

SIPLUS HMI KP8F PN -20...+55°C with Conformal Coating based on 6AV3688-3AF37-0AX0 . Key Panel, 8 short-stroke switches with multi-colored LEDs, PROFINET interfaces with PROFIsafe; 8 DI/DO and 2 safety DI pins, 24 V DC can be looped through parameterizable as of STEP 7 V5.5



Figure similar

General information	
Product type designation	KP8F 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  8  8
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 8
Installation type/mounting	

Mounting type	Mounting clip
Mounting position	vertical
Rack mounting	No
Front mounting	Yes; Compatible with Extension Units dimensions
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 can be looped through connector, interrupted when pulled
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V

### Input current

Current consumption (rated value)	0.3 A
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### Type of output

LED colors	
• red	Yes
• yellow	Yes
• green	Yes
• white	Yes
• blue	Yes

### Digital inputs

Number of digital inputs	8; Total inputs and outputs max. 8 and 1x SIL 2 or 2x SIL 3
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### Input voltage

• Rated value (DC)	24 V
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### Digital outputs

Number of digital outputs	8; Max. 8 inputs and outputs (total)
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Short-circuit protection	Yes
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### Switching capacity of the outputs

• with resistive load, max.	100 mA
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### Output voltage

• Rated value (DC)	24 V; Non-isolated
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### Total current of the outputs

• Current per channel, max.	100 mA
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• Current per group, max.	800 mA
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## Interfaces

Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch
<b>Industrial Ethernet</b>	
<ul style="list-style-type: none"> <li>Industrial Ethernet status LED</li> </ul>	2; Per port
<ul style="list-style-type: none"> <li>Number of ports of the integrated switch</li> </ul>	2; Per port

## Protocols

PROFINET	Yes; also 3rd party PLC
Supports protocol for PROFINET IO	Yes
PROFINET CBA	No
IRT	Yes
PROFIsafe	Yes; 1x SIL 3 (two-channel) or 2x SIL 2 (single-channel) emergency stop sensors
PROFIBUS	No
MPI	No
AS-Interface	No
EIB/KNX	No

## Protocols (Ethernet)

<ul style="list-style-type: none"> <li>TCP/IP</li> </ul>	No
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## Redundancy mode

<b>Media redundancy</b>	
— MRP	Yes

## Further protocols

<ul style="list-style-type: none"> <li>AS-Interface Safety at Work</li> <li>CAN</li> <li>Data-Highway</li> <li>DeviceNet</li> <li>DeviceNet Safety</li> <li>EtherNet/IP</li> <li>Foundation Fieldbus</li> <li>INTERBUS</li> <li>INTERBUS-Safety</li> <li>Local Operating Network</li> <li>MODBUS</li> <li>SafetyBUS p</li> <li>SERCOS</li> <li>SUCOnet</li> <li>other bus systems</li> </ul>	No
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## Test commissioning functions

Illuminant test	Yes; During switch on
Key and signal lamp test	Yes; automatically when switching on

## EMC

### Emission of radio interference acc. to EN 55 011

- |   |  |
|---|--|
| • Limit class A, for use in industrial areas  | Yes; Group 1, measured at a distance of 10 m |
| • 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  | No                |
| • Enclosure Type 4x at the front | Yes; Incl. NEMA12 |

## Standards, approvals, certificates

- |                               |     |
|-------------------------------|-----|
| CE mark                       | Yes |
| Suitable for safety functions | Yes |

### Marine approval

- |                                     |    |
|-------------------------------------|----|
| • 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 |

## Ambient conditions

### Ambient temperature during operation

- |  |   |
|--|---|
| • min.   | -20 °C; = Tmin (incl. condensation/frost) |
| • max.   | 55 °C; = Tmax                             |
| • Operation (vertical installation)                  |   |
| — For vertical installation, min.                    | -20 °C                                    |
| — For vertical installation, max.                    | 55 °C                                     |
| • Operation (max. tilt angle)                        |   |
| — At maximum tilt angle, min.                        | -20 °C                                    |
| — At maximum tilt angle, min.                        | 45 °C                                     |
| • Operation (vertical installation, portrait format) |   |
| — For vertical installation, min.                    | -20 °C                                    |
| — For vertical installation, max.                    | 55 °C                                     |
| • Operation (max. tilt angle, portrait format)       |   |
| — At maximum tilt angle, min.                        | -20 °C                                    |
| — At maximum tilt angle, min.                        | 45 °C                                     |

### Ambient temperature during storage/transportation

- |        |        |
|--------|--------|
| • min. | -20 °C |
| • max. | 60 °C  |

<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> <li>• Protection against fouling acc. to EN 60664-3</li> <li>• Military testing according to MIL-I-46058C, Amendment 7</li> <li>• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>
<b>Configuration</b>	
<b>Configuration software</b>	
<ul style="list-style-type: none"> <li>• STEP 7 Basic (TIA Portal)</li> <li>• STEP 7 Professional (TIA Portal)</li> </ul>	<p>Yes</p> <p>Yes</p>
<b>Functionality under WinCC (TIA Portal)</b>	

Process coupling	
• S7-1200	Yes; with ET 200pro CPU and ET 200S CPU
• S7-1500	Yes
• S7-200	No
• S7-300/400	Yes; with F-CPU: STEP 7 V11 SP1 (or higher) and Safety V11 (or higher) or SIMATIC STEP 7 Basic V11 (or higher)
• LOGO!	No
• WinAC	Yes
• SINUMERIK	No
• SIMOTION	No
• Allen Bradley (EtherNet/IP)	No
• Allen Bradley (DF1)	No
• Mitsubishi (MC TCP/IP)	No
• Mitsubishi (FX)	No
• OMRON (FINS TCP)	No
• OMRON (LINK/Multilink)	No
• Modicon (Modbus TCP/IP)	No
• Modicon (Modbus)	No

Mechanics/material	
Enclosure material (front)	
• Plastic	Yes
• Aluminum	No
• Stainless steel	No

Service life	
• Short-stroke keys (in switching cycles)	1 500 000
• LEDs (ON period)	100 %

Dimensions	
Width of the housing front	98 mm
Height of housing front	155 mm
Mounting cutout, width	68 mm; Max. thickness of mounting plate 2 - 6 mm
Mounting cutout, height	129 mm
Overall depth	49 mm; Incl. angled SIMATIC Ethernet connector

Weights	
Weight without packaging	280 g

**last modified:** 10/13/2020