

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

### General information

Product type designation 230 RCE

### Display

Design of display TFT  
 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
- Keys with LED Yes
- System keys Yes
- Numeric keyboard Yes
- alphanumeric keyboard Yes; similar to mobile phone

#### Touch operation

- Design as touch screen No

#### Expansions for operator control of the process

- DP direct LEDs (LEDs as S7 output I/O)
  - F1...Fx 8
- Direct keys (keys as S7 input I/O)
  - F1...Fx 8
- Direct keys (touch buttons as S7 input I/O) 0

### Installation type/mounting

Mounting on 35 mm DIN rail, 4 spacing units wide  
 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	AC/DC
permissible range, lower limit (DC)	100 V
permissible range, upper limit (DC)	253 V
<b>Input current</b>	
Current consumption (rated value)	0.13 A
Current consumption, max.	40 mA
Starting current inrush I <sup>2</sup> t	0.5 A <sup>2</sup> ·s
<b>Power</b>	
Active power input, typ.	3.1 W
<b>Processor</b>	
Processor type	ARM
<b>Memory</b>	
Flash	Yes
RAM	Yes
Memory available for user data	4 Mbyte
<b>Type of output</b>	
Info LED	Yes
Power LED	No
Error LED	No
Acoustics	
• Buzzer	Yes
• Speaker	No
<b>Time of day</b>	
Clock	
• Hardware clock (real-time)	Yes
• Software clock	No
• retentive	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes
<b>Interfaces</b>	
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
<b>Industrial Ethernet</b>	
• Industrial Ethernet status LED	2
• Number of ports of the integrated switch	1
<b>Protocols</b>	
PROFINET	Yes
Supports protocol for PROFINET IO	Yes
IRT	No
MRP	No
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>Further protocols</b>	
• CAN	No
• EtherNet/IP	Yes
• MODBUS	Yes
<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	Yes
<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

## Standards, approvals, certificates

CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	No
• American Bureau of Shipping (ABS)	No
• Bureau Veritas (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
• Nippon Kaiji Kyokai (Class NK)	No
• Polski Rejestr Statkow (PRS)	No
<b>Use in hazardous areas</b>	
• ATEX Zone 2	Yes
• ATEX Zone 22	Yes
• cULus Class I Zone 1	No
• cULus Class I Zone 2, Division 2	Yes
• FM Class I Division 2	No

## Ambient conditions

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; = Tmin
• At cold restart, min.	0 °C
<b>Ambient temperature during storage/transportation</b>	
• min.	-40 °C
• max.	70 °C
<b>Altitude during operation relating to sea level</b>	
• Installation altitude above sea level, max.	3 000 m

<ul style="list-style-type: none"> <li>• Ambient air temperature-barometric pressure-altitude</li> </ul>	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... Tmax -5K at 795 hPa ... 701 hPa (+2 000 m ... +3 000 m)
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
<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>from supply voltage 1L+</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>Operating systems</b>	
proprietary	No
<b>pre-installed operating system</b>	
<ul style="list-style-type: none"> <li>• Windows CE</li> </ul>	Yes
<b>Configuration</b>	
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>	
<ul style="list-style-type: none"> <li>• STEP 7 Basic (TIA Portal)</li> <li>• STEP 7 Professional (TIA Portal)</li> <li>• WinCC flexible Compact</li> <li>• WinCC flexible Standard</li> <li>• WinCC flexible Advanced</li> <li>• WinCC Basic (TIA Portal)</li> </ul>	No

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

## 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	2 000
• Analog messages	
— 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
<b>Recipe management</b>	
• 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
<b>Variables</b>	
• Number of variables per device	1 024
• Number of variables per screen	50
• 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	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
<b>Complex image objects</b>	
• 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
<b>Lists</b>	
• 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
<b>Archiving</b>	
• 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	
— CSV	Yes
— TXT	Yes
— RDB	Yes
<b>Security</b>	
• Number of user groups	50
• Number of user rights	32
• Number of users	50
• Password export/import	Yes
• SIMATIC Logon	Yes
<b>Logging through printer</b>	
• Alarms	Yes
• Report (shift log)	Yes
• Hardcopy	Yes
• Electronic print to file	Yes; PDF, HTML
<b>Character sets</b>	
• Keyboard fonts	



— US English	Yes
<b>Transfer (upload/download)</b>	
• MPI/PROFIBUS DP	Yes
• USB	Yes
• Ethernet	Yes
• using external storage medium	No
<b>Process coupling</b>	
• 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
• OPC UA Client	Yes
• OPC UA Server	Yes
<b>Service tools/configuration aids</b>	
• Backup/Restore manually	Yes
• Backup/Restore automatically	Yes
• Simulation	Yes
• Device switchover	Yes
<b>Peripherals/Options</b>	
<b>Peripherals</b>	
• Printer	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes
• USB memory	Yes
<b>Mechanics/material</b>	
<b>Enclosure material (front)</b>	
• Plastic	Yes

- Aluminum
- Stainless steel

No

No

### Dimensions

Width	71.5 mm
Height	90 mm
Depth	60 mm
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:** 05/18/2018