

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
Industrial Ethernet	
• Industrial Ethernet status LED	2; Per port
• Number of ports of the integrated switch	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)	
• 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
• 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
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
- 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"> • Enclosure Type 4 at the front 	No
<ul style="list-style-type: none"> • Enclosure Type 4x at the front 	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"> • ATEX Zone 2 	Yes
<ul style="list-style-type: none"> • ATEX Zone 22 	Yes
<ul style="list-style-type: none"> • cULus Class I Zone 1 	No
<ul style="list-style-type: none"> • cULus Class I Zone 2, Division 2 	Yes
<ul style="list-style-type: none"> • FM Class I Division 2 	Yes

Marine approval

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

Ambient conditions

Ambient temperature during operation

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

— 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
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Relative humidity	
• Operation, max.	95 %; no condensation

Configuration

Configuration software

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

Functionality under WinCC (TIA Portal)

Process coupling

- | | |
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| • 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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