

SIMATIC HMI KP8 PN Key Panel, 8 short-stroke switches with multi-colored LEDs, PROFINET interfaces 8 configurable DI/DO pins, 24 V DC can be looped through parameterizable as of STEP 7 V5.5



General information	
Product type designation	KP8 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>	<p>Yes</p> <p>8</p> <p>8</p>
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>	<p>8; Adjustable brightness</p> <p>5; red, green, blue, yellow, white</p> <p>8</p>
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>	
<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
<b>Protocols</b>	
PROFINET	Yes; also 3rd party PLC
Supports protocol for PROFINET IO	Yes
PROFINET CBA	No
IRT	Yes
PROFIsafe	No
PROFIBUS	No
MPI	No
AS-Interface	No
EIB/KNX	No
<b>Protocols (Ethernet)</b>	
<ul style="list-style-type: none"> <li>TCP/IP</li> </ul>	No
<b>Redundancy mode</b>	
<b>Media redundancy</b>	
— MRP	Yes
<b>Further protocols</b>	
<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
<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> </ul>	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)	
<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
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>	
<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

- 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

- 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:** 04/17/2020