

\*\*\* SPARE PART\*\*\* SIMATIC C7-635 TOUCH, COMPACT UNIT WITH INTEGRATED COMPONENTS: S7-300 CPU314C-2 DP AND TP170B, 24 DI, 16 DO, 5 AI, 2 AO; MICRO MEMORY CARD AND CONNECTOR SET REQUIRED



Operator control and monitoring	
Password protection	Yes
• Password levels	10
Text elements	Yes
Info texts	Yes
Graphics object	Yes
Process images	Yes
Alarms	Yes; Fault messages, operating messages (no buffer)
Process images	
• Number of process images	100
• Number of variables per image, max.	50
• Number of variables in message text, max.	8
Operating-/fault messages	
• Number of operating messages, max.	2 000; total number of operation and fault messages
• Number of entries in operational log, max.	128; not retentive
• Number of fault message, max.	2 000; total number of operation and fault messages
• Number of entries in fault message buffer, max.	128; not retentive
Recipes	
• Number of recipes, max.	20

- Data records per recipe, max. 50; limited due to storage medium
- Entries per data record, max. 60
- Recipe data memory, max. 32 kbyte; expandable using Compact Flash Card (CF-Card)

## Display

Design of display STN, CCFL backlit, 5.7" blue mode (4 blue tones)

### Resolution (pixels)

- Horizontal image resolution 320 Pixel
- Vertical image resolution 240 Pixel

### Backlighting

- MTBF backlighting (at 25 °C) 50 000 h

## Control elements

### Touch operation

- Design as touch screen Yes; analog, resistive

## Supply voltage

### Rated value (DC)

- 24 V DC Yes

permissible range, lower limit (DC) 20.4 V

permissible range, upper limit (DC) 28.8 V

### Load voltage L+

- Rated value (DC) 24 V
- permissible range, lower limit (DC) 20.4 V
- permissible range, upper limit (DC) 28.8 V

## Input current

Current consumption, typ. 350 mA; idling

Current consumption, max. 1 A

Inrush current, max. 2 A; for 70 ms

### Digital inputs

- from load voltage L+ (without load), max. 70 mA

### Digital outputs

- from load voltage L+, max. 20 mA; per group

## Power loss

Power loss, typ. 14 W

## Drives

Compact Flash Card Yes; Optional

## Memory

Micro Memory Card Yes

### Work memory

- integrated 64 kbyte
- expandable No

### Load memory

• Plug-in (MMC)	Yes
• Plug-in (MMC), max.	8 Mbyte
<b>Backup</b>	
• present	Yes; Guaranteed by MMC (maintenance-free)
<b>CPU processing times</b>	
for bit operations, typ.	0.1 $\mu$ s
for word operations, typ.	0.2 $\mu$ s
for fixed point arithmetic, typ.	2 $\mu$ s
for floating point arithmetic, typ.	3 $\mu$ s
<b>CPU-blocks</b>	
<b>DB</b>	
• Number, max.	511; DB 0 reserved
• Size, max.	16 kbyte
<b>FB</b>	
• Number, max.	512; see instruction list
• Size, max.	16 kbyte
<b>FC</b>	
• Number, max.	512; see instruction list
• Size, max.	16 kbyte
<b>OB</b>	
• Number, max.	see instruction list
• Size, max.	16 kbyte
<b>Nesting depth</b>	
• per priority class	8
• additional within an error OB	4
<b>Counters, timers and their retentivity</b>	
<b>S7 counter</b>	
• Number	256
<b>Retentivity</b>	
— adjustable	Yes
— preset	Z 0 to Z 7
<b>Counting range</b>	
— lower limit	0
— upper limit	999
<b>IEC counter</b>	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
<b>S7 times</b>	
• Number	256
<b>Retentivity</b>	

— adjustable	Yes
— preset	No retentivity
<b>Time range</b>	
— lower limit	10 ms
— upper limit	9 990 s
<b>IEC timer</b>	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	all
<b>Flag</b>	
• Number, max.	256 byte
• Retentivity available	Yes
• Retentivity preset	MB 0 to MB 15
• Number of clock memories	8; 1 memory byte
<b>Data blocks</b>	
• Number, max.	511
• Size, max.	16 kbyte
<b>Local data</b>	
• per priority class, max.	510 byte
<b>Address area</b>	
<b>I/O address area</b>	
• Inputs	1 kbyte
• Outputs	1 kbyte
<b>of which distributed</b>	
— Inputs	1 000 byte
— Outputs	1 000 byte
<b>Process image</b>	
• Inputs	128 byte
• Outputs	128 byte
<b>Default addresses of the integrated channels</b>	
— Digital inputs	124.0 to 126.7
— Digital outputs	124.0 to 125.7
— Analog inputs	752 to 761
— Analog outputs	752 to 755
<b>Digital channels</b>	
• Inputs	8 192
— of which central	922
• Outputs	8 192

— of which central	922
<b>Analog channels</b>	
• Inputs	512
— of which central	248
• Outputs	512
— of which central	248
<b>Hardware configuration</b>	
Number of modules per system, max.	23
<b>Number of DP masters</b>	
• integrated	1
• via CP	1
<b>Number of operable FMs and CPs (recommended)</b>	
• FM	8
• CP, PtP	8
• CP, LAN	10
<b>Rack</b>	
• Racks, max.	4
• Modules per rack, max.	4; 4 in subrack 0; 8 in subracks 1 and 2; 7 in subrack 3
<b>Time of day</b>	
<b>Clock</b>	
• Hardware clock (real-time)	Yes
• retentive and synchronizable	Yes
• Backup time	6 wk; At 40 °C ambient temperature
• Deviation per day, max.	10 s
<b>Operating hours counter</b>	
• Number	1
• Number/Number range	0
• Range of values	0 to 2 <sup>31</sup> hours (when using SFC 101)
• Granularity	1 hour
• retentive	Yes; Must be restarted at each restart
<b>Clock synchronization</b>	
• supported	Yes
• to MPI, master	Yes
• to MPI, slave	Yes
• in AS, master	Yes
<b>Digital inputs</b>	
Number of digital inputs	24
• of which inputs usable for technological functions	16
Input characteristic curve in accordance with IEC 61131, type 1	Yes

<b>Number of simultaneously controllable inputs</b>	
horizontal installation	
— up to 40 °C, max.	12
vertical installation	
— up to 40 °C, max.	18
— up to 50 °C, max.	12
45° mounting position	
— up to 45 °C, max.	12
<b>Input voltage</b>	
• Rated value (DC)	24 V
• for signal "0"	-3 to +5V
• for signal "1"	+15 to +30V
<b>Input current</b>	
• for signal "1", typ.	7 mA
<b>Input delay (for rated value of input voltage)</b>	
for standard inputs	
— parameterizable	Yes; 0.1 / 0.5 / 3 / 15 ms
— Rated value	3 ms
for counter/technological functions	
— at "0" to "1", max.	8 µs
<b>Cable length</b>	
• shielded, max.	1 000 m; 100 m for technological functions
• unshielded, max.	600 m
for technological functions	
— shielded, max.	50 m; at maximum count frequency
— unshielded, max.	Unshielded cables are not permissible for technological functions
<b>Digital outputs</b>	
Number of digital outputs	16
• of which high-speed outputs	4
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
<b>Switching capacity of the outputs</b>	
• on lamp load, max.	5 W
<b>Load resistance range</b>	
• lower limit	48 Ω
• upper limit	4 kΩ
<b>Output voltage</b>	
• for signal "1", min.	L+ (-0.8 V)
<b>Output current</b>	

• for signal "1" rated value	0.5 A
• for signal "1" permissible range, min.	5 mA
• for signal "1" permissible range, max.	0.6 A
• for signal "1" minimum load current	5 mA
• for signal "0" residual current, max.	0.5 mA
<b>Parallel switching of two outputs</b>	
• for uprating	No
• for redundant control of a load	Yes
<b>Switching frequency</b>	
• 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
<b>Total current of the outputs (per group)</b>	
<b>all mounting positions</b>	
— up to 40 °C, max.	4 A
— up to 60 °C, max.	2 A
<b>horizontal installation</b>	
— up to 40 °C, max.	2 A
<b>vertical installation</b>	
— up to 40 °C, max.	3 A
— up to 50 °C, max.	2 A
<b>45° mounting position</b>	
— up to 45 °C, max.	2 A
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m
<b>Analog inputs</b>	
Number of analog inputs	4
• For voltage/current measurement	4
• For resistance/resistance thermometer measurement	1
• For resistance measurement	1
integrated channels (AI)	4; and 1x PT100
permissible input voltage for current input (destruction limit), max.	2.5 V; continuous, max. 24 V momentarily
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

Technical unit for temperature measurement adjustable	Yes; Degrees Celsius / degrees Fahrenheit / Kelvin
<b>Input ranges</b>	
• Voltage	Yes
• Current	Yes
• Resistance thermometer	Yes
• Resistance	Yes
<b>Input ranges (rated values), voltages</b>	
• 0 to +10 V	Yes
• Input resistance (0 to 10 V)	100 k $\Omega$
• -10 V to +10 V	Yes
• Input resistance (-10 V to +10 V)	100 k $\Omega$
<b>Input ranges (rated values), currents</b>	
• 0 to 20 mA	Yes
• Input resistance (0 to 20 mA)	50 k $\Omega$
• -20 mA to +20 mA	Yes
• Input resistance (-20 mA to +20 mA)	50 k $\Omega$
• 4 mA to 20 mA	Yes
• Input resistance (4 mA to 20 mA)	50 k $\Omega$
<b>Input ranges (rated values), resistance thermometer</b>	
• Pt 100	Yes
• Input resistance (Pt 100)	10 M $\Omega$
<b>Input ranges (rated values), resistors</b>	
• No-load voltage, typ.	2.5 V
• Measuring current, typ.	1.8 to 3.3 mA
• 0 to 600 ohms	Yes
• Input resistance (0 to 600 ohms)	10 M $\Omega$
<b>Thermocouple (TC)</b>	
Temperature compensation	
— parameterizable	No
<b>Characteristic linearization</b>	
• parameterizable	Yes; by software
— for resistance thermometer	Pt 100
<b>Cable length</b>	
• shielded, max.	100 m
<b>Analog outputs</b>	
Number of analog outputs	2
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	55 mA
Current output, no-load voltage, max.	17 V
<b>Output ranges, voltage</b>	
• 0 to 10 V	Yes



• -10 V to +10 V	Yes
<b>Output ranges, current</b>	
• 0 to 20 mA	Yes
• -20 mA to +20 mA	Yes
• 4 mA to 20 mA	Yes
<b>Connection of actuators</b>	
• for voltage output two-wire connection	Yes; Without compensation of the line resistances
• for voltage output four-wire connection	No
• for current output two-wire connection	Yes
<b>Load impedance (in rated range of output)</b>	
• with voltage outputs, min.	1 k $\Omega$
• with voltage outputs, capacitive load, max.	0.1 $\mu$ F
• with current outputs, max.	300 $\Omega$
• with current outputs, inductive load, max.	0.1 mH
<b>Destruction limits against externally applied voltages and currents</b>	
• Voltages at the outputs towards MANA	16 V; Permanent
• Current, max.	50 mA; Permanent
<b>Cable length</b>	
• shielded, max.	200 m
<b>Analog value generation for the inputs</b>	
Measurement principle	Actual value encryption (successive approximation)
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	12 bit
• Integration time, parameterizable	Yes; 2,5 / 16,6 / 20 ms
• permissible input frequency, max.	400 Hz
• Time constant of the input filter	0.38 ms
• Basic execution time of the module (all channels released)	1 ms
<b>Analog value generation for the outputs</b>	
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	12 bit
• Conversion time (per channel)	1 ms
<b>Settling time</b>	
• for resistive load	0.6 ms
• for capacitive load	1 ms
• for inductive load	0.5 ms
<b>Encoder</b>	
<b>Connection of signal encoders</b>	
• for voltage measurement	Yes

• for current measurement as 2-wire transducer	Yes; with external supply
• for current measurement as 4-wire transducer	Yes
• for resistance measurement with two-wire connection	Yes; Without compensation of the line resistances
• for resistance measurement with three-wire connection	No
• for resistance measurement with four-wire connection	No

<b>Connectable encoders</b>	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA

### Errors/accuracies

Linearity error (relative to input range), (+/-)	0.06 %
Temperature error (relative to input range), (+/-)	0.006 %/K
Crosstalk between the inputs, min.	50 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.06 %
Linearity error (relative to output range), (+/-)	0.15 %
Temperature error (relative to output range), (+/-)	0.01 %/K
Crosstalk between the outputs, min.	60 dB

### Operational error limit in overall temperature range

• Voltage, relative to input range, (+/-)	1 %
• Current, relative to input range, (+/-)	1 %
• Resistance, relative to input range, (+/-)	5 %
• Voltage, relative to output range, (+/-)	1 %
• Current, relative to output range, (+/-)	1 %

### Basic error limit (operational limit at 25 °C)

• Voltage, relative to input range, (+/-)	0.7 %
• Current, relative to input range, (+/-)	0.7 %
• Resistance, relative to input range, (+/-)	3 %
• Resistance thermometer, relative to input range, (+/-)	3 %
• Voltage, relative to output range, (+/-)	0.7 %
• Current, relative to output range, (+/-)	0.7 %

### Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$ , $f_1 =$ interference frequency

• Series mode interference (peak value of interference < rated value of input range), min.	30 dB
• Common mode interference, min.	40 dB

### Interfaces

Number of printer interfaces	1; serial
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### 1. Interface

Interface type	Integrated RS 485 interface
Physics	RS 485
Isolated	No
Power supply to interface (15 to 30 V DC), max.	200 mA
<b>Functionality</b>	
• MPI	Yes
<b>MPI</b>	
• Number of connections	12
• Transmission rate, max.	187.5 kbit/s
<b>Services</b>	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	Yes
— S7 basic communication	Yes
— S7 communication	Yes
— S7 communication, as client	Yes; Via CP and loadable FB
— S7 communication, as server	Yes

## 2. Interface

Interface type	Integrated RS 485 interface
Physics	RS 485
Isolated	Yes
Power supply to interface (15 to 30 V DC), max.	200 mA
Number of connection resources	12
<b>Functionality</b>	
• MPI	No
• PROFIBUS DP master	Yes
• PROFIBUS DP slave	Yes
<b>DP master</b>	
• Number of connections, max.	12
• Transmission rate, max.	12 Mbit/s
• Number of DP slaves, max.	32
<b>Services</b>	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No
— S7 basic communication	No
— S7 communication	No
— S7 communication, as client	No
— S7 communication, as server	No
— Equidistance	Yes
— SYNC/FREEZE	Yes

— Activation/deactivation of DP slaves	Yes
— Direct data exchange (slave-to-slave communication)	Yes
<b>Address area</b>	
— Inputs, max.	1 kbyte
— Outputs, max.	1 kbyte
<b>User data per DP slave</b>	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
<b>DP slave</b>	
• Number of connections	12
• Transmission rate, max.	12 Mbit/s
• Address area, max.	32
• User data per address area, max.	32 byte
<b>Services</b>	
— PG/OP communication	Yes
— Routing	Yes; Only with active interface
— Global data communication	No
— S7 basic communication	No
— S7 communication	No
— Direct data exchange (slave-to-slave communication)	Yes
— DPV1	No
<b>Transfer memory</b>	
— Inputs	244 byte
— Outputs	244 byte
<b>Communication functions</b>	
<b>Global data communication</b>	
• Number of GD packets, max.	4
• Number of GD packets, transmitter, max.	4
• Number of GD packets, receiver, max.	4
• Size of GD packets, max.	22 byte
• Size of GD packet (of which consistent), max.	22 byte
<b>S7 basic communication</b>	
• User data per job, max.	76 byte
• 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)
<b>S7 communication</b>	
• 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.	64 byte
<b>S5 compatible communication</b>	
• supported	Yes; Via CP and loadable FB
<b>Number of connections</b>	
• overall	12
• usable for PG communication	11
— reserved for PG communication	1
— adjustable for PG communication, min.	1
— adjustable for PG communication, max.	11
• usable for OP communication	11
— reserved for OP communication	1
— adjustable for OP communication, min.	1
— adjustable for OP communication, max.	11
• usable for S7 basic communication	8
— reserved for S7 basic communication	8
— adjustable for S7 basic communication, min.	0
— adjustable for S7 basic communication, max.	8
• usable for routing	4
• Number of logical connections (also in network), max.	4; 1 fixed with integral CPU

<b>S7 message functions</b>	
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.	40

<b>Test commissioning functions</b>	
Status block	Yes
Single step	Yes
Number of breakpoints	2
<b>Status/control</b>	
• Status/control variable	Yes
• Variables	Inputs, outputs, memory bits, DB, times, counters
• Number of variables, max.	30
— of which status variables, max.	30
— of which control variables, max.	14
<b>Forcing</b>	
• Forcing	Yes
<b>Diagnostic buffer</b>	
• present	Yes
• Number of entries, max.	100

— adjustable

No

## Interrupts/diagnostics/status information

Alarms Yes

## Integrated Functions

Number of counters	4
Counting frequency (counter) max.	60 kHz
Frequency measurement	Yes
Number of frequency meters	Frequency meter up to max. 60 kHz
controlled positioning	Yes
integrated function blocks (closed-loop control)	Yes; PID controller
PID controller	Yes
Number of pulse outputs	4; Pulse outputs up to 2.5 kHz
Limit frequency (pulse)	2.5 kHz

## Potential separation

### Potential separation digital inputs

• between the channels	No
• between the channels, in groups of	16
• between the channels and backplane bus	Yes

### Potential separation digital outputs

• between the channels	Yes
• between the channels, in groups of	8
• between the channels and backplane bus	Yes

### Potential separation analog inputs

• Potential separation analog inputs	Yes; common for analog I/O
• between the channels	No
• between the channels and backplane bus	Yes

### Potential separation analog outputs

• Potential separation analog outputs	Yes; common for analog I/O
• between the channels	No
• between the channels and backplane bus	Yes

## Permissible potential difference

between different circuits	75 V DC/60 V AC
Between the inputs and MANA (UCM)	8 V DC
between MANA and M internally (UISO)	75 V DC/60 V AC

## Isolation

Isolation tested with 500 V DC

## EMC

### Interference immunity against discharge of static electricity

• Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	Yes; $\pm 6$ kV contact discharge acc. to IEC 61000-4-2, ESD; $\pm 8$ kV air discharge acc. to IEC 61000-4-2, ESD
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<b>Interference immunity against high-frequency electromagnetic fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-3</li> </ul>	Yes; 10 V/m, with 80% amplitude modulation at 1 kHz, 80 MHz to 1 GHz (to IEC 61000-4-3); 10 V/m, pulse-modulated 50% duty cycle at 900 MHz and 1.89 GHz (to IEC61000-4-3)
<b>Interference immunity to cable-borne interference</b>	
<ul style="list-style-type: none"> <li>Interference immunity on supply lines acc. to IEC 61000-4-4</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Interference immunity on signal cables acc. to IEC 61000-4-4</li> </ul>	Yes; ±2 kV acc. to IEC 61000-4-4, Burst
<b>Interference immunity against voltage surge</b>	
<ul style="list-style-type: none"> <li>on the supply lines acc. to IEC 61000-4-5</li> </ul>	Yes; Surge measurements with additional protection elements: ±1 kV (to IEC 61000-4-5; µs pulse / line to line); ±2 kV (to IEC 61000-4-5; µs pulse / line to ground)
<b>Interference immunity against conducted variable disturbance induced by high-frequency fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	Yes; 10 V/m, with 80% amplitude modulation at 1 kHz, 10 kHz to 80 MHz (acc. to IEC 61000-4-6)
<b>Emission of radio interference acc. to EN 55 011</b>	
<ul style="list-style-type: none"> <li>Limit class A, for use in industrial areas</li> </ul>	Yes
<b>Degree and class of protection</b>	
Degree of protection acc. to EN 60529	
<ul style="list-style-type: none"> <li>IP20</li> </ul>	Yes; Housing
<ul style="list-style-type: none"> <li>IP65</li> </ul>	Yes; Front
<b>Standards, approvals, certificates</b>	
CSA approval	Yes
UL approval	Yes
FM approval	Yes
<b>Ambient conditions</b>	
Environmental conditions	Not suitable for open-air use
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>45 degree installation, min.</li> </ul>	0 °C
<ul style="list-style-type: none"> <li>45 degree installation, max.</li> </ul>	45 °C
<ul style="list-style-type: none"> <li>horizontal installation, min.</li> </ul>	0 °C
<ul style="list-style-type: none"> <li>horizontal installation, max.</li> </ul>	40 °C
<ul style="list-style-type: none"> <li>vertical installation, min.</li> </ul>	0 °C
<ul style="list-style-type: none"> <li>vertical installation, max.</li> </ul>	50 °C
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>min.</li> </ul>	-20 °C
<ul style="list-style-type: none"> <li>max.</li> </ul>	70 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
<ul style="list-style-type: none"> <li>Operation, min.</li> </ul>	795 hPa
<ul style="list-style-type: none"> <li>Operation, max.</li> </ul>	1 080 hPa
<ul style="list-style-type: none"> <li>Storage/transport, min.</li> </ul>	660 hPa

• Storage/transport, max.	1 080 hPa
<b>Relative humidity</b>	
• Operation, min.	5 %
• Operation, max.	95 %
• Storage/transport, min.	5 %
• Storage/transport, max.	95 %
<b>Vibrations</b>	
• Operation, tested according to IEC 60068-2-6	Yes; 10 Hz to 58 Hz: Amplitude 0.075 mm; 58 Hz to 150 Hz: Acceleration 9.8 m/s <sup>2</sup>
• Transport, tested acc. to IEC 60068-2-6	Yes; 5 Hz to 9 Hz: amplitude 3.5 mm; 9 Hz to 500 Hz: acceleration 9.8 m/s <sup>2</sup> (storage / transport in the packaging)
<b>Shock test</b>	
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
<b>Shock testing</b>	
• Operation, tested according to IEC 60068-2-29	Yes; Half-sine: 150 m/s <sup>2</sup> (15 g), 11 ms, 18 shocks
• Storage/transport, tested acc. to IEC 60068-2-29	Yes; 250 m/s <sup>2</sup> (25 g), 6 ms, 1 000 shocks
<b>Fire resistance</b>	
• Terminal strips	FV2 (tested to IEC 60707)
• Basic strips in housing	FV0
<b>Configuration</b>	
<b>Configuration software</b>	
• STEP 7	Yes; V5.1 SP3, STEP 7 Lite
• ProTool	Yes; or SIMATIC ProTool/Pro Configuration, Version 6.0 SP1 or higher
• ProTool/Lite	Yes
• ProTool/Pro	Yes; Configuration also with WinCC flexible
• WinCC flexible Compact	Yes
• WinCC flexible Standard	Yes
• WinCC flexible Advanced	Yes
<b>Programming</b>	
• Command set	see instruction list
• Nesting levels	8
• System functions (SFC)	see instruction list
• System function blocks (SFB)	see instruction list
<b>Programming language</b>	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes



— GRAPH	Yes
— HiGraph®	Yes
<b>Know-how protection</b>	
• User program protection/password protection	Yes
<b>Languages</b>	
<b>Online languages</b>	
• Number of online/runtime languages	3
<b>Mechanics/material</b>	
<b>Service life</b>	
• Number of operating cycles, keys	1 000 000
<b>Dimensions</b>	
Width	260 mm
Height	199 mm
Depth	79 mm
Mounting cutout, width	231 mm
Mounting cutout, height	183 mm
<b>Weights</b>	
Weight, approx.	1 380 g
<b>last modified:</b>	03/25/2017