SIEMENS

Data sheet

6AG1315-6FF04-2AY0



spare part SIPLUS S7-300 CPU 315F-2DP based on 6ES7315-6FF04-0AB0 with conformal coating, -25...+60 °C, fail-safe module with MPI integrated power supply 24 V DC, work memory 384 KB, 40 mm width, 2nd interface DP master/ slave Micro Memory Card required

Figure similar

General information	
Product function	
 Isochronous mode 	Yes
Engineering with	
Programming package	STEP 7 V5.5 + SP1 or higher or STEP 7 V5.2 + SP1 or higher with HSP 218 + Distributed Safety
Supply voltage	
Rated value (DC)	24 V; A power supply according to EN 50155 shall be used
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2 A min.
Mains buffering	
 Mains/voltage failure stored energy time 	5 ms
 Repeat rate, min. 	1 s
Input current	
Current consumption (rated value)	850 mA
Current consumption (in no-load operation), typ.	150 mA
Inrush current, typ.	3.5 A
l²t	1 A ² ·s
Power loss	
Power loss, typ.	4.5 W
Memory	
Work memory	
• integrated	384 kbyte
expandable	No
Load memory	
• Plug-in (MMC)	Yes
Plug-in (MMC), max.	8 Mbyte
 Data management on MMC (after last programming), min. 	10 y
Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
without battery	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.05 μs
for word operations, typ.	0.09 μs
for fixed point arithmetic, typ.	0.12 µs
 present without battery CPU processing times for bit operations, typ. for word operations, typ.	Yes; Program and data 0.05 μs 0.09 μs

Mumber of blocks (total) 1 (024 ; UBbs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.	for floating point arithmetic, typ.	0.45 μs
Number, max	CPU-blocks	
Number, max. 1 024; Number range: 1 to 16000	Number of blocks (total)	1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
• Size, max. • Number, max. • Size, miax. • Number, max. • Size, miax. • Number, max. • Size, miax. • Number max. • Size, miax. • Number of fise soycle OBs • Number of fise alarm OBs • Number of fise alarm OBs • Number of fise alarm OBs • Number of delay alarm OBs • Number of cycle interrupt OBs • Number of cycle interrupt OBs • Number of process alarm OBs • Number of process alarm OBs • Number of soxchronous mode OBs • Number of startup OBs • Number observed of startup OBs • Number observed observe	DB	
Number nax	Number, max.	1 024; Number range: 1 to 16000
Number, max. 1 024; Number range: 0 to 7999	• Size, max.	64 kbyte
	FB	
Total	Number, max.	1 024; Number range: 0 to 7999
Number, max. Size, max. Size, max. See instruction list Size, max. Size, max. See instruction list Size, see instruct	• Size, max.	64 kbyte
OB Number, max. Size, size, max. Size,	FC	
Number of tree cycle OBs	 Number, max. 	1 024; Number range: 0 to 7999
Number, max.	Size, max.	64 kbyte
Size, max Number of free cycle OBs Number of time alarm 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 DPV1 alarm OBs Number of DPV1 alarm OBs Number of sechnorus unde OBs Number of sechnorus unde OBs Number of sechnorus unde OBs Number of sechnorus error OBs Number of synchronous error OBs	OB	
Number of free cycle OBs Number of delay alam OBs Number of delay alam OBs Number of delay alam OBs Number of cyclic interrupt OBs Number of process alam OBs Number of suchronous mode OBs Number of sarbup OBs Number of sarbup OBs Number of sarbup OBs Number of sarbup OBs Number of synchronous error OBs Number of synchr	Number, max.	see instruction list
 Number of time alarm OBs Number of delay alarm OBs Number of cyclic interrupt OBs Number of process alarm OBs Number of process alarm OBs Number of DPV1 alarm OBs Number of Sochronous mode OBs Number of saynchronous mode OBs Number of saynchronous error OBs Number of saynchronous error OBs Number of synchronous error OBs Nesting depth Per priority class additional within an error OB 4 Counters, timers and their retortivity Per priority class additional within an error OB Ves additional within an error OB Number Per priority class additional within an error OB Ves additional within an error OB Ves additional within an error OB Ves Lower limit upper limit preset Zo to Z7 Counting range — adjustable Yes lower limit upper limit present Yes Number Present Yes Number Number Number Number Number Number No retentivity — adjustable — lower limit — upper limit 0 — preset No retentivity Time range — lower limit — upper limit — preset No retentivity Time range Number Number Number Number Number Number Number N	Size, max.	64 kbyte
Number of delay alarm OBs Number of cyclic interrupt OBs Number of process alarm OBs Number of process alarm OBs Number of Sochronous mode OBs Number of Isochronous mode OBs Number of startup OBs Number of asynchronous error OBs Num	 Number of free cycle OBs 	1; OB 1
	 Number of time alarm OBs 	1; OB 10
	 Number of delay alarm OBs 	2; OB 20, 21
Number of process alarm OBs Number of DPV1 alarm OBs Number of Section mode OBs Number of sactyronous mode OBs Number of sartup OBs Number of sartup OBs Number of sartup OBs Number of synchronous error OBs Nu		
Number of DPV1 alarm OBs Number of isochronous mode OBs Number of startup OBs Number of startup OBs Number of startup OBs Number of synchronous error OB of Synchronous error OBs Number of Synchronous error OB of Synchronous error OBs Number of Synchronous error OB of Synchronous error OBs Number of Synchronous error OB of Synchronous error OBs Number of Synchronous error OBs Noretentivity Number of Synchronous error OBs Number of Synchronou		
Number of isochronous mode OBs Number of startup OBs Number of asynchronous error OBs Number of asynchronous error OBs Number of asynchronous error OBs Number of synchronous error OBs		
Number of startup OBs Number of asynchronous error OBs Number of synchronous error OB Number of Synchronous error OBs Number	 Number of isochronous mode OBs 	
Number of asynchronous error OBs	Number of startup OBs	1; OB 100
Number of synchronous error OBs 2; OB 121, 122 Nesting depth		
Nesting depth • per priority class • additional within an error OB 4 Counters, timers and their retentivity S7 counter • Number 256 Retentivity — adjustable — lower limit 0 — upper limit 255 — preset 2 to Z 7 Counting range — adjustable Yes — lower limit 0 — upper limit 999 IEC counter Yes • Present Yes • Number SFB • Number 256 Retentivity — adjustable • Number 256 Retentivity — adjustable • Number 256 Retentivity — adjustable — upper limit 256 — preset No retentivity — adjustable Yes • Number 256 Retentivity — adjustable — upper limit 255 — preset <		
● per priority class 16 ■ additional within an error OB		
● Additional within an error OB 4 Counters, timers and their retentivity S7 counter ● Number 256 Retentivity — adjustable Yes — lower limit 0 — upper limit 255 — preset 2 0 to Z 7 Counting range Yes — lower limit 0 — upper limit 999 IEC counter Yes • present Yes • Number Unlimited (limited only by RAM capacity) S7 times Yes • Number 256 Retentivity Yes — adjustable Yes • lower limit 0 — upper limit 0 — upper limit 255 — preset No retentivity Time range No retentivity IEC timer *** • present 9 990 s IEC timer *** • present SFB • present Yes		16
SY counter Number 256 Retentivity — adjustable Yes — lower limit 0 — upper limit 255 — preset Z 0 to Z 7 Counting range Yes — lower limit 0 — upper limit 999 IEC counter Yes • present Yes • Number SFB • Number 256 Retentivity SFB — adjustable Yes — lower limit 0 — upper limit 255 — preset No retentivity Time range Image: Time range — lower limit 10 ms — upper limit 9 990 s IEC timer Yes • present (minuted (limited only by RAM capacity)		4
SY counter Number 256 Retentivity — adjustable Yes — lower limit 0 — upper limit 255 — preset Z 0 to Z 7 Counting range Yes — lower limit 0 — upper limit 999 IEC counter Yes • present Yes • Number SFB • Number 256 Retentivity SFB — adjustable Yes — lower limit 0 — upper limit 255 — preset No retentivity Time range Image: Time range — lower limit 10 ms — upper limit 9 990 s IEC timer Yes • present (minuted (limited only by RAM capacity)	Counters, timers and their retentivity	
● Number 256 Retentivity Yes — adjustable Yes — lower limit 255 — preset Z 0 to Z 7 Counting range — adjustable Yes — lower limit 0 — upper limit 999 IEC counter ● present Yes ● Number SFB ● Number Unlimited (limited only by RAM capacity) S7 times ■ Number 256 Retentivity S — adjustable Yes — lower limit 0 — upper limit 255 — preset No retentivity Time range — — lower limit 10 ms — upper limit 9 990 s IEC timer Yes ● present SFB ● Number Unlimited (limited only by RAM capacity)		
Retentivity — adjustable Yes — lower limit 0 — upper limit 255 — preset Z 0 to Z 7 Counting range — adjustable — lower limit 0 — upper limit 999 IEC counter Fessent • present Yes • Number SFB • Number Unlimited (limited only by RAM capacity) S7 times SF • Number 256 Retentivity Yes — lower limit 0 — upper limit 255 — preset No retentivity Time range Iower limit — lower limit 9 990 s IEC timer Yes • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity)		256
— adjustable Yes — lower limit 0 — upper limit 255 — preset Z 0 to Z 7 Counting range — adjustable Yes — lower limit 0 — upper limit 999 IEC counter ● present Yes ● Type SFB • Number 256 Retentivity Yes — lower limit 0 — upper limit 255 — preset No retentivity Time range Image: All present in the		-
— lower limit	·	Yes
— upper limit 255 — preset Z 0 to Z 7 Counting range — adjustable Yes — lower limit 0 — upper limit 999 IEC counter ● present Yes ● 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 Time range Iower limit — lower limit 10 ms — upper limit 9 990 s IEC timer ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity)	-	
— preset Z 0 to Z 7 Counting range Yes — lower limit 0 — upper limit 999 IEC counter Yes ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity) S7 times Yes ● Number 256 Retentivity Yes — lower limit 0 — upper limit 255 — preset No retentivity Time range Iower limit — lower limit 10 ms — upper limit 9 990 s IEC timer Yes ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity)		
Counting range adjustable lower limit upper limit upper limit upper limit present Type Number Number Number Number Adjustable lower limit upper limit lower limit upper	• •	
- adjustable - lower limit - upper limit 0 999 IEC counter • present • Type • Number • Number • Number • Number • Number • Number • Lower limit - upper limit - upp	·	
— lower limit 999 ECC counter		Yes
Use		
Fector		
● present Yes ● 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 Time range — lower limit 10 ms — upper limit 9 990 s IEC timer ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity)	— Upper iimii	999
■ Type ■ Number ■ Number ■ Number ■ Number ■ Number ■ SFB ■ Number ■ Sea ■ Number ■ Adjustable □ Lower limit □ Lower l		999
 Number Number Number ≥56 Retentivity — adjustable — lower limit — upper limit — preset No retentivity Time range — lower limit — one set — lower limit — preset No retentivity Time range — lower limit — upper limit — set — lower limit — lower limit — set — lower limit — lower limi	IEC counter	
S7 times 256 Retentivity Yes — lower limit 0 — upper limit 255 — preset No retentivity Time range — lower limit 10 ms — upper limit 9 990 s IEC timer Yes ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity)	IEC counter ● present	Yes
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Retentivity — adjustable Yes — lower limit 0 — upper limit 255 — preset No retentivity Time range — lower limit 10 ms — upper limit 9 990 s IEC timer ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity)	IEC counter • present • Type • Number	Yes SFB
— adjustable Yes — lower limit 0 — upper limit 255 — preset No retentivity Time range — lower limit 10 ms — upper limit 9 990 s IEC timer ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity)	IEC counter • present • Type • Number S7 times	Yes SFB Unlimited (limited only by RAM capacity)
— lower limit 0 — upper limit 255 — 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)	IEC counter	Yes SFB Unlimited (limited only by RAM capacity)
— upper limit 255 — 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)	IEC counter	Yes SFB Unlimited (limited only by RAM capacity)
— preset No retentivity Time range 10 ms — lower limit 9 990 s IEC timer Yes ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity)	IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable	Yes SFB Unlimited (limited only by RAM capacity) 256 Yes
Time range — lower limit 10 ms — upper limit 9 990 s IEC timer ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity)	IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit	Yes SFB Unlimited (limited only by RAM capacity) 256 Yes 0
— lower limit 10 ms — upper limit 9 990 s IEC timer ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity)	IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit	Yes SFB Unlimited (limited only by RAM capacity) 256 Yes 0 255
— upper limit 9 990 s IEC timer ● present Yes ● Type SFB ● Number Unlimited (limited only by RAM capacity)	IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit — preset	Yes SFB Unlimited (limited only by RAM capacity) 256 Yes 0 255
IEC timer	IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit — preset Time range	Yes SFB Unlimited (limited only by RAM capacity) 256 Yes 0 255 No retentivity
 present Type Number Yes SFB Unlimited (limited only by RAM capacity) 	IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit — preset Time range — lower limit	Yes SFB Unlimited (limited only by RAM capacity) 256 Yes 0 255 No retentivity
 Type Number SFB Unlimited (limited only by RAM capacity) 	IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit — preset Time range — lower limit — upper limit — upper limit — upper limit	Yes SFB Unlimited (limited only by RAM capacity) 256 Yes 0 255 No retentivity
Number Unlimited (limited only by RAM capacity)	IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit — preset Time range — lower limit — upper limit — upper limit — upper limit	Yes SFB Unlimited (limited only by RAM capacity) 256 Yes 0 255 No retentivity 10 ms 9 990 s
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	IEC counter • present • Type • Number S7 times • Number Retentivity — adjustable — lower limit — upper limit — preset Time range — lower limit — upper limit — upper limit — upper limit	Yes SFB Unlimited (limited only by RAM capacity) 256 Yes 0 255 No retentivity 10 ms 9 990 s Yes SFB

Retentive data area (incl. timers, counters, flags), max.	128 kbyte
Flag	
• Size, max.	2 048 byte
Retentivity available	Yes; MB 0 to MB 2 047
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. 	32 kbyte; Max. 2 KB per block
Address area	
I/O address area	
• Inputs	2 048 byte
Outputs	2 048 byte
of which distributed	
— Inputs	2 048 byte
— Outputs	2 048 byte
Process image	
• Inputs	2 048 byte
Outputs	2 048 byte
Inputs, adjustable	2 048 byte
Outputs, adjustable	2 048 byte
Inputs, default	384 byte
Outputs, default	384 byte
Subprocess images	0015)10
Number of subprocess images, max.	1
Digital channels	·
• Inputs	16 384
— of which central	1 024
Outputs	16 384
— of which central	1 024
Analog channels	1 02-7
• Inputs	1 024
— of which central	256
Outputs	1 024
of which central	256
Hardware configuration	200
	2
Number of expansion units, max.	3
Number of DP masters	4
• integrated	1
• via CP	4
Number of operable FMs and CPs (recommended)	0
• FM	8
• CP, PtP	8
• CP, LAN	10
Rack	,
• Racks, max.	4
Modules per rack, max.	8
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; Typ.: 2 s
Deviation per day, max.Behavior of the clock following expiry of backup	the clock continues at the time of day it had when power was switched
Deviation per day, max.Behavior of the clock following expiry of backup period	
 Deviation per day, max. Behavior of the clock following expiry of backup period Operating hours counter 	the clock continues at the time of day it had when power was switched off
Deviation per day, max.Behavior of the clock following expiry of backup period	the clock continues at the time of day it had when power was switched

Pango of values	0 to 2/21 hours (when using SEC 101)
Range of valuesGranularity	0 to 2^31 hours (when using SFC 101) 1 h
retentive	Yes; Must be restarted at each restart
Clock synchronization	res, must be restarted at each restart
• supported	Yes
• to MPI, master	Yes
• to MPI, slave	Yes
• to DP, master	Yes; With DP slave only slave clock
• to DP, slave	Yes
• in AS, master	Yes
Digital inputs	
Number of digital inputs	0
Digital outputs	
Number of digital outputs	0
Analog inputs	
Number of analog inputs	0
Analog outputs	
Number of analog outputs	0
Interfaces	
Number of industrial Ethernet interfaces	0
Number of PROFINET interfaces	0
Number of RS 485 interfaces	2
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Isolated	No
Interface types	110
• 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	
— PG/OP communication	Yes
— Routing	Yes
 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 485 interface
Isolated	Yes
Interface types	V
RS 485 Output current of the interface, may	Yes
Output current of the interface, max. Protocolo	200 mA
Protocols • MPI	No
PROFIBUS DP master	No Yes
PROFIBUS DP master PROFIBUS DP slave	Yes
Point-to-point connection	No
PROFIBUS DP master	140
Transmission rate, max.	12 Mbit/s
Number of DP slaves, max.	124; Per station
Services	,
30111000	

— PG/OP communication	Yes
— Routing	Yes
 Global data communication 	No
 S7 basic communication 	Yes; I blocks only
— S7 communication	Yes
 — S7 communication, as client 	No
 — S7 communication, as server 	Yes
— Equidistance	Yes
 Isochronous mode 	Yes; OB 61
— SYNC/FREEZE	Yes
 Activation/deactivation of DP slaves 	Yes
 Number of DP slaves that can be 	8
simultaneously activated/deactivated, max.	
— DPV1	Yes
Address area	
— Inputs, max.	2 048 byte
Outputs, max.	2 048 byte
User data per DP slave	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
PROFIBUS DP slave	
GSD file	The latest GSD file is available at: http://www.siemens.com/profibus-gsd
Transmission rate, max.	12 Mbit/s
automatic baud rate search	Yes; only with passive interface
Address area, max.	32
 User data per address area, max. 	32 byte
Services	·
— PG/OP communication	Yes
— Routing	Yes; Only with active interface
Global data communication	No
S7 basic communication	No
— S7 communication	Yes; Only server, configured on one side
S7 communication S7 communication, as client	No
— S7 communication, as server	Yes
Direct data exchange (slave-to-slave)	Yes
communication)	163
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
Protocols	.,
PROFIsafe	Yes
communication functions / header	100
PG/OP communication	Voc
	Yes
Data record routing	Yes
Global data communication	Voc
supported Number of CD leans, may	Yes
Number of GD loops, max. Number of GD posters may	8
Number of GD packets, max. Number of GD packets transmitter may	8
Number of GD packets, transmitter, max. Number of GD packets, transmitter, max.	8
Number of GD packets, receiver, max.	8
Size of GD packets, max. Size of GD packets (af which accordant) may	22 byte
Size of GD packet (of which consistent), max.	22 byte
S7 basic communication	
• supported	Yes
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	X_GET as server)
	Yes
supported as server	Yes
	150

- as aliant	Voc. Via CD and loodable ED
• as client	Yes; Via CP and loadable FB
User data per job, max. User data per job (of which consistent), may	180 byte; With PUT/GET
User data per job (of which consistent), max. S5 compatible communication	240 byte; as server
·	Yes; via CP and loadable FC
supported Number of connections	Tes, via CF and loadable FC
overall	16
usable for PG communication	15
reserved for PG communication	1
adjustable for PG communication, min.	1
adjustable for PG communication, min. adjustable for PG communication, max.	15
usable for OP communication	15
reserved for OP communication	1
adjustable for OP communication, min.	1
adjustable for OP communication, max.	15
usable for S7 basic communication	12
reserved for S7 basic communication	0
	0
— adjustable for S7 basic communication, min.— adjustable for S7 basic communication, max.	12
-	12
S7 message functions	46. Deposition on the confirmed annual transfer DOVOD 1071
Number of login stations for message functions, max.	16; 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	
• Forcing	Yes
• Forcing, variables	Inputs, outputs
Number of variables, max.	10
Diagnostic buffer	
• 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. 	
— adjustable	Yes; From 10 to 499
— preset	10
Isolation	
Isolation tested with	500V AC for 1 minute
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes; File E239877
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Use in hazardous areas	
• ATEX	Yes
Railway application	
• EN 50155	Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1,
	Class A/B, EN 50155:2007
Ambient conditions	

Ambient temperature during eneration	
Ambient temperature during operation	25 °C: = Tmin
• min.	-25 °C; = Tmin
• max.	60 °C; = Tmax; the rated temperature range of -25 +55 °C (T1) applies for the use on railway vehicles according to EN50155
Ambient temperature during storage/transportation	7
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
Installation altitude above sea level, max.	2 000 m
 Ambient air temperature-barometric pressure- altitude 	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m)
Relative humidity	
 With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Use in stationary industrial systems	
 to biologically active substances according to EN 60721-3-3 	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
 to chemically active substances according to EN 60721-3-3 	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
 to mechanically active substances according to EN 60721-3-3 	Yes; Class 3S4 incl. sand, dust, *
Use on land craft, rail vehicles and special-purpose vehicles	cles
 to biologically active substances according to EN 60721-3-5 	Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request
 to chemically active substances according to EN 60721-3-5 	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *
 to mechanically active substances according to EN 60721-3-5 	Yes; Class 5S3 incl. sand, dust; *
Remark	
 Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 	* The supplied plug covers must remain in place over the unused interfaces during operation!
configuration / header	
Configuration software	
• STEP 7	Yes; V5.2 SP1 or higher 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
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Know-how protection	
 User program protection/password protection 	Yes
Block encryption	Yes; With S7 block Privacy
Dimensions	
Width	40 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	290 g
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