

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
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Control elements

With parameterizable keys	Yes
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Keyboard fonts

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|---|------------------------------|
| <ul style="list-style-type: none"> • Membrane keyboard <ul style="list-style-type: none"> — user-definable label membrane keys • Function keys <ul style="list-style-type: none"> — Number of function keys • Short-stroke keys <ul style="list-style-type: none"> — Number of short-stroke keys | <p>Yes</p> <p>8</p> <p>8</p> |
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Expansions for operator control of the process

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| • 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
Input voltage	
• Rated value (DC)	24 V

Digital outputs

Number of digital outputs	8; Max. 8 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

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

<ul style="list-style-type: none"> • Operation (max. tilt angle, portrait format) <ul style="list-style-type: none"> — At maximum tilt angle, min. 0 °C — At maximum tilt angle, min. 45 °C 	
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. -20 °C • max. 60 °C 	
Relative humidity	
<ul style="list-style-type: none"> • Operation, max. 95 %; no condensation 	

Configuration

Configuration software

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| <ul style="list-style-type: none"> • STEP 7 Basic (TIA Portal) • STEP 7 Professional (TIA Portal) | <ul style="list-style-type: none"> Yes Yes |
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Functionality under WinCC (TIA Portal)

Process coupling

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|---|---|
| <ul style="list-style-type: none"> • S7-1200 • S7-1500 • S7-200 • S7-300/400 • LOGO! • WinAC • SINUMERIK • SIMOTION • Allen Bradley (EtherNet/IP) • Allen Bradley (DF1) • Mitsubishi (MC TCP/IP) • Mitsubishi (FX) • OMRON (FINS TCP) • OMRON (LINK/Multilink) • Modicon (Modbus TCP/IP) • Modicon (Modbus) | <ul style="list-style-type: none"> Yes; with ET 200pro CPU and ET 200S CPU Yes No Yes; with F-CPU: STEP 7 V11 SP1 (or higher) and Safety V11 (or higher) or SIMATIC STEP 7 Basic V11 (or higher) No Yes No No No No No No No No No No No |
|---|---|

Mechanics/material

Enclosure material (front)

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| <ul style="list-style-type: none"> • Plastic • Aluminum • Stainless steel | <ul style="list-style-type: none"> Yes No No |
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Service life

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| <ul style="list-style-type: none"> • Short-stroke keys (in switching cycles) • LEDs (ON period) | <ul style="list-style-type: none"> 1 500 000 100 % |
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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: 11/28/2020