SIEMENS

Data sheet   6AV6648-0BC11-3AX0

SIMATIC HMI SMART 700 IE, SMART PANEL, TOUCH
OPERATION, 7" WIDESCREEN TFT DISPLAY, 65536 COLORS,
RS422/485 INTERFACE, ETHERNET(RJ45) INTERFACE, WITH CE
CERTIFICATE, CONFIGURATION FROM WINCC FLEXIBLE 2008
SP4 CHINA; CONTAINS OPEN SOURCE SW WHICH IS
PROVIDED FREE OF CHARGE FOR DETAILS SEE CD

General information	
Product type designation	SIMATIC HMI SMART 700 IE

Display	
Design of display	TFT
Screen diagonal	7 in
Display width	154.1 mm
Display height	85.9 mm
Number of colors	65 536
Resolution (pixels)	
● Horizontal image resolution	800 Pixel
● Vertical image resolution	480 Pixel
Backlighting	
● MTBF backlighting (at 25 °C)	40 000 h; Half brightness life time (25°C), Max.

Control elements	
Keyboard fonts	
● Function keys	
— Number of function keys	0
● Numeric/alphabetical input	Yes (on-screen keyboard) / Yes (on-screen keyboard)
— Numeric keyboard	Yes
— alphanumeric keyboard	Yes
Touch operation	
● Design as touch screen	Yes

Installation type/mounting	
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	24 V 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)	0.35 A
Starting current inrush I²t	0.5 A²·s

Processor	
Processor type	ARM

Memory	
Flash	Yes
RAM	Yes
Memory available for user data	2 048 kbyte

Type of output	
Acoustics	Sound signal
• Buzzer	Yes

Time of day	
Clock	
• Hardware clock (real-time)	No
• Software clock	Yes
• retentive	No
• synchronizable	Yes; do the synchronization via PLC-jobs

Interfaces	
Number of industrial Ethernet interfaces	1
Number of RS 485 interfaces	1
Number of USB interfaces	0
Number of 20 mA interfaces (TTY)	0
Number of RS 232 interfaces	0
Number of RS 422 interfaces	1
Number of parallel interfaces	0
Number of other interfaces	0
Number of SD card slots	0
Industrial Ethernet	
• Industrial Ethernet status LED	2

Protocols	
PROFINET	No
PROFIBUS	No
MPI	No
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	Yes
• SNMP	No

08/30/2016

• DCP	No
• LLDP	No
Further protocols	
• MODBUS	Yes

Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP20

Standards, approvals, certificates	
CE mark	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	
• Operation (vertical installation)	0 to +50 °C
— For vertical installation, min.	0 °C
— For vertical installation, max.	50 °C
• Operation (max. tilt angle)	0 to +40 °C
— At maximum tilt angle, min.	0 °C
— At maximum tilt angle, min.	40 °C
Relative humidity	
• Operation, max.	90 %

Configuration	
Message indicator	Yes
Alarm logging system (incl. buffer and acknowledgment)	Yes
Process value display (output)	Yes
Process value default (input) possible	Yes
Recipe management	Yes
Configuration software	
• WinCC flexible Standard	Yes; WinCC flexible 2008 SP4 CHINA

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
• time-controlled	No
• task-controlled	Yes
Help system	Yes
• Number of characters per info text	320

Message system

• Number of alarm classes	32
• Bit messages	
— Number of bit messages	200
• Analog messages	
— Number of analog messages	15
• System messages HMI	Yes
• Number of characters per message	80
• Number of process values per message	8
• Message indicator	Yes
• Message buffer	Ring buffer (n x 256 entries), retentive, maintenance-free
— Number of entries	256
— Circulating buffer	Yes
— retentive	Yes

Recipe management

• Number of recipes	5
• Data records per recipe	20
• Entries per data record	20
• Size of internal recipe memory	40 kbyte
• Recipe memory expandable	No

Variables

• Number of variables per device	800
• Number of variables per screen	100
• Limit values	Yes
• Multiplexing	Yes
• Structures	No
• Arrays	Yes

Images

• Number of configurable images	100
• Permanent window/default	Yes; No permanent window can be configured
• Global image	Yes
• Image selection by PLC	Yes
• Image number in the PLC	Yes

Image objects	
• 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
• Buttons	Yes
• Graphic display	Yes
Complex image objects	
• Number of complex objects per screen	5
• Alarm view	Yes
• Trend view	Yes
• User view	Yes
• Status/control	No
• Sm@rtClient view	No
• Recipe view	Yes
• f(x) trend view	No
• System diagnostics view	No
• Media Player	No
• Bar graphs	Yes
• Sliders	No
• Pointer instruments	No
• Analog/digital clock	No
Lists	
• Number of text lists per project	150
• Number of graphics lists per project	100
Security	
• Number of user groups	50
• Number of user rights	32
• Number of users	50
• Password export/import	No
Character sets	
• Keyboard fonts	US American (English)
— US English	Yes
Transfer (upload/download)	
• MPI/PROFIBUS DP	No
• USB	No
• Ethernet	Yes
• using external storage medium	No
Process coupling	

• S7-1200	No
• S7-200	Yes
• S7-300/400	No
• LOGO!	Yes
• WinAC	No
• SINUMERIK	No
• SIMOTION	No
• Allen Bradley (DF1)	No
• Mitsubishi (FX)	Yes
• OMRON (LINK/Multilink)	Yes
• Modicon (Modbus)	Yes
Service tools/configuration aids	
• Backup/Restore manually	Yes
• Simulation	Yes
• Device switchover	Yes

Peripherals/Options

Peripherals	none
• Printer	No
• SIMATIC HMI MM memory card: Multi Media Card	No
• SIMATIC HMI SD memory card: Secure Digital memory card	No
• USB memory	No

Mechanics/material

Enclosure material (front)	
• Plastic	Yes
• Aluminum	No

Dimensions

Width of the housing front	213 mm
Height of housing front	159 mm
Overall depth	40.5 mm
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