



Figure similar

SIPLUS HMI KP8F PN based on 6AV3688-3AF37-0AX0 with conformal coating, - 20...+55 °C, 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
based on	6AV3688-3AF37-0AX0
Control elements	
With parameterizable keys	Yes
Keyboard fonts	
<ul style="list-style-type: none"> Membrane keyboard <ul style="list-style-type: none"> — user-definable label membrane keys 	Yes
<ul style="list-style-type: none"> Function keys <ul style="list-style-type: none"> — Number of function keys 	8
<ul style="list-style-type: none"> Short-stroke keys <ul style="list-style-type: none"> — Number of short-stroke keys 	8
Expansions for operator control of the process	
<ul style="list-style-type: none"> DP direct LEDs (LEDs as S7 output I/O) 	8; Adjustable brightness
<ul style="list-style-type: none"> Number of color modes for LED 	5; red, green, blue, yellow, white
<ul style="list-style-type: none"> 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
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
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
EtherNet/IP	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
• 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	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	
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; = Tmin
— For vertical installation, max.	55 °C; = Tmax
Operation (max. tilt angle)	
— At maximum tilt angle, min.	-20 °C; = Tmin
— At maximum tilt angle, max.	45 °C; = Tmax
Operation (vertical installation, portrait format)	
— For vertical installation, min.	-20 °C; = Tmin
— For vertical installation, max.	55 °C; = Tmax
Operation (max. tilt angle, portrait format)	
— At maximum tilt angle, min.	-20 °C; = Tmin
— At maximum tilt angle, max.	45 °C; = Tmax
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	2 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
Resistance	
Coolants and lubricants	
— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	
— 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, *
Use on ships/at sea	
— 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; *
Remark	
— 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!
Conformal coating	
• Coatings for printed circuit board assemblies acc. to EN	Yes; Class 2 for high reliability

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- Protection against fouling acc. to EN 60664-3
- Military testing according to MIL-I-46058C, Amendment 7
- Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A

Yes; Type 1 protection
 Yes; Discoloration of coating possible during service life
 Yes; Conformal coating, Class A

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	67.7 mm; Max. thickness of mounting plate 2 - 6 mm
Mounting cutout, height	129.7 mm
Overall depth	49 mm; Incl. angled SIMATIC Ethernet connector

Weights

Weight (without packaging)	280 g
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Classifications

	Version	Classification
eClass	14	27-33-02-04
eClass	12	27-33-02-04
eClass	9.1	27-33-02-04
eClass	9	27-33-02-04
eClass	8	27-24-23-05
eClass	7.1	27-24-23-05
eClass	6	27-24-23-05
ETIM	10	EC001415
ETIM	9	EC001415
ETIM	8	EC001415

ETIM	7	EC001415
IDEA	4	5266
UNSPSC	15	39-12-22-21

Approvals / Certificates

General Product Approval	EMV
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[Manufacturer Declaration](#)

[China RoHS](#)



For use in hazardous locations	Functional Safety
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