

SIMATIC HMI KP8F PN, 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



## General information

Product type designation KP8F PN

## Control elements

With parameterizable keys Yes

### Keyboard fonts

- Membrane keyboard
  - user-definable label membrane keys Yes
- Function keys
  - Number of function keys 8
- Short-stroke keys
  - Number of short-stroke keys 8

### Expansions for operator control of the process

- DP direct LEDs (LEDs as S7 output I/O) 8; Adjustable brightness
- Number of color modes for LED 5; red, green, blue, yellow, white
- Direct keys (keys as S7 input I/O) 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
• Current per group, max.	800 mA

### Interfaces

Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch
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Number of PROFINET interfaces	2; Incl. switch
<b>Industrial Ethernet</b>	
• Industrial Ethernet status LED	2; Per port
• Number of ports of the integrated switch	2; Per port
<b>Protocols</b>	
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
<b>Protocols (Ethernet)</b>	
• TCP/IP	No
<b>Redundancy mode</b>	
<b>Media redundancy</b>	
— MRP	Yes
<b>Further protocols</b>	
• AS-Interface Safety at Work	No
• CAN	No
• Data-Highway	No
• DeviceNet	No
• DeviceNet Safety	No
• EtherNet/IP	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>	
Emission of radio interference acc. to EN 55 011	

- Limit class A, for use in industrial areas
- Limit class B, for use in residential areas

Yes; Group 1, measured at a distance of 10 m

No

### Degree and class of protection

IP (at the front)	IP65
IP (rear)	IP20
NEMA (front)	
<ul style="list-style-type: none"> <li>• Enclosure Type 4 at the front</li> </ul>	No
<ul style="list-style-type: none"> <li>• Enclosure Type 4x at the front</li> </ul>	Yes; Incl. NEMA12

### Standards, approvals, certificates

CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
CCC	No; not necessary
Suitable for safety functions	Yes

### Use in hazardous areas

<ul style="list-style-type: none"> <li>• ATEX Zone 2</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• ATEX Zone 22</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• cULus Class I Zone 1</li> </ul>	No
<ul style="list-style-type: none"> <li>• cULus Class I Zone 2, Division 2</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• FM Class I Division 2</li> </ul>	Yes

### Marine approval

<ul style="list-style-type: none"> <li>• Germanischer Lloyd (GL)</li> </ul>	No
<ul style="list-style-type: none"> <li>• American Bureau of Shipping (ABS)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Bureau Veritas (BV)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Det Norske Veritas (DNV)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Lloyds Register of Shipping (LRS)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Nippon Kaiji Kyokai (Class NK)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Polski Rejestr Statkow (PRS)</li> </ul>	No

### Ambient conditions

Ambient temperature during operation	
<ul style="list-style-type: none"> <li>• min.</li> </ul>	0 °C
<ul style="list-style-type: none"> <li>• max.</li> </ul>	55 °C
<ul style="list-style-type: none"> <li>• Operation (vertical installation)</li> </ul>	
<ul style="list-style-type: none"> <li>— For vertical installation, min.</li> </ul>	0 °C
<ul style="list-style-type: none"> <li>— For vertical installation, max.</li> </ul>	55 °C
<ul style="list-style-type: none"> <li>• Operation (max. tilt angle)</li> </ul>	
<ul style="list-style-type: none"> <li>— At maximum tilt angle, min.</li> </ul>	0 °C
<ul style="list-style-type: none"> <li>— At maximum tilt angle, min.</li> </ul>	45 °C
<ul style="list-style-type: none"> <li>• Operation (vertical installation, portrait format)</li> </ul>	

— For vertical installation, min.	0 °C
— For vertical installation, max.	55 °C
• Operation (max. tilt angle, portrait format)	
— At maximum tilt angle, min.	0 °C
— At maximum tilt angle, min.	45 °C
<b>Ambient temperature during storage/transportation</b>	
• min.	-20 °C
• max.	60 °C
<b>Relative humidity</b>	
• Operation, max.	95 %; no condensation

## Configuration

### Configuration software

- |                                    |     |
|------------------------------------|-----|
| • STEP 7 Basic (TIA Portal)        | Yes |
| • STEP 7 Professional (TIA Portal) | Yes |

## Functionality under WinCC (TIA Portal)

### 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
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**last modified:**

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