SIEMENS

Data sheet

6AV2144-8MC10-0AA0



SIMATIC HMI TP1200 Comfort INOX Stainless steel front, Con- tinuous decorative film, Degree of protection front IP66K, 12" widescreen TFT display, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, (Microsoft Support included Security updates discontinued) configurable from WinCC Comfort V11

General information	
Product type designation	TP1200 Comfort INOX
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) 	80 000 h
 Backlight dimmable 	Yes; 0-100 %
Control elements	
Keyboard fonts	
 Function keys 	
 — Number of function keys 	0
 — Number of function keys with LEDs 	0
 Keys with LED 	No
 System keys 	No
 Numeric keyboard 	Yes; Onscreen keyboard
 alphanumeric keyboard 	Yes; Onscreen keyboard
Touch operation	
 Design as touch screen 	Yes
Expansions for operator control of the process	
 DP direct LEDs (LEDs as S7 output I/O) 	
— F1Fx	0
 Direct keys (keys as S7 input I/O) 	
— F1Fx	0
 Direct keys (touch buttons as S7 input I/O) 	40
Installation type/mounting	
Mounting position	vertical
Mounting in portrait format possible	Yes
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	20.0 V
	0.95 A
Current consumption (rated value) Starting current inrush I²t	0.85 A 0.5 A²·s
Power	
Active power input, typ.	20 W
	20 W
Processor	2/00
Processor type	X86
Memory	Y.
Flash RAM	Yes
Memory available for user data	12 Mbyte
Type of output	
Info LED	No
Power LED	No
Error LED	No
Acoustics	
• Buzzer	No
Speaker	Yes
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	1; 2 ports (switch)
Number of RS 485 interfaces	1; RS 422 / 485 combined
Number of RS 422 interfaces Number of RS 232 interfaces	0; together with RS 485 0
Number of USB interfaces	2; USB 2.0
USB Mini B	1; 5-pole
Number of 20 mA interfaces (TTY)	0
Number of parallel interfaces	0
Number of other interfaces	0
Number of SD card slots	2
With software interfaces	No
Industrial Ethernet	
Industrial Ethernet status LED	2
Number of ports of the integrated switch	2
Protocols	
PROFINET	Yes
Supports protocol for PROFINET IO	Yes
IRT PROFIBUS	Yes; As of WinCC V12 Yes
EtherNet/IP	Yes
MPI	Yes
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
WEB characteristics	Vec
• HTTP	Yes
• HTTPS • HTML	Yes
• HTML • XML	Yes
• CSS	Yes
Active X	Yes
JavaScript	Yes
• Java VM	No

Redundancy mode	
Redundancy mode Media redundancy	
— MRP	Yes; As of WinCC V12
Further protocols	
• CAN	No
MODBUS	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	
IP (at the front)	IP66K
IP (rear)	IP20
NEMA (front)	
Enclosure Type 4 at the front	No
• Enclosure Type 4x at the front	Yes; indoor use only
Standards, approvals, certificates	
CE mark	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	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 1	No
 cULus Class I Zone 2, Division 2 FM Class I Division 2 	Yes
Marine approval	Tes
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
Ambient conditions	
Ambient temperature during operation	
Operation (vertical installation)	
— For vertical installation, min.	0 °C
— For vertical installation, max.	50 °C
Operation (max. tilt angle)	0.00
— At maximum tilt angle, min.	0 °C
— At maximum tilt angle, max.	40 °C
Operation (vertical installation, portrait format) — For vertical installation, min.	0°C
— For vertical installation, max.	40 °C
Operation (max. tilt angle, portrait format)	
— At maximum tilt angle, min.	0°0
— At maximum tilt angle, max.	35 °C
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Relative humidity	
• Operation, max.	80 %; no condensation
Operating systems	
proprietary	No
pre-installed operating system	
Windows CE	Yes

Message Indicator Message Indi	configuration / header	
Alarm system (inc). buffer and acknowledgment) Yes Process value default (nyut) possible Yes Process value default (nyut) possible Yes Conformation software Yes Conformation software No • STEP 7 Professional (TA Portal) No • WinCC facible Shardrd No • WinCC facible Advanced (TA Portal) Yes; firom V11 • WinCC facible Advanced (TA Portal) Yes; firom V11 • WinCC facible Shardrd No • WinCC facible Shardrd Yes; firom V11 • Wince Advanced (TA Portal) Yes; firom V11 • Context Excell Yes; firom V11 • Context Excell Yes; firom V11 <		Yes
Process value display (uturu) Process value display (uturu) possible Process value display (uturu) possible Process value display (uturu) possible Process value display (uturu) Process value display Process value display (uturu) Process value d		
Process value defaul (prout) possible Yes Percipe management Yes • STEP 7 Professional (TIA Portal) No • WinCC Brable Sundard (TIA Portal) • WinCC Professional (TIA Portal) • WinCC WinCC MCC MC (TIA Portal) • WinCC WinCC Audit • Profix WinCC (TIA Portal) • Profix WinCC (TIA Portal) • WinCC WinCC Audit • Winther of Wall Sundard Profession • Web browser • Profix WinCC (TIA Portal) • Winther of Wall Sundard Yes • Mortal Balk Scripts • Winther of Wall SafeSing/ISSING • Winther of Main Classes • Number of datarn classes • Audits messages • Number of datarn classes • System event, more (SIMATIC S7, SINUMERIK, SIMATIC Origones Profession • Winther of datarn classes • System event, more (SIMATIC S7, SINUMERIK, SIMATIC Origones Profession • Number of datarn classes • Autowedgment procedure • System event, more (SIMATIC S7, SINUMERIK, SIMATIC Origones Profession • Number of datarn classes • Autowedgment procedure • System event, more (SIMATIC S7, SINUMERIK, SIMATIC Origones Profession • Number of valiables per message 8 • Autowedgment procedure • Number of valiables per sceen • Number of valiables per sceen • Number of valiables per sceen • Websth		
Recipe management Yes ONTEP 7 Basic (TLA Porta) No STEP 7 Tessical (TLA Porta) No No STEP 7 Tessical (TLA Porta) No WINCC Envible Compact No WINCC Envible Standard No WINCC Envible Advanced Yes WINCC Advanced TAPLESTON VII Unplages Fortall WiNCC Envible Advanced SIAPLICALINE ADVII Winder of online-Indinguese SIAPLICALINE Winder of online-Indinguese SIAPLICALINE Advanced SIAPLICALINE Advanced SIAPLICALINE SIAPLICALINE </td <td></td> <td></td>		
Confuguration software itarts / T professional (TA Portal) No itarts / T professional (TA Portal) Ves; from V11 itarts / T professional (TA Portal) Ves; from V11 itarts / T professional (TA Portal) Ves; from V11 itarts / T professional (TA Portal) Ves; from V11 itarts / T professional (TA Portal) Ves; from V11 itarguages / Under of online/unifme lenguages / Languages port project 1anguages port project 1anguages port project Itarts / T professional (TA Portal) Ves index / Ves		
• STEP 7 Bais (TIA Porta)No• STEP 7 Profession (TIA Porta)No• WinCC flexible StandardNo• WinCC flexible StandardNo• WinCC flexible StandardNo• WinCC flexible AdvancedNo• WinCC Confer (TIA Porta)Yes; from V11• WinCC MarketYes; from V11• Wind Confer (TIA Porta)Yes; from V11• Porta StandardYes; from V11• Porta Standar		res
STEP 7 Protestional (TA Portal) WinCC floxible Compart WinCC floxible Advanced No WinCC Cloxible Advanced No WinCC Comfort (TA Portal) Yes, from V11 WinCC Advanced (TA Portal) Yes, from V11 WinCC Advanced (TA Portal) Yes, from V11 WinCC Advanced (TA Portal) Yes, from V11 Under of online/runtime languages Tortiene languages	-	Na
• WinCC fieldibe Standard No • WinCC fieldibe Standard No • WinCC fieldibe Standard No • WinCC Control (TIA Portal) Yes: from V11 • Control stanguages 32 • Languages per project 32 • Languages per project 32 • Languages per project 32 • Project Isonguages Yes • Languages per project 32 • Project Isonguages Yes • Pooket Word Yes • Pooket Word Yes • Pooket Brade Yes • Modia Player Yes • Modia Player Yes • SIMATIC WinCC SurghtServer Yes • SIMATIC WinCC SurghtServer Yes • Simatin E wince Soribit Yes • Task pinner Yes • Unither of slama classes 32 <td></td> <td></td>		
• WinCC fieldib AdvancedNo• WinCC Exable Advanced (1A Portal)Yes; from V11• WinCC Advanced (1A Portal)Yes; from V11• WinCC Advanced (1A Portal)Yes; from V11• WinCC Professional (TA Portal)Yes; from V11• Number of onlineFruitmie languages32• Lunguages32• Lunguages32• Lunguages per project32• Project languages32• PortariesYes• Applications/optionsYes• Project ExcelYes• Pocket ExcelYes• Pocket ExcelYes• Modal PlayerYes• Modal PlayerYes• Modal PlayerYes• SIMATIC WinCC SingInServerYes• SiMATIC WinCC SingInServerYes• SimatorialYes• Mumber of Visual Basic ScriptsYes• Number of Visual Basic ScriptsYes• Number of aliam classes32• Bit messages200• Analog messages200• Analog messages200• Number of protex per message80• Avantor work, more (SiMATIC S7, SINUMERIK, SiMOTION,)Yes• Number of proces per message80• Avantor work, more (SiMATIC S7, SINUMERIK, SiMOTION,)Yes• Number of proces per message80• Avantor of variables per deviceYes<		
• WInCC featile AdvancedNo• WInCC Confort (TIA Portal)Yes; from V11• WInCC Advanced (TIA Portal)Yes; from V11• WInCC Advanced (TIA Portal)Yes; from V11• WInCC Professional (TIA Portal)Yes; from V11• WInCC Advanced (TIA Portal)Yes; from V11• Uninguages32• Number of online/runtime languages32• Protect languages32• Indiguages per project32• WindC Exceptionality under WindC (TIA Portal)Uninguages• Web browserYes• Pocket ExcelYes• Pocket ExcelYes• Pocket ExcelYes• Number of Visual Basic ScriptsYes• SIMATIC WindC AdvancedYes• Simatro of alarm classes32• Bit messages systemYes• Number of Visual Basic ScriptsYes• Simatro of alarm classes32• Simatro of alarm classes32• Simatro of alarm classes32• Simatro of alarm classes200• System messages HMIYes• Number of visual gasic ScriptsYes• Number of of alarm classes32• Simatro of alarm classes32• Simatro of alarm classes32• System messages HMIYes• Number of of alard classes32• System ressages HMIYes• Number of of classes per ressage80• Number of of classes per ressage80• Alarmower, more Simatro Si, SinUMERIK, SimOTION,)• Number of of clas		
• WinCC Basic (TIA Portal)No• WinCC Control (TIA Portal)Yes; from V11• WinCC Advanced (TIA Portal)Yes; from V11• WinCC Professional (TIA Portal)Yes; from V11• Number of online/runnime languages32• Number of online/runnime languages32• Languages32• Number of online/runnime languages32• Project languages32• Number of online/runnime languages32• Project languages32• Project languages per project32• Project languagesYes• Mindia PlayerYes• Mindia PlayerYes• Silvatin CWinCC SinglifiseverYes• Silvatin WinC CauldYes• Number of alian classes32• Braise sontrolledYes• Number of alian classes32• Number of alian gi messages4000• Aralag messages200• System messages HIMYes• Number of anize per message80• Number of anize per message80 <td></td> <td></td>		
•WinCC Confort (TA Porta)Yes; from V11•WinCC Professional (TIA Porta)Yes; from V11•WinCC Professional (TIA Porta)Yes; from V11Languages2•Number of online/runtime languages32•Number of online/runtime languages32•Languages per project32•Languages per project32•Languages per project42•Languages per project42•Languages per projectYes•Applications/options*•Web browserYes•Pocket WordYes•Pocket WordYes•Pocket WordYes•Pocket WordYes•Pocket WordYes•Number of values Basic ScriptsYes•Number of values Basic ScriptsYes•Number of values Basic ScriptsYes•Itime-controlledYes•Itime-controlledYes•Number of alarm classes32•Itime scages4000•Analog messages4000•Analog messages80•Number of characters per message80•Number of scale per scale Scale200•Stratim number procedureYes•System event, more (SINATIC ST, SINUMERIK, Yes•Number of values per message80•Number of values per message80•Number of values per message80•Number of values per message80•Number of values per deviceYes•Number of values per deviceYes•Number of values per deviceYes <td></td> <td></td>		
• WinCC Advanced (TIA Portai)Yes; from V11• WinCC Professional (TIA Portai)Yes; from V11Languages		
• WnCC Professional (TIA Portal) Yes; from V11 Languages . • Number of online/runtime languages 32 Project languages . • Languages per project 32 Functionality under WinCC (TIA Portal) . Libraries Yes • Popet languages Yes • Popet Vertage Per Popet Vertage Yes • Popet Vertage Yes • Popet Vertage Yes • Popet Vertage Yes • SIMATIC WinCC Cadit Yes • SIMATIC WinCC Cadit Yes • Simage System 32 • Task planner - • Time-controlled Yes • Number of alam classes 32 • Bit messages - • Number of alam classes 200 • Sitage messages - • Number of analog messages 200 • System messages HMI		
Languages Online languages Number of online/runtime languages 22 Project languages per project 32 Functionality under WinCC (TIA Portal) Libraries Applications/options • Web browser Yes • Pocket Excel Yes • Pocket Excel Yes • Pocket Excel Yes • Bidle Flayer Yes • SIMATIC WinCC Sm@rtServer Yes • SIMATIC WinCC Sm@rtServer Yes • SIMATIC WinCC Sm@rtServer Yes • SIMATIC WinCC Audt Yes • SIMATIC WinCC Audt Yes • SiMATIC WinCC Audt Yes • SiMating Chases 32 • Line-controlled Yes • time-controlled Yes • task-controlled Yes • SiMating messages 4000 • Analog messages 200 • System messages FMI Yes • System revent, more (SIMATIC S7, SINUMERIK, SIMOTION,) Number of analog message • Number of oracides per message 80 • Acknowledgme		
Online languages 32 Project languages 32 • Languages per polject 32 Functionality under WinCC (TIA Portal) Ubraries Ubraries Yes Applications/options Yes • Web browser Yes • Pocket Word Yes • Pocket Word Yes • Pocket Word Yes • Pocket Excel Yes • Pole Viewer Yes • SIMATIC WinCC Audit Yes Number of Visual Basic Scripts Yes Task planner * • time-controlled Yes • Number of alam Gasese 32 • Dit messages 4000 • Analog messages 200 • Salam number procedure Yes • System messages HMI Yes • System messages HMI Yes • System messages Indicator Yes • Number of process Values per message 80	WinCC Professional (TIA Portal)	Yes; from V11
• Number of online/runtime languages 32 Project languages 32 Functionality under WinCC (TIA Portal) 32 Libraries Yes Applications/options Yes • Web browser Yes • Pocket Excel Yes • Pocket Excel Yes • Model Player Yes • SIMATIC WinCC Cam@rtServer Yes • SIMATIC WinCC Acutit Yes • Number of Visual Basic Scripts Yes • Number of atam classes 32 • Bit messages 4000 • Number of atam classes 32 • Number of atam classes 200 • S7 atam number procedure Yes • System messages BHM Yes • Number of characters per message 80 • Number of characters per message 80 • Number of characters per message 80 • Number of process values per message 80 • Number of characters per message 80<	Languages	
Project languages 32 • Languages per project 32 Libraries Yes Applications/options Yes • Web browser Yes • Pocket Excel Yes • Pocket Excel Yes • Pocket Excel Yes • Media Player Yes • SIMATIC WinCC Sm@rtServer Yes • SIMATIC WinCC Audit Yes • Task planner Yes • Ime-contolled Yes • Imes contolled Yes • Number of Numb		
Languages per project32Functionality under WinCC (TIA Portal)LibrariesYesApplications/optionsYes• Web browserYes• Pocket WordYes• Pocket WordYes• Pocket ExcelYes• POF ViewerYes• SIMATIC WinCC Sm@rtServerYes• SIMATIC WinCC AuditYes• SIMATIC WinCC AuditYes• SIMATIC WinCC AuditYes• SIMATIC WinCC AuditYes• Simatric WinCC AuditYes• Number of alam classes32• Sime controlledYes• Number of alang messages4 000• Number of alang messages200• System messages HMIYes• Number of analog messages200• System event, more (SIMATIC S7, SINUMERIK, Yes• System event, more (SIMATIC S7, SINUMERIK, Yes• Number of characters per message80• Acknowledgment groupsYes• Number of recipes300• Data records per recipe500• Entries per data record1000• Size of alter records200• Size menory expandableYes• Number of variables per device2048• Acknowledgment groupsYes• Number of recipes500<	 Number of online/runtime languages 	32
Functionality under WinGC (TIA Portal) Libraries Yes Applications/options Yes • Web browser Yes • Pocket Word Yes • Pocket Excel Yes • Pocket Excel Yes • Pocket Excel Yes • SIMATIC WinCC Sm@rtServer Yes • SIMATIC WinCC Audit Yes • Number of Visual Basic Scripts Yes • Task planner - • time-controlled Yes • task-controlled Yes • Number of alarm classes 32 • Bit messages 4000 - Number of alarm classes 200 • S alarm number procedure Yes • System messages HMI Yes • System nevent, more (SIMATIC ST, SINUMERIK, SIMOTION,) Yes • Number of characters per message 80 <	Project languages	
Libraries Yes Applications/options Yes • Web browser Yes • Pocket Word Yes • PDF Viewer Yes • PDF Viewer Yes • SIMATIC WinCC Sm@rtServer Yes • SIMATIC WinCC Audit Yes • SiMATIC WinCC Audit Yes • SiMATIC WinC Audit Yes • SiMATIC WinC Audit Yes • SiMATIC WinC Audit Yes • Simber of Visual Basic Scripts Yes Task planner 'time-controlled • time-controlled Yes • Number of alarn classes 32 • Bit messages 4000 • Analog messages 200 • S alarn number procedure Yes • System mevent, more (SIMATIC S7, SINUMERIK, Yes Yes • Number of faracters per message 80 • Number of process values per message 80 • Number of recipes 300 • Data record 1000 • Size of Internal recipe 500 • Entries per data record 1000 • Size of Internal record 1000 • Size of Internal record 1000 • Size of Internal record 2048 • Number of variables per device 2048<	Languages per project	32
Applications/optionsVes• Web browserYes• Pocket ExcelYes• Pocket ExcelYes• Media PlayerYes• SIMATIC WinCC Sm@rtServerYes• SIMATIC WinCC AuditYes• SIMATIC WinCC AuditYes• Time-controlledYes• time-controlledYes• Bet also ScriptsYes• Number of Islam classes32• Bit messages	Functionality under WinCC (TIA Portal)	
Applications/optionsVes• Web browserYes• Pocket ExcelYes• Pocket ExcelYes• Media PlayerYes• SIMATIC WinCC Sm@rtServerYes• SIMATIC WinCC AuditYes• SIMATIC WinCC AuditYes• Time-controlledYes• time-controlledYes• Bet also ScriptsYes• Number of Islam classes32• Bit messages		Yes
web browserYes• Veoket WordYes• Pocket WordYes• Pocket ExcelYes• PDF ViewerYes• SIMATIC WinCC Sm@rtServerYes• SIMATIC WinCC AuditYes• SIMATIC WinCC AuditYes• Simatic ScriptsYes• time-controlledYes• time-controlledYes• time-controlledYes• Number of alarn classes32• Bit messages4 000• Analog messages200• Analog messages200• System messages HMIYes• System resent ProcedureYes• Number of nalog message80• Number of process values per message80• Number of process values per message80• Number of process values per message80• Number of recipes300• Data records per recipe500• Entries per data record1000• Size of internal recipe memoryYes• Recipe memory expandableYes• Number of variables per screen400• Number of variables per screen400 <td< td=""><td></td><td></td></td<>		
• Pocket WordYes• Pocket ExcelYes• PoCP ViewerYes• POCP ViewerYes• Media PlayerYes• SIMATIC WinCC Sm@rtServerYes• SIMATIC WinCC AubitYes• Number of Visual Basic ScriptsYes• Task planner		Yes
Pocket ExcelYes• PDF ViewerYes• Media PlayerYes• SIMATIC WinCC Sm@rtServerYes• SIMATIC WinCC AuditYesNumber of Visual Basic ScriptsYesTask planner*********************************		
• PDF ViewerYes• Media PlayerYes• SIMATIC WinCC SmögnServerYes• SIMATIC WinCC AuditYesNumber of Visual Basic ScriptsYesTask plannerYes• time-controlledYes• time-controlledYes• Number of alarm classes32• Bit messages		
• Media PlayerYes• SIMATIC WinCC Sm@rtServerYes• SIMATIC WinCC AuditYesNumber of Visual Basic ScriptsYesTask planner		
• SIMATIC WinCC Sm@rtServerYes• SIMATIC WinCC AuditYesNumber of Visual Basic ScriptsYesTask planner*• time-controlledYes• task-controlledYes• Number of alarn classes32• Bit messages4000• Analog messages200• Number of analog messages200• Number of analog messages200• System messages HMIYes• System messages HMIYes• Number of characters per message80• Number of characters per message80• Number of characters per message80• Number of recipes300• Alata records per recipe500• Entries per data record1000• Size of internal recipe memory2 Mbyte• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• ArraysYes		
• SIMATIC WinCC AuditYesNumber of Visual Basic ScriptsYesTask planner*********************************	-	
Number of Visual Basic Scripts Yes Task planner - • time-controlled Yes • task-controlled Yes Message system - • Number of alarm classes 32 • Bit messages - - Number of bit messages 4 000 • Analog messages - - Number of analog messages 200 • S7 alarn number procedure Yes • System messages HMI Yes • System messages HMI Yes • System event, more (SIMATIC S7, SINUMERIK, SIMOTION,) Number of characters per message • Number of process values per message 80 • Number of process values per message 80 • Number of process values per message 80 • Number of recipes 300 • Data records per recipe 500 • Entries per data record 1000 • Size of internal recipe memory 2 Mbyte • Recipe memory expandable Yes • Number of variables per device 2 048 • Number of variables per screen 400 • Limit values Yes • Number of variables per screen 400 • Limit values Yes • Stretures Yes	-	
Task planner		
• time-controlledYes• task-controlledYesMessage system		res
• task-controlled Yes Message system		No.
Message system 32 Number of alarm classes 32 Bit messages 4 000 — Number of bit messages 200 • Analog messages 200 • S7 alarn 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 • 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 • Number of variables per device 2 048 • Number of variables per screen 400 • Limit values Yes • Multiplexing Yes • Multiplexing Yes		
• 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 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 • 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 • Number of variables per device 2 048 • Number of variables per screen 400 • Limit values Yes • Multiplexing Yes • Multiplexing Yes • Multiplexing Yes • Arrays Yes		Yes
• Bit messages 4 000 • Analog messages - • Analog messages 200 • S7 alarm number procedure Yes • System messages HMI Yes • System 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 Recipe management		22
Number of bit messages4 000• Analog messages200• ST alarn number procedureYes• System messages HMIYes• System event, more (SIMATIC ST, SINUMERIK, SIMOTION,)Yes• Number of characters per message80• Number of characters per message8• Acknowledgment groupsYes• Message indicatorYes• Number of recipes300• Data records per recipe500• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYesVariablesYes• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MutiplexingYes• MutiplexingYes• ArraysYes		32
 Analog messages Number of analog messages S7 alarm number procedure System messages HMI System messages HMI System event, more (SIMATIC S7, SINUMERIK, Yes SIMOTION,) Number of characters per message Acknowledgment groups Acknowledgment groups Acknowledgment groups Yes Recipe management Number of recipes 300 Data records per recipe Entries per data record 1000 Size of internal recipe memory Recipe memory expandable Yes Variables Number of variables per device 2048 Number of variables per screen 400 Limit values Yes Structures Arrays Yes	-	
Number of analog messages200• S7 alarm number procedureYes• System messages HMIYes• System event, more (SIMATIC S7, SINUMERIK, SIMOTION,)Yes• Number of characters per message80• Number of characters per message80• Number of process values per message8• Acknowledgment groupsYes• Message indicatorYesRecipe management7• Number of recipes300• Data records per recipe500• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYesVariablesYes• Number of variables per device2 048• Number of variables per screen400• MutiplexingYes• MutiplexingYes• ArraysYes	-	4 000
• S7 alarm number procedureYes• System messages HMIYes• System event, more (SIMATIC S7, SINUMERIK, SIMOTION,)Yes• Number of characters per message80• Number of process values per message8• Acknowledgment groupsYes• Message indicatorYes• Number of recipes300• Data records per recipe500• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYesVariablesYesVariables per data per device2 048• Number of variables per screen400• Limit valuesYes• MutiplexingYes• MutiplexingYes• ArraysYes		
System messages HMIYesSystem event, more (SIMATIC S7, SINUMERIK, SIMOTION,)YesNumber of characters per message80Number of process values per message8Acknowledgment groupsYesMessage indicatorYesRecipe managementYesNumber of recipes300Data records per recipe500Entries per data record1 000Size of internal recipe memory2 MbyteRecipe memory expandableYesVariablesYesVariables per device2 048Number of variables per screen400Limit valuesYesMultiplexingYesArraysYes	• •	
 System event, more (SIMATIC S7, SINUMERIK, SIMOTION,) Number of characters per message Number of process values per message Acknowledgment groups Acknowledgment groups Yes Message indicator Yes Message indicator Yes Recipe management Number of recipes 300 Data records per recipe 500 Entries per data record Size of internal recipe memory Recipe memory expandable Yes Number of variables per device Number of variables per screen Mumber of variables per screen Multiplexing Structures Arrays 		
SIMOTION,)80• Number of characters per message80• Number of process values per message8• Acknowledgment groupsYes• Message indicatorYesRecipe management7• Number of recipes300• Data records per recipe500• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYesVariablesYes• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MultiplexingYes• StructuresYes• ArraysYes		
Number of characters per message80Number of process values per message8Acknowledgment groupsYesMessage indicatorYesRecipe management300• Number of recipes300• Data records per recipe500• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYesVariablesYes• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MultiplexingYes• MultiplexingYes• ArraysYes		Yes
Number of process values per message8Acknowledgment groupsYesMessage indicatorYesRecipe management300• Number of recipes300• Data records per recipe500• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYesVariables100• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MultiplexingYes• StructuresYes• ArraysYes		20
 Acknowledgment groups Yes Message indicator Yes Recipe management Number of recipes Data records per recipe Entries per data record Size of internal recipe memory Kespe memory expandable Yes Variables Number of variables per device 2 048 Number of variables per screen 400 Limit values Yes Multiplexing Structures Arrays Yes 	·	
• Message indicatorYesRecipe management300• Number of recipes300• Data records per recipe500• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYesVariables2 048• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MultiplexingYes• StructuresYes• ArraysYes		
Recipe management• Number of recipes300• Data records per recipe500• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYesVariables• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MultiplexingYes• StructuresYes• ArraysYes		
• Number of recipes300• Data records per recipe500• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYesVariablesYes• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MultiplexingYes• ArraysYes		Yes
• Data records per recipe500• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYes• VariablesYes• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MultiplexingYes• StructuresYes• ArraysYes		000
• Entries per data record1 000• Size of internal recipe memory2 Mbyte• Recipe memory expandableYesVariablesYes• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MultiplexingYes• StructuresYes• ArraysYes		
Size of internal recipe memory2 MbyteRecipe memory expandableYesVariables2 048• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MultiplexingYes• StructuresYes• ArraysYes		
• Recipe memory expandableYesVariables2 048• Number of variables per device2 048• Number of variables per screen400• Limit valuesYes• MultiplexingYes• StructuresYes• ArraysYes		
Variables • Number of variables per device 2 048 • Number of variables per screen 400 • Limit values Yes • Multiplexing Yes • Structures Yes • Arrays Yes		
 Number of variables per device Number of variables per screen Limit values Multiplexing Structures Arrays Yes 		Yes
• Number of variables per screen400• Limit valuesYes• MultiplexingYes• StructuresYes• ArraysYes		
• Limit values Yes • Multiplexing Yes • Structures Yes • Arrays Yes		
• Multiplexing Yes • Structures Yes • Arrays Yes	 Number of variables per screen 	400
Structures Yes Arrays Yes	Limit values	Yes
• Arrays Yes	Multiplexing	Yes
	Structures	Yes
Images	• Arrays	Yes
	Images	

	500
Number of configurable images	500
Permanent window/default	Yes
Global image	Yes
Pop-up images	Yes
Slide-in images	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
Buttons	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	Yes
HTML browser	Yes
PDF display	Yes
IP camera display	Yes
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
	500
Number of entries per graphics list	500
Archiving	50
Number of archives per device	50
Number of entries per archive	20 000
Message archive	Yes
Process value archive	Yes
Archiving methods	No.
— Sequential archive	Yes
— Short-term archive	Yes
Memory location	
— Memory card	Yes
— USB memory	Yes
— Ethernet	Yes
Data storage format	
— CSV	Yes
— TXT	Yes
— 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	Yes
Electronic print to file	Yes; PDF, HTML
Character sets	
Keyboard fonts	
— US English	Yes
Transfer (upload/download)	
MPI/PROFIBUS DP	Yes
• USB	Yes
• Ethernet	Yes
using external storage medium	Yes
Process coupling	
• \$7-1200	Yes
• S7-1500 • S7-200	Yes
• \$7-200 • \$7-300/400	Yes
• LOGO!	Yes
WinAC	Yes
SINUMERIK	Yes; with SINUMERIK option package
SINOTION	Yes
Allen Bradley (EtherNet/IP)	Yes
Allen Bradley (DF1)	Yes
Mitsubishi (MC TCP/IP)	Yes
Mitsubishi (FX)	Yes
OMRON (FINS TCP)	No
 OMRON (LINK/Multilink) 	Yes
 Modicon (Modbus TCP/IP) 	Yes
 Modicon (Modbus) 	Yes
OPC UA Client	Yes
OPC UA Server	Yes
Service tools/configuration aids	
Backup/Restore manually	Yes
Backup/Restore manuallyBackup/Restore automatically	Yes
 Backup/Restore manually Backup/Restore automatically Simulation 	Yes Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover 	Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options	Yes Yes Yes
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer	Yes Yes Yes
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card	Yes Yes Yes Yes; Up to 128 MB
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer	Yes Yes Yes
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory	Yes Yes Yes Yes; Up to 128 MB
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card	Yes Yes Yes; Up to 128 MB Yes; Up to 2 GB
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 2 GB No
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 2 GB No Yes
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick)	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 12 GB No Yes Yes; Up to 16 GB
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 B No Yes; Up to 2 GB No Yes; Up to 16 GB Yes; Up to 16 GB Yes; Up to 8 GB
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 B No Yes; Up to 2 GB No Yes; Up to 16 GB Yes; Up to 16 GB Yes; Up to 8 GB
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 B No Yes; Up to 2 GB No Yes; Up to 16 GB Yes; Up to 16 GB Yes; Up to 8 GB
Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front)	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 B Yes; Up to 2 GB No Yes Yes; Up to 16 GB Yes; Up to 8 GB Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) • Plastic	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 BB Yes; Up to 2 GB No Yes Yes; Up to 16 GB Yes; Up to 8 GB Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) Plastic Aluminum	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 2 GB No Yes; Up to 16 GB Yes; Up to 16 GB Yes; Up to 8 GB Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) Plastic Aluminum Stainless steel Dimensions Width of the housing front	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 2 GB No Yes; Up to 16 GB Yes; Up to 16 GB Yes; Up to 8 GB Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) • Plastic • Aluminum • Stainless steel Dimensions Width of the housing front Height of housing front	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 B Yes; Up to 2 GB No Yes Yes; Up to 16 GB Yes; Up to 8 GB Yes Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) • Plastic • Aluminum • Stainless steel Dimensions Width of the housing front Height of housing front Height of housing front Mounting cutout, width	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 MB Yes; Up to 2 GB No Yes Yes; Up to 16 GB Yes; Up to 8 GB Yes Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) Plastic Aluminum Stainless steel Dimensions Width of the housing front Height of housing front Meuning cutout, width Mounting cutout, height	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 2 GB No Yes Yes; Up to 16 GB Yes; Up to 8 GB Yes Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) Plastic Aluminum Stainless steel Dimensions Width of the housing front Height of housing front Height of housing front Mounting cutout, width Mounting cutout, height Overall depth 	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 MB Yes; Up to 2 GB No Yes Yes; Up to 16 GB Yes; Up to 8 GB Yes Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) Plastic Aluminum Stainless steel Dimensions Width of the housing front Height of housing front Meuning cutout, width Mounting cutout, height	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 2 GB No Yes Yes; Up to 16 GB Yes; Up to 8 GB Yes Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) Plastic Aluminum Stainless steel Dimensions Width of the housing front Height of housing front Mounting cutout, width Mounting cutout, height Overall depth Weight(without packaging)	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 MB Yes; Up to 2 GB No Yes Yes; Up to 16 GB Yes; Up to 8 GB Yes No No Yes 330 mm 241 mm 310 mm 221 mm 67 mm
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) Plastic Aluminum Stainless steel Dimensions Width of the housing front Height of housing front Mounting cutout, width Mounting cutout, height Overall depth 	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 MB Yes; Up to 2 GB No Yes Yes; Up to 16 GB Yes; Up to 8 GB Yes Yes No No Yes
 Backup/Restore manually Backup/Restore automatically Simulation Device switchover Peripherals/Options Printer SIMATIC HMI MM memory card: Multi Media Card SIMATIC HMI SD memory card: Secure Digital memory card SIMATIC HMI CF memory card Compact Flash Card USB memory SIMATIC IPC USB Flashdrive (USB stick) SIMATIC HMI USB stick Network camera Mechanics/material Enclosure material (front) Plastic Aluminum Stainless steel Dimensions Width of the housing front Height of housing front Mounting cutout, width Mounting cutout, height Overall depth Weight(without packaging)	Yes Yes Yes Yes; Up to 128 MB Yes; Up to 128 MB Yes; Up to 2 GB No Yes Yes; Up to 16 GB Yes; Up to 8 GB Yes No No Yes 330 mm 241 mm 310 mm 221 mm 67 mm