SIEMENS

Data sheet

6AG1513-1AL02-2AB0



SIPLUS S7-1500 CPU 1513-1 PN based on 6ES7513-1AL02-0AB0 with conformal coating, -40...+60 °C, central processing unit with work memory 300 KB for program and 1.5 MB for data, 1st interface: PROFINET IRT with 2-port switch, 40 ns bit performance, SIMATIC Memory Card required spare part display: 6AG1591-1AB00-2AA0

Product type designation CPU 1613.1 PN based on 0ES7513.1A10/20ABQ Product function ************************************	General information	
Product function Yes 1 M data Yes; 100 to 18M3 • Isochronous mode Yes: Distributed and central; with minimum OB 6x cycle of 500 µs (distributed) and 1 ms (central) Engineering with • STEP 7 TA Portal configurable/integrated from version • STEP 7 TA Portal configurable/integrated from version see entry ID: 109746275 Configuration control Ves Via dataset Yes Display Screen diagonal [cm] Screen diagonal [cm] 3.45 cm Control elements 2 Number of keys 8 Mode buttons 2 Supply voltage 2 Parmissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Mains buffering 5 ms • Repeat rate, min. 1/s Input current Urrent consumption (rated value) Current consumption, max. 0.95 A Innush current, max. 1.9 A: Rated value Pr 0.002 A*s Power onsumption from the backplane bus (balanced) 5.5 W Power onsumption from the backplane bus (balanced)	Product type designation	CPU 1513-1 PN
• 18M data Yes; 18M0 to 18M3 • 1sochronous mode Yes; Distributed and central; with minimum OB 6x cycle of 500 µs (distributed) and 1 ms (central) Engineering with see entry ID: 109746275 Configuration control with a dataset Vis dataset Yes Display Screen diagonal [cm] Control entrol 3.45 cm Control entrol 8 Muber of keys 8 Mode buttons 2 Supply voltago 2 Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes Mains buffering 1/s - Mains/voltage failure stored energy time 5 ms • Repeat rate, min. 1/s Introl commption (rated value) 0.7 A Current consumption, max. 0.95 A Intrush current, max. 1.9 A; Rated value IP 0.02 A*s Power 10 W Power fors. 5.7 W Power fors. 5.7 W Memory 1	based on	6ES7513-1AL02-0AB0
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• STEP 7 TIA Portal configurable/integrated from version see entry ID: 109746275 Configuration control Yes via dataset Yes Display Screen diagonal [cm] 3.45 cm Control elements 8 Number of keys 8 Mode buttons 2 Supply voltage 2 Rated value (DC) 24 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes Mains buffering 5 ms • Repeat rate, min. 1/s Input current 0.95 A Current consumption (rated value) 0.7 A Current consumption, max. 0.95 A Invush current, max. 1.9 A, Rated value Pt 0.02 A*s Power onsumption from the backplane bus (balanced) 5.5 W Power loss, typ. 5.7 W Memory Number of slots for SIMATIC memory card Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes	Isochronous mode	
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via dataset Yes Display	 STEP 7 TIA Portal configurable/integrated from version 	see entry ID: 109746275
Display Screen diagonal [cm] 3.45 cm Control elements ************************************	Configuration control	
Screen diagonal [cm] 3.45 cm Control elements 8 Number of keys 8 Mode buttons 2 Supply voltage 7 Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Mains buffering 6 • Mains/voltage failure stored energy time 5 ms • Repeat rate, min. 1/s Input current 0.7 A Current consumption (rated value) 0.7 A Current consumption, max. 0.95 A Inrush current, max. 1.9 A; Rated value P 0.02 A²-s Power 1 Infeed power to the backplane bus (balanced) 5.5 W Power loss 5.7 W Power loss 5.7 W Memory 1 SIMATIC memory card required Yes	via dataset	Yes
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Reverse polarity protection Yes Mains buffering 5 ms • Mains/voltage failure stored energy time 5 ms • Repeat rate, min. 1/s Input current 0.7 A Current consumption (rated value) 0.7 A Current consumption, max. 0.95 A Inrush current, max. 1.9 A; Rated value I* 0.02 A²-s Power 10 W Power to the backplane bus 10 W Power loss 5.5 W Power loss, typ. 5.7 W Memory 1 Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes	permissible range, lower limit (DC)	19.2 V
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• Mains/voltage failure stored energy time5 ms• Repeat rate, min.1/sInput currentCurrent consumption (rated value)0.7 ACurrent consumption, max.0.95 AInrush current, max.1.9 A; Rated valueI't0.02 A²-sPowerInfeed power to the backplane bus10 WPower consumption from the backplane bus (balanced)5.5 WPower loss5.7 WPower loss, typ.5.7 WMemory1Number of slots for SIMATIC memory card1SIMATIC memory card requiredYes	Reverse polarity protection	Yes
• Repeat rate, min. 1/s Input current 0.7 A Current consumption (rated value) 0.7 A Current consumption, max. 0.95 A Inrush current, max. 1.9 A; Rated value I²t 0.02 A²-s Power 10 W Power consumption from the backplane bus (balanced) 5.5 W Power loss, typ. 5.7 W Memory 5.7 W Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes	Mains buffering	
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Current consumption, max.0.95 AInrush current, max.1.9 A; Rated valueI²t0.02 A².sPowerInfeed power to the backplane busInfeed power to the backplane bus (balanced)10 WPower consumption from the backplane bus (balanced)5.5 WPower lossPower lossPower loss, typ.5.7 WMemory1Number of slots for SIMATIC memory card1SIMATIC memory card requiredYes	Input current	
Inrush current, max. 1.9 A; Rated value I²t 0.02 A²·s Power Infeed power to the backplane bus Infeed power to the backplane bus (balanced) 10 W Power consumption from the backplane bus (balanced) 5.5 W Power loss 5.7 W Memory 5.7 W Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes	Current consumption (rated value)	0.7 A
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Power loss, typ. 5.7 W Memory 1 Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes	Power consumption from the backplane bus (balanced)	5.5 W
Memory 1 Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes	Power loss	
Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes	Power loss, typ.	5.7 W
SIMATIC memory card required Yes	Memory	
SIMATIC memory card required Yes	Number of slots for SIMATIC memory card	1
	SIMATIC memory card required	Yes
• integrated (for program) 300 kbyte	• integrated (for program)	300 kbyte
• integrated (for data) 1.5 Mbyte	• integrated (for data)	

Load memory	
Plug-in (SIMATIC Memory Card), max.	32 Gbyte
Backup	
maintenance-free	Yes
CPU processing times	
	40 m
for bit operations, typ.	40 ns
for word operations, typ.	48 ns
for fixed point arithmetic, typ.	64 ns
for floating point arithmetic, typ.	256 ns
CPU-blocks	
Number of elements (total)	2 000; Blocks (OB, FB, FC, DB) and UDTs
DB	
Number range	1 60 999; subdivided into: number range that can be used by the user: 1 59 999, and number range of DBs created via SFC 86: 60 000 60 999
• Size, max.	1.5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	
Number range	0 65 535
• Size, max.	300 kbyte
FC	
Number range	0 65 535
• Size, max.	300 kbyte
OB	
• Size, max.	300 kbyte
Number of free cycle OBs	100
Number of time alarm OBs	20
	20
Number of delay alarm OBs	
Number of cyclic interrupt OBs	20; With minimum OB 3x cycle of 500 µs
Number of process alarm OBs	50
Number of DPV1 alarm OBs	3
Number of isochronous mode OBs	2
Number of technology synchronous alarm OBs	2
Number of startup OBs	100
 Number of asynchronous error OBs 	4
 Number of synchronous error OBs 	2
 Number of diagnostic alarm OBs 	1
Nesting depth	
 per priority class 	24
Counters, timers and their retentivity	
S7 counter	
Number	2 048
Retentivity	
— adjustable	Yes
IEC counter	
• Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
S7 times	
Number	2 048
Retentivity	
— adjustable	Yes
IEC timer	
Number	Any (only limited by the main memory)
Retentivity	
	Yes
- adjustable	
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	128 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 88 KB
Extended retentive data area (incl. timers, counters, flags), max.	1.5 Mbyte; When using PS 6 0W 24/48/60 V DC HF
Flag	
• Size, max.	16 kbyte
Size, max. Number of clock memories	8; 8 clock memory bit, grouped into one clock memory byte

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Data books • Retentivity adjustable Yes • Retentivity groset No Local data • per priority class, max. 64 kbyte; max. 16 KB per block. Address area • 2048; max. number of modules / submodules Nomber of 10 modules 2 kbyte; All inputs are in the process image • Inputs 32 kbyte; All inputs are in the process image • Outputs 32 kbyte; All outputs are in the process image • Outputs (volume) 8 kbyte - Outputs (volume) 8 kbyte - Outputs (volume) 8 kbyte - Outputs (volume) 8 kbyte Supprocess images 6 kbyte Supprocess images 32. • Number of supprocess images, max. 32 • Number of supprocess images, max. 32. • Number of Supprocess images, max. 32. • Number of Idstibuted IO systems 32. A distributed I/O system is characterized not only by the integration of distributed I/O system is characterized not only by the integration of distributed I/O system is characterized not only by the integration of distributed I/O system is characterized not only by the integration of supprocess images • Via CM 6. A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total
No Local data • per profix/ diss, max. 64 ktyte; max. 16 KB per block. Address area 2 048; max. number of modules / submodules 10 address area 2 bdyte, All inputs are in the process image • Oxputs 32 ktyte, All inputs are in the process image • Oxputs 32 ktyte, All inputs are in the process image • Oxputs 32 ktyte, All inputs are in the process image • Oxputs (volume) 8 ktyte - nputs (volume) 8 ktyte - Oxputs (volume) 8 ktyte - Number of subprocess images, max. 32 Hardware configuration 32: A distributed I/O system is characterized not only by the integration of distributed I/O system is characterized not only by the integration of distributed I/O system is characterized not only by the integration of distributed I/O system Scharacterized not only by the integration of distributed I/O system Scharacterized not only by the integration of distributed I/O system Scharacterized not only by the integration of distributed I/O system Scharacterized not only by the integration of distributed I/O system Scharacterized not only by the integration of distributed I/O system Scharacterized not only by the integration of distributed I/O system Scharacterized not only by the integration of distributed I/O system Scharacterized not only by the integration of distributed I/O system Scharacterized not only by the integration of distributed I/O s
Local data 64 ktyde; max. 16 KB per block: Address and 64 ktyde; max. 16 KB per block: Address and 2 V48; max. number of modules / submodules I/D address and 32 ktyde; All inputs are in the process image • inputs 32 ktyde; All inputs are in the process image • outputs (volume) 8 ktyde - Outputs (volume) 8 ktyde - Outputs (volume) 8 ktyde - Outputs (volume) 8 ktyde Subprocess images • - Outputs (volume) 8 ktyde Subprocess images • • Number of distributed IO systems 32 • Number of distributed IO systems 32.4 distributed I/O via Stri master induces or inits (e.g. IE/PE-Link) Number of IO Controllers • • Via CM 6: A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total • Via CM 6: A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total • Via CM 6: A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total • Number of IND via CS 1 • Via CM 6: A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total • Number of PIP CMs<
Per priority class, max. 64 kbyte; max. 16 KB per block Address area Vandre of IO modules Z048; max. number of modules / submodules Via ddress area Cuputs Cuput
Address area 2.048; max. number of modules / submodules Voradires area 32 kbyte; All inputs are in the process image • Outputs 32 kbyte; All inputs are in the process image • Outputs (volume) 8 kbyte • Number of subprocess images, max. 32 • Number of distributed I/O system 32; A distributed I/O system is characterized not only by the integration of byte connection of I/O via AS-I master modules, out and byte outprocess image. • Number of De masters 32; A distributed I/O via PROFINET or PROFIBUS communication modules, but also byte connection of I/O via AS-I master modules or links (e.g. IE/PE-Link) Number of Do Introllers 1 • Integrated 1 • Via CM 6, A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total Number of PIP CMs 1 • Number of PIP CMs 2; CPU + 31 modules • Number of PIP CMs the number of connectable PIP CMs is only limited by the number of available also Time of day 2 Clock * Wind AIIIIIIIIIIIIIIIIIII
Number of IO modules 2 048; max. number of modules / submodules IV address area 32 kbyte; All inputs are in the process image • Outputs 32 kbyte; All inputs are in the process image per integrated IO subsystem 8 kbyte - Inputs (volume) 8 kbyte - Outputs (volume) 8 kbyte - Outputs (volume) 8 kbyte Outputs (volume) 9 kbyte Outputs (volume) 8 kbyte Outputs (volume) 9 kbyte
I/O address area Inputs 32 kbyte; All inputs are in the process image Outputs 32 kbyte; All outputs are in the process image Inputs (volume) 8 kbyte Outputs (volume) 8 kbyte Outputs (volume) 8 kbyte Outputs (volume) 8 kbyte Outputs (volume) 8 kbyte Supprocess images Number of subprocess images, max. 32 Yardware configuration Number of distributed IO system is characterized not only by the integration of distributed IO via PROFINET or PROFIBUS communication modules, but also by the connection of I/O via AR-4 master modules or links (e.g. IE/PP-Link) Number of IO Controllers Via CM Kanke Via CM Kanker of IOC controllers Integrated Number of ID reasters Via CM Kanker of ID Controllers Number of PROFINET + PROFIBUS) can be inserted in total Number of ID controllers Integrated Number of ID Controllers Number of PIP CMs Supported Number of Supprocess max. PIP CM Our day Operating toxic source Operating toxic source Integrated Number of PIP CMs Supported Yes Interfaces Number of PROFINET interfaces All source Yes X1
Inputs 32 kbyte; All inputs are in the process image Outputs Outputs Outputs Outputs (volume) A kbyte - Outputs (volume) A cbyte - Outputs (volume) A cbyte - Outputs (volume) A cbyte - Via CM A cbyte - Via CM A cbyte - Number of Ines max. 1 PIP CM - Number of PIP CMs bavita (X 40 °C ambient temperature, typically bavita (X 40 °C ambient temperature, typically bavita (X 40 °C ambient temperature, typically bavita (X 40
• Outputs 32 kbyte; All outputs are in the process image per integrated IO subsystem 34 kbyte - Outputs (volume) 8 kbyte per CMICP - Inputs (volume) - Inputs (volume) 8 kbyte - Outputs (volume) 8 kbyte - Outputs (volume) 8 kbyte Subprocess images - Outputs (volume) • Number of subprocess images, max. 32 • Number of distributed IO systems 32: A distributed IO system is characterized not only by the integration of distributed IO via PROFINET or PROFIBUS communication modules, but also by the connection of ION and S-I master modules or links (e.g. IE/PB-Link). Number of ID Controllers - Via CM • Via CM 6: A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total Number of ID Controllers - Via CM • Number of ID Controllers - Number of ID Controllers • Number of ID Controllers - Number of ID Controllers • Number of ID Controllers - Number of CMs (PROFINET + PROFIBUS) can be inserted in total Pize CM - Outputs (Via CM • Number of IDP CMs - Consection of VID CMs • Number of IDP CMs - Consection of VID CMs • Number of PIP CMs - Consection of VID CMs • Number of IDP CMs - Consection of VID CMs • Number of IDP CMs - Consection of VID CMs </td
per integrated IO subsystem 8 kbyte Inputs (volume) 8 kbyte Outputs (volume) 8 kbyte Inputs (volume) 8 kbyte Outputs (volume) 8 kbyte Outputs (volume) 8 kbyte Subprocess images
- Inputs (volume) 8 kbyte - Outputs (volume) 8 kbyte - Inputs (volume) 8 kbyte - Inputs (volume) 8 kbyte Subprocess images 8 kbyte - Number of subprocess images, max. 32 Hardware configuration 32: A distributed I/O via PROFINET or PROFIBUS communication modules, but also by the connection of I/O via AS-i master modules or links (e.g. IE/PB-Link) Number of DP masters 6: A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total • Via CM 6: A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total • Via CM 6: A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total • Via CM 6: A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total • Number of IO Controllers 1 • Integrated 1 • Number of IORs, max. 32; CPU + 31 modules • Number of INP CMs the number of connectable PIP CMs is only limited by the number of available solos Time of day 1 Clock - • Number of PIP CMs 6 wik; At 40 "C ambient temperature, typically • Deviation per day, max. 10 s; Typ: 2 s Operating hours counter Yes • Number of PR
— Outputs (volume) 8 kbyte per CM/CP 8 kbyte — Inputs (volume) 8 kbyte — Outputs (volume) 8 kbyte Subprocess images 32 Hardware configuration 32. A distributed I/O system is characterized not only by the integration of distributed I/O via PROFINET or PROFIBUS communication modules, but also both also bo
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Inputs (volume) 8 kbyte Outputs (volume) 8 kbyte Subprocess images • Number of subprocess images, max. 32 Hardware configuration 32; A distributed I/O system is characterized not only by the integration of distributed I/O via PROFINET or PROFIBUS communication modules, but also by the connection of I/O via AS-I master modules or links (e.g. IE/PB-Link) Number of DP masters • Via CM 6; A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total Number of IOC ontrollers • Integrated 1 • Via CM 6; A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total Rack • Modules per rack, max. 32; CPU + 31 modules • Number of Ines, max. 1 PIP CM • Number of PIP CMs the number of connectable PIP CMs is only limited by the number of available slots • Time of day Clock • Deviation per day, max. 10 • Supported • Number 16 Clock Yes • In AS, device Yes
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Interface types • RJ 45 (Ethernet) Yes; X1
RJ 45 (Ethernet) Yes; X1
Number of ports 2
integrated switch Yes
Protocols
IP protocol Yes; IPv4
PROFINET IO Controller Yes
PROFINET IO Device Yes
SIMATIC communication Yes
Open IE communication Yes; Optionally also encrypted
Web server Yes
Media redundancy Yes

SIMATIC communication	
	Yes
0	Yes
	Yes
	See online help (S7 communication, user data size)
Open IE communication	
	Yes
	64 kbyte
	Yes
	Yes
	64 kbyte
	Yes
— Data length, max.	2 kbyte; 1 472 bytes for UDP broadcast
-	Yes; Max. 5 multicast circuits
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Web server	
• HTTP	Yes; Standard and user pages
• HTTPS	Yes; Standard and user pages
OPC UA	
Runtime license required	Yes
OPC UA Client	Yes
— Application authentication	Yes
E	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
	"anonymous" or by user name & password
	4
recommended max.	1 000
 — Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max. 	300
— Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max.	20
— Number of elements for one call of OPC_UA_MethodGetHandleList, max.	100
 — Number of simultaneous calls of the client instructions for session management, per connection, max. 	1
— Number of simultaneous calls of the client instructions for data access, per connection, max.	5
	5 000
— Number of registerable method calls of OPC_UA_MethodCall, max.	100
OPC_UA_MethodCall, max.	20
	Yes; Data access (read, write, subscribe), method call, custom address space
P.P	Yes
E	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
	"anonymous" or by user name & password
	32
	50 000
	10 000
· · · · · · · · · · · · · · · · · · ·	20
	100 ms
	500 ms
	20
· · · · · · · · · · · · · · · · · · ·	
	1 000; for 1 s sampling interval and 1 s send interval
	10; or 20, depending on type of server interface
 — Number of nodes for user-defined server interfaces, max. 	1 000

Further protocols	
MODBUS	Yes; MODBUS TCP
Isochronous mode	
Equidistance	Yes
S7 message functions	
Number of login stations for message functions, max.	32
Program alarms	Yes
Number of configurable program messages, max.	5 000; Program messages are generated by the "Program_Alarm" block,
	ProDiag or GRAPH
Number of simultaneously active program alarms	
 Number of program alarms 	300
 Number of alarms for system diagnostics 	100
 Number of alarms for motion technology objects 	80
Test commissioning functions	
Joint commission (Team Engineering)	Yes; Parallel online access possible for up to 5 engineering systems
Status block	Yes; Up to 8 simultaneously (in total across all ES clients)
Single step	No
Number of breakpoints	8
Status/control	
Status/control variable	Yes
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
 Number of variables, max. 	
— of which status variables, max.	200; per job
— of which control variables, max.	200; per job
Forcing	
 Forcing, variables 	Peripheral inputs/outputs
Number of variables, max.	200
Diagnostic buffer	
• present	Yes
 Number of entries, max. 	1 000
— of which powerfail-proof	500
Traces	
Number of configurable Traces	4; Up to 512 KB of data per trace are possible
Interrupts/diagnostics/status information	
Diagnostics indication LED	
RUN/STOP LED	Yes
• ERROR LED	Yes
MAINT LED	Yes
STOP ACTIVE LED	Yes
Connection display LINK TX/RX	Yes
Supported technology objects	
Motion Control	Yes; Note: The number of axes affects the cycle time of the PLC program; selection guide via the TIA Selection Tool or SIZER
 Number of available Motion Control resources for 	800
technology objects	
Required Motion Control resources	
— per speed-controlled axis	40
— per positioning axis	80
— per synchronous axis	160
— per external encoder	80
— per output cam	20
— per cam track	160
— per probe	40
Positioning axis	
 Number of positioning axes at motion control cycle of 4 ms (typical value) 	5
	10
 — Number of positioning axes at motion control cycle of 8 ms (typical value) 	10
of 8 ms (typical value)	Yes; Universal PID controller with integrated optimization
of 8 ms (typical value) Controller	

Counting and measuring	
High-speed counter	Yes
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	-40 °C; = Tmin (incl. condensation/frost)
 horizontal installation, max. 	60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off
 vertical installation, min. 	-40 °C; = Tmin (incl. condensation/frost)
• vertical installation, max.	40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Ambient air temperature-barometric pressure-altitude	Restrictions for installation altitudes > 2 000 m, see entry ID: 109763260
Relative humidity	
 With condensation, tested in accordance with IEC 60068- 2-38, max. 	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
Resistance	
Coolants and lubricants	Vaci hal diago and all draplate in the size
Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	Voe: Close 2P2 mold fungue and dry rat approx (with the susception of fungue)
 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 — to mechanically active substances according to EN 	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * Yes; Class 3S4 incl. sand, dust, *
60721-3-3	res; Class 354 Incl. sand, dust, "
Use on ships/at sea	
 — to biologically active substances according to EN 60721-3-6 	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
 — to chemically active substances according to EN 60721-3-6 	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
 — to mechanically active substances according to EN 60721-3-6 	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
 Against chemically active substances acc. to EN 60654-4 	Yes; Class 3 (excluding trichlorethylene)
 Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
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!
Conformal coating	
Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability
 Protection against fouling acc. to EN 60664-3 	Yes; Type 1 protection
Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life
Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC- CC-830A	Yes; Conformal coating, Class A
configuration / header	
configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— GRAPH	Yes
Know-how protection	
User program protection/password protection	Yes
Copy protection	Yes

Block protection	Yes
Access protection	
 Password for display 	Yes
 Protection level: Write protection 	Yes
 Protection level: Read/write protection 	Yes
 Protection level: Complete protection 	Yes
programming / cycle time monitoring / header	
lower limit	adjustable minimum cycle time
upper limit	adjustable maximum cycle time
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	405 g

last modified:

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