SIEMENS

Data sheet 6AV6642-0BA01-1AX1

*** spare part *** SIMATIC TP 177B 6" PN/DP STN 256 color display MPI/PROFIBUS DP protocol RS485/RS422/USB interface Ethernet 10/100 interface printer interface slot for MMC configurable with WinCC flexible 2005



General information	
Product type designation	TP177B 6" PN/DP Color
Customer-specific configuration	Yes
Display	
Design of display	STN
Screen diagonal	5.7 in
Color display	Yes
Number of colors	256
Resolution (pixels)	
● Horizontal image resolution	320 pixel
● Vertical image resolution	240 pixel
Backlighting	
● MTBF backlighting (at 25 °C)	50 000 h
Control elements	
Control elements	Touch screen
Keyboard	
● System keys	Yes
● Numeric keyboard	Yes
● alphanumeric keyboard	Yes
● hexadecimal keyboard	Yes
● Multi-key operation	No
Touch operation	
● Design as touch screen	Yes; analog, resistive
Connection type	
● Type of connection for mouse/keyboard/barcode reader	USB / USB / USB
Installation type/mounting	
Mounting position	vertical
maximum permissible angle of inclination without external ventilation	35°
Supply voltage	
Type of supply voltage	DC
Input current	
Current consumption (rated value)	0.24 A
Starting current inrush I²t	0.5 A²·s
Processor	
Processor type	ARM, 200 MHz
Storage	
Type of memory	Flash / RAM
Memory available for user data	2 048 kbyte

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Time of day	
Clock	
● Type	Hardware clock, synchronizable, no battery backup
● retentive	No
● synchronizable	Yes
Interfaces	
Interfaces/bus type	RS 232 optional, 1x RS 422, 1x RS 485, 1x Ethernet (RJ45) (max. 12 Mbit/s)
Number of industrial Ethernet interfaces	1
Number of RS 485 interfaces	1
Number of RS 422 interfaces	1
Number of USB interfaces	1; Up to 1 GB
PC card slot	No
CF card slot	No
Multimedia card/SD card slot	combined, from E-status 016 in connection with WinCC flexible 2008 SP1, MMC max. 128 MB / SD max. 512 MB
With software interfaces	No
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIsafe	No
PROFIBUS	Yes
EtherNet/IP	Yes
Protocols (Ethernet)	
● TCP/IP	Yes
Protocols (terminal link)	
● Sm@rtServer	Yes
Further protocols	
● MODBUS	Yes
Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP20
NEMA (front)	NEMA 4x, NEMA 12 (when installed)
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
EAC (formerly Gost-R)	No
Suitable for safety functions	No
Use in hazardous areas	
● ATEX Zone 2	No; certificate no longer available as of 1 October 2020
● ATEX Zone 22	No; certificate no longer available as of 1 October 2020
● FM Class I Division 2	Yes
Marine approval	
● Germanischer Lloyd (GL)	Yes; only valid up to and including the HW release (see MLFB release notes in SIOS)!
● American Bureau of Shipping (ABS)	Yes; only valid up to and including the HW release (see MLFB release notes in SIOS)!
● Bureau Veritas (BV)	Yes; only valid up to and including the HW release (see MLFB release notes in SIOS)!
● Det Norske Veritas (DNV)	Yes; only valid up to and including the HW release (see MLFB release notes in SIOS)!
● Lloyds Register of Shipping (LRS)	Yes; only valid up to and including the HW release (see MLFB release notes in SIOS)!
● Polski Rejestr Statkow (PRS)	No; only valid up to and including the HW release (see MLFB release notes in SIOS)!
Ambient conditions	
Ambient temperature during operation	
● min.	0 °C
● max.	50 °C
Ambient temperature during storage/transportation	
● min.	-20 °C
● max.	60 °C

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Relative humidity	
● Operation, max.	90 %
Operating systems	
pre-installed operating system	Windows CE
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	
● Configuration tool	WinCC flexible Compact Version 2005 or higher (to be ordered separately)
● STEP 7 Basic (TIA Portal)	No
● STEP 7 Professional (TIA Portal)	No
● WinCC flexible Compact	Yes
● WinCC flexible Standard	Yes
● WinCC flexible Advanced	Yes
● 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	5
Project languages	
● Languages per project	32
Functionality under WinCC (TIA Portal)	
Libraries	Yes
Task planner	Yes
Help system	Yes
● Number of characters per info text	70
Message system	
● Number of alarm classes	32
● Number of messages	2 000
● Bit messages	Yes
— Number of bit messages	2 000
● Analog messages	Yes
— Number of analog messages	50
● Telegram message procedure Alarm S	No
● System messages HMI	Yes
● System messages PLC	Yes
● System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ...)	No
● Lines	1
● Number of characters per message	80
● Number of process values per message	8
● Acknowledgment groups	
— Number of acknowledgement groups	99
● Message indicator	Yes
● acoustic feedback	No
● First/last value	Yes
Recipe management	
● Number of recipes	100
● Data records per recipe	200
● Entries per data record	200
● Recipe memory	32 KB integrated Flash, expandable
Variables	
● Number of variables per device	1 000
● Number of variables per screen	50

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● Number of variables	1 000
● Initial values	1 000
● Type Date & Time	1 000
● Limit values	Yes
● Multiplexing	Yes
● Structures	No
Images	
● Number of configurable images	500
● Permanent window/default	Yes
● Start screen configurable	Yes
● Image selection by PLC	Yes
● Image number in the PLC	Yes
Image objects	
● Text objects	2 500 text elements
● Number of I/O fields per image	50
● Number of date/time fields	30
● Index of screen context	No
● Return	Yes
● Graphics object	Bit maps, icons, icon (full-screen), vector graphics
— Icons	500
— Icon (full screen)	50
Complex image objects	
● Status/control	With SIMATIC S7
● dynamic objects	Diagrams, bar graphs, sliders, analog display, invisible buttons
— Number of objects per project	500
— Number of curve diagrams per image	5
● Methods	Trend
● Bar graphs	
— Number of bars per chart	5
● Sliders	
— Number of slides per image	0
● Pointer instruments	
— Number of analog indicators per image	0
● Limit value lines	Yes
● Number of alphanumerical fields	1 000
— alphanumeric fields per image	100
● Number of numerical fields	1 000
— numerical fields per image	100
● Number of password fields	1 000
● Number of visible switches per project	1 000
— visible switches per image	100
— hidden switches per image	100
● Number of status switches per project	1 000
— Number of status switches per image	100
● Number of selector switches per project	1 000
— Selector switches per image	100
● Number of decade switches per project	0
— Decade switches per image	0
● Number of signal lamps per project	1 000
— Signal lamps per image	100
Attributes for dynamic objects	
● Color change	Yes
● X/Y movement	Yes
● Hide	Yes
● Angle of rotation	No
Lists	
● Number of text lists per project	300
● Number of text lists per image	10
● Number of entries per text list	30

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● Number of graphics lists per project	100
● Number of graphic lists per image	10
● Number of entries per graphics list	30
Security	
● Number of user groups	50
● Number of user rights	32
● Password export/import	Yes
Data carrier support	
● PC card	No
● CF card	No
Logging through printer	
● Recording/Printing	Alarms, report (shift report), color print, hardcopy
Transfer (upload/download)	
● Transfer of configuration	MPI/PROFIBUS DP, serial, USB, Ethernet, by means of external storage medium, automatic transfer recognition
Process coupling	
● Connection to controller	S5, S7-200, S7-300/400, Win AC, PC (TCP/IP), SINUMERIK, SIMOTION, Allen Bradley (DF1), Mitsubishi (FX), Telemecanique (ADJUST), Modicon (Modbus), further non-Siemens drivers, see chapter "System interfaces"
● S7-1200	Yes
● S7-1500	No
● S7-200	Yes
— PPI (point-to-point)	Yes
— PPI network	No
— MPI	Yes
— PROFIBUS DP	Yes
— Ethernet	Yes
● S7-300/400	Yes
— MPI	Yes
— PROFIBUS DP	Yes
— PROFINET	Yes
● S5	Yes; only PROFIBUS DP
— serial	No
— PROFIBUS DP	Yes
● TI 505	No
● Allen Bradley (DF1)	Yes
● Allen Bradley (DF485)	Yes
● Mitsubishi (FX)	Yes
● Telemecanique (ADJUST)	No
● Telemecanique (Uni-Telway)	Yes; Only in combination with WinCC flexible
● OMRON (Host Link)	Yes
● Modicon (Modbus RTU)	Yes
Functions	
● Key repeat	No
● TAB sequence	Yes
● Calculating functions	Yes
● Animate	Yes
● Menu tree editor	Yes
● Unit switchover	No
Service tools/configuration aids	
● Clean screen	Yes
● Touch calibration	Yes
● Backup/Restore manually	Yes
● Simulation	Yes
● Device switchover	Yes
● Delta transfer	Yes
● Monitoring function for battery and memory	No
● Trace (operation archive)	No
Expandability/openness	
● Open Platform Program	Yes

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Peripherals/Options	
Peripherals	Printer
SIMATIC HMI MM memory card: Multi Media Card	Yes
Additional software components loadable	Yes
Dimensions	
Width of the housing front	212 mm
Height of housing front	156 mm
Mounting cutout, width	198 mm
Mounting cutout, height	142 mm
mounting depth	44 mm
Weights	
Weight (without packaging)	0.8 kg
Other	
free hotline	Yes

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
IDEA	4	6607
UNSPSC	15	43-21-15-06

Approvals / Certificates

General Product Approval

Manufacturer Declaration

General Product Approval | **EMV** | **For use in hazardous locations**

China RoHS

FM

Radio Equipment Type Approval Certificate | **Maritime application**

Miscellaneous

NK / Nippon Kaiji Kyokai

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