SIEMENS

Data sheet

6ES7313-6BF03-0AB0



Figure similar

Spare part SIMATIC S7-300, CPU 313C-2 PTP Compact CPU with MPI, 16 DI/16 DO, 3 high-speed counters (30 kHz), integrated interface RS485, Integr. power supply 24 V DC, work memory 64 KB, Front connector (1x 40-pole) and Micro Memory Card required

General information	
HW functional status	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
permissible range, lower limit (DC)	20.4 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
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	
— Rated value (DC)	24 V
 Reverse polarity protection 	Yes
Digital outputs	
— Rated value (DC)	24 V
 Reverse polarity protection 	No
Input current	
Current consumption (rated value)	700 mA
Current consumption (in no-load operation), typ.	100 mA
Inrush current, typ.	11 A
l²t	0.7 A ² ·s
Digital inputs	
 from load voltage L+ (without load), max. 	70 mA
Digital outputs	
 from load voltage L+, max. 	100 mA
Power loss	
Power loss, typ.	10 W
Memory	
Work memory	
• integrated	64 kbyte
expandable	No
Load memory	
• Plug-in (MMC)	Yes

■ Data management on MMC (after last programming), min. Backup ■ present ■ without battery Post in peraisons, typ. For bit operaisons, typ. F	• Plug-in (MMC), max.	8 Mbyte
programming), min. Persent Yes, Guaranteed by MMC (maintenance-free)		
Present		,
• without battery Yes, Program and data CPU processing times for bit operations, typ. for filed porations, max. 0.2 µs for fixed point arithmetic, typ. 2 µs for fixed point arithmetic, typ. 3 µs CPU-blooks Number of blocks (total) B • Number, max. • Size, max. 1024; Number range: 1 to 511 6 kbyte • Number, max. • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1024; Number range: 0 to 2047 • Size, max. 1025; Number of the cycle OBs • Number of the cycle OBs • Number of forces alarm OBs • Number of sex public	Backup	
CPU processing times	present	Yes; Guaranteed by MMC (maintenance-free)
Tor bit operations, typ.	without battery	Yes; Program and data
Tor bit operations, max	CPU processing times	
Tor word operations, typ. 0.2 µs	for bit operations, typ.	0.1 µs
Tor fixed point arithmetic, typ. 2 µs 3 µs	for bit operations, max.	0.2 µs
Too floating point arithmetic, typ. 3 µs	for word operations, typ.	0.2 µs
CPUB-blocks	for fixed point arithmetic, typ.	2 μs
Number of blocks (total)	for floating point arithmetic, typ.	3 µs
DB	CPU-blocks	
Number	Number of blocks (total)	1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can
■ Size, max. Number, max. Number, max. Number, max. Number, max. Number, max. Number and their respectively. Number of dealy alarm OBs Number of young interrupt OBs Number of saynchronous error OBs Number of asynchronous error OBs Number of saynchronous error OB Number of Synchronous error OB Number of Synchronous error OB Number of Synchronous error OB Number	DB	be reduced by the Willie deed.
■ Size, max. Number, max. Number, max. Number, max. Number, max. Number, max. Number and their respectively. Number of dealy alarm OBs Number of young interrupt OBs Number of saynchronous error OBs Number of asynchronous error OBs Number of saynchronous error OB Number of Synchronous error OB Number of Synchronous error OB Number of Synchronous error OB Number		511; Number range: 1 to 511
FB		
● Size, max. • Number, max. • Size, max. 1 024; Number range: 0 to 2047 • Size, max. 1 6 kbyte ■ Size, max. 1 16 kbyte ■ Number of time alarm OBs 1 1 0B 10 ■ Number of get, older of time alarm OBs ■ Number of delay alam OBs ■ Number of of cyclic interrupt OBs ■ Number of synchronous emro OBs ■ Number of sartup OBs ■ Number of synchronous emro OBs ■ Additional within an emro OB ■ Ounters, timers and their retentivity S7 counter ■ Number ■ Lower limit ■ upper limit □ upper limit □ upper limit □ upper limit □ present ■		
● Size, max. • Number, max. • Size, max. 1 024; Number range: 0 to 2047 • Size, max. 1 6 kbyte ■ Size, max. 1 16 kbyte ■ Number of time alarm OBs 1 1 0B 10 ■ Number of get, older of time alarm OBs ■ Number of delay alam OBs ■ Number of of cyclic interrupt OBs ■ Number of synchronous emro OBs ■ Number of sartup OBs ■ Number of synchronous emro OBs ■ Additional within an emro OB ■ Ounters, timers and their retentivity S7 counter ■ Number ■ Lower limit ■ upper limit □ upper limit □ upper limit □ upper limit □ present ■		1 024; Number range: 0 to 2047
FC		
Number, max.		
● Size, max. 16 kbyte ● Size, max. 16 kbyte ● Number of free cycle OBs 1; OB 1 • Number of free cycle OBs 1; OB 1 • 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 40 • Number of startup OBs 1; OB 40 • Number of saynchronous 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 • Number 256 Retentivity		1 024; Number range: 0 to 2047
Size, max.		
Number of free cycle OBs Number of time alarm OBs Number of delay alarm OBs Number of cyclic interrupt OBs Number of cyclic interrupt OBs Number of process alarm OBs Number of process alarm OBs Number of process alarm OBs Number of sarytup OBs Number of asynchronous error OBs Number of synchronous error OBs		
Number of free cycle OBs Number of time alarm OBs Number of delay alarm OBs Number of cyclic interrupt OBs Number of cyclic interrupt OBs Number of process alarm OBs Number of process alarm OBs Number of process alarm OBs Number of sarytup OBs Number of asynchronous error OBs Number of synchronous error OBs	• Size, max.	16 kbyte
 Number of delay alarm OBs Number of cyclic interrupt OBs Number of cyclic interrupt OBs Number of startup OBs Number of startup OBs Number of synchronous error OBs Number of asynchronous error OBs Number of synchronous error OBs Qib 80, 82, 85, 87 Number of synchronous error OBs Per priority class additional within an error OB Counters, timers and their retentivity Sounter Number Additional within an error OB Number Additional within an error OB Ves Heatentivity adjustable — lower limit — upper limit — upper limit — upper limit — lower limit — lower limit — upper limit — one of the prior of	Number of free cycle OBs	1; OB 1
 Number of cyclic interrupt OBs Number of process alarm OBs Number of startup OBs Number of sartup OBs Number of saynchronous error OBs Number of synchronous error OBs Number of synchronous error OBs Number of synchronous error OBs Per priority class additional within an error OB Counters, timers and their retentivity Counters, timers and their retentivity S7 counter Number Actional within an error OB Number Actional within an error OB Actional within Actional within Actional within Actional withi	 Number of time alarm OBs 	1; OB 10
 Number of cyclic interrupt OBs Number of process alarm OBs Number of startup OBs Number of sartup OBs Number of saynchronous error OBs Number of synchronous error OBs Number of synchronous error OBs Number of synchronous error OBs Per priority class additional within an error OB Counters, timers and their retentivity Counters, timers and their retentivity S7 counter Number Actional within an error OB Number Actional within an error OB Actional within Actional within Actional within Actional withi	 Number of delay alarm OBs 	1; OB 20
 Number of startup OBs Number of asynchronous error OBs Number of synchronous error OBs Number of synchronous error OBs Nesting depth per priority class additional within an error OB Counters, timers and their retentivity S7 counter Number adjustable lower limit upper limit preset Counting range lower limit upper limit yes Counting range lower limit upper limit yes SFB Number \$FB Number \$FB Number \$FB Number \$FB Number Number Pessent Type Times Number Number Pessent Number Number Number Number Number Number Number pessent Number Number Number Number Number pessent Number Number Number Number Pess Number Number pessent Number Number	Number of cyclic interrupt OBs	1; OB 35
 Number of startup OBs Number of asynchronous error OBs Number of synchronous error OBs Number of synchronous error OBs Nesting depth per priority class additional within an error OB Counters, timers and their retentivity S7 counter Number adjustable lower limit upper limit preset Counting range lower limit upper limit yes Counting range lower limit upper limit yes SFB Number \$FB Number \$FB Number \$FB Number \$FB Number Number Pessent Type Times Number Number Pessent Number Number Number Number Number Number Number pessent Number Number Number Number Number pessent Number Number Number Number Pess Number Number pessent Number Number		1; OB 40
 Number of asynchronous error OBs Number of synchronous error OBs Number of synchronous error OBs 2; OB 121, 122 Nesting depth per priority class additional within an error OB 4 Counters, timers and their retentivity S7 counter Number Number adjustable — lower limit — upper limit — upper limit — lower limit — lower limit — upper limit — upper limit — upper limit — upper limit 999 IEC counter • present • present • Present • Type • Number SFB • Number Unlimited (limited only by RAM capacity) S7 times • Number e Number 256 Retentivity — adjustable — lower limit — lower limit — lower limit — lower limit — upper limit — upper limit — upper limit — lower limit — upper limit<td></td><td>1; OB 100</td>		1; OB 100
Nesting depth Per priority class Additional within an error OB Additional within an error OB Additional within an error OB Counters, timers and their retentivity S7 counter Number Adjustable Augustable Au		4; OB 80, 82, 85, 87
Nesting depth € per priority class 8 • additional within an error OB 4 Counters, timers and their retentivity S7 counter • Number 256 Retentivity - adjustable Yes — lower limit 0 • preset — upper limit 255 • adjustable — lower limit 0 • preset — lower limit 0 • preset • present Yes • FB • Number Yes • FB • Number 256 Retentivity — adjustable Yes — lower limit 0 • preset — lower limit 0 • preset — upper limit 255 • No retentivity		
additional within an error OB Counters, timers and their retentivity S7 counter Number Number Adjustable Adjustable Aupper limit		
Counters, timers and their retentivity ● Number 256 Retentivity — adjustable — lower limit 0 — upper limit 255 — preset 8 Counting range — lower limit 0 — upper limit 999 IEC counter • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) S7 times • Number • Number 256 Retentivity — adjustable Yes — lower limit 0 — upper limit 255 — preset No retentivity	per priority class	8
S7 counter		4
● Number 256 Retentivity — adjustable Yes — lower limit 0 — upper limit 255 — preset 8 Counting range — lower limit 0 — upper limit 999 IEC counter ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity) S7 times S7 times ● Number 256 Retentivity — adjustable Yes — lower limit 0 — upper limit 0 — upper limit 255 — preset No retentivity	Counters, timers and their retentivity	
Retentivity — adjustable Yes — lower limit 0 — upper limit 255 — preset 8 Counting range — lower limit 0 — upper limit 999 IEC counter • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) S7 times • Number • Number 256 Retentivity Yes — lower limit 0 — upper limit 255 — preset No retentivity	S7 counter	
— adjustable Yes — lower limit 0 — upper limit 255 — preset 8 Counting range — lower limit 0 — upper limit 999 IEC counter • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) S7 times • Number 256 Retentivity Yes — adjustable Yes — lower limit 0 — upper limit 255 — preset No retentivity	Number	256
— adjustable Yes — lower limit 0 — upper limit 255 — preset 8 Counting range — lower limit 0 — upper limit 999 IEC counter • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) S7 times • Number 256 Retentivity Yes — adjustable Yes — lower limit 0 — upper limit 255 — preset No retentivity	Retentivity	
— lower limit 0 — upper limit 255 — preset 8 Counting range — lower limit 0 — upper limit 999 IEC counter ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity) S7 times Number ● Number 256 Retentivity Yes — lower limit 0 — upper limit 255 — preset No retentivity	•	Yes
Counting range		0
Counting range lower limit upper limit 9999 IEC counter • present • Type • Type • Number • Number • Number • Number adjustable lower limit upper limit upper limit upper limit preset lower limit preset No retentivity Adjustable lower limit upper limit upper limit upper limit preset No retentivity	— upper limit	255
— lower limit 0 — upper limit 999 IEC counter Yes ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity) S7 times Number ● Number 256 Retentivity Yes — lower limit 0 — upper limit 255 — preset No retentivity	— preset	8
— upper limit 999 IEC counter Yes ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity) S7 times Number ● Number 256 Retentivity Yes — lower limit 0 — upper limit 255 — preset No retentivity	Counting range	
IEC counter	— lower limit	0
 ● present ● Type ● Number SFB ● Number Unlimited (limited only by RAM capacity) S7 times ● Number 256 Retentivity — adjustable — lower limit — upper limit — upper limit — preset No retentivity 	— upper limit	999
● Type SFB ● Number Unlimited (limited only by RAM capacity) S7 times ● Number 256 Retentivity adjustable Yes lower limit 0 upper limit 255 preset No retentivity	IEC counter	
● Number Unlimited (limited only by RAM capacity) S7 times ● Number 256 Retentivity	present	Yes
S7 times ● Number 256 Retentivity — adjustable Yes — lower limit 0 — upper limit 255 — preset No retentivity	• Type	SFB
 Number Retentivity — adjustable — lower limit — upper limit — preset No retentivity 	Number	Unlimited (limited only by RAM capacity)
Retentivity — adjustable Yes — lower limit 0 — upper limit 255 — preset No retentivity	S7 times	
 — adjustable — lower limit — upper limit — preset Yes 255 — No retentivity 		256
— lower limit 0 — upper limit 255 — preset No retentivity	Retentivity	
— upper limit— presetNo retentivity	— adjustable	
— preset No retentivity	— lower limit	0
·	— upper limit	255
Time range	— preset	No retentivity
	Time range	

— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Type	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	
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
	0
Number/Number range Pange of values	
Range of valuesGranularity	0 to 2^31 hours (when using SFC 101) 1 h
• retentive	
	Yes; Must be restarted at each restart
Clock synchronization	Yes
• supported	Yes
• to MPI, master	
• to MPI, slave	Yes Yes
• in AS, master	res
Digital inputs	40
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 +30 V
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 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	
● 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	500 mA
• for signal "1" permissible range, min.	5 mA
• for signal "1" permissible range, max.	0.6 A

a for aignal 1141 printers land aver-	E m \(\)
for signal "1" minimum load current for signal "0" residual current may	5 mA
for signal "0" residual current, max. Parallel switching of two outputs	0.5 mA
Parallel switching of two outputs	No
for upratingfor redundant control of a load	No Yes
Switching frequency	100
with resistive load, max.	100 Hz
with resistive load, max. 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)	2.0 10 12
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	
shielded, max.	1 000 m
• unshielded, max.	600 m
Analog inputs	
integrated channels (AI)	none
Analog outputs	
integrated channels (AO)	none
Encoder	
Connectable encoders	
2-wire sensor	Yes
permissible quiescent current (2-wire sensor),	1.5 mA
max.	1.0 IIIA
Interfaces	
Number of industrial Ethernet interfaces	0
Number of PROFINET interfaces	0
Number of RS 485 interfaces	1; MPI
Number of RS 422 interfaces	1; RS 422 / 485 combined
MPI	
Cable length, max.	50 m; without repeater
Point-to-point connection	
Cable length, max.	1 200 m
Integrated protocol driver	
— 3964 (R)	Yes
— ASCII	Yes
— RK 512	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
Isolated	No
Interface types	
Output current of the interface, max.	200 mA
Protocols	
• 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	
Services — PG/OP communication — Routing	Yes No

Clabal data	Van
— 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
Isolated	Yes
Number of connection resources	none
Interface types	
• RS 485	Yes; RS 422 / 485 (X.27)
Output current of the interface, max.	No
Protocols	
• 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	
Protocols	
PROFIsafe	No
communication functions / header	
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
additional of the second of th	

- reserved for S7 basic communication - adjustable for S7 basic communication, min adjustable for S7 basic communication, min adjustable for S7 basic communication, max. • usable for routing No S7 message functions Number of login stations for message functions, max. Process diagnostic messages simultaneously active Alarm-S blocks, max. Pest commissioning functions Status block Single step Yes Number of breakpoints Status/control • Status/control variable Variables Number of variables, max of which status variables, max of which control variables, max of which of variables, max of which of variables, max of which control variables, max of which control variables, max of which of variables, max	ic
- adjustable for S7 basic communication, max. • usable for routing S7 message functions Number of login stations for message functions, max. Process diagnostic messages simultaneously active Alarm-S blocks, max. 20 Test commissioning functions Status block Single step Yes Number of breakpoints • Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max.	ic
washe for routing S7 message functions Number of login stations for message functions, max. Process diagnostic messages simultaneously active Alarm-S blocks, max. 20 Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max. — of which control variables, max. Forcing • Forcing • Forcing, variables, max. • Number of variables, max. • Number of variables, max. • Number of variables, max. 14 Forcing • Forcing • Forcing, variables, max. • Number of variables, max. • Number of variables, max. 10 Diagnostic buffer • present • Number of entries, max. 100 Interrupts/diagnostics/status information Diagnostics indication LED • Status indicator digital input (green) Yes	ic
Number of login stations for message functions, max. Process diagnostic messages simultaneously active Alarm-S blocks, max. 20 Test commissioning functions Status block Single step Number of breakpoints Status/control variable Variables Number of variables, max. — of which status variables, max. — of which control variables, max. — of which control variables, max. — of which control variables, max. — of which order of variables, max. — of which order of variables, max. — of which control variables, max. 14 Forcing • Forcing • Forcing, variables • Number of variables, max. 10 Diagnostic buffer • present • Number of etries, max. 100 Interrupts/diagnostics/status information Diagnostics indication LED • Status indicator digital input (green) Yes	ic
Number of login stations for message functions, max. Process diagnostic messages simultaneously active Alarm-S blocks, max. Pest commissioning functions Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing Forcing Forcing, variables, max. Number of variables, max. Number of variables, max. To gwarf of which control variables, max. Number of variables, max. To gwarf of which control variables, max. Number of variables, max. To gwarf of which control variables, max. Number of entries, max. Number of entries	ic
Process diagnostic messages simultaneously active Alarm-S blocks, max. 20 Test commissioning functions Status block Single step Yes Number of breakpoints Status/control Status/control Status/control variable Variables Number of variables, max. Of which status variables, max. Of which control variables, max. In of which control variables, max. Forcing Forcin	
Simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Yes Number of breakpoints 2 Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing Forcing, variables, max. Number of variables, max. Forcing Forcing, variables, max. Number of variables, max. 10 Diagnostic buffer present Number of entries, max. 100 Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes	
Status block Single step Yes Number of breakpoints 2 Status/control Status/control variable Variables Number of variables, max. Of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Number of variables, max. 10 Diagnostic buffer present Number of entries, max. Number of entries, max. 10 Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes	
Status block Single step Number of breakpoints 2 Status/control Status/control variable Variables Number of variables, max. Of which status variables, max. Forcing Forcing Forcing Forcing, variables, max. Number of variables, max. Forcing Forcing Forcing Forcing Forcing Forcing, variables, max. Number of variables, max. 10 Diagnostic buffer present Present Number of entries, max. Number	
Single step Number of breakpoints 2 Status/control Status/control variable Variables Number of variables, max. Of which status variables, max. Of which control variables, max. Inputs, outputs, memory bits, DB, times, counters Number of variables, max. Of which control variables, max. Inputs, outputs Forcing Forcing Forcing, variables Number of variables, max. Inputs, outputs Number of variables, max. Inputs, outputs Number of variables, max. Inputs, outputs Number of entries, max. Industriables Number of entries, max. Industriables Status indicator digital input (green) Yes	
Number of breakpoints Status/control Status/control variable Variables Inputs, outputs, memory bits, DB, times, counters Inputs, outputs Forcing Forcing Forcing Forcing, variables, max. Inputs, outputs Inputs, outputs Number of variables, max. Inputs, outputs Ves Number of entries, max. Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes	
Status/control Status/control variable Variables Inputs, outputs, memory bits, DB, times, counters Inputs, outputs, and	
Status/control variable Variables Inputs, outputs, memory bits, DB, times, counters Inputs, outputs, memory bits, DB, times, counters Inputs, outputs, memory bits, DB, times, counters 30 — of which status variables, max. 30 — of which control variables, max. 14 Forcing Forcing Forcing, variables Inputs, outputs Inputs, outputs Inputs, outputs Ves Number of variables, max. 10 Diagnostic buffer present present Number of entries, max. 100 Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes	
 Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Number of variables, max. Diagnostic buffer present Number of entries, max. Number of entries, max. Inout Inout Diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes 	
 Number of variables, max. — of which status variables, max. — of which control variables, max. — of which status variables, max. — of which control variables, max. — of which con	
- of which status variables, max of which control variables, max. 14 Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. Number of entries, max. 100 Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes	
of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. Number of entries, max. 100 Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes	
Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. 100 Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes	
 Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. Number of entries, max. Diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes 	
 Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. Number of entries, max. Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes 	
Number of variables, max. Diagnostic buffer present Number of entries, max. Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes	
Diagnostic buffer • present • Number of entries, max. 100 Interrupts/diagnostics/status information Diagnostics indication LED • Status indicator digital input (green) Yes	
Present Number of entries, max. Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes	
Number of entries, max. Interrupts/diagnostics/status information Diagnostics indication LED Status indicator digital input (green) Yes	
Interrupts/diagnostics/status information Diagnostics indication LED • Status indicator digital input (green) Yes	
Diagnostics indication LED • Status indicator digital input (green) Yes	
Diagnostics indication LED • Status indicator digital input (green) Yes	
Status indicator digital input (green) Yes	
Integrated Functions	
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	
Isolation	
Isolation tested with 600 V DC	
configuration / header	
Configuration software	
STEP 7 Yes; V5.2 SP1 with HW update	
configuration / programming / header	
• 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
— GRAPH	Yes
— HiGraph®	Yes
Know-how protection	
 User program protection/password protection 	Yes
Dimensions	
Width	120 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	566 g

last modified: 7/28/2021 **C**