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**Product data sheet**
**6AV6545-0CA10-0AX0**


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**Available as a Spare Part Only - subject to availability - SIMATIC TP270 6" TOUCH PANEL 5.7" STN COLOR DISPLAY**

Supply voltage	
Supply voltage	24 V DC
permissible range	+20.4 V to +28.8 V DC
Type of voltage	DC
Rated current	0.6 A
Power	15 W
UPS connectable (serial)	Yes
Backup battery	
Backup battery	optional 3.6 V
minimum backup duration	3 a
Memory	
Type	Flash / RAM
Usable memory for user data	2048 KB usable memory for user data
Time of day	
Clock	
Type	Hardware clock, battery backup, synchronizable
Configuration	
Configuration tool	ProTool Version 5 SP 3 or higher, or WinCC flexible Standard Version 2004 or higher (to be ordered separately)
1st configuration kit	ProTool
Version	Version 5 SP 3
Configuration tool	ProTool
2nd configuration kit	WinCC flexible Standard
Version	Version 2004
Configuration tool	WinCC flexible
Type	Standard
Display	
Display type	STN, 256 Farben

Design of display	STN
Size	5.7"
Screen diagonal	5.7 in
Resolution (WxH in pixel)	320 x 240
Color type	Colors
MTBF backlighting (at 25 °C)	about 40,000 hours
Expansions for operator control of the process	
DP direct keys (screen buttons and keys as S7 input I/O )	Number of bytes for configurable buttons: 4
Operating mode	
Control elements	Touch screen
Operating options	Touch
Connection for mouse/keyboard/barcode reader	USB / USB / USB
external mouse	USB
external keyboard	USB
Touch screen	analog, resistive
freely inscribable membrane keys	No
Numeric/alphabetical input	Yes / Yes
hexadecimal keyboard	Yes
Multi-key operation	No
Connection for barcode reader	USB
Handwheel	No
Ambient conditions	
Mounting position	vertical
maximum permissible angle of inclination without external ventilation	+/- 35 °
max. relative humidity (in %)	85 %
Temperature	
Operation (vertical installation)	0 °C to +50 °C
Operation (max. tilt angle)	0 °C to +35 °C
Transport, storage	-20 °C to +60 °C
Degree of protection	
Front	IP65
IP (at the front)	IP65
Rear	IP20
IP (rear)	IP20

## Certifications &amp; standards

Certifications	CE, GL, ABS, DNV, LRS, FM Class I Div. 2, UL, cULus, EX Zone 2/22, C-TICK
I/O / Options	
I/O devices	Printer, barcode reader
Type of output	
Info LED	No
Power LED	No
Error LED	No
Acoustics	Buzzer
Interfaces	
Interfaces	2 x RS232, 1 x RS422, 1 x RS485 (max. 12 Mbit/s)
Number of interfaces/according to RS 485	1
Transmission rate, max.	12 Mbit/s
CF card slot	1 x CF card slot
USB	1 x USB
Operating systems	
Operating system	Windows CE
other	
free hotline	Yes
Warranty period	1 a
Processor	
Processor	RISC 32-bit
Processor type	RISC 32-bit
Drives	
Design of drive/storage medium, CD-ROM	No
Design of drive/storage medium, diskette	No
Design of drive/storage medium, hard disk	No
Functionality under ProTool	
Applications/options	ProAgent
Visual Basic Script	Number = 50 / Number of lines per script = 20
Alarm clock	Yes
Clean screen	Yes
Number of levels for password protection	9
Help system	Yes

Number of info. texts	70
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Number of tooltips	0
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Status/control	With SIMATIC S5/S7
Message system	
Number of operating messages	2000
Memory requirement for first unit	252 byte
Memory requirement for each additional unit	196 byte
Number of fault messages	2000
Memory requirement for first unit	252 byte
Memory requirement for each additional unit	196 byte
System messages	Yes
Message length (lines x characters)	1 x 70
Number of process values in messages	8
Number of acknowledgement groups	99 ; yes only
Message indicator	Yes
Acoustic feedback	No
First/last value	Yes
Message buffer	Ring buffer (n x 512 entries)
Recipes	
Number of recipes	300
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Number of data records per recipe	500
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Number of entries per data record	1000
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Recipe memory	64 KB integrated Flash, expandable
Number of process images	
Number of process images	300

Memory requirement for first unit	40440 byte
Memory requirement for each additional unit	123 byte
Number of variables	2048
Number of variables of Date & Time type	2048
Number of variables of Internal Variable type	1000
Limit values	Yes
Multiplexing	Yes
Image elements	
Text objects	10,000 text elements
Number of fields per screen	200
Number of variables per screen	200
Permanent window/default	Y
Image selection via PLC	Yes
Index of screen context	No
Start screen configurable	Yes
Image number in the PLC	Yes
Return	Yes
Graphics object	Bit maps, icons, vector graphics
Number of icons	1000
Memory requirement for first unit	1150 byte
Memory requirement for each additional unit	1150 byte
Number of screen filling icons	0
Memory requirement for first unit	14330 byte
Memory requirement for each additional unit	11540 byte
dynamic objects	Diagrams, bar graphs, sliders, analog display, invisible buttons
Number of objects per project	1000
Number per image	10
Memory requirement for first unit	1020 byte
Memory requirement for each additional unit	796 byte
Number of curves per diagram	8
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	284 byte
Write direction	horizontal
vertical	No

Online operation of trends trigger	Compress / shift Bit / time
Methods	Trend / profile
Limit value lines	Yes
Number of bars per chart	10
Direction	vertical / horizontal
Limit value lines	Yes
Number of alphanumerical fields	2048
Number of alphanumerical fields per screen	200
Memory requirement for first unit	588 byte
Memory requirement for each additional unit	307 byte
Number of numerical fields	2048
Number of numerical fields per screen	200
Memory requirement for first unit	588 byte
Memory requirement for each additional unit	307 byte
Number of date and time fields	32
Memory requirement for first unit	304 byte
Memory requirement for each additional unit	184 byte
Number of password fields	2048
Memory requirement for first unit	588 byte
Memory requirement for each additional unit	307 byte
Number of slides per image	10
Memory requirement for first unit	816 byte
Memory requirement for each additional unit	484 byte
Number of analog indicators per image	10
Memory requirement for first unit	964 byte
Memory requirement for each additional unit	628 byte
Number of visible switches per project	2048
Number of visible switches per screen	200
Memory requirement for first unit	368 byte
Memory requirement for each additional unit	196 byte
Number of invisible switches per screen	200
Memory requirement for first unit	128 byte
Memory requirement for each additional unit	76 byte
Number of status switches per project	2048

Number of buttons for state switches per screen	200
Memory requirement for first unit	660 byte
Memory requirement for each additional unit	376 byte
Number of selector switches per project	2048
Number of selector switches per screen	200
Memory requirement for first unit	656 byte
Memory requirement for each additional unit	408 byte
Number of decade switches per project	0
Number of decade switches per screen	0
Memory requirement for first unit	0 byte
Memory requirement for each additional unit	0 byte
Number of signal lamps per project	2048
Number of indicator lights per screen	200
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Attributes for dynamic objects	
Color change	Yes
X/Y movement	Yes
Hide	Yes
Angle of turn	No
Lists	
Number of text lists per project	500
Number of text lists per image	10
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Number of entries per project	256
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Number of graphics lists per project, max.	400
Number of graphic lists per image, max.	10
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Number of entries per project	256
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte

Libraries	Yes
Archiving	
Number of measuring points per archive	20
Number of entries per archive	10000
Archiving types	Sequence archive, circular log, alarm log, process value archive
Memory location	CF card, Ethernet
Data storage format	CSV file, readable, e.g. with MS Excel, MS Access
external evaluation	Readable, e.g. with MS Excel, MS Access, etc.
Size of archive	depending on free memory on ext. card/stick or on free hard disk space via network drive
Online evaluation	via trends
Filters	
cyclic	Yes
Tolerance	Yes
Change	Yes
Recording	
Recording/Printing	Alarms, report (shift report), color print, hardcopy
Printer driver	ESC/P2, PCL3/PCL6
Character sets	
Keyboard character sets	US American
Languages	
Number of online languages	5
Number of online languages per project	32
Memory requirement for first unit	23424 byte
Memory requirement for each additional unit	26819 byte
Configuration languages	D, GB, F, I, E, CHN "traditional", CHN "simplified", DK, FIN, GR, J, KP / ROK, NL, N, PL, P, RUS, S, CZ / SK, TR, h
Character sets	Tahoma, Arial, Courier New, Pro Tool-Standard, symbol languages, 2 additional character sets can be loaded, all freely scalable
Transfer (upload/download)	
Transfer of configuration	MPI/PROFIBUS DP (where available), serial, USB, Ethernet, by means of external storage medium, automatic transfer recognition
Download	



optional software	Y
Operating system update	Y
Process coupling	
Connection to controller	S5, S7-200, S7- 300/400, TI 505, Win AC, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DH485), Mitsubishi (FX), Telemecanique (ADJUST), OMRON (LINK/Multilink), Modicon (Modbus), for further non-Siemens drivers, see section on "System interfaces"
S5	Yes
serial	Yes
PROFIBUS DP	Yes
S7-200	Yes
PPI (point-to-point)	Yes
PPI network	Yes
MPI	Yes
PROFIBUS DP	Yes
S7-300/400	Yes
MPI	Yes
PROFIBUS DP	Yes
PROFINET IO	No
TI 505	Yes
Point-to-point	Yes
Network	Yes
Allen Bradley (DF1)	Yes
Point-to-point	Yes
Network	Yes
Allen Bradley (DH485)	Yes
Point-to-point	Yes
Network	Yes
Mitsubishi (FX)	Yes
Point-to-point	Yes
Network	No
Mitsubishi (MP4)	Yes
Point-to-point	Yes
Network	Yes

Telemecanique (ADJUST)	Yes
Point-to-point	Yes
Network	Yes
Telemecanique (Uni-Telway)	Yes
Point-to-point	Yes
Network	Yes
OMRON (LINK/Multilink)	Yes
Point-to-point	Yes
Network	Yes
Modicon (Modbus)	Yes
Point-to-point	Yes
Network	Yes
GE-Fanuc (SNP)	Yes
Point-to-point	Yes
Network	Yes
Functions	
Key repeat	No
TAB sequence	Yes
Calculating functions	Yes
Animate	Yes
Menu tree editor	No
Unit switchover	No
Booting via external memory	Yes
Service tools/configuration aids	
Touch calibration	Yes
Backup/restore	Yes
Simulation	Yes
Language tool	No
System messages Edit	No
Device switchover	Yes
Delta transfer	No
Monitoring the battery, memory,...	Yes
Trace (operation archive)	No
Expandability/openness	
Open Platform Program (OPP)	Yes

## Functionality under WinCC flexible

Applications/options	ProAgent, Sm@rtService, Sm@rtAccess
Number of Visual Basic Scripts	50
Debugging in the simulator	No
Task planner	Yes
Help system	Yes
Number of info. texts	70
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Number of tooltips	0
Memory requirement for first unit	0 byte
Memory requirement for each additional unit	0 byte
Status/control	with SIMATIC S7
Message system	
Number of messages	4000
Bit messages	Yes
Analog messages	Yes
Number of bit messages	2000
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Number of analog messages	2000
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Number of alarm classes	32
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Telegram message procedure Alarm S	Yes
System messages HMI	Yes
System messages PLC	No
System messages, other (Sinumerik, Simotion,..)	No
Message length (in characters)	70
Lines	1
Number of process values per message	8
Acknowledgment groups	Yes
Message indicator	Yes

Acoustic feedback	No
First/last value	Yes
Message buffer	Ring buffer (n x 512 entries), non-retentive
Recipes	
Recipes	300
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Data records per recipe	500
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Entries per data record	1000
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Recipe memory	64 KB integrated Flash, expandable
Number of process images	
Process images	300
Variables	2048
Type Date & Time	2048
Number of internal variable	2048
Limit values	Yes
Multiplexing	Yes
Structs	Yes
Image elements	
Text objects	10,000 text elements
Fields per image	200
Variables per image	200
Permanent window/default	Yes
Image selection via PLC	Yes
Index of screen context	No
Start screen configurable	Yes
Image number in the PLC	Yes
Return	Y
Graphics object	Bit maps, icons, vector graphics
Icons	1000
Memory requirement for first unit	350 byte

Memory requirement for each additional unit	350 byte
Icon (full screen)	0
Memory requirement for first unit	10500 byte
Memory requirement for each additional unit	12000 byte
dynamic objects	Diagrams, bar graphs, invisible buttons
Number of objects per project	500
Number per image	5
Memory requirement for first unit	832 byte
Memory requirement for each additional unit	660 byte
Write direction	horizontal
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	280 byte
Online operation of trends	Compress / shift
trigger	Bit / time
Methods	Trend
Limit value lines	Yes
Number of bars per chart	10
Memory requirement for first unit	664 byte
Memory requirement for each additional unit	262 byte
Direction	vertical / horizontal
Limit value lines	Yes
alphanumeric fields	1000
alphanumeric fields per image	100
Memory requirement for first unit	480 byte
Memory requirement for each additional unit	260 byte
numerical fields	1000
numerical fields per image	100
Memory requirement for first unit	480 byte
Memory requirement for each additional unit	260 byte
Date and time field	30
Memory requirement for first unit	304 byte
Memory requirement for each additional unit	188 byte
Password errors	1000
Memory requirement for first unit	552 byte
Memory requirement for each additional unit	204 byte

Number of slides per image	0
Memory requirement for first unit	0 byte
Memory requirement for each additional unit	0 byte
Number of analog indicators per image	0
Memory requirement for first unit	0 byte
Memory requirement for each additional unit	0 byte
Number of visible switches per project	1000
visible switches per image	100
Memory requirement for first unit	536 byte
Memory requirement for each additional unit	292 byte
hidden switches per image	100
Memory requirement for first unit	128 byte
Memory requirement for each additional unit	80 byte
Number of status switches per project	1000
Button status switches per image	100
Memory requirement for first unit	592 byte
Memory requirement for each additional unit	343 byte
Number of selector switches per project	1000
Selector switches per image	100
Memory requirement for first unit	844 byte
Memory requirement for each additional unit	361 byte
Number of decade switches per project	0
Decade switches per image	0
Memory requirement for first unit	0 byte
Memory requirement for each additional unit	0 byte
Number of signal lamps per project	1000
Signal lamps per image	100
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Attributes for dynamic objects	
Color change	Yes
X/Y movement	Yes
Hide	Yes
Angle of turn	No
Lists	

Text lists	500
Memory requirement for first unit	5752 byte
Memory requirement for each additional unit	2036 byte
Number of entries in text lists	256
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Graphics list	400
Number of graphic lists per image	10
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Number of entries in graphics lists	255
Memory requirement for first unit	10 byte
Memory requirement for each additional unit	10 byte
Libraries	Yes
Archiving	
Number of archives per project	20
Number of measuring points per project	20
Number of entries per archive	10000
Archiving types	Long-term archive, short-term archive, message archive, process value archive
Sequential archive	Yes
Short-term archive	Yes
Message archive	Yes
Process value archive	Yes
Memory location	CF card, Ethernet
PC card	No
CF card	Yes
RAM	No
Ethernet	Yes
Data storage format	CSV file, readable, e.g. with MS Excel, MS Access
CSV	Yes
TXT	No
external evaluation	readable, e.g. with MS Excel, MS Access, etc.
Size of archive	depending on free memory on ext. card/stick or on free hard disk space via network drive
Online evaluation	Using trend curves

Using trend curves	Yes
Filters	
cyclic	Yes
Tolerance	Yes
Change	Yes
Security	
Number of user groups	50
Passwords exportable	Yes
Number of user rights	32
Recording	
Recording/Printing	Alarms, report (shift report), color print, hardcopy
Printer driver	ESC/P2, PCL3/PCL6
Fonts	
Keyboard fonts	US American (English)
Languages	
Online languages	5
Languages per project	32
Memory requirement for first unit	19080 byte
Memory requirement for each additional unit	22594 byte
Configuration languages	D, GB, F, I, E, CHN "traditional", CHN "simplified", DK, FIN, GR, J, KP / ROK, NL, N, PL, P, RUS, S, CZ / SK, TR, H
Character sets	Tahoma, symbol languages, 2 additional character sets can be loaded, all freely scalable
Transfer (upload/download)	
Transfer of configuration	MPI/PROFIBUS DP, serial, USB, Ethernet, automatic transfer recognition
Process coupling	
Connection to controller	S5, S7-200, S7- 300/400, TI 505, Win AC, PC (TCP/IP), SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), Telemecanique (ADJUST), OMRON (LINK/Multilink), Modicon (Modbus), for further non-Siemens drivers, see section on "System interfaces"
S5	Yes
serial	Yes
PROFIBUS DP	Yes



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S7-200	Yes
PPI (point-to-point)	Yes
PPI network	No
MPI	Yes
PROFIBUS DP	Yes
S7-300/400	Yes
MPI	Yes
PROFIBUS DP	Yes
PROFINET	No
TI 505	Yes
Point-to-point	Yes
Network	Yes
Allen Bradley (DF1)	Yes
Point-to-point	Yes
Network	Yes
Allen Bradley (DF485)	Yes
Point-to-point	Yes
Network	Yes
Mitsubishi (FX)	Yes
Point-to-point	Yes
Network	No
Mitsubishi (MP4)	Yes
Point-to-point	Yes
Network	Yes
Telemecanique (ADJUST)	Yes
Point-to-point	Yes
Network	Yes
Telemecanique (Uni-Telway)	Yes
Point-to-point	Yes
Network	Yes
OMRON (LINK/Multilink)	Yes
Point-to-point	Yes
Network	Yes
Modicon (Modbus)	Yes
Point-to-point	Yes

Network	Yes
GE-Fanuc (SNP)	Yes
Point-to-point	Yes
Network	Yes
Functions	
Key repeat	No
TAB sequence	Yes
Calculating functions	Yes
Animate	Yes
Menu tree editor	No
Unit switchover	No
Service tools/configuration aids	
Clean screen	Yes
Touch calibration	Yes
Backup/restore	Yes
Simulation	Yes
Device switchover	Yes
Delta transfer	Yes
Monitoring function for battery and memory	Yes
Trace (operation archive)	No
Expandability/openness	
Open Platform Program	Yes
Mechanics	
Type of housing (front)	Plastic
Mounting technology	Clamp terminals
Dimensions	
Front of enclosure (W x H)	212 mm x 156 mm
Mounting cutout/Device depth (W x H/D) in mm	198 mm x 142 mm / 59 mm device depth
Dimensions and weight	
Weight	
Weight	1 kg
Status	Mar 12, 2010