SIEMENS

Data sheet 6AV2145-6KB20-0AS0



SIMATIC HMI TP1000F MOBILE 10.0" TFT display, 1280x800 pixels, 16 million colors, Touch operation, touch pen, 1x PROFINET/Industrial Ethernet interface, 1x multimedia card, 1x USB, key-operated switch, acknowledgement button, 1 emergency stop/stop button confiigurable from WinCC Comfort V14

General information	
Product type designation	TP1000F Mobile
Display	
Design of display	TFT widescreen display, LED backlighting
Screen diagonal	10.1 in
Color display	Yes
Number of colors	16 777 216
Resolution (pixels)	
● Horizontal image resolution	1 280 pixel
● Vertical image resolution	800 pixel
Backlighting	
● MTBF backlighting (at 25 °C)	50 000 h
● Backlight dimmable	Yes; 0-100 %
Control elements	
Keyboard	
● Function keys	
— Number of function keys	0
— Number of function keys with LEDs	0
● Keys with LED	No
● Numeric keyboard	Yes; Onscreen keyboard
● alphanumeric keyboard	Yes; Onscreen keyboard
Touch operation	
● Design as touch screen	Yes
● Design as multi-touch screen	No
Special operator controls	
● Stop button (forced blocking)	Yes
● Emergency stop button (illuminated and forced blocking)	Yes
● Acknowledgement button (3-stage)	Yes
● Key-operated switch	Yes
● Illuminated pushbutton	Yes
● Handwheel	No
Camera	
● integrated camera	No
Expansions for operator control of the process	
● DP direct LEDs (LEDs as S7 output I/O)	
— F1...Fx	0
● Direct keys (keys as S7 input I/O)	
— F1...Fx	0
● Direct keys (touch buttons as S7 input I/O)	0

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Supply voltage	
Type of supply voltage	DC
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption (rated value)	450 mA
Starting current inrush I²t	0.2 A²·s
Power	
Active power input, typ.	11 W
Processor	
Processor type	ARM
Storage	
Flash	Yes
RAM	Yes
Memory available for user data	12 Mbyte
Type of output	
Power LED	No
LED for safe	No
LED for communication	No
LED for battery	No
Vibrations	No
Time of day	
Clock	
● Hardware clock (real-time)	Yes
● retentive	Yes
● synchronizable	Yes
Interfaces	
Number of industrial Ethernet interfaces	1
Number of PROFINET interfaces	1
Number of RS 485 interfaces	0
Number of RS 422 interfaces	0
Number of RS 232 interfaces	0
Number of USB interfaces	1; USB 2.0
Number of wireless interfaces	0
Number of SD card slots	1
Protocols	
PROFINET	Yes
Supports protocol for PROFINET IO	Yes
PROFIsafe	Yes
PROFIBUS	No
EtherNet/IP	Yes
MPI	No
Protocols (Ethernet)	
● TCP/IP	Yes
● DHCP	Yes
● SNMP	Yes
● DCP	Yes
● LLDP	Yes
WEB characteristics	
● HTTP	Yes
● HTTPS	Yes
● HTML	Yes
● XML	No
● CSS	Yes
● Active X	No
● JavaScript	Yes
● Java VM	No

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Further protocols	
● MODBUS	Yes
● other bus systems	No
Communication functions	
Wireless communication	
● supported standards	
— Radio standard WLAN 802.11	No
— Bluetooth radio standard	No
Interrupts/diagnostics/status information	
Diagnoses	
● Diagnostic information readable	Yes
EMC	
Emission of radio interference acc. to EN 55 011	
● Limit class A, for use in industrial areas	Yes
● Limit class B, for use in residential areas	No
Degree and class of protection	
IP65 (all-round)	Yes
Standards, approvals, certificates	
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	No
Suitable for safety functions	Yes
Marine approval	No
Highest safety class achievable in safety mode	
● Performance level according to ISO 13849-1	PLe
● SIL acc. to IEC 61508	SIL 3
Use in hazardous areas	
● ATEX Zone 2	No
● ATEX Zone 22	No
● IECEx Zone 2	No
● IECEx Zone 22	No
● cULus Class I Zone 1	No
● cULus Class I Zone 2, Division 2	No
● FM Class I Division 2	No
Marine approval	
● Germanischer Lloyd (GL)	No
● American Bureau of Shipping (ABS)	No
● Bureau Veritas (BV)	No
● Det Norske Veritas (DNV)	No
● Korean Register of Shipping (KRS)	No
● Lloyds Register of Shipping (LRS)	No
● Nippon Kaiji Kyokai (Class NK)	No
● Polski Rejestr Statkow (PRS)	No
● Chinese Classification Society (CCS)	No
Ambient conditions	
Free fall	
● Fall height, max.	1.2 m
Ambient temperature during operation	
● min.	0 °C
● max.	45 °C
Ambient temperature during storage/transportation	
● min.	-20 °C
● max.	60 °C
Relative humidity	
● Operation, max.	90 %
Operating systems	
pre-installed operating system	

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● Windows CE	Yes
Configuration	
Message indicator	Yes
Alarm system (incl. buffer and acknowledgment)	Yes
Process value display (output)	Yes
Process value default (input) possible	Yes
Recipe management	Yes
Configuration software	
● STEP 7 Basic (TIA Portal)	No
● STEP 7 Professional (TIA Portal)	No
● WinCC flexible Compact	No
● WinCC flexible Standard	No
● WinCC flexible Advanced	No
● WinCC Basic (TIA Portal)	No
● WinCC Comfort (TIA Portal)	Yes
● WinCC Advanced (TIA Portal)	Yes
● WinCC Professional (TIA Portal)	Yes
Languages	
Online languages	
● Number of online/runtime languages	32
Project languages	
● Languages per project	32
Functionality under WinCC (TIA Portal)	
Libraries	Yes
Applications/options	
● Web browser	Yes
● Pocket Word	No
● Pocket Excel	No
● PDF Viewer	Yes
● Media Player	No
● SIMATIC WinCC Sm@rtServer	Yes
● SIMATIC WinCC Audit	Yes
Number of Visual Basic Scripts	Yes
Task planner	
● time-controlled	Yes
● task-controlled	Yes
Help system	
● Number of characters per info text	500
Multiproject	
● Number of projects (internal)	0
● Number of projects (external)	0
Message system	
● Number of alarm classes	32
● Bit messages	
— Number of bit messages	4 000
● Analog messages	
— Number of analog messages	200
● S7 alarm number procedure	Yes
● System messages HMI	Yes
● System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ...)	Yes
● Number of characters per message	80
● Number of process values per message	8
● Acknowledgment groups	Yes
● Message indicator	Yes
● Message buffer	
— Number of entries	1 024
— Circulating buffer	Yes
— retentive	Yes

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— maintenance-free	Yes
Recipe management	
● Number of recipes	300
● Data records per recipe	500
● Entries per data record	1 000
● Size of internal recipe memory	2 Mbyte
● Recipe memory expandable	Yes
Variables	
● Number of variables per device	2 048
● Number of variables per screen	400
● Limit values	Yes
● Multiplexing	Yes
● Structures	Yes
● Arrays	Yes
Images	
● Number of configurable images	500
● Permanent window/default	Yes
● Global image	Yes
● Image selection by PLC	Yes
● Image number in the PLC	Yes
Image objects	
● Number of objects per image	400
● Text fields	Yes
● I/O fields	Yes
● Graphic I/O fields (graphics list)	Yes
● Symbolic I/O fields (text list)	Yes
● Date/time fields	Yes
● Switches	Yes
● Graphic display	Yes
● Icons	Yes
● Geometric objects	Yes
Complex image objects	
● Number of complex objects per screen	20
● Alarm view	Yes
● Trend view	Yes
● User view	Yes
● Status/control	Yes
● Sm@rtClient view	Yes
● Recipe view	Yes
● f(x) trend view	Yes
● System diagnostics view	Yes
● Media Player	No
● Bar graphs	Yes
● Sliders	Yes
● Pointer instruments	Yes
● Analog/digital clock	Yes
Lists	
● Number of text lists per project	500
● Number of entries per text list	500
● Number of graphics lists per project	500
● Number of entries per graphics list	500
Archiving	
● Number of archives per device	50
● Number of entries per archive	20 000
● Message archive	Yes
● Process value archive	Yes
● Archiving methods	
— Sequential archive	Yes
— Short-term archive	Yes

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● Memory location	
— Memory card	Yes
— USB memory	Yes
— Ethernet	Yes
● Data storage format	
— CSV	Yes
— TXT	No
— RDB	Yes
Security	
● Number of user groups	50
● Number of user rights	32
● Number of users	50
● Password export/import	Yes
● SIMATIC Logon	Yes
Logging through printer	
● Alarms	Yes
● Report (shift log)	Yes
● Hardcopy	No
● Electronic print to file	No
Character sets	
● Keyboard fonts	
— US English	Yes
Transfer (upload/download)	
● MPI/PROFIBUS DP	No
● USB	No
● Ethernet	Yes
● Wireless LAN	No
● using external storage medium	Yes; Backup/restore
Process coupling	
● S7-1200	Yes
● S7-1500	Yes
● S7-200	Yes
● S7-300/400	Yes
● LOGO!	Yes
● WinAC	Yes; WinAC RTX
● SINUMERIK	Yes; without NC channel
● SIMOTION	Yes
● Allen Bradley (EtherNet/IP)	Yes
● Allen Bradley (DF1)	No
● Mitsubishi (MC TCP/IP)	Yes
● Mitsubishi (FX)	Yes
● OMRON (FINS TCP)	No
● OMRON (Host Link)	No
● Modicon (Modbus TCP/IP)	Yes
● Modicon (Modbus RTU)	No
● OPC UA Client	Yes
● OPC UA Server	Yes
Service tools/configuration aids	
● Backup/Restore manually	Yes
● Backup/Restore automatically	Yes
● Simulation	Yes
● Device switchover	Yes
Peripherals/Options	
Printer	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes
SIMATIC HMI SD memory card: Secure Digital memory card	Yes
USB memory	Yes
Network camera	Yes
Additional software components loadable	Yes; SIMATIC options

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Mechanics/material	
Enclosure material (front)	
● Plastic	Yes
● Aluminum	No
● Stainless steel	No
Dimensions	
Width of the housing front	307.5 mm
Height of housing front	223.5 mm
Weights	
Weight (without packaging)	1.6 kg
Weight (with packaging)	1.7 kg

Classifications

	Version	Classification
eClass	16	27-33-02-02
eClass	14	27-33-02-02
eClass	12	27-33-02-02
eClass	9.1	27-33-02-02
eClass	9	27-33-02-02
eClass	8	27-24-23-03
eClass	7.1	27-24-23-03
eClass	6	27-24-23-03
ETIM	10	EC001427
ETIM	9	EC001427
ETIM	8	EC001427
ETIM	7	EC001427
IDEA	4	6607
UNSPSC	15	43-21-15-06

Approvals / Certificates

General Product Approval

CE EG-Konf.	UKCA	Manufacturer Declaration	UL	RCM	EAC

General Product Approval	EMV	Functional Saftey			
China RoHS	RCM	TUEV	Type Examination Certificate	TUEV	Type Examination Certificate

other

Type Examination Certificate

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