6ES7314-6BH04-0AB0

## **Data sheet**



SIMATIC S7-300, CPU 314C-2 PTP Compact CPU with MPI, 24 DI/16 DO, 4 AI, 2 AO, 1 Pt100, 4 high-speed counters (60 kHz), integrated interface RS485, Integr. power supply 24 V DC, work memory 192 KB, Front connector (2x 40-pole) and Micro Memory Card required

General information	
HW functional status	01
Firmware version	V3.3
Engineering with	
<ul> <li>Programming package</li> </ul>	STEP 7 as of V5.5 + SP1 or STEP 7 V5.3 + SP2 or higher with HSP 204
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	Miniature circuit breaker, type C; min. 2 A; miniature circuit breaker type B, min. 4 A
Mains buffering	
<ul> <li>Mains/voltage failure stored energy time</li> </ul>	5 ms
Repeat rate, min.	1 s
Load voltage L+	
Digital inputs	
— Rated value (DC)	24 V
<ul> <li>Reverse polarity protection</li> </ul>	Yes
Digital outputs	
— Rated value (DC)	24 V
<ul> <li>Reverse polarity protection</li> </ul>	No
Input current	
Current consumption (rated value)	660 mA
Current consumption (in no-load operation), typ.	150 mA
Inrush current, typ.	5 A
I <sup>2</sup> t	0.7 A²·s
Digital inputs	
<ul> <li>from load voltage L+ (without load), max.</li> </ul>	80 mA
Digital outputs	
• from load voltage L+, max.	50 mA
Power loss	
Power loss, typ.	13 W
Memory	
Work memory	
• integrated	192 kbyte
expandable	No
Load memory	
• Plug-in (MMC)	Yes
<ul><li>Plug-in (MMC), max.</li></ul>	8 Mbyte
<ul> <li>Data management on MMC (after last programming), min.</li> </ul>	10 a

Backup	V 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
• present	Yes; Guaranteed by MMC (maintenance-free)
without battery	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.06 μs
for word operations, typ.	0.12 μs
for fixed point arithmetic, typ.	0.16 µs
for floating point arithmetic, typ.	0.59 µs
CPU-blocks	
Number of blocks (total)	1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	
<ul><li>Number, max.</li></ul>	1 024; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
<ul><li>Number, max.</li></ul>	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
<ul><li>Number, max.</li></ul>	1 024; Number range: 0 to 7999
Size, max.	64 kbyte
OB	
<ul><li>Number, max.</li></ul>	see instruction list
• Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
<ul> <li>Number of time alarm OBs</li> </ul>	1; OB 10
Number of delay alarm OBs	2; OB 20, 21
<ul> <li>Number of cyclic interrupt OBs</li> </ul>	4; OB 32, 33, 34, 35
<ul> <li>Number of process alarm OBs</li> </ul>	1; OB 40
<ul> <li>Number of startup OBs</li> </ul>	1; OB 100
<ul> <li>Number of asynchronous error OBs</li> </ul>	4; OB 80, 82, 85, 87
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	
<ul> <li>per priority class</li> </ul>	16
additional within an error OB	4
Counters, timers and their retentivity	
S7 counter	
Number	256
Retentivity	
— adjustable	Yes
— lower limit	0
lower limit     upper limit	0 255
<ul><li>— lower limit</li><li>— upper limit</li><li>— preset</li></ul>	0
lower limit upper limit preset Counting range	0 255 Z 0 to Z 7
lower limit upper limit preset  Counting range lower limit	0 255 Z 0 to Z 7
lower limit upper limit preset Counting range	0 255 Z 0 to Z 7
lower limit upper limit preset  Counting range lower limit	0 255 Z 0 to Z 7
— lower limit — upper limit — preset  Counting range — lower limit — upper limit  IEC counter  ● present	0 255 Z 0 to Z 7 0 999
lower limit upper limit preset  Counting range lower limit upper limit IEC counter	0 255 Z 0 to Z 7 0 999 Yes SFB
— lower limit — upper limit — preset  Counting range — lower limit — upper limit  IEC counter  ● present	0 255 Z 0 to Z 7 0 999
<ul> <li>— lower limit</li> <li>— upper limit</li> <li>— preset</li> <li>Counting range</li> <li>— lower limit</li> <li>— upper limit</li> <li>IEC counter</li> <li>• present</li> <li>• Type</li> <li>• Number</li> <li>S7 times</li> </ul>	0 255 Z 0 to Z 7  0 999  Yes SFB Unlimited (limited only by RAM capacity)
- lower limit - upper limit - preset  Counting range - lower limit - upper limit  IEC counter  • present • Type • Number  S7 times • Number	0 255 Z 0 to Z 7 0 999 Yes SFB
lower limit upper limit preset  Counting range lower limit upper limit  IEC counter  • present • Type • Number  S7 times • Number Retentivity	0 255 Z 0 to Z 7  0 999  Yes SFB Unlimited (limited only by RAM capacity)
— lower limit — upper limit — preset  Counting range — lower limit — upper limit  IEC counter  • present • Type • Number  \$7\$ times • Number  Retentivity — adjustable	0 255 Z 0 to Z 7  0 999  Yes SFB Unlimited (limited only by RAM capacity)  256  Yes
- lower limit - upper limit - preset  Counting range - lower limit - upper limit  IEC counter  • present • Type • Number  S7 times • Number  Retentivity - adjustable - lower limit	0 255 Z 0 to Z 7  0 999  Yes SFB Unlimited (limited only by RAM capacity)  256  Yes 0
— lower limit — upper limit — preset  Counting range — lower limit — upper limit  IEC counter  • present • Type • Number  \$7\$ times • Number  Retentivity — adjustable	0 255 Z 0 to Z 7  0 999  Yes SFB Unlimited (limited only by RAM capacity)  256  Yes
- lower limit - upper limit - preset  Counting range - lower limit - upper limit  IEC counter  • present • Type • Number  S7 times • Number  Retentivity - adjustable - lower limit	0 255 Z 0 to Z 7  0 999  Yes SFB Unlimited (limited only by RAM capacity)  256  Yes 0
- lower limit - upper limit - preset  Counting range - lower limit - upper limit  IEC counter  • present • Type • Number  S7 times • Number  Retentivity - adjustable - lower limit - upper limit	0 255 Z 0 to Z 7  0 999  Yes SFB Unlimited (limited only by RAM capacity)  256  Yes 0 255
- lower limit - upper limit - preset  Counting range - lower limit - upper limit  IEC counter • present • Type • Number  S7 times • Number  Retentivity - adjustable - lower limit - upper limit - upper limit - upper limit - preset	0 255 Z 0 to Z 7  0 999  Yes SFB Unlimited (limited only by RAM capacity)  256  Yes 0 255
<ul> <li>lower limit</li> <li>upper limit</li> <li>preset</li> <li>Counting range</li> <li>lower limit</li> <li>upper limit</li> </ul> IEC counter <ul> <li>present</li> <li>Type</li> <li>Number</li> </ul> S7 times <ul> <li>Number</li> </ul> Retentivity <ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> </ul> Time range	0 255 Z 0 to Z 7  0 999  Yes SFB Unlimited (limited only by RAM capacity)  256  Yes 0 255 No retentivity
- lower limit - upper limit - preset  Counting range - lower limit - upper limit  IEC counter  • present • Type • Number  S7 times • Number  Retentivity - adjustable - lower limit - upper limit - upper limit - preset  Time range - lower limit	0 999  Yes SFB Unlimited (limited only by RAM capacity)  256  Yes 0 255 No retentivity

• 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	
<ul> <li>Retentivity adjustable</li> </ul>	Yes; via non-retain property on DB
Retentivity preset	Yes
Local data	
<ul> <li>per priority class, max.</li> </ul>	32 kbyte; Max. 2048 bytes per block
Address area	
I/O address area	
• Inputs	1 024 byte
Outputs	1 024 byte
of which distributed	
— Inputs	none
— Outputs	none
Process image	
• Inputs	1 024 byte
• Outputs	1 024 byte
Inputs, adjustable	1 024 byte
Outputs, adjustable	1 024 byte
• Inputs, default	128 byte
Outputs, default	128 byte
Default addresses of the integrated channels	404.0 1- 400.7
— Digital inputs	124.0 to 126.7
— Digital outputs	124.0 to 125.7
— Analog inputs	752 to 761
— Analog outputs	752 to 755
Digital channels	1 016
<ul><li>Inputs</li><li>— of which central</li></ul>	
	1 016
Outputs     — of which central	1 008 1 008
	1 000
Analog channels  • Inputs	253
of which central	253
Outputs	250
Outputs     — of which central	250
Hardware configuration	
Number of expansion units, max.	3
Number of DP masters	
• integrated	none
• via CP	4
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	10
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

a Deviation per dev. may	10 o: Tvp : 2 o
Deviation per day, max.      Dehavior of the plack following DOWED ON.	10 s; Typ.: 2 s
<ul> <li>Behavior of the clock following POWER-ON</li> <li>Behavior of the clock following expiry of backup period</li> </ul>	Clock continues running after POWER OFF
	the clock continues at the time of day it had when power was switched off
Operating hours counter  • Number	1
	0
Number/Number range     Pange of values	
Range of values     Crouderity	0 to 2^31 hours (when using SFC 101)
Granularity	1 h
retentive  Clock synchronization	Yes; Must be restarted at each restart
-	Yes
• supported	Yes
• to MPI, master	
• to MPI, slave	Yes
• in AS, master	Yes
• in AS, slave	No
Digital inputs	24
Number of digital inputs	24
of which inputs usable for technological functions	16
integrated channels (DI)	24
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
horizontal installation	
— up to 40 °C, max.	24
— up to 60 °C, max.	12
vertical installation	
— up to 40 °C, max.	12
Input voltage	
<ul><li>Rated value (DC)</li></ul>	24 V
• for signal "0"	-3 to +5V
• for signal "1"	+15 to +30 V
Input current	
• for signal "1", typ.	8 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.)
— Rated value	3 ms
for technological functions	
— at "0" to "1", max.	8 μs; Minimum pulse width/minimum pause between pulses at maximum counting frequency
Cable length	1,000 m; E0 m for tochnological functions
• shielded, max.	1 000 m; 50 m for technological functions
• unshielded, max.	600 m; for technological functions: No
for technological functions	FO
— 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; Notice: You cannot connect the fast outputs of your CPU in parallel
integrated channels (DO)	16
Short-circuit protection	Yes; Clocked electronically
Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	L+ (-48 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
on lamp load, max.	5 W
Load resistance range	
• lower limit	48 Ω
• upper limit	4 kΩ
Output voltage	

• for signal "1" min	I + (-0.8 V)
• 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 "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
<ul> <li>on lamp load, max.</li> </ul>	100 Hz
of the pulse outputs, with resistive load, max.	2.5 kHz
Total current of the outputs (per group)	
horizontal installation	
— up to 40 °C, max.	3 A
— up to 60 °C, max.	2 A
vertical installation	
— up to 40 °C, max.	2 A
Cable length	
• shielded, max.	1 000 m
unshielded, max.	600 m
Analog inputs	
Number of analog inputs	5
<ul> <li>For voltage/current measurement</li> </ul>	4
For resistance/resistance thermometer measurement	1
integrated channels (AI)	5; 4x current/voltage, 1x resistance
permissible input voltage for current input (destruction limit), max.	5 V; Permanent
permissible input voltage for voltage input (destruction limit), max.	30 V; Permanent
permissible input current for voltage input (destruction limit), max.	0.5 mA; Permanent
permissible input current for current input (destruction limit), max.	50 mA; Permanent
Electrical input frequency, max.	400 Hz
No-load voltage for resistance-type transmitter, typ.	3.3 V
Constant measurement current for resistance-type transmitter, typ.	1.25 mA
Technical unit for temperature measurement adjustable	Yes; Degrees Celsius / degrees Fahrenheit / Kelvin
Input ranges	
Voltage	Yes; $\pm 10$ V / $100$ k $\Omega$ ; 0 V to 10 V / $100$ k $\Omega$
Current	Yes; ±20 mA / 100 $\Omega$ ; 0 mA to 20 mA / 100 $\Omega$ ; 4 mA to 20 mA / 100 $\Omega$
Resistance thermometer	Yes; Pt 100 / 10 MΩ
Resistance	Yes; 0 $\Omega$ to 600 $\Omega$ / 10 M $\Omega$
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	100 kΩ
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	100 Ω
• -20 mA to +20 mA	Yes
— Input resistance (-20 mA to +20 mA)	100 Ω
• 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	100 Ω
Input ranges (rated values), resistance thermometer	
• Pt 100	Yes
— Input resistance (Pt 100)	10 ΜΩ
Input ranges (rated values), resistors	
• 0 to 600 ohms	Yes

Thermosouple (TC)  Temperature compensation — parameterizable — for resistance thermometer	Input registance (0 to 600 ohms)	10 MO
Temperature compensation - parameterizable Characteristic interactation  • parameterizable - for resistance thermometer - for rotage output short-circuit current, max for MA - Current output, no-load voltage, max for to 10 V - for voltage output for write connection - for voltage output four write connection - for outpage output four write connection - for voltage output four write connection - for outpage output four four four four four four four four	— Input resistance (0 to 600 ohms)	10 ΜΩ
- parameterizable - Characterization   Parameterizable   Yes; by software   - for resistance thermometer   Pi 100   - sheided, max.   100 m   - sheided, max.   100 m   - sheided, max.   100 m   - sheided, max.   2   - Vottage output.   Sheided, max.   2   - Vottage output. short-circuit protection   Yes   - Vottage output. short-circuit current, max.   55 mA   - Current output, no-food vottage, max.   14 V   - Vottage output. short-circuit current, max.   55 mA   - Current output, no-food vottage, max.   14 V   - Vottage output. short-direxid current, max.   14 V   - Vottage output. short-direxid current   14 V   - Vottage output. short-direxid current   14 V   - Vottage output. short-direxid connection   14 KQ   - Vottage coutput. short-direxid connection   14 KQ   - Vottage coutput. short-direxid connection   14 KQ   - Vottage coutput. short-direxid con		
Characterisals insearcation  parameterization  - for resistance themometer  - for resistance themometer  - for resistance themometer  - for resistance themometer  - for the selection of the sel	·	
Parameterizable		No
shielded, max.  Anatog outputs  Number of analog outputs  100 m  Number of analog outputs  2  Voltage output, short-circuit protection  Yes  Voltage output, short-circuit protection  Yes  Current output, no-load voltage, max.  Voluput ranges, votage  **O to 10 V  **O **O 10 V  **O **O **O **O **O **O **O **O **O **	•	·
Analog outputs		Pt 100
Analog outputs  Number of analog outputs  (AC)  2  Voltage output, short-circuit protection  Yes  Current output, no-load voltage, max.  Current output, no-load voltage, max.  (AV)  - (10 Yo V Yes  - (10 Yo +10 V Yes  - (20 mA to +20 mA Yes  - (20 mA	Cable length	
Number of analog outputs   2   2   2   2   2   2   2   2   2	• shielded, max.	100 m
Integrated channels (AO)  Voltago output, short-circult protection  Ves  Voltago output, short-circult protection  Ves  Voltago output, short-circult protection  Ves  Voltago output, short-circult current, max.  55 mA  Current output, no-load voltage, max.  0 to 10 V  • 10 V to 10 V  • 10 V to 10 V  • 10 V to 10 V  • 10 20 mA  • 20 mA  • 20 mA  • 20 mA  • 4 mA to 20 mA  • 4 mA to 20 mA  • 6 ro voltage output two-wire connection • for voltage output flor-wire connection • for voltage output flor-wire connection • for voltage output, smin. • 1 kD  • with voltage output, smin. • with voltage output, smin. • with current outputs, max. • with current outputs towards MANA • Current, max  Cable length • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Or oversion time (per channel) • Resolution of signal encoders • for oversion time (per channel) • for includive load • for includive load • for includive load • for oversion time (per chann	Analog outputs	
Voltage output, short-circuit protection  Vetage output, short-circuit protection  Voltage output, short-circuit current, max.  55 mA  Current output, no-lead voltage, max.  14 V  Cutput ranges, voltage  • 0 to 10 V  yes  • 10 V to +10 V  Yes  • 10 V to +10 V  Yes  • 10 V to +10 V  Yes  • 20 mA to +20 mA  • 20 mA  • 20 mA  • 20 mA to 20 mA  • 7 ves  • 6 ro voltage output four-wire connection  • for voltage output, four-wire connection  • for voltage output, four-wire connection  • for voltage output, four-wire connection  • vetage output, four-wire connection  • for voltage output, four-wire connection  • for voltage output, four-wire connection  • with current output, in-ductive load, max.  • vinit current output, in-ductive load, max.  • vinit current output, in-ductive load, max.  • Voltages at the outputs towards MANA  • So mA: Permanent  Cable length  • shelded, max.  Analog value generation for the inputs  Measurement principle  • Resolution with overrange (bit including sign), max.  • 12 bit  • Interference voltage suppression for interference frequency if in hiz  • Illustration interpressulation per channel  • Resolution with overrange (bit including sign), max.  • 20 or max  • In miscalage and conversion time free solution per channel  • Resolution with overrange (bit including sign), max.  • 10 or resistive load  • for resistive load  • for or capacitive load  •	Number of analog outputs	2
Voltage output, short-circuit current, max.  Current output, no-load voltage, max.  14 V  Output ranges, voltage  • 10 to 10 V  Yes  • 10 V 10 +10 V  Output ranges, current  • 0 to 20 mA  • 20 m At 0 +20 mA  • 4 m N to 20 mA  • 4 m N to 20 mA  • for voltage output flour-wire connection  • for voltage output flour-wire connection  • for voltage output flour-wire connection  • for voltage output, flour-wire connection  • for voltage output, flour-wire connection  • for voltage output, short-connection  • for voltage output, short-connection  • for current output, how-wire connection  • for voltage output, short-connection  • with voltage output, spacitive load, max.  • with current output, short-connection  • with current output, short-connection  • with current output, short-connection  • voltages at the output short-connection  • Voltages at the output short-connection  • Shelded, max.  • Current, max.  Cable length  • shelded, max.  Analog value generation for the linputs  Measurement principle  • Resolution with overrange (bit including sign), max.  • integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • integration and conversion time of the module (all channels released)  • Time constant of the input filter  • Resolution with overrange (bit including sign), max.  • Integration and conversion time ferse button per channel  • Resolution with overrange (bit including sign), max.  • To rosistate of the input filter  • Resolution with overrange (bit including sign), max.  • Conversion time (per channel)  • Resolution and conversion time resolution per channel  • Resolution with overrange (bit including sign), max.  • Conversion time (per channel)  • Resolution of signal encoders  • for voltage measurement  • Ves	integrated channels (AO)	2
Current output, no-load voltage, max.  Cutput ranges, voltage  • 0 to 1 of V  • 10 V to +10 V  • 20 mA  • 20 mA to 20 mA  • 20 mA to 20 mA  • 20 mA to 20 mA  • 7 wes  Connection of actuators  • for voltage output two-wire connection • for current output, since the since t	Voltage output, short-circuit protection	Yes
Output ranges, voltage  • 0 to 10 V  • 10 V 10 + 10 V  Couput ranges, current  • 0 to 20 mA  • 2-0 mA to -20 mA  • 4 mA to 20 mA  • 4 mA to 20 mA  • for voltage output four-wire connection • for voltage output, four-wire connection • for voltage output, generation of actuators  • for voltage output, generation of current output two-wire connection • for current output two-wire connection • for current output, max • with voltage outputs, min. • with voltage outputs, generative load, max. • with current outputs, max • with current outputs, max • with current outputs, inductive load, max. • with current outputs, inductive load, max. • voltages at the outputs towards MANA • Voltages at the outputs towards max • Voltages at the outputs of the forth inputs  Measurement principle • Resolution with overrange (bit including sign), max. • Interference voltage suppression for interference frequency fit in lz • Time constant of the input filter • Passic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Time constant of the input filter • Passic execution time of the module (all channels released)  • Time constant of the input filter • Time constant o	Voltage output, short-circuit current, max.	55 mA
• 0 to 10 V • 10 V to +10 V  • 10 V to +10 V • 10 V to +10 V  • 10 V to +10 V  • 10 V to +10 V  • 10 V to +10 V  • 10 V to +10 V  • 20 mA to +20 mA • 20 mA to +20 mA • 20 mA to +20 mA  • 20 mA to +20 mA  • 4 m An to 20 mA  • 7 ves  • 6 ro voltage output four-wire connection • 6 ro voltage output four-wire connection • 6 ro current output knowire connection • 6 ro current output knowire connection • 6 ro underso output four-wire connection • 6 vinth voitage outputs, capacitive load, max. • with current outputs, min. • with voitage outputs, capacitive load, max. • with current outputs, max. • with current outputs, max. • with current outputs, max. • vinth current outputs, max. • Voltages at the outputs towards MANA • Current, max. • Voltages at the outputs towards MANA • Current, max.  • Cable length • shielded, max.  Analog value generation for the inputs  Measurement principle Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration inne, parameterizable • Integration inne, parameterizable • Integration inne, parameterizable • Integration inne, parameterizable • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel) • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel) • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel) • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel) • Resolution with overrange (bit including sign), max.	Current output, no-load voltage, max.	14 V
• -10 V to +10 V  Output ranges, current  • 0 to 2 0 mA  • -20 mA to +20 mA  • -20 mA to +20 mA  • -4 mA to 20 mA  • -7 wes  • -7 or voltage output two-wire connection • for courrent output two-wire connection • for courrent output two-wire connection • for voltage output two-wire connection • for courrent output two-wire connection • with voltage outputs, min. • with voltage outputs, min. • with voltage outputs, min. • with current outputs, min. • with current outputs, inductive load, max. • old for formax. • Outputs  Destruction limits against externally applied voltages and currents • Voltages at the outputs towards MANA • Current, max.  Cable length • Shelded, max.  Analog value generation for the inputs  Measurement principle Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time for the module (all channels released)  • Inserting and conversion time of the module (all channels released)  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time (per channel) • Resolution with overrange (bit including sign), max. • Conversion time (per channel) • For resistive load • for resistive load • for resistive load • for for inductive load • for inductive load • for for inductive load • for for voltage measurement  • For voltage measurement  • For voltage measurement  • For voltage measurement	Output ranges, voltage	
Output ranges, current  • 0 to 20 mA • 20 mA • 4 mA to 20 mA • 6 ro voltage output four-wire connection • for voltage output four-wire connection • for current output how-wire connection • for current output wo-wire connection • for current outputs, and content of the line resistances • for voltage output four-wire connection • for current outputs, expacitive load, max. • with voltage outputs, capacitive load, max. • with voltage outputs, capacitive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • with current outputs wards MANA • Current, max. • Voltages at the outputs towards MANA • Current, max.  Cable length • shelded, max.  Analog value generation for the inputs  Measurement principle • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • In max • For resistive load • For resistive load • For resistive lo	• 0 to 10 V	Yes
• 0 to 20 mA • 20 mA to 20 mA • 20 mA to 20 mA • 2 m A to 20 mA • 2 m A to 20 mA  Ves  Connection of actuators • for voltage output two-wire connection • for voltage output four-wire connection • for voltage output two-wire connection • for voltage output two-wire connection • for current output two-wire connection • for current output two-wire connection • ves  Load impedance (in rated range of output) • with voltage outputs, min. • with voltage outputs, min. • with voltage outputs, max. • with current outputs, max. • with current outputs, inductive load, max. • Voltages at the outputs towards MANA • Current, max. • Current, max. • Current, max. • On max. • On max. • On max. • So max; Permanent • So max; Permanent • So max; Permanent • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time of the module (all channels released) • Resolution with overrange (bit including sign), max. • Integration and conversion time (per channel) • Resolution with overrange (bit including sign), max. • Integration and conversion time (per channel) • Resolution with overrange (bit including sign), max. • In max • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • In max • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • In max • Conversion time (per channel) • Resolution of for capacitive load • For capacitive load • For capacitive load • For capacitive load • For inductive load • For o'notage measurement • For voltage measurement	• -10 V to +10 V	Yes
- 20 mA to +20 mA - 4 mA to 20 mA - 4 mA to 20 mA - 7 ves  Connection of actuators  - for voltage output two-wire connection - for voltage output four-wire connection - for voltage output four-wire connection - for outrent output two-wire connection - for current output two-wire connection - ves  Load impedance (in rated range of output)  - with voltage outputs, capacitive load, max with outrent outputs, inductive load, max with current outputs, inductive load, max with current outputs, inductive load, max with current outputs, inductive load, max voltages at the outputs towards MANA - Current, max Current, max Voltages at the outputs towards MANA - Current, max So mA; Permanent - Shelded, max Analog value generation for the inputs  - Resolution with overrange (bit including sign), max Integration and conversion time/resolution per channel - Resolution with overrange (bit including sign), max Integration and conversion time of the module (all channels released) - Time constant of the input filter - Basic execution time of the module (all channels released) - Resolution with overrange (bit including sign), max Integration and conversion time/resolution per channel - Resolution with overrange (bit including sign), max Integration and conversion time (per channel) - Resolution with overrange (bit including sign), max Integration and conversion time (per channel) - Resolution with overrange (bit including sign), max In ms - Conversion time (per channel) - Resolution with overrange (bit including sign), max In ms - Conversion time (per channel) - For resistive load - for resistive load - for resistive load - for inductive load - for inductive load - for voltage measurement - For voltage measurement - For voltage measurement - Ves	Output ranges, current	
• 4 mA to 20 mA  Connection of actuators  • for voltage output two-wire connection • for voltage output two-wire connection • for current output two-wire connection • for current output two-wire connection • with voltage outputs, min. • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • with current outputs towards MANA • Current, max.  Cable length • shielded, max.  Analog value generation for the inputs  Measurement principle • Resolution with overrange (bit including sign), max. • Integration time, parameterizable • Integration time, parameterizable • Integration time, parameterizable • Interference voltage suppression for interference frequency f1 in Hz • Time constant of the input filter • Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Interference voltage suppression for interference frequency f1 in Hz • Time constant of the input filter • Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max.  1 2 bit • Conversion time (per channel)  Setting time • for resistive load • for capacitive load • for capacitive load • for capacitive load • for orapacitive load • for orapacitive load • for orapacitive load • for ovoltage measurement  Yes  • for voltage measurement	• 0 to 20 mA	Yes
Connection of actuators  • for voltage output two-wire connection • for voltage output four-wire connection • for voltage output four-wire connection • for current output two-wire connection • for current output two-wire connection • for current output two-wire connection • with voltage outputs, min. • with voltage outputs, min. • with voltage outputs, max. • with current outputs, apacitive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • Voltages at the outputs towards MANA • Current, max.  Cable length • shelded, max.  Analog value generation for the Inputs  Measurement principle • Actual value encryption (successive approximation)  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration ime, parameterizable • Interference voltage suppression for interference frequency ff in Hz • Time constant of the input filter • Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Interference voltage suppression for interference frequency ff in Hz • Time constant of the input filter • Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • 12 bit • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • 12 bit • for resistive load • for capacitive load • for capacitive load • for orapacitive load • for orapacitive load • for orapacitive load • for orbitage measurement  • For voltage measurement  • Yes	• -20 mA to +20 mA	Yes
• for voltage output two-wire connection • for voltage output four-wire connection No • for current output two-wire connection Load impedance (in rated range of output)  • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • vith current outputs, inductive load, max. • vith current outputs, inductive load, max. • Voltages at the outputs towards MANA • Current, max. • Voltages at the outputs towards MANA • Current, max.  Cable length • shielded, max.  Analog value generation for the inputs  Measurement principle Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • integration time, parameterizable • Integration time, parameterizable • Integration time, parameterizable • Integration time, parameterizable • Time constant of the input filter • Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • In ms • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • In ms • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • In ms • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • In ms • For resistive load • For or resistive load • For or or of signal encoders • For voltage measurement  • For voltage measurement  • For voltage measurement  • For voltage measurement	• 4 mA to 20 mA	Yes
• for voltage output four-wire connection • for current output two-wire connection • for current output two-wire connection • with voltage outputs, min. • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, max. • with current outputs, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max.  • Voltages at the outputs towards MANA • Current, max. • Current, max. • So mA; Permanent • So mA; Permanent • Shielded, max.  Analog value generation for the inputs • Resolution with overrange (bit including sign), max. • Integration time, parameterizable • Interference voltage suppression for interference frequency f1 in Hz • Basic execution time of the moutputs • Basic execution time of the moutputs • Randog value generation for the moutputs • Resolution with overrange (bit including sign), max. • Integration and conversion time of the module (all channels released)  Analog value generation for the outputs • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time (per channel) • Resolution with overrange (bit including sign), max. • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • for resistive load • for capacitive load • for capacitive load • for for signal encoders • for voltage measurement  • for voltage measurement  • for voltage measurement  • for orbitage measurement  • for orbita	Connection of actuators	
• for current output two-wire connection  Load impedance (in rated range of output)  • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with outrent outputs, max. • with current outputs, inductive load, max.  • with current outputs, inductive load, max.  O.1 μF  • with current outputs, inductive load, max.  O.1 mH  Destruction limits against externally applied voltages and currents  • Voltages at the outputs towards MANA • Current, max.  Cable length • shielded, max.  Analog value generation for the inputs  Measurement principle • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration time, parameterizable • Interference voltage suppression for interference frequency f1 in Hz • Time constant of the input filter • Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • I ms • Conversion time (per channel)  Setting time • for resistive load • for capacitive load • for capacitive load • for crapacitive load • for for ductive load • for for signal encoders  • for voltage measurement  Yes	<ul> <li>for voltage output two-wire connection</li> </ul>	Yes; Without compensation of the line resistances
Load impedance (in rated range of output)  • with voltage outputs, min. • with voltage outputs, max. • with current outputs, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max.  • with current outputs, inductive load, max.  • with current outputs, inductive load, max.  • Voltages at the outputs towards MANA • Current, max.  • Current, max.  Cable length • Shielded, max.  Analog value generation for the inputs  Measurement principle • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Interference voltage suppression for interference frequency f1 in Hz • Time constant of the input filter • Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • In ms  released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • In ms  settling time • for resistive load • for capacitive load • for capacitive load • for resistive load • for resistive load • for resistive load • for resistive load • for signal encoders  • for voltage measurement  Yes	<ul> <li>for voltage output four-wire connection</li> </ul>	No
with voltage outputs, min. with voltage outputs, capacitive load, max. with current outputs, max. with current outputs, inductive load, max. O.1 μF  with current outputs, inductive load, max. O.1 mH  Destruction limits against externally applied voltages and currents Voltages at the outputs towards MANA Current, max. So mA; Permanent  Cable length shielded, max.  Analog value generation for the inputs  Measurement principle Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integration time, parameterizable Integration time, parameterizable Integration time, parameterizable Integration time of the input filter Shasic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max.  In ms Conversion time (per channel) Resolution with overrange (bit including sign), max.  In ms  For capacitive load Resolution with overrange (bit including sign), max.  For original encoders  For overlage measurement  For overlage measurement  For overlage measurement  For overlage measurement	<ul> <li>for current output two-wire connection</li> </ul>	Yes
with voltage outputs, capacitive load, max.     with current outputs, max.     with current outputs, max.     outputs inductive load, max.  Destruction limits against externally applied voltages and currents      Voltages at the outputs towards MANA     if 6 V; Permanent      Ourrent, max.  Cable length     shielded, max.  Analog value generation for the inputs  Measurement principle     integration and conversion time/resolution per channel     Resolution with overrange (bit including sign), max.     integration time, parameterizable     integration time, parameterizable     integration time, parameterizable     integration time on the input filter     sasic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Conversion time (per channel)  Ins  Conversion time (per channel)  For resistive load  For capacitive load  For capacitive load  For inductive load  For inductive load  For overlage measurement  Yes	Load impedance (in rated range of output)	
<ul> <li>with current outputs, max.</li> <li>with current outputs, inductive load, max.</li> <li>0.1 mH</li> <li>Destruction limits against externally applied voltages and currents</li> <li>Voltages at the outputs towards MANA</li> <li>Current, max.</li> <li>Cable length</li> <li>shielded, max.</li> <li>Actual value generation for the inputs</li> <li>Measurement principle</li> <li>Integration and conversion time/resolution per channel</li> <li>Resolution with overrange (bit including sign), max.</li> <li>Integration time, parameterizable</li> <li>Interference voltage suppression for interference frequency f1 in Hz</li> <li>Time constant of the input filter</li> <li>Basic execution time of the module (all channels released)</li> <li>Analog value generation for the outputs</li> <li>Integration and conversion time/resolution per channel</li> <li>Resolution with overrange (bit including sign), max.</li> <li>1 ms</li> <li>Englaged to the input filter</li> <li>O.38 ms</li> <li>1 ms</li> <li>Basic execution time of the module (all channels released)</li> <li>Analog value generation for the outputs</li> <li>Integration and conversion time/resolution per channel</li> <li>Resolution with overrange (bit including sign), max.</li> <li>1 bit</li> <li>Conversion time (per channel)</li> <li>1 ms</li> <li>Settling time</li> <li>for resistive load</li> <li>o.6 ms</li> <li>for capacitive load</li> <li>o.5 ms</li> </ul> Encoder  Connection of signal encoders <ul> <li>for voltage measurement</li> <li>Yes</li> </ul>	with voltage outputs, min.	1 kΩ
with current outputs, inductive load, max.  Destruction limits against externally applied voltages and currents      Voltages at the outputs towards MANA     Current, max.  Cable length     shelded, max.  Analog value generation for the inputs  Measurement principle     Integration and conversion time/resolution per channel      Resolution with overrange (bit including sign), max.     Integration time, parameterizable     Interference voltage suppression for interference frequency f1 in Hz     Time constant of the input filter     Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.     Conversion time (per channel)  Resolution with overrange (bit including sign), max.     Conversion time (per channel)  Resolution with overrange (bit including sign), max.     Conversion time (per channel)  Resolution vith overrange (bit including sign), max.     Conversion time (per channel)  Resolution vith overrange (bit including sign), max.     Conversion time (per channel)  Resolution of signal encoders  For or or of signal encoders  For ovoltage measurement  Yes	<ul> <li>with voltage outputs, capacitive load, max.</li> </ul>	0.1 µF
Destruction limits against externally applied voltages and currents  • Voltages at the outputs towards MANA • Current, max.  Cable length • shielded, max.  Analog value generation for the inputs  Measurement principle Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration time, parameterizable • Interference voltage suppression for interference frequency f1 in Hz • Time constant of the input filter • Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • In ms • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • Conversion time (per channel) • Time constant of the input filter • Resolution with overrange (bit including sign), max. • Conversion time (per channel) • Time constant of the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) • Time constant of the outputs  In ms  Settling time • for resistive load • for capacitive load • for capacitive load • for capacitive load • for capacitive load • for orditage measurement  Final Value encryption (successive approximation)  1 to successive approxima	<ul><li>with current outputs, max.</li></ul>	300 Ω
Voltages at the outputs towards MANA     Current, max.     So mA; Permanent     So mA; P	<ul> <li>with current outputs, inductive load, max.</li> </ul>	0.1 mH
Cable length  • shielded, max.  Analog value generation for the inputs  Measurement principle Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max. • Integration time, parameterizable • Interference voltage suppression for interference frequency f1 in Hz • Time constant of the input filter • Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel)  • Resolution with overrange (bit including sign), max. • Conversion time (per channel)  • for resistive load • for capacitive load • for capacitive load • for inductive load • for inductive load • for inductive load • for voltage measurement  • for voltage measurement   50 / 60 Hz   7 / 20 ms  50 / 60 Hz  1 ms  1 ms  2 bit  2 bit  3 bit  4 bit  4 bit  5 bit  6 ms  6 or inductive load  9 0.6 ms  6 or inductive load  9 0.5 ms  Encoder  Connection of signal encoders  • for voltage measurement  Yes	Destruction limits against externally applied voltages and currents	
Cable length	<ul> <li>Voltages at the outputs towards MANA</li> </ul>	16 V; Permanent
shielded, max. 200 m  Analog value generation for the inputs  Measurement principle Actual value encryption (successive approximation)  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max. 12 bit  Integration time, parameterizable Yes; 16.6 / 20 ms  Interference voltage suppression for interference frequency f1 in Hz  Time constant of the input filter 0.38 ms  Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max. 12 bit  Conversion time (per channel)  Settling time  for resistive load 0.6 ms  for capacitive load 1 ms  for inductive load 0.5 ms  Encoder  Connection of signal encoders  for voltage measurement Yes	• Current, max.	50 mA; Permanent
Analog value generation for the inputs  Measurement principle Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max. Integration time, parameterizable Integration time, parameterizable Integration time, parameterizable Integration time parameterizable Integration time of the input filter Impurity Time constant of the input filter Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Conversion time (per channel)  Settling time  for resistive load for capacitive load for capacitive load for capacitive load for inductive load Final Pass Actual value encryption (successive approximation)  12 bit 12 bit 13 bit 14 bit 15 bit 16 bit 16 bit 17 bit 18 bit 19 bit 19 bit 10 bit 10 bit 10 bit 10 bit 10 bit 11 bit 12 bit 12 bit 13 bit 14 bit 15 bit 16 bit 16 bit 17 bit 18 bit 19 bit 10 bit 10 bit 10 bit 10 bit 11 bit 11 bit 12 bit 12 bit 12 bit 13 bit 14 bit 14 bit 15 bit 16 bi	Cable length	
Measurement principle Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max. Integration time, parameterizable Integration time, parameterizable Interference voltage suppression for interference frequency f1 in Hz Time constant of the input filter Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Conversion time (per channel)  Settling time  for resistive load for capacitive load for capacitive load for inductive load  Final Actual value encryption (successive approximation)  12 bit Yes; 16.6 / 20 ms  50 / 60 Hz  1 ms  1 ms  1 ms  1 ms  1 ms  1 bit 1 ms  2 bit 1 ms  2 bit 1 ms  3 conversion time (per channel) 1 ms  5 conversion time (per channel) 1 ms  5 conversion time (per channel) 2 bit 3 ms  1 ms  5 conversion time (per channel) 3 ms  6 for resistive load 7 ms  6 for inductive load 7 ms  7 ms  8 for inductive load 7 ms  9 conversion of signal encoders  6 for voltage measurement 7 yes	shielded, max.	200 m
Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max. Integration time, parameterizable Interference voltage suppression for interference frequency f1 in Hz Time constant of the input filter Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Conversion time (per channel)  Settling time  of reascitive load of capacitive load of or capacitive load of or inductive load Final description of signal encoders of or voltage measurement Yes	Analog value generation for the inputs	
Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max. Integration time, parameterizable Integration time, parameterizable Interference voltage suppression for interference frequency f1 in Hz Time constant of the input filter Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Conversion time (per channel)  Settling time  of reasistive load of rapacitive load of or capacitive load of or inductive load of or inductive load of or signal encoders of or voltage measurement  Yes		Actual value encryption (successive approximation)
Resolution with overrange (bit including sign), max.  Integration time, parameterizable  Interference voltage suppression for interference frequency f1 in Hz  Time constant of the input filter  Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Conversion time (per channel)  Settling time  for resistive load  for capacitive load  for inductive load  for inductive load  for voltage measurement  Yes		у при
Integration time, parameterizable Interference voltage suppression for interference frequency f1 in Hz  Time constant of the input filter Basic execution time of the module (all channels released)  Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Conversion time (per channel)  Settling time  for capacitive load for capacitive load for inductive load for voltage measurement  Yes; 16.6 / 20 ms  50 / 60 Hz  1 ms  1 ms  1 ms  1 ms  1 ms  1 bit  1 ms  1 bit  1 ms	-	12 hit
Interference voltage suppression for interference frequency f1 in Hz  Time constant of the input filter  Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Conversion time (per channel)  Settling time  of or resistive load of or capacitive load of or inductive load of or inductive load  Find the module (all channels are in missing in missing in message)  The module of the module (all channels are in missing in message)  1 ms  Settling time  of or resistive load of of ms of or inductive load of of ms of or inductive load of of ms of or inductive load  The missing in message in missing in miss		
frequency f1 in Hz  Time constant of the input filter  Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Conversion time (per channel)  Settling time  for resistive load  for capacitive load  for inductive load  for inductive load  Connection of signal encoders  for voltage measurement  Yes		
Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Conversion time (per channel)  1 ms  Settling time  for resistive load  for capacitive load  for inductive load  for inductive load  Tims  0.5 ms  Encoder  Connection of signal encoders  for voltage measurement  Yes		
Basic execution time of the module (all channels released)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Conversion time (per channel)  1 ms  Settling time  for resistive load  for capacitive load  for inductive load  for inductive load  Tims  0.5 ms  Encoder  Connection of signal encoders  for voltage measurement  Yes	Time constant of the input filter	0.38 ms
Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Conversion time (per channel)  Settling time  of or resistive load of or capacitive load of or inductive load of or inductive load  For inductive load  Connection of signal encoders of or voltage measurement  Yes	,	1 ms
Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max. Conversion time (per channel)  1 ms  Settling time  for resistive load for capacitive load for inductive load for inductive load  1 ms  5 ms  Encoder  Connection of signal encoders for voltage measurement  Yes	,	
Resolution with overrange (bit including sign), max.  Conversion time (per channel)  Settling time  of or resistive load of or capacitive load of or inductive load of or inductive load  Encoder  Connection of signal encoders of or voltage measurement  Yes		
Conversion time (per channel)  Settling time  of or resistive load of or capacitive load of or inductive load of or inductive load  of or inductive load  Encoder  Connection of signal encoders of or voltage measurement  Yes		
Settling time  • for resistive load • for capacitive load • for inductive load • for inductive load  • for inductive load  Connection of signal encoders • for voltage measurement  Yes	<ul> <li>Resolution with overrange (bit including sign), max.</li> </ul>	12 bit
for resistive load     for capacitive load     for inductive load     for inductive load     for inductive load      for inductive load  Connection of signal encoders     for voltage measurement  Yes	Conversion time (per channel)	1 ms
for capacitive load     for inductive load         0.5 ms  Encoder  Connection of signal encoders     for voltage measurement  Yes	Settling time	
for inductive load     0.5 ms  Encoder  Connection of signal encoders      for voltage measurement  Yes	<ul> <li>for resistive load</li> </ul>	0.6 ms
Encoder  Connection of signal encoders  ● for voltage measurement  Yes	for capacitive load	1 ms
Connection of signal encoders  • for voltage measurement  Yes	for inductive load	0.5 ms
• for voltage measurement Yes	Encoder	
	Connection of signal encoders	
• for current measurement as 2-wire transducer  Yes: with external supply	for voltage measurement	Yes
To, with external supply	• for current measurement as 2-wire transducer	Yes; with external supply
• for current measurement as 4-wire transducer  Yes	• for current measurement as 4-wire transducer	
• for resistance measurement with two-wire connection Yes; Without compensation of the line resistances	• 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 three-wire connection	·

for resistance measurement with four-wire connection	No
Connectable encoders	
• 2-wire sensor	Yes
permissible quiescent current (2-wire sensor), max.	1.5 mA
Errors/accuracies	
Temperature error (relative to input range), (+/-)	0.006 %/K
Crosstalk between the inputs, min.	60 dB
Repeat accuracy in steady state at 25 $^{\circ}\text{C}$ (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	
<ul> <li>Voltage, relative to input range, (+/-)</li> </ul>	1 %
• Current, relative to input range, (+/-)	1 %
Resistance, relative to input range, (+/-)	1 %
Voltage, relative to output range, (+/-)	1 %
Current, relative to output range, (+/-)  Page area limit (an area limit at 95 °C)	1 %
Basic error limit (operational limit at 25 °C)	0.9.9/: Linearity error +0.06.9/
Voltage, relative to input range, (+/-)     Current relative to input range (+/-)	0.8 %; Linearity error ±0.06 %
Current, relative to input range, (+/-)     Resistance, relative to input range, (+/-)	0.8 %; Linearity error ±0.06 % 0.8 %; Linearity error ±0.2 %
<ul> <li>Resistance, relative to input range, (+/-)</li> <li>Resistance thermometer, relative to input range, (+/-)</li> </ul>	0.8 % Linearity error ±0.2 %
Voltage, relative to output range, (+/-)	0.8 %
• Current, relative to output range, (+/-)	0.8 %
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference	
Series mode interference (peak value of interference <	30 dB
rated value of input range), min.	
Common mode interference, min.	40 dB
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
Point-to-point connection	4.000
Cable length, max.  Interpreted grants and defines.	1 200 m
Integrated protocol driver	V
— 3964 (R)	Yes
— ASCII	Yes
— RK 512	Yes
Transmission rate, RS 422/485	10.2 khit/e: 38.4 khit/e half duplay: 10.2 khit/e full duplay
— with ASCII protocol, max.	19.2 kbit/s; 38.4 kbit/s half duplex; 19.2 kbit/s full duplex
<ul><li>— with ASCII protocol, max.</li><li>— with RK 512 protocol, max.</li></ul>	19.2 kbit/s; 38.4 kbit/s half duplex; 19.2 kbit/s full duplex 19.2 kbit/s; 38.4 kbit/s half duplex; 19.2 kbit/s full duplex
With RK 512 protocol, max.  1. Interface	13.2 KDIVS, 30.4 KDIVS Hall duplex, 13.2 KDIVS Iuli duplex
Interface type	Integrated RS 485 interface
Isolated	No
Interface types	
• RS 485	Yes
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	
Transmission rate, max.	187.5 kbit/s
Services	

<ul> <li>PG/OP communication</li> </ul>	Von
	Yes No
— Routing	
— Global data communication	Yes
— S7 basic communication	Yes
— S7 communication	Yes; Only server, configured on one side
— S7 communication, as client	No; but via CP and loadable FB
— S7 communication, as server	Yes
2. Interface	
Interface type	Integrated RS 422/ 485 interface
Isolated	Yes
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 IO Device	No
PROFINET CBA	No
PROFIBUS DP master	No
PROFIBUS DP slave	No
Point-to-point connection	Yes
Point-to-point connection	
Transmission rate, max.	19.2 kbit/s; 38.4 kbit/s half duplex; 19.2 kbit/s full duplex
<ul> <li>Interface controllable from the user program</li> </ul>	Yes
• Interface can trigger alarm/interrupt in the user program	Yes; Message on break - identification
Protocols	
PROFIsafe	No
communication functions / header	
PG/OP communication	Yes
Data record routing	No
Global data communication	
• supported	Yes
<ul> <li>Number of GD loops, max.</li> </ul>	8
<ul> <li>Number of GD packets, max.</li> </ul>	8
<ul> <li>Number of GD packets, transmitter, max.</li> </ul>	8
Number of GD packets, receiver, max.	8
<ul> <li>Size of GD packets, max.</li> </ul>	22 byte
Size of GD packet (of which consistent), max.	22 byte
Size of GD packet (of which consistent), max.  S7 basic communication	22 byte
<ul> <li>Size of GD packet (of which consistent), max.</li> <li>S7 basic communication</li> <li>supported</li> </ul>	22 byte Yes
<ul> <li>Size of GD packet (of which consistent), max.</li> <li>S7 basic communication</li> <li>supported</li> <li>User data per job, max.</li> </ul>	Yes 76 byte
<ul> <li>Size of GD packet (of which consistent), max.</li> <li>S7 basic communication</li> <li>supported</li> </ul>	22 byte Yes
<ul> <li>Size of GD packet (of which consistent), max.</li> <li>S7 basic communication</li> <li>supported</li> <li>User data per job, max.</li> </ul>	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET
<ul> <li>Size of GD packet (of which consistent), max.</li> <li>S7 basic communication</li> <li>supported</li> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> </ul>	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)
<ul> <li>Size of GD packet (of which consistent), max.</li> <li>S7 basic communication</li> <li>supported</li> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> </ul> S7 communication <ul> <li>supported</li> </ul>	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes
<ul> <li>Size of GD packet (of which consistent), max.</li> <li>S7 basic communication</li> <li>supported</li> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> </ul> S7 communication <ul> <li>supported</li> <li>as server</li> </ul>	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.  S5 compatible communication  supported	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET 240 byte; as server
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.  S5 compatible communication  supported  Number of connections	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET 240 byte; as server  Yes; via CP and loadable FC
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.  S5 compatible communication  supported  Number of connections  overall	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET 240 byte; as server  Yes; via CP and loadable FC
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.  S5 compatible communication  supported  Number of connections  overall  usable for PG communication	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET 240 byte; as server  Yes; via CP and loadable FC
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.  S5 compatible communication  supported  Number of connections  overall  usable for PG communication  reserved for PG communication	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET 240 byte; as server  Yes; via CP and loadable FC
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.  S5 compatible communication  supported  Number of connections  overall  usable for PG communication  reserved for PG communication, min.	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET 240 byte; as server  Yes; via CP and loadable FC
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.  S5 compatible communication  supported  Number of connections  overall  usable for PG communication  reserved for PG communication  adjustable for PG communication, min.  adjustable for PG communication, max.	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET 240 byte; as server  Yes; via CP and loadable FC
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.  S5 compatible communication  supported  Number of connections  overall  usable for PG communication  reserved for PG communication  adjustable for PG communication, min.  adjustable for PG communication, max.  usable for OP communication	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET 240 byte; as server  Yes; via CP and loadable FC
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.  S5 compatible communication  supported  Number of connections  overall  usable for PG communication  reserved for PG communication, min.  adjustable for PG communication, min.  adjustable for PG communication, max.  usable for OP communication  reserved for OP communication  reserved for OP communication	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET 240 byte; as server  Yes; via CP and loadable FC
Size of GD packet (of which consistent), max.  S7 basic communication  supported  User data per job, max.  User data per job (of which consistent), max.  S7 communication  supported  as server  as client  User data per job, max.  User data per job (of which consistent), max.  S5 compatible communication  supported  Number of connections  overall  usable for PG communication  reserved for PG communication  adjustable for PG communication, min.  adjustable for PG communication, max.  usable for OP communication	Yes 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes Yes Yes; Via CP and loadable FB 180 kbyte; With PUT/GET 240 byte; as server  Yes; via CP and loadable FC

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

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

last modified:

8/24/2021