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Data sheet 6AV2128-3MB27-1BX0



SIMATIC HMI MTP1200 PRO, for pedestal (expandable, flange at bottom), 12.1" widescreen TFT display, 16 million colors, PROFINET interface, configurable as of WinCC Unified Comfort V18, contains open source software, which is provided free of charge.

General information	
Product type designation	MTP1200 Unified Comfort PRO
Display	
Design of display	TFT
Screen diagonal	12.1 in
Display width	261.1 mm
Display height	163.2 mm
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; 5-100 %
Control elements	
Keyboard	
● Numeric keyboard	Yes; Onscreen keyboard
● alphanumeric keyboard	Yes; Onscreen keyboard
Touch operation	
● Design as touch screen	Yes
● Design as multi-touch screen	Yes
Installation type/mounting	
Mounting	Pedestal
Mounting position	vertical
Mounting in portrait format possible	No
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	35°
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)	0.6 A
Current consumption, max.	1.3 A
Starting current inrush I²t	0.5 A²·s
Power	
Active power input, typ.	14.4 W

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Processor	
Processor type	X86
Storage	
Flash	Yes
RAM	Yes
Type of output	
Info LED	No
Power LED	No
Error LED	No
Acoustics	
● Buzzer	Yes
● Speaker	No
Time of day	
Clock	
● Hardware clock (real-time)	Yes
● Software clock	Yes
● retentive	Yes; Back-up duration typically 6 weeks
● synchronizable	Yes
Interfaces	
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined
Number of RS 422 interfaces	0; together with RS 485
Number of USB interfaces	4; USB 3.1 Gen. 1 (type A)
Number of SD card slots	2
Industrial Ethernet	
● Industrial Ethernet status LED	2
● Number of ports of the integrated switch	2
Protocols	
PROFINET	Yes
Supports protocol for PROFINET IO	No
Protocols (Ethernet)	
● TCP/IP	Yes
● DHCP	Yes
● SNMP	Yes
● DCP	Yes
● LLDP	Yes
Redundancy mode	
Media redundancy	
— MRP	Yes
Further protocols	
● CAN	No
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	
IP (at the front)	IP65
IP (rear)	IP65
NEMA (front)	
● Enclosure Type 4 at the front	Yes
● Enclosure Type 4x at the front	Yes
● Enclosure Type 12 at the front	Yes
Standards, approvals, certificates	
CE mark	Yes
UKCA mark	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes

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KC approval	Yes
EAC (formerly Gost-R)	Yes
CCC	Yes
Use in hazardous areas	
● ATEX Zone 2	Yes
● ATEX Zone 22	Yes
● IECEx Zone 2	Yes
● IECEx Zone 22	Yes
● cULus Class I Zone 2, Division 2	Yes
● cULus Class II Division 2	No
● FM Class I Division 2	Yes
● FM Class II Division 2	Yes
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	
Ambient temperature during operation	
Operation (vertical installation)	
— For vertical installation, min.	0 °C
— For vertical installation, max.	45 °C
Operation (max. tilt angle)	
— At maximum tilt angle, min.	0 °C
— At maximum tilt angle, max.	40 °C
Ambient temperature during storage/transportation	
● min.	-20 °C
● max.	60 °C
Relative humidity	
● Operation, max.	90 %; no condensation
Operating systems	
proprietary	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)	No
● WinCC Advanced (TIA Portal)	No
● WinCC Professional (TIA Portal)	No
● WinCC Unified Basic Engineering (TIA Portal)	No
● WinCC Unified Comfort Engineering (TIA Portal)	Yes; V18 or higher
● WinCC Unified PC Engineering (TIA Portal)	Yes; V18 or higher
Languages	
Online languages	
● Number of online/runtime languages	32

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Project languages	
● Languages per project	32
Functionality under WinCC Unified	
Libraries	Yes
Applications/options	
● Writer	Yes
● Calc	Yes
● Web browser	Yes
● PDF Viewer	Yes
● Media Player	Yes
● SIMATIC WinCC Sm@rtServer	Yes
● SIMATIC WinCC Audit	Yes
● Unified Collaboration	Yes
Number of Visual Basic Scripts	No
JavaScript	Yes
Task planner	
● time-controlled	Yes
● task-controlled	Yes
Help system	
● Number of characters per info text	70
● Number of message texts per message	10
Message system	
● Number of alarm classes	32
● Bit messages	
— Number of bit messages	9 000
● Analog messages	
— Number of analog messages	300
● S7 alarm number procedure	Yes
● System messages HMI	Yes
● System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ...)	Yes
● Number of characters per message	512
● Number of process values per message	10
● Acknowledgment groups	Yes
● Message indicator	No
● Message buffer	Yes; Configured as alarm archive
— Circulating buffer	Yes
— retentive	Yes
— maintenance-free	Yes
Parameter set management (recipes)	
● Number of parameter set types	750
● Parameter sets per parameter set type	2 000
● Entries per parameter set	1 000
● Size of internal parameter set memory	12 Mbyte
● Parameter set memory expandable	Yes
Variables	
● Number of variables per device	8 000
● Number of variables per screen	600
● Limit values	Yes
● Structures	Yes
● Arrays	Yes
Images	
● Number of configurable images	1 200
● Faceplate	Yes
Image objects	
● Number of objects per image	800
● Picture window	Yes
● Text fields	Yes
● I/O fields	Yes

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● Graphic I/O fields (graphics list)	Yes
● Symbolic I/O fields (text list)	Yes
● Scalable Vector Graphics (SVG)	Yes
● Date/time fields	Yes
● Checkbox	Yes
● Option button	Yes
● Switches	Yes
● Buttons	Yes
● Graphic display	Yes
● Icons	Yes
● Custom web display	Yes
● Geometric objects	Yes
Complex image objects	
● Number of complex objects per screen	40
● Alarm view	Yes
● Trend view	Yes
● User view	Yes
● Status/control	Yes
● Parameter set display	Yes
● HTML browser	Yes
● Bar graphs	Yes
● Sliders	Yes
● Pointer instruments	Yes
● Analog/digital clock	Yes
Lists	
● Number of text lists per project	750
● Number of entries per text list	750
● Number of graphics lists per project	750
● Number of entries per graphics list	750
Archiving	
● Number of archives per device	50
● Number of entries per archive	500 000
● Message archive	Yes
● Process value archive	Yes
● Archiving methods	
— Sequential archive	Yes
— Short-term archive	Yes
● Memory location	
— Memory card	Yes
— USB memory	Yes
— Ethernet	No
Security	
● Number of roles	50
● Number of function rights	20; number of predefined function rights
● Number of users	200
● Password export/import	Yes
● Central user administration	Yes
Transfer (upload/download)	
● USB	No
● Ethernet	Yes
● using external storage medium	Yes
Process coupling	
● S7-1200	Yes
● S7-1500	Yes
● S7-200	Yes
● S7-300/400	Yes
● Number of S7 connections	16
● LOGO!	Yes; as of WinCC Unified V20
● WinAC	No

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● SINUMERIK	No
● SIMOTION	No
● Allen Bradley (EtherNet/IP)	Yes
● Allen Bradley (DF1)	Yes
● Mitsubishi (MC TCP/IP)	Yes
● Mitsubishi (FX)	Yes
● OMRON (FINS TCP)	Yes
● OMRON (Host Link)	No
● Modicon (Modbus TCP/IP)	Yes
● Modicon (Modbus RTU)	Yes
● OPC UA Client	Yes
● OPC UA Server	Yes
● Software Controller/Open Controller	Yes
Service tools/configuration aids	
● Backup/Restore manually	Yes
● Backup/Restore automatically	Yes
● Simulation	Yes
● Device switchover	Yes
Peripherals/Options	
Peripherals	Printer, barcode reader
Printer	Yes
SIMATIC HMI MM memory card: Multi Media Card	No
SIMATIC HMI SD memory card: Secure Digital memory card	Yes
SIMATIC HMI CF memory card Compact Flash Card	No
USB memory	Yes
SIMATIC IPC USB Flashdrive (USB stick)	Yes
SIMATIC HMI USB stick	Yes
Network camera	Yes
Mechanics/material	
Enclosure material (front)	
● Plastic	No
● Aluminum	Yes
● Stainless steel	No
Dimensions	
Width of the housing front	313 mm
Height of housing front	225 mm; Without basic adapter
Weights	
Weight (without packaging)	5.1 kg
Classifications	

	Version	Classification
eClass	16	27-33-02-01
eClass	14	27-33-02-01
eClass	12	27-33-02-01
eClass	9.1	27-33-02-01
eClass	9	27-33-02-01
eClass	8	27-24-23-02
eClass	7.1	27-24-23-02
eClass	6	27-24-23-02
ETIM	10	EC001412
ETIM	9	EC001412
ETIM	8	EC001412
ETIM	7	EC001412

Approvals / Certificates	
General Product Approval	

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Miscellaneous

General Product Approval					For use in hazardous locations
	China RoHS			Manufacturer Declaration	CCC-Ex

For use in hazardous locations				
Miscellaneous			FM	CCC-Ex

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