SIEMENS

Data sheet

6ES7313-6BF03-0AB0

SIMATE 2 TO DE SECONDE SECONDE

*** SPARE PART*** SIMATIC S7-300, CPU 313C-2 PTP COMPACT CPU WITH MPI, 16 DI/16 DO, 3 FAST COUNTERS (30 KHZ), INTEGRATED INTERFACE RS485, INTEGRATED 24V DC POWER SUPPLY, 64 KBYTE WORKING MEMORY, FRONT CONNECTOR (1 X 40PIN) AND MICRO MEMORY CARD REQUIRED

Figure similar

General information	
Hardware product version	01
Firmware version	V2.6
Engineering with	
 Programming package 	STEP 7 V5.3 SP2 or higher with HW update
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
external protection for power supply lines	Miniature circuit breaker, type C; min. 2 A; miniature circuit
(recommendation)	breaker type B, min. 4 A
Load voltage L+	
 Rated value (DC) 	24 V
 permissible range, lower limit (DC) 	20.4 V
 permissible range, upper limit (DC) 	28.8 V
Digital inputs	

Load voltage L+ 24 V - Rated value (DC) 24 V - Reverse polarity protection Yes Digital outputs - Rated value (DC) 24 V - Rated value (DC) 24 V - Rate value (DC) 24 V - Reverse polarity protection No Imush current 700 mA Current consumption (rated value) 700 mA Current consumption (in no-load operation), typ. 110 mA Insush current, typ. 11 A Pit 0.7 A*s Digital outputs 70 mA Digital outputs 70 mA • from load voltage L+, max. 100 mA Power loss Power loss Power loss, typ. 10 W Memory • • integrated 64 kbyte • expandable No Load memory • • Plug-in (MMC), max. 8 Mbyte • Data management on MMC (after last program and data 10 y programming), min. Backup • present Yes: Guaranteed by MMC (maintenance-free) • without battery Yes: Program and data <th></th> <th></th>		
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Digital outputs Load voltage L+ - Rated value (DC) 24 V - Reverse polarity protection No Input current Current consumption (in no-load operation), typ. 100 mA Current consumption (in no-load operation), typ. 100 mA Innush current, typ. 11 A Pi 0.7 A*s Digital inputs 0.7 A*s Fin load voltage L+ (without load), max. 70 mA Digital outputs 100 mA • from load voltage L+, max. 100 mA Power loss, typ. 10 W Memory Very max. Vork memory 64 kbyte • kping-in (MMC), max. 8 Mbyte • Dug-in (MMC), max. 8 Mbyte • Dug-in (MMC), max. 10 y programming), min. 8 Mbyte • present Yes; Cauranteed by MMC (maintenance-free) • without battery Yes; Program and data CPU processing times 0.1 µs for bit operations, typ. 0.1 µs for bit operations, typ. 0.1 µs for floating point arithmetic, typ. 2 µs for floating point arithme	— Rated value (DC)	24 V
Load voltage L+	— Reverse polarity protection	Yes
Rated value (DC) 24 V Reverse polarity protection No Input current 70 mA Current consumption (in no-load operation), typ. 11 A In	Digital outputs	
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for fixed point arithmetic, typ. 2 μs for floating point arithmetic, typ. 3 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 DB	for bit operations, max.	0.2 µs
for floating point arithmetic, typ. 3 μs CPU-blocks 1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used. DB 000000000000000000000000000000000000	for word operations, typ.	0.2 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	for fixed point arithmetic, typ.	2 µs
Number of blocks (total) 1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used. DB Extended by the DMC used.	for floating point arithmetic, typ.	3 µs
can be reduced by the MMC used.	CPU-blocks	
DB	Number of blocks (total)	
		can be reduced by the MMC used.
• Number, max. 511; Number range: 1 to 511		
	• Number, max.	511; Number range: 1 to 511

• Size, max.	16 kbyte
FB	
Number, max.	1 024; Number range: 0 to 2047
• Size, max.	16 kbyte
FC	
Number, max.	1 024; Number range: 0 to 2047
• Size, max.	16 kbyte
OB	
• Size, max.	16 kbyte
Number of free cycle OBs	1; OB 1
Number of time alarm OBs	1; OB 10
 Number of delay alarm OBs 	1; OB 20
Number of cyclic interrupt OBs	1; OB 35
Number of process alarm OBs	1; OB 40
Number of startup OBs	1; OB 100
Number of asynchronous error OBs	4; OB 80, 82, 85, 87
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	
 per priority class 	8
 additional within an error OB 	4
Counters, timers and their retentivity S7 counter	
	256
Number	230
of which retentive without battery	Yes
— can be set	0
— lower limit	255
— upper limit	8
— preset	0
Retentivity	Yes
— adjustable	0
— lower limit	255
— upper limit	8
— preset	0
Counting range	0
— lower limit	0
— upper limit	999
IEC counter	Vec
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	

• Number	256
of which retentive without battery	
— adjustable	Yes
— lower limit	0
— upper limit	255
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 in total	all
Flag	
• Number, 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	
 Number, max. 	511; Number range: 1 to 511
• Size, max.	16 kbyte
 Retentivity adjustable 	Yes; via non-retain property on DB
 Retentivity preset 	Yes
Local data	
• per priority class, max.	510 byte
Address area	
I/O address area	
• Inputs	1 kbyte
Outputs	1 kbyte
of which distributed	
— Inputs	none
— Outputs	none
Process image	
• Inputs	128 byte
Outputs	128 byte

Default addresses of the integrated channels	
— Digital inputs	124.0 to 125.7
— Digital outputs	124.0 to 125.7
Digital channels	
Inputs	1 008
— of which central	1 008
Outputs	1 008
— of which central	1 008
Analog channels	
Inputs	248
— of which central	248
Outputs	248
— of which central	248
Hardware configuration	
Number of expansion units, max.	3
Number of DP masters	
• integrated	No
• via CP	4
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	6
Rack	
• Racks, max.	4
 Modules per rack, max. 	8; In rack 3 max. 7
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
- 10 IVIF I, SIAVE	

• in AS, master	Yes
Digital inputs	
Number of digital inputs	16
 of which inputs usable for technological functions 	12
integrated channels (DI)	16
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
horizontal installation	
— up to 40 °C, max.	16
— up to 60 °C, max.	8
vertical installation	
— up to 40 °C, max.	8
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.	9 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.	16 µs
Cable length	
• shielded, max.	1 000 m; 100 m for technological functions
• unshielded, max.	600 m; For technological functions: No
for technological functions	
— shielded, max.	100 m
— unshielded, max.	not allowed
Digital outputs	
Number of digital outputs	16
 of which high-speed outputs 	4
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	

Load resistance range • wwer limit 48 t3 • upper limit 4 k3 • for signal "1", min. L + (-0.8 V) Otuput voltage 500 mA • for signal "1" retristuble range, min. 5 mA • for signal "1" permissible range, max. 0.6 A • for signal "1" minimum load current 5 mA • for signal "1" minimum load current 5 mA • for signal of two outputs 5 mA • for reginal max. 0.6 Hz • for reginal second max. 0.0 HZ • for reginal max. 0.0 HZ • with resistive load, max. 0.0 HZ • or in lamp load, max. 0.0 HZ • or in base outputs, with resistive load, max. 2.5 HZ Total current of the outputs (per group) 100 HZ • horizontal installation 2.4 • upshelded, max. 600 m • unshelded, max. 600 m • unshelded, max. 600 m	● on lamp load, max.	5 W
• upper limit 4 kD Output voltage • for signal "1", min. L + (-0.8 V) Output current 500 mA • for signal "1" rated value 500 mA • 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 "1" minimum load current. 5 mA • for uprating No • for redundant control of a load Yes Switching frequency • with inductive load, max. 100 Hz • or lamp load, max. 100 Hz • or lamp load, max. 2.5 Hz • or lamp load, max. 2.5 Hz • or lamp load, max. 3.A - up to 60 °C, max. 1000 m • unshielded, max. 1000 m • unshielded, max. 1000 m • unshielded, max. 1000 m <td>•</td> <td></td>	•	
Output voitage • for signal *1", min. L + (-0.8 V) Output voitage 500 mA • for signal *1" rated value 500 mA • 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 *1" minimum load current, max. 0.5 mA • for regunding No • for regunding No • for redundant control of a load Yes Switching frequency 100 Hz • with resistive load, max. 100 Hz • or inp 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 60 °C, max. 2.A vertical installation 2.A - up to 60 °C, max. 2.A Cable length 1000 m • enshelded, max. 600 m • sheleded, max. 600 m • unshelded, max. 600 m • unshelded, max. 600 m	lower limit	48 Ω
• for signal *1*, min. L+ (0.8 V) Output current 500 mA • for signal *1* permissible range, min. 5 mA • for signal *1* permissible range, max. 0.6 A • for signal *1* permissible range, max. 0.5 mA • for signal *1* permissible range, max. 0.5 mA • for signal *1* permissible range, max. 0.5 mA • for signal *1* permissible range, max. 0.5 mA • for signal *1* permissible range, max. 0.5 mA • for signal *1* minimum load current, max. 0.5 mA • for uprating No • for uprating State • for uprating State • for uprating State • of the pulse outputs, with resistive load, max. 2.5 kHz • pulp 60 *0°, max.	• upper limit	4 kΩ
Output current 500 mA • for signal "1" rated value 500 mA • 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 "1" reintial current, max. 0.5 mA Parallel switching of two outputs Ves • for redundant control of a load Yes Switching frequency 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 Hz • on lamp load, max. 2.5 Hz • on lamp load, max. 2.5 Hz • on lamp load, max. 2.5 Hz • outputs with resistive load, max. 2.5 Hz • on lamp load, max. 2.6 • up to 40 °C, max. 2.A • up to 40 °C, max. 600 m • unshielded, max. 600 m Analog inputs <	Output voltage	
• for signal *1* rated value 500 mA • for signal *1* permissible range, max. 0.6 A • for signal *1* minimum load current 5 mA • for signal *1* minimum load current. 5 mA • for signal *1* minimum load current. 5 mA • for signal *1* minimum load current. 5 mA • for signal *1* minimum load current. 5 mA • for uprating No • for redundant control of a load Yes Switching frequency • • with resistive load, max. 100 Hz • on lamp load, max. 0.5 Hz • on lamp load, max. 0.5 Hz • on lamp load, max. 0.5 Hz • of the pulse outputs, with resistive load, max. 2.5 kHz Total current of the outputs (per group) • horizontal installation	● for signal "1", min.	L+ (-0.8 V)
if or signal "1" permissible range, min. 5 mA if or signal "1" permissible range, max. 0.6 A if or signal "1" residual current 5 mA if or signal "0" residual current, max. 0.5 mA Parallel switching of two outputs 0.5 mA if or uprating No if or uprating Site Internation if or uprating 3A if or uprating Site Internation if or uprating Site Internation if or uprating Internation if up to 60 "C, max	Output current	
ion signal "1" permissible range, max. of or signal "1" minimum lead current for signal "0" residual current, max. of or signal "0" residual current, max. of or prating for uprating for uprating for redundant control of a load Switching frequency with resistive load, max. of the resistive load, max. of the pulse outputs, with resistive load, max. of the outputs (per group) horizontal installation - up to 40 °C, max. 2 A Cable length outputs wertical installation - up to 40 °C, max. Analog inputs integrated channels (AI) none Analog outputs integrated channels (AO) none Encoder Connectable encoders - 2-wire sensor - permissible quiescent current (2-wire sensor), max. Interfaces	 for signal "1" rated value 	500 mA
if or signal "1" minimum load current 5 mA if or signal "0" residual current, max. 0.5 mA Parallel switching of two outputs	 for signal "1" permissible range, min. 	5 mA
Integrated Channels (AC) 0.5 mA Parallel switching of two outputs No • for uprating No • for redundant control of a load Yes Switching frequency Ves • with resistive load, max. 100 Hz • on lamp load, max. 0.5 Hz • on lamp load, max. 0.5 Hz • on lamp load, max. 0.5 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. 2.4 - up to 60 °C, max. 2.4 vertical installation - - up to 40 °C, max. 600 m • shelided, max. 6000 m Analog inputs integrated channels (AI) integrated channels (AO) none Analog outputs integrated channels (AO) integrated channels (AO) none Encoder Connecitable encoders • 2-wire sensor Yes - upermissible quiescent current (2-wire sensor), max. 1.5 mA	 for signal "1" permissible range, max. 	0.6 A
Parallel switching of two outputs No • for uprating No • for redundant control of a load Yes Switching frequency 100 Hz • with resistive load, max. 0.5 Hz • on lamp load, max. 2.5 KHz Total current of the outputs (per group) horizontal installation - up to 60 °C, max. 2 A vertical installation 2 A - up to 60 °C, max. 2 A vertical installation 2 A - up to 60 °C, max. 2 A Cable length 5 hielded, max. • up to 60 °C, max. 2 A Cable length 5 hielded, max. • up to 60 °C, max. 2 A Cable length 5 hielded, max. • up to 40 °C, max. 600 m Analog inputs 600 m Integrated channels (AO) none Encoder 5 mode Connectable encoders 1.5 mA -	 for signal "1" minimum load current 	5 mA
• for uprating No • for redundant control of a load Yes Switching frequency 100 Hz • with resistive load, max. 0.5 Hz • on lamp 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. 2.A vertical installation - up to 60 °C, max. 2.A vertical installation - up to 40 °C, max. 2.A cable length • unshielded, max. 600 m Analog inputs integrated channels (AI) none Analog outputs integrated channels (AO) none Encoder Vers -2-wire sensor Yes -2-wire sensor Yes	 for signal "0" residual current, max. 	0.5 mA
• for redundant control of a load Yes Switching frequency 100 Hz • with resistive 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) borizontal installation - up to 40 °C, max. 2 A - up to 60 °C, max. 2 A vertical installation 2 A - up to 40 °C, max. 2 A vertical installation 2 A - up to 40 °C, max. 600 m Analog inputs 600 m Integrated channels (AI) none Analog inputs integrated channels (AO) Integrated channels (AO) none Encoder Vers - upermissible quiescent current (2-wire sensor Yes - permissible quiescent current (2-wire sensor), max. 1.5 mA	Parallel switching of two outputs	
Switching frequency Interfaces • 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) Interfaces horizontal installation 3 A - up to 60 °C, max. 2 A vertical installation 2 A - up to 60 °C, max. 2 A vertical installation 2 A - up to 40 °C, max. 60 m Analog inputs 600 m Analog inputs none Integrated channels (AI) none Analog outputs none Encoder Vers - upermissible quiescent current (2-wire sensor), max. Yes - permissible quiescent current (2-wire sensor), max. 1.5 mA	• for uprating	No
• 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 kHzTotal current of the outputs (per group)horizontal installation3 A up to 40 °C, max.2 Avertical installation2 Avertical installation2 A up to 60 °C, max.2 ACable length600 m• shielded, max.1 000 m• unshielded, max.600 mAnalog inputsintegrated channels (AI)integrated channels (AO)noneEncoder• 2-wire sensorYes - permissible quiescent current (2-wire sensor), max.Interfaces15 mA	 for redundant control of a load 	Yes
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 3 A - up to 40 °C, max. 2 A vertical installation 2 A up to 60 °C, max. 2 A vertical installation 2 A up to 40 °C, max. 2 A cable length 600 m • unshielded, max. 1 000 m • unshielded, max. 600 m Analog outputs integrated channels (Al) none Resource Connectable encoders Vers • 2-wire sensor Yes - permissible quiescent current (2-wire sensor), max. 1.5 mA	Switching frequency	
• on lamp load, max. 100 Hz • of the pulse outputs, with resistive load, max. 2.5 kHz Total current of the outputs (per group)	 with resistive load, max. 	100 Hz
• of the pulse outputs, with resistive load, max. 2.5 kHz Total current of the outputs (per group)	 with inductive load, max. 	0.5 Hz
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 2 A - up to 40 °C, max. 2 A Cable length 600 m • shielded, max. 1 000 m • unshielded, max. 600 m Analog inputs integrated channels (AI) integrated channels (AC) none Encoder Vertical encoders • 2-wire sensor Yes - permissible quiescent current (2-wire sensor), max. 1.5 mA	• on lamp load, max.	100 Hz
horizontal installation 3 A up to 60 °C, max. 2 A vertical installation 2 A up to 60 °C, max. 2 A Cable length 2 A Cable length 600 m • unshielded, max. 600 m • unshielded, max. 600 m Analog inputs none integrated channels (AI) none Analog outputs none Encoder Vertical sensor • 2-wire sensor Yes - permissible quiescent current (2-wire sensor), max. 1.5 mA	 of the pulse outputs, with resistive load, max. 	2.5 kHz
	Total current of the outputs (per group)	
	horizontal installation	
vertical installation 2 A - up to 40 °C, max. 2 A Cable length 1000 m • shielded, max. 600 m • unshielded, max. 600 m Analog inputs integrated channels (AI) integrated channels (AO) none Encoder Ves • 2-wire sensor Yes - permissible quiescent current (2-wire sensor), max. 1.5 mA	— up to 40 °C, max.	3 A
up to 40 °C, max. 2 A Cable length 1000 m • shielded, max. 600 m • unshielded, max. 600 m Analog inputs mone integrated channels (AI) none Analog outputs none integrated channels (AO) none Encoder Yes permissible quiescent current (2-wire sensor), max. Yes 1.5 mA 1.5 mA	— up to 60 °C, max.	2 A
Cable length 1 000 m • unshielded, max. 600 m Analog inputs 600 m integrated channels (AI) none Analog outputs integrated channels (AO) integrated channels (AO) none Encoder Connectable encoders • 2-wire sensor Yes permissible quiescent current (2-wire sensor), max. 1.5 mA	vertical installation	
• shielded, max. 1 000 m • unshielded, max. 600 m Analog inputs none integrated channels (AI) none Analog outputs integrated channels (AO) integrated channels (AO) none Encoder Connectable encoders • 2-wire sensor Yes - permissible quiescent current (2-wire sensor), max. 1.5 mA	— up to 40 °C, max.	2 A
• unshielded, max. 600 m Analog inputs integrated channels (AI) integrated channels (AI) none Analog outputs integrated channels (AO) integrated channels (AO) none Encoder Connectable encoders • 2-wire sensor Yes - permissible quiescent current (2-wire sensor), max. 1.5 mA	Cable length	
Analog inputs none Analog outputs none Analog outputs none Integrated channels (AO) none Encoder Connectable encoders • 2-wire sensor Yes — permissible quiescent current (2-wire sensor), max. 1.5 mA Interfaces Interfaces	• shielded, max.	1 000 m
integrated channels (AI) none Analog outputs none integrated channels (AO) none Encoder Connectable encoders • 2-wire sensor Yes - permissible quiescent current (2-wire sensor), max. 1.5 mA	• unshielded, max.	600 m
integrated channels (AI) none Analog outputs none integrated channels (AO) none Encoder Connectable encoders • 2-wire sensor Yes - permissible quiescent current (2-wire sensor), max. 1.5 mA	Analog inputs	
integrated channels (AO) none Encoder Encoders Connectable encoders Yes • 2-wire sensor Yes — permissible quiescent current (2-wire sensor), max. 1.5 mA Interfaces Interfaces		none
integrated channels (AO) none Encoder Encoders Connectable encoders Yes • 2-wire sensor Yes — permissible quiescent current (2-wire sensor), max. 1.5 mA Interfaces Interfaces	Analog outputs	
Connectable encoders Yes • 2-wire sensor Yes — permissible quiescent current (2-wire sensor), max. 1.5 mA Interfaces		none
Connectable encoders Yes • 2-wire sensor Yes — permissible quiescent current (2-wire sensor), max. 1.5 mA Interfaces	Encoder	
— permissible quiescent current (2-wire sensor), max. Interfaces		
Interfaces	• 2-wire sensor	Yes
		1.5 mA
	Interfaces	
		0

Number of RS 485 interfaces	1; MPI
Number of RS 422 interfaces	1; RS 422/485 combined
MPI	1, 13 422/403 combined
Cable length, max.	50 m; without repeater
Point-to-point	
Cable length, max.	1 200 m
Integrated protocol driver	1 200 m
	Yes
	Yes
— ASCII	
— RK512	No
Transmission rate, RS 422/485	
— with 3964 (R) protocol, max.	38.4 kbit/s half duplex; 19.2 kbit/s full duplex
— with ASCII protocol, max.	38.4 kbit/s half duplex; 19.2 kbit/s full duplex
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
 Point-to-point connection 	No
MPI	
 Number of connections 	8
 Transmission rate, max. 	187.5 kbit/s
Services	
— PG/OP communication	Yes
— Routing	No
— Global data communication	Yes
— S7 basic communication	Yes
— S7 communication	Yes
- S7 communication, as client	No
— S7 communication, as server	Yes
2. Interface Interface type	Integrated RS 422/ 485 interface
Physics	RS 422/RS 485 (X.27)
Isolated	Yes
Power supply to interface (15 to 30 V DC), max.	No
Number of connection resources	none
Functionality	

	N-
• MPI	No
PROFINET IO Controller	No
• PROFINET CBA	No
 PROFIBUS DP master 	No
PROFIBUS DP slave	No
 Point-to-point connection 	Yes
Point-to-point connection	
 Transmission rate, max. 	38.4 kbit/s half duplex; 19.2 kbit/s full duplex
 Interface controllable from the user program 	Yes
 Interface can trigger alarm/interrupt in the user 	Yes; Message on break - identification
program	
Communication functions	
PG/OP communication	Yes
Global data communication	
 supported 	Yes
 Number of GD loops, max. 	4
 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
S7 basic communication	
supported	Yes; Server
• 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)
S7 communication	
● supported	Yes
• 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
Number of connections	
• overall	8
 usable for PG communication 	7
— reserved for PG communication	1
— adjustable for PG communication, min.	1
— adjustable for PG communication, max.	7
usable for OP communication	7

 reserved for OP communication 	1
— adjustable for OP communication, min.	1
— adjustable for OP communication, max.	7
usable for S7 basic communication	4
- reserved for S7 basic communication	0
 — adjustable for S7 basic communication, min. 	0
— adjustable for S7 basic communication,	4
max.	
 usable for routing 	No
S7 message functions	
Number of login stations for message functions, max.	8; Depending on the configured connections for PG/OP and S7
	basic communication
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	20
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
 Forcing, variables 	Inputs, outputs
 Number of variables, max. 	10
Diagnostic buffer	
• present	Yes
• Number of entries, max.	100
Interrupts/diagnostics/status information	
Diagnostics indication LED	Voc
Status indicator digital input (green)	Yes
 Status indicator digital output (green) 	Yes
Integrated Functions	
Number of counters	3; 3 channels (see "Technological Functions" manual)
Counting frequency (counter) max.	30 kHz
Frequency measurement	Yes

Number of frequency meters	3; 3 channels up to max. 30 kHz (see "Technological Functions" manual)
controlled positioning	No
integrated function blocks (closed-loop control)	PID controller (see "Technological Functions" manual)
PID controller	Yes
Number of pulse outputs	3; 3 channels pulse width modulation up to max. 2.5 kHz (see "Technological Functions" manual)
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
Permissible potential difference	
between different circuits	75 V DC/60 V AC
solation	
Isolation tested with	600 V DC
Configuration	
Configuration software	
• STEP 7	Yes; V5.2 SP1 with HW update
Programming	
Command set	see instruction list
Nesting levels	8
 System functions (SFC) 	see instruction list
 System function blocks (SFB) 	see instruction list
Programming language	
Programming language — LAD	Yes
	Yes Yes
— LAD	
— LAD — FBD	Yes
— LAD — FBD — STL	Yes Yes
— LAD — FBD — STL — SCL	Yes Yes Yes
- LAD - FBD - STL - SCL - GRAPH	Yes Yes Yes
LAD FBD STL SCL GRAPH HiGraph®	Yes Yes Yes

Width	120 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	566 g
last modified:	03/23/2017