

SIPLUS HMI KP32F PN based on 6AV3688-3EH47-0AX0 with conformal coating, -20...+55 °C, Key Panel, 32 short-stroke keys with multi-colored LEDs, PROFINET interfaces with PROFIsafe, 16 DI+16 DI/DQ, 4 safety DI pins, 24 V DC can be looped through, parameterizable as of STEP 7 V5.5



Figure similar

General information	
Product type designation	KP32F PN
Control elements	
With parameterizable keys	Yes
Keyboard fonts	
<ul style="list-style-type: none"> <li>Membrane keyboard                             <ul style="list-style-type: none"> <li>— user-definable label membrane keys</li> </ul> </li> <li>Function keys                             <ul style="list-style-type: none"> <li>— Number of function keys</li> </ul> </li> <li>Short-stroke keys                             <ul style="list-style-type: none"> <li>— Number of short-stroke keys</li> </ul> </li> </ul>	Yes  32  32
Expansions for operator control of the process	
<ul style="list-style-type: none"> <li>DP direct LEDs (LEDs as S7 output I/O)</li> <li>Number of color modes for LED</li> <li>Direct keys (keys as S7 input I/O)</li> </ul>	8; Adjustable brightness 5; red, green, blue, yellow, white 32
Installation type/mounting	
Mounting type	Mounting clip
Mounting position	vertical
Rack mounting	No
Front mounting	Yes
Rail mounting	No
Wall mounting/direct mounting	No
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	30°; To the front/rear
Number of slots for command devices and signaling units	0
Supply voltage	
Type of supply voltage	DC
Rated value (DC)	24 V; 24 V looped through at connector, no interruption on pulling
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption (rated value)	1 A
Type of output	
LED colors	
<ul style="list-style-type: none"> <li>red</li> <li>yellow</li> </ul>	Yes Yes

• green	Yes
• white	Yes
• blue	Yes
<b>Digital inputs</b>	
Number of digital inputs	32; Total inputs and outputs max. 32 and 2x SIL 2 or 4x SIL 3
Input voltage	
• Rated value (DC)	24 V
<b>Digital outputs</b>	
Number of digital outputs	16; Max. 32 inputs and outputs (total)
Short-circuit protection	Yes
Switching capacity of the outputs	
• with resistive load, max.	100 mA
Output voltage	
• Rated value (DC)	24 V; Non-isolated
Total current of the outputs	
• Current per channel, max.	100 mA
• Current per group, max.	800 mA
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch
Industrial Ethernet	
• Industrial Ethernet status LED	2; Per port
• Number of ports of the integrated switch	2; Per port
<b>Protocols</b>	
PROFINET	Yes; incl. shared device, 3rd party PLC
Supports protocol for PROFINET IO	Yes
PROFINET CBA	No
IRT	Yes
PROFIsafe	Yes; 2x SIL 3 (two-channel) or 4x SIL 2 (single-channel) emergency stop sensors
PROFIBUS	No
EtherNet/IP	No
MPI	No
AS-Interface	No
EIB/KNX	No
Protocols (Ethernet)	
• TCP/IP	No
Redundancy mode	
Media redundancy	
— MRP	Yes
Further protocols	
• AS-Interface Safety at Work	No
• CAN	No
• Data-Highway	No
• DeviceNet	No
• DeviceNet Safety	No
• Foundation Fieldbus	No
• INTERBUS	No
• INTERBUS-Safety	No
• Local Operating Network	No
• MODBUS	No
• SafetyBUS p	No
• SERCOS	No
• SUCOnet	No
• other bus systems	No
<b>Test commissioning functions</b>	
Illuminant test	Yes; During switch on
Key and signal lamp test	Yes; automatically when switching on
<b>EMC</b>	

<b>Emission of radio interference acc. to EN 55 011</b>	
<ul style="list-style-type: none"> <li>• Limit class A, for use in industrial areas</li> <li>• Limit class B, for use in residential areas</li> </ul>	<p>Yes; Group 1, measured at a distance of 10 m</p> <p>No</p>
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	IP20
NEMA (front)	
<ul style="list-style-type: none"> <li>• Enclosure Type 4 at the front</li> <li>• Enclosure Type 4x at the front</li> </ul>	<p>No</p> <p>Yes; Incl. NEMA12</p>
<b>Standards, approvals, certificates</b>	
CE mark	Yes
Suitable for safety functions	Yes
<b>Marine approval</b>	
<ul style="list-style-type: none"> <li>• Germanischer Lloyd (GL)</li> <li>• American Bureau of Shipping (ABS)</li> <li>• Bureau Veritas (BV)</li> <li>• Det Norske Veritas (DNV)</li> <li>• Lloyds Register of Shipping (LRS)</li> <li>• Nippon Kaiji Kyokai (Class NK)</li> <li>• Polski Rejestr Statkow (PRS)</li> </ul>	<p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p>
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	<p>-20 °C; = Tmin (incl. condensation/frost)</p> <p>55 °C; = Tmax</p>
<b>Operation (vertical installation)</b>	
— For vertical installation, min.	-20 °C
— For vertical installation, max.	55 °C
<b>Operation (max. tilt angle)</b>	
— At maximum tilt angle, min.	-20 °C
— At maximum tilt angle, max.	45 °C
<b>Operation (vertical installation, portrait format)</b>	
— For vertical installation, min.	-20 °C
— For vertical installation, max.	55 °C
<b>Operation (max. tilt angle, portrait format)</b>	
— At maximum tilt angle, min.	-20 °C
— At maximum tilt angle, max.	45 °C
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	<p>-20 °C</p> <p>60 °C</p>
<b>Altitude during operation relating to sea level</b>	
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> <li>• Ambient air temperature-barometric pressure-altitude</li> </ul>	<p>2 000 m</p> <p>Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)</p>
<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, fungal and dry rot spores (excluding fauna)
— 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>Remark</b>	
— 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!
<b>Conformal coating</b>	
<ul style="list-style-type: none"> <li>• Coatings for printed circuit board assemblies acc. to EN 61086</li> </ul>	Yes; Class 2 for high reliability
<ul style="list-style-type: none"> <li>• Protection against fouling acc. to EN 60664-3</li> </ul>	Yes; Type 1 protection
<ul style="list-style-type: none"> <li>• Military testing according to MIL-I-46058C, Amendment 7</li> </ul>	Yes; Discoloration of coating possible during service life
<ul style="list-style-type: none"> <li>• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	Yes; Conformal coating, Class A
<b>configuration / header</b>	
<b>Configuration software</b>	
<ul style="list-style-type: none"> <li>• STEP 7 Basic (TIA Portal)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• STEP 7 Professional (TIA Portal)</li> </ul>	Yes
<b>Functionality under WinCC (TIA Portal)</b>	
<b>Process coupling</b>	
<ul style="list-style-type: none"> <li>• S7-1200</li> </ul>	Yes; with ET 200pro CPU and ET 200S CPU
<ul style="list-style-type: none"> <li>• S7-1500</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• S7-200</li> </ul>	No
<ul style="list-style-type: none"> <li>• S7-300/400</li> </ul>	Yes; with F-CPU: STEP 7 V11 SP1 or higher and Safety V11 (or higher), without F-CPU STEP 7 or SIMATIC STEP 7 Basic V11 (or higher)
<ul style="list-style-type: none"> <li>• LOGO!</li> </ul>	No
<ul style="list-style-type: none"> <li>• WinAC</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• SINUMERIK</li> </ul>	No
<ul style="list-style-type: none"> <li>• SIMOTION</li> </ul>	No
<ul style="list-style-type: none"> <li>• Allen Bradley (EtherNet/IP)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Allen Bradley (DF1)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Mitsubishi (MC TCP/IP)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Mitsubishi (FX)</li> </ul>	No
<ul style="list-style-type: none"> <li>• OMRON (FINS TCP)</li> </ul>	No
<ul style="list-style-type: none"> <li>• OMRON (LINK/Multilink)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Modicon (Modbus TCP/IP)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Modicon (Modbus)</li> </ul>	No
<b>Mechanics/material</b>	
<b>Enclosure material (front)</b>	
<ul style="list-style-type: none"> <li>• Plastic</li> </ul>	No
<ul style="list-style-type: none"> <li>• Aluminum</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Stainless steel</li> </ul>	No
<b>Service life</b>	
<ul style="list-style-type: none"> <li>• Short-stroke keys (in switching cycles)</li> </ul>	1 500 000
<ul style="list-style-type: none"> <li>• LEDs (ON period)</li> </ul>	100 %
<b>Dimensions</b>	
Width of the housing front	295 mm
Height of housing front	155 mm
Mounting cutout, width	277 mm; Max. thickness of mounting plate 2 - 6 mm
Mounting cutout, height	137 mm
Overall depth	69 mm; Incl. angled SIMATIC Ethernet connector
<b>Weights</b>	
Weight (without packaging)	1 220 g
<b>last modified:</b>	3/2/2021 