

• Keys with LED	No
• System keys	No
• Numeric keyboard	Yes; Onscreen keyboard
• alphanumeric keyboard	Yes; Onscreen keyboard
Touch operation	
• Design as touch screen	Yes

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	
Current consumption (rated value)	230 mA
Starting current inrush I ² t	0.2 A ² ·s

Power	
Active power input, typ.	5.5 W

Processor	
Processor type	ARM

Memory	
Flash	Yes
RAM	Yes
Memory available for user data	10 Mbyte

Type of output	
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	1
Number of RS 485 interfaces	0
Number of RS 422 interfaces	0
Number of RS 232 interfaces	0
Number of USB interfaces	1; Up to 16 GB
Number of 20 mA interfaces (TTY)	0
Number of parallel interfaces	0
Number of other interfaces	0
Number of SD card slots	0
With software interfaces	No
Industrial Ethernet	
• Industrial Ethernet status LED	2

Protocols

PROFINET	Yes
Supports protocol for PROFINET IO	No
IRT	No
PROFIBUS	No
MPI	No

Protocols (Ethernet)

• TCP/IP	Yes
• DHCP	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes

WEB characteristics

• HTTP	No
• HTML	No

Redundancy mode

• MRP	No
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Further protocols

• CAN	No
• EtherNet/IP	Yes
• MODBUS	Yes; Modicon (MODBUS TCP/IP)

Interrupts/diagnostics/status information

Diagnostic messages

• Diagnostic information readable	No
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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
Enclosure Type 4 at the front	Yes
Enclosure Type 4x at the front	Yes
IP (rear)	IP20

Standards, approvals, certificates

CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes

Use in hazardous areas

• ATEX Zone 2	No
• ATEX Zone 22	No
• IECEx Zone 2	No
• IECEx Zone 22	No
• cULus Class I Zone 1	No
• cULus Class I Zone 2, Division 2	No
• FM Class I Division 2	No

Marine approval

• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
• 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.	50 °C
• Operation (max. tilt angle)	
— At maximum tilt angle, min.	0 °C
— At maximum tilt angle, min.	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 °C
— At maximum tilt angle, min.	35 °C
Ambient temperature during storage/transportation	

• min.	-20 °C
• max.	60 °C
Relative humidity	
• Operation, max.	90 %; no condensation

Operating systems	
proprietary	Yes
pre-installed operating system	
• Windows CE	No

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)	Yes; via integrated WinCC Basic (TIA Portal)
• STEP 7 Professional (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)
• WinCC flexible Compact	No
• WinCC flexible Standard	No
• WinCC flexible Advanced	No
• WinCC Basic (TIA Portal)	Yes
• WinCC Comfort (TIA Portal)	Yes
• WinCC Advanced (TIA Portal)	Yes
• WinCC Professional (TIA Portal)	Yes

Languages	
Online languages	
• Number of online/runtime languages	10
Project languages	
• Languages per project	32

Functionality under WinCC (TIA Portal)	
Libraries	Yes
Applications/options	
• Web browser	Yes
• SIMATIC WinCC Sm@rtServer	Yes; Available with WinCC (TIA Portal) V14 or higher
Number of Visual Basic Scripts	No
Task planner	
• time-controlled	No
• task-controlled	Yes
Help system	
• Number of characters per info text	500
Message system	

• Number of alarm classes	32
• Bit messages	
— Number of bit messages	1 000
• Analog messages	
— Number of analog messages	25
• S7 alarm number procedure	No
• System messages HMI	Yes
• System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.)	Yes; System message buffer of the SIMATIC S7-1200 and S7-1500
• Number of characters per message	80
• Number of process values per message	8
• Acknowledgment groups	Yes
• Message indicator	Yes
• Message buffer	
— Number of entries	256
— Circulating buffer	Yes
— retentive	Yes
— maintenance-free	Yes
Recipe management	
• Number of recipes	50
• Data records per recipe	100
• Entries per data record	100
• Size of internal recipe memory	256 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	250
• Permanent window/default	Yes
• Global image	Yes
• Pop-up images	No
• Slide-in images	No
• Image selection by PLC	Yes
• Image number in the PLC	Yes
Image objects	
• Number of objects per image	100

• 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	10
• 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	Yes; System message buffer of the SIMATIC S7-1200 and S7-1500
• Media Player	No
• HTML browser	Yes
• PDF display	No
• IP camera display	No
• Bar graphs	Yes
• Sliders	No
• Pointer instruments	No
• Analog/digital clock	No
Lists	
• Number of text lists per project	300
• Number of entries per text list	100
• Number of graphics lists per project	100
• Number of entries per graphics list	100
Archiving	
• Number of archives per device	2; One message and one process value archive
• Number of entries per archive	10 000
• Message archive	Yes
• Process value archive	Yes
• Archiving methods	
— Sequential archive	Yes

— Short-term archive	Yes
• Memory location	
— Memory card	No
— USB memory	Yes
— Ethernet	No
• Data storage format	
— CSV	No
— TXT	Yes
— RDB	No
Security	
• Number of user groups	50
• Number of user rights	32
• Number of users	50
• Password export/import	Yes
• SIMATIC Logon	No
Character sets	
• Keyboard fonts	
— US English	Yes
Transfer (upload/download)	
• MPI/PROFIBUS DP	No
• USB	No
• Ethernet	Yes
• using external storage medium	Yes
Process coupling	
• S7-1200	Yes
• S7-1500	Yes
• S7-200	Yes
• S7-300/400	Yes
• LOGO!	Yes
• WinAC	Yes
• SINUMERIK	Yes; No access to NCK data
• SIMOTION	Yes
• Allen Bradley (EtherNet/IP)	Yes
• Allen Bradley (DF1)	No
• Mitsubishi (MC TCP/IP)	Yes
• Mitsubishi (FX)	No
• OMRON (FINS TCP)	No
• OMRON (LINK/Multilink)	No
• Modicon (Modbus TCP/IP)	Yes
• Modicon (Modbus)	No
Service tools/configuration aids	

- Backup/Restore manually Yes
- Backup/Restore automatically No
- Simulation Yes
- Device switchover Yes

Peripherals/Options

Peripherals

- Printer No
- SIMATIC HMI MM memory card: Multi Media Card No
- SIMATIC HMI SD memory card: Secure Digital memory card No
- SIMATIC HMI CF memory card Compact Flash Card No
- USB memory Yes
- SIMATIC IPC USB Flashdrive (USB stick) Yes
- SIMATIC HMI USB stick Yes

Mechanics/material

Enclosure material (front)

- Plastic Yes
- Aluminum No
- Stainless steel No

Dimensions

Width of the housing front	214 mm
Height of housing front	158 mm
Mounting cutout, width	197 mm
Mounting cutout, height	141 mm
Overall depth	39 mm

Weights

Weight without packaging	780 g
Weight incl. packaging	990 g

last modified: 01/15/2019