## SIEMENS

## Data sheet

## 6ES7314-6CH04-0AB0



SIMATIC S7-300, CPU 314C-2 DP Compact CPU with MPI, 24 DI/16 DO, 4 AI, 2 AO, 1 Pt100, 4 high-speed counters (60 kHz), integrated DP interface, Integr. power supply 24 V DC, work memory 192 KB, Front connector (2x 40-pole) and Micro Memory Card required

-	
General information	
Engineering with	
<ul> <li>Programming package</li> </ul>	STEP 7 V5.5 + SP1 or higher or STEP 7 V5.3 + SP2 or higher with HSI 203
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	Miniature circuit breaker, type C; min. 2 A; miniature circuit breaker type B, min. 4 A
Mains buffering	
<ul> <li>Mains/voltage failure stored energy time</li> </ul>	5 ms
Repeat rate, min.	1 s
Load voltage L+	
Digital inputs	
— Rated value (DC)	24 V
<ul> <li>Reverse polarity protection</li> </ul>	Yes
Digital outputs	
— Rated value (DC)	24 V
<ul> <li>Reverse polarity protection</li> </ul>	No
nput current	
Current consumption (rated value)	880 mA
Current consumption (in no-load operation), typ.	150 mA
Inrush current, typ.	5 A
²t	0.7 A <sup>2</sup> ·s
Digital inputs	
<ul> <li>from load voltage L+ (without load), max.</li> </ul>	80 mA
Digital outputs	
<ul> <li>from load voltage L+, max.</li> </ul>	50 mA
Power loss	
Power loss, typ.	13 W
/lemory	
Work memory	
integrated	192 kbyte
• expandable	No
Load memory	
Plug-in (MMC)	Yes
• Plug-in (MMC), max.	8 Mbyte

Data management on MMC (after last	10 y
programming), min. Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
without battery	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.06 µs
for word operations, typ.	0.12 μs
for fixed point arithmetic, typ.	
for floating point arithmetic, typ.	0.16 μs
	0.59 µs
CPU-blocks	
Number of blocks (total)	1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	
<ul> <li>Number, max.</li> </ul>	1 024; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
<ul> <li>Number, max.</li> </ul>	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
<ul> <li>Number, max.</li> </ul>	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
<ul> <li>Number, max.</li> </ul>	see instruction list
• Size, max.	64 kbyte
<ul> <li>Number of free cycle OBs</li> </ul>	1; OB 1
<ul> <li>Number of time alarm OBs</li> </ul>	1; OB 10
<ul> <li>Number of delay alarm OBs</li> </ul>	2; OB 20, 21
<ul> <li>Number of cyclic interrupt OBs</li> </ul>	4; OB 32, 33, 34, 35
<ul> <li>Number of process alarm OBs</li> </ul>	1; OB 40
<ul> <li>Number of DPV1 alarm OBs</li> </ul>	3; OB 55, 56, 57
<ul> <li>Number of startup OBs</li> </ul>	1; OB 100
<ul> <li>Number of asynchronous error OBs</li> </ul>	5; OB 80, 82, 85, 86, 87
<ul> <li>Number of synchronous error OBs</li> </ul>	2; OB 121, 122
Nesting depth	
<ul> <li>per priority class</li> </ul>	16
<ul> <li>additional within an error OB</li> </ul>	4
Counters, timers and their retentivity	
S7 counter	
Number	256
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	255
— preset	Z 0 to Z 7
Counting range	
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Туре	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	256
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	255
•••	

— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
•Туре	SFB
• Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	······································
Retentive data area (incl. timers, counters, flags), max.	64 kbyte
Flag	
• Size, max.	256 byte
Retentivity available	Yes; MB 0 to MB 255
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; 1 memory byte
Data blocks	
<ul> <li>Retentivity adjustable</li> </ul>	Yes; via non-retain property on DB
Retentivity preset	Yes
Local data	
<ul> <li>per priority class, max.</li> </ul>	32 kbyte; Max. 2048 bytes per block
Address area	
I/O address area	
Inputs	2 048 byte
Outputs	2 048 byte
of which distributed	
— Inputs	2 003 byte
— Outputs	2 010 byte
Process image	
Inputs	2 048 byte
Outputs	2 048 byte
<ul> <li>Inputs, adjustable</li> </ul>	2 048 byte
<ul> <li>Outputs, adjustable</li> </ul>	2 048 byte
<ul> <li>Inputs, default</li> </ul>	128 byte
Outputs, default	128 byte
Default addresses of the integrated channels	
— Digital inputs	124.0 to 126.7
— Digital outputs	124.0 to 125.7
— Analog inputs	752 to 761
— Analog outputs	752 to 755
Digital channels	
Inputs	16 048
— of which central	1 016
Outputs	16 096
— of which central	1 008
Analog channels	
Inputs	1 006
— of which central	253
• Outputs	1 007
— of which central	250
Hardware configuration	
Number of expansion units, max.	3
Number of DP masters	
integrated	1
• via CP	4
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	10

Rack	
	4
<ul><li>Racks, max.</li><li>Modules per rack, max.</li></ul>	4 8; In rack 3 max. 7
Time of day	
	Vee
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Backup time     Deviation new day, may	6 wk; At 40 °C ambient temperature
<ul> <li>Deviation per day, max.</li> <li>Rehavior of the clock following ROW/ER ON</li> </ul>	10 s; Typ.: 2 s
Behavior of the clock following POWER-ON     Behavior of the clock following expire of backup	Clock continues running after POWER OFF Clock continues to run with the time at which the power failure occurred
<ul> <li>Behavior of the clock following expiry of backup period</li> </ul>	Clock continues to run with the time at which the power failure occurred
Operating hours counter	
Number	1
<ul> <li>Range of values</li> </ul>	0 to 2^31 hours (when using SFC 101)
Granularity	1 h
retentive	Yes; Must be restarted at each restart
Clock synchronization	
supported	Yes
• to MPI, master	Yes
• to MPI, slave	Yes
• to DP, master	Yes; With DP slave only slave clock
<ul> <li>to DP, slave</li> </ul>	Yes
<ul> <li>in AS, master</li> </ul>	Yes
• in AS, slave	No
Digital inputs	
Number of digital inputs	24
<ul> <li>of which inputs usable for technological functions</li> </ul>	16
integrated channels (DI)	24
Input characteristic curve in accordance with IEC 61131,	Yes
type 1	
Number of simultaneously controllable inputs	
horizontal installation	04
— up to 40 °C, max. — up to 60 °C, max.	24 12
vertical installation	12
- up to 40 °C, max.	12
Input voltage	12
	24 V
<ul> <li>Rated value (DC)</li> <li>for signal "0"</li> </ul>	-3 to +5V
• for signal "1"	-3 10 +30 V
Input current	
• for signal "1", typ.	8 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the
	standard inputs during program runtime. Please note that under certain
	circumstances your newly set filter time may not be effective until the
Poted value	next filter cycle.)
- Rated value	3 ms
for technological functions	8 us: Minimum pulse width/minimum pouse between pulses at
— at "0" to "1", max.	8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency
Cable length	
<ul> <li>shielded, max.</li> </ul>	1 000 m; 50 m for technological functions
• unshielded, max.	600 m; for technological functions: No
for technological functions	
— shielded, max.	50 m; at maximum count frequency
— unshielded, max.	not allowed
— unshielded, max.	not allowed

Digital outputs	
Number of digital outputs	16
of which high-speed outputs	4; Notice: You cannot connect the fast outputs of your CPU in parallel
integrated channels (DO)	16
Short-circuit protection	Yes; Clocked electronically
Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	L+ (-48 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	5 W
Load resistance range	
lower limit	48 Ω
• upper limit	4 κΩ
Output voltage	
• for signal "1", min.	L+ (-0.8 V)
Output current	
for signal "1" rated value	500 mA
<ul> <li>for signal "1" permissible range, min.</li> </ul>	5 mA
<ul> <li>for signal "1" permissible range, max.</li> </ul>	0.6 A
<ul> <li>for signal "1" minimum load current</li> </ul>	5 mA
<ul> <li>for signal 1 minimum load current</li> <li>for signal "0" residual current, max.</li> </ul>	0.5 mA
-	0.5 11A
Parallel switching of two outputs	No
for uprating     for redundant control of a load	No
for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	100 Hz
with inductive load, max.	0.5 Hz
• on lamp load, max.	100 Hz
• of the pulse outputs, with resistive load, max.	2.5 kHz
Total current of the outputs (per group)	
horizontal installation	
— up to 40 °C, max.	3 A
— up to 60 °C, max.	2 A
vertical installation	
— up to 40 °C, max.	2 A
Cable length	
<ul> <li>shielded, max.</li> </ul>	1 000 m
• unshielded, max.	600 m
Analog inputs	
Number of analog inputs	5
<ul> <li>For voltage/current measurement</li> </ul>	4
<ul> <li>For resistance/resistance thermometer</li> </ul>	1
measurement	
integrated channels (AI)	5; 4x current/voltage, 1x resistance
permissible input voltage for current input (destruction limit), max.	5 V; Permanent
permissible input voltage for voltage input (destruction limit), max.	30 V; Permanent
permissible input current for voltage input (destruction limit), max.	0.5 mA; Permanent
permissible input current for current input (destruction limit), max.	50 mA; Permanent
Electrical input frequency, max.	_ 400 Hz
No-load voltage for resistance-type transmitter, typ.	3.3 V
Constant measurement current for resistance-type	1.25 mA
transmitter, typ.	
Technical unit for temperature measurement adjustable	Yes; Degrees Celsius / degrees Fahrenheit / Kelvin
Input ranges	
Voltage	Yes; ±10 V / 100 kΩ; 0 V to 10 V / 100 kΩ

Current	Yes; ±20 mA / 100 $\Omega$ ; 0 mA to 20 mA / 100 $\Omega$ ; 4 mA to 20 mA / 100 $\Omega$
Resistance thermometer	Yes; Pt 100 / 10 M $\Omega$
Resistance	Yes; 0 $\Omega$ to 600 $\Omega$ / 10 M $\Omega$
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	100 kΩ
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	100 Ω
<ul> <li>-20 mA to +20 mA</li> </ul>	Yes
<ul> <li>Input resistance (-20 mA to +20 mA)</li> </ul>	100 Ω
• 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	100 Ω
Input ranges (rated values), resistance thermometer	
• Pt 100	Yes
— Input resistance (Pt 100)	10 ΜΩ
Input ranges (rated values), resistors	
• 0 to 600 ohms	Yes
— Input resistance (0 to 600 ohms)	10 ΜΩ
Thermocouple (TC)	
Temperature compensation	
— parameterizable	No
Characteristic linearization	
parameterizable	Yes; by software
— for resistance thermometer	Pt 100
Cable length	
<ul> <li>shielded, max.</li> </ul>	100 m
Analog outputs	
Number of analog outputs	2
integrated channels (AO)	2
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	55 mA
Current output, no-load voltage, max.	14 V
Output ranges, voltage	
• 0 to 10 V	Yes
• -10 V to +10 V	Yes
Output ranges, current	
• 0 to 20 mA	Yes
<ul> <li>-20 mA to +20 mA</li> </ul>	Yes
• 4 mA to 20 mA	Yes
Connection of actuators	
<ul> <li>for voltage output two-wire connection</li> </ul>	Yes; Without compensation of the line resistances
<ul> <li>for voltage output four-wire connection</li> </ul>	No
<ul> <li>for current output two-wire connection</li> </ul>	Yes
Load impedance (in rated range of output)	
• with voltage outputs, min.	1 kΩ
• with voltage outputs, capacitive load, max.	0.1 µF
• with current outputs, max.	300 Ω
with current outputs, inductive load, max.	0.1 mH
Destruction limits against externally applied voltages and cur	
Voltages at the outputs towards MANA	16 V; Permanent
Current, max.	50 mA; Permanent
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Measurement principle	Actual value encryption (successive approximation)
Integration and conversion time/resolution per channel	
<ul> <li>Resolution with overrange (bit including sign), max.</li> </ul>	12 bit

	N/ /00/00
Integration time, parameterizable	Yes; 16.6 / 20 ms
Time constant of the input filter     Design eventual time of the module (all channels)	0.38 ms
<ul> <li>Basic execution time of the module (all channels released)</li> </ul>	1 ms
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
<ul> <li>Resolution with overrange (bit including sign), max.</li> </ul>	12 bit
<ul> <li>Conversion time (per channel)</li> </ul>	1 ms
Settling time	
<ul> <li>for resistive load</li> </ul>	0.6 ms
<ul> <li>for capacitive load</li> </ul>	1 ms
for inductive load	0.5 ms
Encoder	
Connection of signal encoders	
<ul> <li>for voltage measurement</li> </ul>	Yes
<ul> <li>for current measurement as 2-wire transducer</li> </ul>	Yes; with external supply
<ul> <li>for current measurement as 4-wire transducer</li> </ul>	Yes
<ul> <li>for resistance measurement with two-wire connection</li> </ul>	Yes; Without compensation of the line resistances
<ul> <li>for resistance measurement with three-wire connection</li> </ul>	No
for resistance measurement with four-wire     connection	No
Connectable encoders	N .
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Errors/accuracies	
Temperature error (relative to input range), (+/-)	0.006 %/K
Crosstalk between the inputs, min.	60 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.06 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.1 %
Linearity error (relative to output range), (+/-)	0.15 %
Temperature error (relative to output range), (+/-)	0.01 %/K
Crosstalk between the outputs, min.	60 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.06 %
Operational error limit in overall temperature range	
Voltage, relative to input range, (+/-)	1 %
• Current, relative to input range, (+/-)	1 %
• Resistance, relative to input range, (+/-)	1 %
<ul> <li>Voltage, relative to output range, (+/-)</li> </ul>	1 %
• Current, relative to output range, (+/-)	1 %
Basic error limit (operational limit at 25 °C)	
<ul> <li>Voltage, relative to input range, (+/-)</li> </ul>	0.8 %; Linearity error ±0.06 %
<ul> <li>Current, relative to input range, (+/-)</li> </ul>	0.8 %; Linearity error ±0.06 %
<ul> <li>Resistance, relative to input range, (+/-)</li> </ul>	0.8 %; Linearity error ±0.2 %
<ul> <li>Resistance thermometer, relative to input range, (+/-)</li> </ul>	0.8 %
<ul> <li>Voltage, relative to output range, (+/-)</li> </ul>	0.8 %
Current, relative to output range, (+/-)	0.8 %
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 =	
<ul> <li>Series mode interference (peak value of interference &lt; rated value of input range), min.</li> </ul>	30 dB
Common mode interference, min.	40 dB
Interfaces	
Number of industrial Ethernet interfaces	0
Number of PROFINET interfaces	0

Number of RS 485 interfaces Number of RS 422 interfaces	2; MPI and PROFIBUS DP 0
1. Interface	
	Integrated RS 485 interface
Interface type Isolated	No
Interface types	NU
RS 485	Yes
<ul> <li>Output current of the interface, max.</li> </ul>	200 mA
Protocols	200 1174
• MPI	Yes
PROFIBUS DP master	No
PROFIBUS DP slave	No
Point-to-point connection	No
MPI	NU
Transmission rate, max.	187.5 kbit/s
Services	
— PG/OP communication	Yes
- Routing	Yes
— Global data communication	Yes
- S7 basic communication	Yes
— S7 communication	Yes; Only server, configured on one side
- S7 communication, as client	No; but via CP and loadable FB
— S7 communication, as client	Yes
2. Interface	Integrated BS 185 interface
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types     • RS 485	Yes
	200 mA
Output current of the interface, max.  Protocols	200 111A
• MPI	No
PROFINET IO Controller     PROFINET IO Device	No
PROFINET TO Device     PROFINET CBA	No
PROFINE I CBA     PROFIBUS DP master	No Yes
PROFIBUS DP master     PROFIBUS DP slave	
PROFIBUS DP slave     Point-to-point connection	Yes No
Profibus DP master	NO
	10 Mbit/o
Transmission rate, max.     Number of DP slaves, max	12 Mbit/s 124
Number of DP slaves, max. Services	124
— PG/OP communication	Yes
	Yes
<ul> <li>— Routing</li> <li>— Global data communication</li> </ul>	
— Global data communication     — S7 basic communication	No Voci l blocko oply
— S7 basic communication     — S7 communication	Yes; I blocks only Yes: Only server, configured on one side
	Yes; Only server, configured on one side No
<ul> <li>S7 communication, as client</li> <li>S7 communication, as server</li> </ul>	Yes
— S7 communication, as server	Yes
<ul> <li>Equidistance</li> <li>Isochronous mode</li> </ul>	Yes No
- ISOCHIONOUS Mode - SYNC/FREEZE	Yes
<ul> <li>Activation/deactivation of DP slaves</li> </ul>	Yes
— Number of DP slaves that can be simultaneously activated/deactivated, max.	8 Vac: as subscriber
— Direct data exchange (slave-to-slave communication)	Yes; as subscriber
— DPV1 Address area	Yes

— Outputs, max.	2 kbyte
User data per DP slave	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
PROFIBUS DP slave	
• GSD file	The latest GSD file is available on the Internet (http://www.siemens.com/profibus-gsd)
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
<ul> <li>automatic baud rate search</li> </ul>	Yes; only with passive interface
<ul> <li>Address area, max.</li> </ul>	32
<ul> <li>User data per address area, max.</li> </ul>	32 byte
Services	
— PG/OP communication	Yes
— Routing	Yes; Only with active interface
— Global data communication	No
— S7 basic communication	No
— S7 communication	Yes; Only server, configured on one side
<ul> <li>— S7 communication, as client</li> </ul>	No
<ul> <li>— S7 communication, as server</li> </ul>	Yes
<ul> <li>Direct data exchange (slave-to-slave communication)</li> </ul>	Yes
— DPV1	No
Transfer memory	044 h. t.
— Inputs	244 byte
— Outputs	244 byte
Communication functions	
PG/OP communication	Yes
Data record routing	Yes
Global data communication	
• supported	Yes
Number of GD loops, max.	8
Number of GD packets, max.	8
Number of GD packets, transmitter, max.	8
Number of GD packets, receiver, max.	8
Size of GD packets, max.	22 byte
Size of GD packet (of which consistent), max.	22 byte
S7 basic communication	N .
• supported	Yes
• User data per job, max.	
User data per job (of which consistent), max.	76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)
S7 communication	N .
• supported	Yes
• as server	Yes
• as client	Yes; Via CP and loadable FB
User data per job, max.	180 kbyte; With PUT/GET
User data per job (of which consistent), max.	240 byte; as server
S5 compatible communication	Ver: via CP and loadable FC
supported  Number of connections	Yes; via CP and loadable FC
	10
<ul> <li>overall</li> <li>usable for PG communication</li> </ul>	12 11
<ul> <li>usable for PG communication</li> <li>reserved for PG communication</li> </ul>	1
— adjustable for PG communication, min.	1
— adjustable for PG communication, max.	11
usable for OP communication	11
<ul> <li>usable for OP communication</li> <li>reserved for OP communication</li> </ul>	1
— adjustable for OP communication, min.	1
— adjustable for OP communication, min. — adjustable for OP communication, max.	11
adjustable for or communication, max.	

usable for S7 basic communication	8
<ul> <li>reserved for S7 basic communication</li> </ul>	0
— adjustable for S7 basic communication, min.	0
<ul> <li>adjustable for S7 basic communication, max.</li> </ul>	8
usable for routing	4; max.
S7 message functions	
Number of login stations for message functions, max.	12; Depending on the configured connections for PG/OP and S7 basic communication
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	300
Test commissioning functions	
Status block	Yes; Up to 2 simultaneously
Single step	Yes
Number of breakpoints	4
Status/control	
<ul> <li>Status/control variable</li> </ul>	Yes
Variables	Inputs, outputs, memory bits, DB, times, counters
<ul> <li>Number of variables, max.</li> </ul>	30
<ul> <li>— of which status variables, max.</li> </ul>	30
— of which control variables, max.	14
Forcing	
Forcing	Yes
<ul> <li>Forcing, variables</li> </ul>	Inputs, outputs
Number of variables, max.	10
Diagnostic buffer	
present	Yes
<ul> <li>Number of entries, max.</li> </ul>	500
— adjustable	No
— of which powerfail-proof	100; Only the last 100 entries are retained
<ul> <li>Number of entries readable in RUN, max.</li> </ul>	499
— adjustable	Yes; From 10 to 499
— preset	10
Service data	
• can be read out	Yes
Interrupts/diagnostics/status information	
Diagnostics indication LED	
Status indicator digital input (green)	Yes
Status indicator digital output (green)	Yes
Integrated Functions	
Frequency measurement	Yes
Number of frequency meters	4; up to 60 kHz (see "Technological Functions" manual)
controlled positioning	Yes
integrated function blocks (closed-loop control)	Yes; PID controller (see "Technological Functions" manual)
PID controller	Yes
Number of pulse outputs	4; Pulse width modulation up to 2.5 kHz (see "Technological Functions"
Number of pulse outputs	Manual)
Limit frequency (pulse)	2.5 kHz
Potential separation	
Potential separation digital inputs	
	Yes
<ul> <li>Potential separation digital inputs</li> <li>between the channels</li> </ul>	No
<ul> <li>between the channels and backplane bus</li> </ul>	Yes
	103
Potential separation digital outputs	Vac
Potential separation digital outputs	Yes
between the channels     between the channels in groups of	Yes
between the channels, in groups of	8
between the channels and backplane bus	Yes
Potential separation analog inputs	

<ul> <li>Potential separation analog inputs</li> </ul>	Yes; common for analog I/O
between the channels	No
between the channels and backplane bus	Yes
Potential separation analog outputs	
<ul> <li>Potential separation analog outputs</li> </ul>	Yes; common for analog I/O
<ul> <li>between the channels</li> </ul>	No
<ul> <li>between the channels and backplane bus</li> </ul>	Yes
Isolation	
Isolation tested with	600 V DC
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	60 °C
Configuration	
Configuration software	
• STEP 7	Yes; STEP 7 V5.5 + SP1 or higher or STEP 7 V5.3 + SP2 or higher with HSP 203
STEP 7 Lite	No
Programming	
Command set	see instruction list
Nesting levels	8
<ul> <li>System functions (SFC)</li> </ul>	see instruction list
<ul> <li>System function blocks (SFB)</li> </ul>	see instruction list
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Know-how protection	
<ul> <li>User program protection/password protection</li> </ul>	Yes
Block encryption	Yes; With S7 block Privacy
Dimensions	
Width	120 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	680 g
last modified:	3/25/2021 🖸