Data sheet



*** SPARE PART*** SIMATIC C7-636 KEYS, COMPACT UNIT WITH INTEGRATED COMPONENTS: S7-300 CPU315-2 DP AND OP270B, 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
Graphics object	
Character graphics	Yes
Pixel graphics	Yes
Process images	
Number of process images	300
 Number of variables per image, max. 	200
 Number of variables in message text, max. 	8
Operating-/fault messages	
 Number of entries in operational log, max. 	Message archive limited by storage medium
 Number of entries in fault message buffer, max. 	Message archive limited by storage medium
Recipes	

Number of recipes, max. Data records per recipe, max. Entries per data record, max. CSTN, CCFL backlit; 5.7" color (256 colors) Resolution (pixels) Horizontal image resolution Vertical image resolu		
Entries per data record, max. Display Display Design of display Resolution (pixels) Horizontal image resolution Vertical image resolution Vertical image resolution NTBF backlighting (at 25 °C) Control elements Keyboard fonts Membrane keyboard Function keys Number of softkeys Number of softkeys Rated value (DC) 24 V DC permissible range, lower limit (DC) permissible range, low	Number of recipes, max.	300
Display Design of display Resolution (pixels) Horizontal image resolution Vertical image resolution NTBF backlighting (at 25 °C) Control elements Keyboard fonts Membrane keyboard Function keys Number of function keys Number of softkeys Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, up	 Data records per recipe, max. 	500
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Vertical image resolution Backlighting MTBF backlighting (at 25 °C) 40 000 h Control elements Keyboard fonts Membrane keyboard Function keys Number of function keys Number of softkeys Ves Ves Ves Number of softkeys 14 Supply voltage Rated value (DC) 24 V DC Permissible range, lower limit (DC) Load voltage L+ Rated value (DC) permissible range, lower limit (DC) 24 V permissible range, lower limit (DC) 24 V permissible range, lower limit (DC) 28.8 V Load voltage L+ Rated value (DC) permissible range, lower limit (DC) 24 V permissible range, lower limit (DC) 28.8 V Input current Current consumption, typ. 450 mA; idling Current consumption, max. 1.3 A Inrush current, max. 3 A; 3 A for 10 ms, then 2 A for 70 ms	Resolution (pixels)	
Backlighting MTBF backlighting (at 25 °C) MTBF backlighting (at 25 °C) At 0 000 h Control elements Keyboard fonts Membrane keyboard Function keys Number of function keys Number of softkeys Wes Number of softkeys At 4 Supply voltage Rated value (DC) At 4 V DC Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) At 24 V Permissible range, upper limit (DC) Permissible range, upper limit (DC) At 24 V Permissible range, upper limit (DC) Permissible range, upper limit (DC) At 50 mA; idling Current consumption, max. Inrush current, max. At 50 mA; then 2 A for 70 ms	Horizontal image resolution	320 Pixel
MTBF backlighting (at 25 °C) 40 000 h Control elements Keyboard fonts Membrane keyboard Function keys — Number of function keys — Number of softkeys 14 Supply voltage Rated value (DC) 24 V DC permissible range, lower limit (DC) permissible range, upper limit (DC) 28.8 V Load voltage L+ Rated value (DC) permissible range, lower limit (DC) 24 V permissible range, upper limit (DC) 28.8 V Load voltage L+ Rated value (DC) permissible range, upper limit (DC) 28.8 V Load voltage L- Current consumption, typ. 450 mA; idling Current consumption, max. Inrush current, max. 3 A; 3 A for 10 ms, then 2 A for 70 ms	Vertical image resolution	240 Pixel
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Keyboard fonts Membrane keyboard Function keys Number of function keys Number of softkeys 14 Supply voltage Rated value (DC) 24 V DC Permissible range, lower limit (DC) Permissible range, upper limit (DC) Rated value (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) A Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) A Rated value (DC) Permissible range, lower limit (DC) Permissible range, lower limit (DC) A Rated value (DC) Permissible range, lower limit (DC) A Rated value (DC) Permissible range, upper limit (DC) A V Permissi	Countries also makes	
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— Number of function keys — Number of softkeys 14 Supply voltage Rated value (DC) • 24 V DC permissible range, lower limit (DC) Permissible range, upper limit (DC) • Rated value (DC) • permissible range, lower limit (DC) 24 V • permissible range, lower limit (DC) • permissible range, lower limit (DC) • permissible range, lower limit (DC) • permissible range, upper limit (DC) • permissible r		165
— Number of softkeys Supply voltage Rated value (DC) ● 24 V DC permissible range, lower limit (DC) Permissible range, upper limit (DC) Example value (DC) ● Rated value (DC) ● permissible range, lower limit (DC) Permissible range, lower limit (DC) Example value (DC) ● permissible range, upper limit (DC) Example value		
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Load voltage L+ • Rated value (DC) • permissible range, lower limit (DC) • permissible range, upper limit (DC) 28.8 V Input current Current consumption, typ. Current consumption, max. Inrush current, max. 3 A; 3 A for 10 ms, then 2 A for 70 ms	permissible range, lower limit (DC)	20.4 V
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• permissible range, upper limit (DC) Input current Current consumption, typ. Current consumption, max. Inrush current, max. 3 A; 3 A for 10 ms, then 2 A for 70 ms	Rated value (DC)	24 V
Input current Current consumption, typ. 450 mA; idling Current consumption, max. 1.3 A Inrush current, max. 3 A; 3 A for 10 ms, then 2 A for 70 ms	permissible range, lower limit (DC)	20.4 V
Current consumption, typ. 450 mA; idling Current consumption, max. 1.3 A Inrush current, max. 3 A; 3 A for 10 ms, then 2 A for 70 ms	 permissible range, upper limit (DC) 	28.8 V
Current consumption, typ. 450 mA; idling Current consumption, max. 1.3 A Inrush current, max. 3 A; 3 A for 10 ms, then 2 A for 70 ms	Input current	
Inrush current, max. 3 A; 3 A for 10 ms, then 2 A for 70 ms	Current consumption, typ.	450 mA; idling
	Current consumption, max.	1.3 A
Power loss	Inrush current, max.	3 A; 3 A for 10 ms, then 2 A for 70 ms
	Power loss	
Power loss, typ. 19 W		

Yes

No

Yes

8 Mbyte

128 kbyte

	U	`	,	
• [Plug-ir	ı (M	MC), m	ах.
Backu	n			

Memory

Micro Memory Card

integratedexpandable

• Plug-in (MMC)

Work memory

Load memory

Yes; Guaranteed by MMC (maintenance-free) • present Yes; Option for the panel with battery without battery Yes; Program and data of the CPU Backup battery Yes Backup battery (optional) CPU processing times for bit operations, typ. 0.1 µs for word operations, typ. $0.2 \, \mu s$ for fixed point arithmetic, typ. 2 µs for floating point arithmetic, typ. 3 µs CPU-blocks DB 1 023; DB 0 reserved • Number, max. 16 kbyte • Size, max. FB 2 048; see instruction list • Number, max. 16 kbyte • Size, max. FC 2 048; see instruction list • Number, max. 16 kbyte • Size, max. OB • Number, max. see instruction list 16 kbyte • Size, max. Nesting depth 8 • per priority class 4 • additional within an error OB S7 counter 256 Number of which retentive without battery Yes - can be set - lower limit 0 256 - upper limit Retentivity Yes - adjustable Z 0 to Z 7 - preset Counting range 0 - lower limit 999 - upper limit

Yes SFB Unlimited (limited only by RAM capacity) 256
Unlimited (limited only by RAM capacity)
256
Yes; Default: no retentivity
0
256
Yes
No retentivity
10 ms
9 990 s
Yes
SFB
Unlimited (limited only by RAM capacity)
all
2 048 byte
Yes; MB 0 to MB 255
MB 0 to MB 15
8; 1 memory byte
1 023
16 kbyte
1 024 byte; max. 510 bytes per block
2 kbyte
2 kbyte
0.0001
2 000 byte 2 000 byte

• Inputs	128 byte
Outputs	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
— Analog outputs	761
Digital channels	
• Inputs	16 384
of which central	992
Outputs	16 384
of which central	992
Analog channels	
• Inputs	1 024
— of which central	248
Outputs	1 024
— of which central	248
11-1	
Hardware configuration Number of modules per system, max.	23
Number of DP masters	20
• integrated	1
• via CP	1
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	10
Expansion modules	
Number of expansion modules, max.	4; max. 2 flat structure, max. 4 deep structure
Rack	
• Racks, max.	4
Modules per rack, max.	8; Modules in subrack 0: 4 max.; modules in subracks 1 and 2: 8
	max.; modules in subrack 3: 7 max.
Number of lines, max.	4
Time of day	
Clock	
Hardware clock (real-time)	Yes
 retentive and synchronizable 	Yes
Backup time	6 wk; At 40 °C ambient temperature
 Deviation per day, max. 	10 s
Operating hours counter	
• Number	1

Number/Number range	0
Range of values	0 to 2^31 hours (when using SFC 101)
Granularity	1 hour
• retentive	Yes; Must be restarted at each restart
Clock synchronization	
• supported	Yes
• to MPI, master	Yes
• to MPI, slave	Yes
• in AS, master	Yes
Digital inputs	
Number of digital inputs	24
 of which inputs usable for technological functions 	16
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
horizontal installation	
— up to 40 °C, max.	12
vertical installation	
— up to 40 °C, max.	18
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	-3 to +5V
• for signal "1"	+15 to +30V
Input current	
• for signal "1", typ.	7 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.1 / 0.3 / 3 / 15 ms
— Rated value	3 ms
for counter/technological functions	
— at "0" to "1", max.	8 µs
Cable length	
• 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.	not allowed
Digital outputs	
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
Switching capacity of the outputs	
● on lamp load, max.	5 W
Load resistance range	
• lower limit	48 Ω
• upper limit	4 kΩ
Output voltage	
● for signal "1", min.	L+ (-0.8 V)
Output current	
● 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" permissible range for 0 to 40 °C, max. 	0.5 A
 for signal "1" permissible range for 40 to 60 °C, max. 	0.5 A; Up to 50 °C
• for signal "1" minimum load current	5 mA
• for signal "0" residual current, max.	0.5 mA
Parallel switching of two outputs	
• for uprating	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)	
all mounting positions	
— up to 40 °C, max.	3 A
— up to 60 °C, max.	2 A; Up to 50 °C
horizontal installation	
— up to 40 °C, max.	2 A
vertical installation	
— up to 40 °C, max.	3 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Analog inputs	
Number of analog inputs	4

For voltage/current measurement	4
For resistance/resistance thermometer	1
measurement	
integrated channels (AI)	4; + 1 Al
permissible input voltage for current input (destruction limit), max.	2.5 V; max. 2.5 V permanent; max. 24 V for short time
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
Input ranges	
Voltage	Yes
Current	Yes
Resistance thermometer	Yes
Resistance	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
• -10 V to +10 V	Yes
Input resistance (-10 V to +10 V)	100 kΩ
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
Input resistance (0 to 20 mA)	50 Ω
• -20 mA to +20 mA	Yes
Input resistance (-20 mA to +20 mA)	50 Ω
• 4 mA to 20 mA	Yes
Input resistance (4 mA to 20 mA)	50 Ω
Input ranges (rated values), resistance thermometer	
• Pt 100	Yes
Input resistance (Pt 100)	10 ΜΩ
Input ranges (rated values), resistors	
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 ΜΩ
Thermocouple (TC)	
Temperature compensation	
— parameterizable	No
Characteristic linearization	
parameterizable	Yes; by software

— for resistance thermometer	Pt 100
Cable length	
• shielded, max.	100 m
Analog outputs	
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
Output ranges, voltage	
• 0 to 10 V	Yes
• -10 V to +10 V	Yes
Output ranges, current	
• 0 to 20 mA	Yes
• -20 mA to +20 mA	Yes
• 4 mA to 20 mA	Yes
Connection of actuators	
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
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 an	d currents
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	Measurement principle momentary value encoding (successive approximation)
Integration and conversion time/resolution per channel	
 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
Analog value generation for the outputs	

12 bit 1 ms
1 ms
1 ms
· · · · · ·
0.6 ms
1 ms
0.5 ms
1

• for inductive load	0.5 IIIS
Encoder	
Connectable encoders	
• 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

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; at Ucm = 0 V	
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, (+/-) 	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 x (f1 +/- 1 %), f1 = 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
MPI	
Cable length, max.	50 m; without repeater
1. Interface	
Interface type	Integrated DC 405 interface

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
Functionality	
• MPI	Yes
 PROFIBUS DP master 	No
PROFIBUS DP slave	No
MPI	
Number of connections	16
 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
 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	16
Functionality	
• MPI	No
 PROFIBUS DP master 	Yes
 PROFIBUS DP slave 	Yes
DP master	
Number of connections, max.	16; For PG/OP communication
Transmission rate, max.	12 Mbit/s
 Number of DP slaves, max. 	125

Services	
— 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)	Yes
communication)	
Address area	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
DP slave	
Number of connections	16
 Transmission rate, max. 	12 Mbit/s
 Address area, max. 	32
 User data per address area, max. 	32 byte
Services	
— PG/OP communication	Yes
— Routing	Yes
 Global data communication 	No
 S7 basic communication 	No
— S7 communication	No
Direct data exchange (slave-to-slave)	Yes
communication)	
Transfer memory	244 h. to
— Inputs	244 byte
— Outputs	244 byte
Communication functions	
Global data communication	
 Number of GD packets, max. 	8
• Number of GD packets, transmitter, max.	8
Number of GD packets, transmitter, max.Number of GD packets, receiver, max.	8 8
 Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 	8
Number of GD packets, receiver, max.Size of GD packets, max.	8 22 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)
S7 communication	
• as server	Yes
• as client	Yes; Via CP and loadable FB
• User data per job, max.	180 byte; With PUT/GET
• User data per job (of which consistent), max.	64 byte
S5 compatible communication	
• supported	Yes; via CP and loadable FC
Standard communication (FMS)	
• supported	No
Number of connections	
• overall	16
 usable for PG communication 	15
 reserved for PG communication 	1
 adjustable for PG communication, min. 	1
 adjustable for PG communication, max. 	15
 usable for OP communication 	15
 reserved for OP communication 	1
 adjustable for OP communication, min. 	1
 adjustable for OP communication, max. 	15
• usable for S7 basic communication	12
 reserved for S7 basic communication 	12
 — adjustable for S7 basic communication, min. 	0
 adjustable for S7 basic communication, 	12
max.	
S7 message functions	
Number of login stations for message functions, max.	16
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	40
Test commissioning functions	
Status block	Yes
Single step	Yes
Number of breakpoints	2
Status/control	
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
Forcing	

• Forcing	Yes
Diagnostic buffer	
• present	Yes
Number of entries, max.	100
— adjustable	No
Interrupts/diagnostics/status information	
Alarms	Yes; No interrupts when used as standard I/O; when using the technological functions, see the manual S7-300 Programmable Controller, CPU31xC Technological Functions
Diagnostic functions	No; No interrupts when used as standard I/O; when using the technological functions, see the manual S7-300 Programmable Controller, CPU31xC Technological Functions
Integrated Functions	
Number of counters	4; 4 channels in total
Counting frequency (counter) max.	60 kHz
Frequency measurement	Yes
Number of frequency meters	4; 4 channels in total
controlled positioning	Yes
integrated function blocks (closed-loop control)	Yes
PID controller	Yes
Number of pulse outputs	4; 4 channels in total
Limit frequency (pulse)	2.5 kHz
Potential separation	
Potential separation digital inputs	
 Potential separation digital inputs 	Yes
between the channels	No
 between the channels and backplane bus 	Yes
Potential separation digital outputs	
Potential separation digital outputs	Yes
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
• between the channels	No
• between the channels and backplane bus	Yes
Potential separation analog outputs	
Potential separation analog outputs	Yes
• 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	FOOLUDO
Isolation tested with	500 V DC
EMC	
Interference immunity against discharge of static electric	icity
Interference immunity against discharge of	Yes; ±6 kV contact discharge acc. to IEC 61000-4-2, ESD; ±8 kV
static electricity acc. to IEC 61000-4-2	air discharge acc. to IEC 61000-4-2, ESD
Interference immunity against high-frequency electroma	agnetic fields
Interference immunity against high-frequency	Yes; 10 V/m, with 80% amplitude modulation at 1 kHz, 80 MHz to
radiation acc. to IEC 61000-4-3	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)
Interference immunity to cable-borne interference	
• Interference immunity on supply lines acc. to	Yes; ±2 kV acc. to IEC 61000-4-4, burst; surge measurements
IEC 61000-4-4	with additional protective elements
 Interference immunity on signal cables acc. to IEC 61000-4-4 	Yes
Interference immunity against voltage surge	
• on the supply lines acc. to IEC 61000-4-5	Yes; ±1 kV acc. to IEC 61000-4-5, µs pulse/line to line; ±2 kV acc.
	to IEC 61000-4-5, µs pulse/line to ground
Interference immunity against conducted variable distu	rbance induced by high-frequency fields
Interference immunity against high-frequency	Yes; 10 V/m, with 80% amplitude modulation at 1 kHz
radiation acc. to IEC 61000-4-6	
Emission of radio interference acc. to EN 55 011	
 Limit class A, for use in industrial areas 	Yes
Degree and class of protection	
Degree of protection acc. to EN 60529	
• IP20	Yes; Housing
• IP65	Yes; Front
Ctandarda approvala autilizata	
Standards, approvals, certificates CSA approval	Yes
UL approval	Yes
FM approval	Yes
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Ambient conditions	
Environmental conditions	Not suitable for open-air use
Ambient temperature during operation	
 45 degree installation, min. 	0 °C
 45 degree installation, max. 	45 °C
 horizontal installation, min. 	0 °C
horizontal installation, max.	40 °C
• vertical installation, min.	0 °C
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• vertical installation, max.	50 °C
Air pressure acc. to IEC 60068-2-13	
Operation, min.	795 hPa
Operation, max.	1 080 hPa
Storage/transport, min.	660 hPa
Storage/transport, max.	1 080 hPa
	795 hPa
permissible range, lower limit	1 080 hPa
 permissible range, upper limit Relative humidity 	1 000 IIF a
	5 %
Operation, min.	85 %; at <40 °C (no condensation)
Operation, max.	
Storage/transport, max. Minations	85 %; at <40 °C (no condensation)
Vibrations	Very Organization 40 Heats FOLID constitute 0.075 many FOLID to
 Operation, tested according to IEC 60068-2-6 	Yes; Operation 10 Hz to 58 Hz, amplitude 0.075 mm; 58 Hz to 150 Hz, acceleration 9.8 m/s ²
• Transport, tested acc. to IEC 60068-2-6	Yes; 5 to 9 Hz: Amplitude 3.5 mm; 9 to 500 Hz: Acceleration 9.8 m/s2
Shock test	
• tested according to IEC 60068-2-29	Yes; checked according to IEC 60068-2-29; operation: Half-sine: 150 m/s² (15 g), 11 ms, 18 shocks; storage/transport: 250 m/s² (25 g), 6 ms, 1 000 shocks
Shock testing	
Operation, tested according to IEC 60068-2-29	Yes; Half-sine: 150 m/s2 (15 g), 11 ms, 18 shocks
 Storage/transport, tested acc. to IEC 60068-2- 29 	Yes; 250 m/s² (25 g), 6 ms, 1 000 shocks
Operating systems	
pre-installed operating system	Yes
Windows CE	165
Configuration	
Configuration software	
• STEP 7	Yes; V5.2 SP1 HSP or higher
ProTool	Yes; as of V6.0 SP2 with Setup C7-636
ProTool/Lite	Yes; Version 6.0 SP2 or higher and Setup C7-636
ProTool/Pro	Yes; Version 6.0 SP2 or higher and Setup C7-636
WinCC flexible Compact	Yes
WinCC flexible Standard	Yes
WinCC flexible Advanced	Yes
Programming	
Command set	see instruction list
Nesting levels	8
• System functions (SFC)	see instruction list
System function blocks (SFB)	see instruction list

Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Know-how protection	
User program protection/password protection	Yes
Languages	
Online languages	
 Number of online/runtime languages 	5
Dimensions	
Width	260 mm
Height	274 mm
Depth	80 mm
Depth Mounting cutout, width	80 mm 231 mm; Tolerance: +1 mm
Mounting cutout, width	231 mm; Tolerance: +1 mm
Mounting cutout, width Mounting cutout, height	231 mm; Tolerance: +1 mm