Tmin
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Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // • Ambient air temperature-barometric pressure-Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 altitude m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m) Relative humidity 100 %; RH incl. condensation/frost (no commissioning under With condensation, tested in accordance with condensation conditions) IEC 60068-2-38, max. Resistance Coolants and lubricants - Resistant to commercially available Yes; Incl. diesel and oil droplets in the air coolants and lubricants Use in stationary industrial systems Yes; Class 3B2 mold, fungus and dry rot spores (with the - to biologically active substances according exception of fauna); Class 3B3 on request to EN 60721-3-3 Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-— to chemically active substances according to EN 60721-3-3 52 (severity degree 3); * Yes; Class 3S4 incl. sand, dust, * — to mechanically active substances according to EN 60721-3-3 Use on ships/at sea - to biologically active substances according Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request to EN 60721-3-6 Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-— to chemically active substances according 52 (severity degree 3); * to EN 60721-3-6 Yes; Class 6S3 incl. sand, dust; * — to mechanically active substances according to EN 60721-3-6 Usage in industrial process technology - Against chemically active substances acc. Yes; Class 3 (excluding trichlorethylene) to EN 60654-4 Yes; Level GX group A/B (excluding trichlorethylene; harmful gas - Environmental conditions for process, concentrations up to the limits of EN 60721-3-3 class 3C4 measuring and control systems acc. to permissible); level LC3 (salt spray) and level LB3 (oil) ANSI/ISA-71.04 Remark * The supplied plug covers must remain in place over the unused - Note regarding classification of interfaces during operation! environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 Conformal coating Yes; Class 2 for high availability Coatings for printed circuit board assemblies acc. to EN 61086 Yes; Type 1 protection • Protection against fouling acc. to EN 60664-3 Yes; Discoloration of coating possible during service life • Military testing according to MIL-I-46058C, Amendment 7 • Qualification and Performance of Electrical Yes; Conformal coating, Class A Insulating Compound for Printed Board Assemblies according to IPC-CC-830A

Operating systems

pre-installed operating system Yes Configuration Yes 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 No • STEP 7 Basic (TIA Portal) No • WinCC flexible Compact No • WinCC flexible Standard No • WinCC Rexible Standard No • WinCC Bexible Advanced No • WinCC Conflort (TIA Portal) Yes; from V11 • WinCC Conflort (TIA Portal) Yes; from V11 • WinCC Professional (TIA Portal) Yes; from V11 Languages Police Indusers Online languages • No • Number of online/runtime languages 32 Functionality under WinCC (TIA Portal) Yes Libraries Yes Applications/options Yes • Pocket Word Yes • Pocket Excel Yes • Pocket Wo	proprietary	No
Message indicator Message indicator Message indicator Alarm system (incl. buffer and acknowledgment) Process value display (output) Process value default (input) possible Recipe management Process value default (input) possible Process va	pre-installed operating system	
Message indicator	Windows CE	Yes
Message indicator	Configuration	
Alarm system (incl. buffer and acknowledgment) Process value display (output) Process value display (output) Process value default (input) possible Recipe management Pes Configuration software • STEP 7 Basic (TIA Portal) • WinCC flexible Compact • WinCC flexible Standard • WinCC flexible Standard • WinCC flexible Standard • WinCC Basic (TIA Portal) • WinCC Compact • WinCC Basic (TIA Portal) • WinCC Abdanced • WinCC Oresional (TIA Portal) • WinCC Abdanced (TIA Portal) • WinCC Professional (TIA Portal) • WinCC Abdanced (TIA Portal) Libraries • Languages • Languages per project 32 Functionality under WinCC (TIA Portal) Libraries • Yes Applications/options • Web browser • Pocket Word • Pocket Word • Pocket Excel • PDF Viewer • Media Player • Media Player • SIMATIC WinCC Sm@rtServer • SIMATIC WinCC Addit • Yes Number of Visual Basic Scripts Task planner • ime-controlled • task-controlled • task-controlled • task-controlled • Tess • Number of characters per info text 70	*	Ves
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Applications/options • Web browser • Pocket Word • Pocket Excel • Pocket Excel • PDF Viewer • Media Player • SIMATIC WinCC Sm@rtServer • SIMATIC WinCC Audit Yes Number of Visual Basic Scripts Task planner • time-controlled • task-controlled • task-controlled • Number of characters per info text 70	Functionality under WinCC (TIA Portal)	
 Web browser Pocket Word Pocket Excel Yes PDF Viewer Media Player SIMATIC WinCC Sm@rtServer SIMATIC WinCC Audit Yes Number of Visual Basic Scripts Task planner time-controlled task-controlled Yes Help system Number of characters per info text 70 	Libraries	Yes
 Pocket Word Pocket Excel PDF Viewer Media Player SIMATIC WinCC Sm@rtServer SIMATIC WinCC Audit Yes Number of Visual Basic Scripts Task planner time-controlled task-controlled Yes Help system Number of characters per info text 70 	Applications/options	
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 Media Player SIMATIC WinCC Sm@rtServer SIMATIC WinCC Audit Yes Number of Visual Basic Scripts Task planner time-controlled task-controlled Yes Help system Number of characters per info text 70 	Pocket Excel	Yes
SIMATIC WinCC Sm@rtServer 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	PDF Viewer	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	Media Player	Yes
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Task planner • time-controlled Yes • task-controlled Yes Help system • Number of characters per info text 70	SIMATIC WinCC Audit	Yes
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 time-controlled task-controlled Help system Number of characters per info text 70 		
Help system • Number of characters per info text 70		Yes
• Number of characters per info text 70	• task-controlled	Yes
• Number of characters per info text 70	Help system	
		70

• Number of alarms alarms	32
Number of alarm classes	52
Bit messages	2.000
— Number of bit messages	2 000
Analog messages	50
— Number of analog messages	50
 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	256
 Circulating buffer 	Yes
— retentive	Yes
— maintenance-free	Yes
Recipe management	
Number of recipes	100
Data records per recipe	200
Entries per data record	200
 Size of internal recipe memory 	512 kbyte
 Recipe memory expandable 	Yes
Variables	
Number of variables per device	1 024
 Number of variables per screen 	50
• 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
Image objects	
Number of objects per image	50
• 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	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
Lists	
Number of text lists per project	300
 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	10
 Number of entries per archive 	10 000
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	

001/	Voc
— CSV — TXT	Yes Yes
	Yes
— RDB	Yes
Security	50
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	Yes; with SINUMERIK option package
• 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
	Yes
OPC UA Client OPC UA Server	Yes
OPC UA Server	1 55

Service tools/configuration aids Backup/Restore manually Backup/Restore automatically Simulation Device switchover Yes Yes 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	Yes	
Aluminum	No	
 Stainless steel 	No	

Dimensions	
Width of the housing front	152 mm
Height of housing front	188 mm
Mounting cutout, width	135 mm
Mounting cutout, height	171 mm
Overall depth	49 mm

Weights	
Weight without packaging	0.8 kg
Weight incl. packaging	0.9 kg

last modified: 08/31/2019