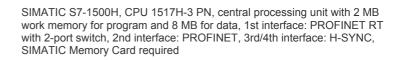
## 6ES7517-3HP00-0AB0

**Data sheet** 





General information	
Product type designation	CPU 1517H-3 PN
HW functional status	FS05
Firmware version	V2.9
Product function	
<ul> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
Isochronous mode	No
Engineering with	
<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V17 (FW V2.9) / V16 (FW V2.8) / V15.1 (FW V2.6)
Display	
Screen diagonal [cm]	6.1 cm
Control elements	
Number of keys	6
Mode selector switch	1
Supply voltage	
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	
<ul> <li>Mains/voltage failure stored energy time</li> </ul>	5 ms
Input current	
Current consumption (rated value)	1.5 A
Inrush current, max.	2.4 A; Rated value
l²t	0.02 A <sup>2</sup> ·s
Power loss	
Power loss, typ.	24 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
<ul><li>integrated (for program)</li></ul>	2 Mbyte
integrated (for data)	8 Mbyte
Load memory	
<ul> <li>Plug-in (SIMATIC Memory Card), max.</li> </ul>	32 Gbyte
Backup	
maintenance-free	Yes
CPU processing times	

for bit operations, typ.	4 ns
for word operations, typ.	6 ns
for fixed point arithmetic, typ.	6 ns
for floating point arithmetic, typ.	24 ns
CPU-blocks	
Number of elements (total)	12 000; Blocks (OB, FB, FC, DB) and UDTs
DB	
Number range	Number range: 1 to 59 999
• Size, max.	8 Mbyte; For non-optimized block accesses, the max. size of the DB is
	64 KB
FB	0 05 505
Number range     Cina many	0 65 535
• Size, max.	1 Mbyte
FC  ● Number range	0 65 535
-	
• Size, max.	1 Mbyte
	1 Mbyto
Size, max.  Number of free cycle ORs.	1 Mbyte
<ul> <li>Number of free cycle OBs</li> <li>Number of time alarm OBs</li> </ul>	100 20
Number of delay alarm OBs     Number of evelic interrupt OBs	20
Number of cyclic interrupt OBs     Number of process glarm OBs	20
Number of startus OBs     Number of startus OBs	50 100
Number of startup OBs	
Number of asynchronous error OBs	4
Number of synchronous error OBs     Number of diagnostic clarm OBs	2
Number of diagnostic alarm OBs  Necting don'th	1
Nesting depth	24
per priority class	24
Counters, timers and their retentivity	
S7 counter	0.040
• Number	2 048
Retentivity	V
— adjustable	Yes
IEC counter	
• Number	Any (only limited by the main memory)
Retentivity	V
— adjustable	Yes
S7 times	0.040
• Number	2 048
Retentivity	
— adjustable	Yes
IEC timer	
• Number	Any (only limited by the main memory)
Retentivity	V.
— adjustable	Yes
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	768 kbyte
Flag	
• Size, max.	16 kbyte
Number of clock memories	8; 8 clock memory bit, grouped into one clock memory byte
Data blocks	
Potontivity adjustable	Yes
<ul> <li>Retentivity adjustable</li> </ul>	103
Retentivity preset	No
	No
Retentivity preset	
Retentivity preset  Local data	No
<ul> <li>Retentivity preset</li> <li>Local data</li> <li>per priority class, max.</li> </ul>	No
Retentivity preset     Local data     per priority class, max.  Address area	No 64 kbyte; max. 16 KB per block
Retentivity preset  Local data     per priority class, max.  Address area  Number of IO modules	No 64 kbyte; max. 16 KB per block

• Outpute	32 khyte: All outputs are in the process image.
Outputs     per integrated IO subsystem	32 kbyte; All outputs are in the process image
— Inputs (volume)	16 kbyte
— Inputs (volume)      — Outputs (volume)	16 kbyte
Subprocess images	10 10010
Number of subprocess images, max.	32
Hardware configuration	9-
Number of distributed IO systems	1
Number of IO Controllers	
• integrated	1
Time of day	
Clock	
• Type	Hardware clock
Backup time	6 wk; At 40 °C ambient temperature, typically
Deviation per day, max.	10 s; Typ.: 2 s
Operating hours counter	
Number	16
Clock synchronization	
<ul><li>supported</li></ul>	Yes
on Ethernet via NTP	Yes
Interfaces	
Number of PROFINET interfaces	2
1. Interface	
Interface types	
• RJ 45 (Ethernet)	Yes; X1
<ul><li>Number of ports</li></ul>	2
integrated switch	Yes
Protocols	
• IP protocol	Yes; IPv4
PROFINET IO Controller	Yes
PROFINET IO Device	No
SIMATIC communication	Yes; Only Server
Open IE communication	Yes
Web server     Media redundancy	No You
Media redundancy     PROFINET IO Controller	Yes
Services	
— PG/OP communication	Yes
— Isochronous mode	No
— IRT	No
— PROFlenergy	Yes
Number of connectable IO Devices, max.	256
Update time for RT	
— for send cycle of 1 ms	1 ms to 512 ms
2. Interface	
Interface types	
RJ 45 (Ethernet)	Yes; X2
<ul> <li>Number of ports</li> </ul>	1
integrated switch	No
Protocols	
IP protocol	Yes; IPv4
PROFINET IO Controller	No
PROFINET IO Device	No
SIMATIC communication	Yes; Only Server
Open IE communication	Yes
Web server	No
Media redundancy	No
3. Interface	
Interface type	Pluggable synchronization submodule (FO)

Plug-in interface modules	Synchronization module 6ES7960-1CB00-0AA5 or 6ES7960-1FB00-0AA5
4. Interface	
Interface type	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization module 6ES7960-1CB00-0AA5 or 6ES7960-1FB00-0AA5
Interface types	
RJ 45 (Ethernet)	
• 100 Mbps	Yes
<ul> <li>Autonegotiation</li> </ul>	Yes
<ul> <li>Autocrossing</li> </ul>	Yes
<ul> <li>Industrial Ethernet status LED</li> </ul>	Yes
Protocols	
PROFIsafe	No
Number of connections	
Number of connections, max.	288
<ul> <li>Number of connections reserved for ES/HMI/web</li> </ul>	10
<ul> <li>Number of S7 routing paths</li> </ul>	64
Redundancy mode	
Media redundancy	
— MRP	Yes; MRP Automanager according to IEC 62439-2 Edition 2.0
<ul> <li>MRP interconnection, supported</li> </ul>	Yes; as MRP ring node according to IEC 62439-2 Edition 3.0
— MRPD	No
<ul> <li>Switchover time on line break, typ.</li> </ul>	200 ms; PROFINET MRP
Number of stations in the ring, max.	50
SIMATIC communication	
PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
• S7 routing	Yes
S7 communication, as server	Yes
S7 communication, as client	No
Open IE communication	110
• TCP/IP	Yes
— Data length, max.	64 kbyte
several passive connections per port,	Yes
supported	163
• ISO-on-TCP (RFC1006)	Yes
— Data length, max.	64 kbyte
• UDP	Yes
— Data length, max.	2 kbyte; 1 472 bytes for UDP broadcast
— UDP multicast	Yes; 128 multicast circuits (of which max. 5 via X1)
DHCP	No
• DNS	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Web server	
• HTTP	No
• HTTPS	No
OPC UA	
OPC UA Client	No
OPC UA Server	No
Further protocols	
MODBUS	Yes; MODBUS TCP
Isochronous mode	,
Equidistance	No
·	110
S7 message functions	
Number of login stations for message functions, max.	64
Program alarms	Yes
Number of configurable program messages, max.	10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH

Number of loadable program messages in RIN. max.  * Number of program alarms  * Number of program alarms of the program alarms  * Number of program alarms of the program alarms  * Number of configurable max  * Number o		
Number of alams for system diagnostics and successful and suc	Number of loadable program messages in RUN, max.	5 000
* Number of alarms for system diagnostics  Joint commissioning functions  Joint commission (Tram Engineering)  Status block  Yes: Up to 16 simultaneously  No  Number of breakpoints  Statusborotric variable  * Statusborotric variable  * Variables  * Number of variables, max  — of which status variables, max  — of which powerfail proof  * Forcing  * Number of entries, max  — of which powerfail-proof  * Number of configurable Traces  • Number of configurable Traces  • Nember of configurable Traces  • Number of con		
Tost commission (Team Engineering)	· -	
Joint commission (Team Engineering) Straus block Single step No Number of breakpoints Statuse control Statuse		1 000
Status block   Yes; Up to 16 simultaneously		
Single step		No
Number of breakpoints   20; Breakpoints are only supported in RUN-Solo status	Status block	Yes; Up to 16 simultaneously
Status/control variable Status/control variable Ves Status/control variable Number of variables, max. — of which satus variables, max. — of which control variables, max. — of which powerfall-prof  Forcing Forcing, variables Number of variables, max. — of which powerfall-prof  Number of ortifies, max. — of which powerfall-prof  Number of configurable Traces Number of con	Single step	No
Slatus/control variable Variables Variables Variables, max. — of which status variables, max. — of which control variables, max. — Percing Forcing For	Number of breakpoints	20; Breakpoints are only supported in RUN-Solo status
Variables  Number of variables, max. — of which status variables, max. — of which status variables, max. — of which control variables, max. — of which control variables, max. — of which control variables, max.  Perpheral inputs/outputs  Perpheral inputs/outputs  Number of variables, max.  200; per job  200; per job  Perpheral inputs/outputs  Perpheral inputs/outputs  Number of variables, max.  200  Diagnosts buffer  Present  Number of entries, max. — of which powerfail-proof  Traces  Number of configurable Traces  Nemony size per trace, max.  1000  Traces  Nemony size per trace, max.  Nemony size per trace, max.  Nemony size per trace, max.  1000  Traces  Nemony size per trace, max.  1000  Traces  Nemony size per trace, max.  No  Connection display LINK TX/RX  Yes  Supported technology objects  No  Ambient conditions  No  Ambient emperature during operation  No  No  Ambient temperature during operation, max.  No  No  Ambient temperature during storagetransportation  No  No  Configuration / programming / header  Programming language  No  No  No  No  No  No  No  No  No  N	Status/control	
Number of variables, max. — of which control variables, max. — of which control variables, max. — of which control variables, max.  Forcing  Forcing  Forcing  Forcing  Forcing  Forcing  Forcing,  Forcing  Forc	<ul> <li>Status/control variable</li> </ul>	Yes
of which status variables, max. 200; per job of which control variables, max. 200; per job Forcing Forcing Forcing	<ul><li>Variables</li></ul>	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing Forcing Forcing Forcing, variables, max.  Forcing, variables, max.  Peripheral inputs/outputs  Number of variables, max.  Forwhich powerfail-proof  Number of configurable Traces  Memory size per trace, max.  Formal Status Information  Diagnostics butter  Number of configurable Traces  Number of vertical installation, min.  Number of configurable Traces  Number o	<ul> <li>Number of variables, max.</li> </ul>	
Forcing Forcing Forcing Forcing, variables Forcing, variables Number of variables, max.  Of which powerfall-proof Forcing Number of entiries, max.  Of which powerfall-proof Forcing Number of configurable Traces Number of variety Number of Number	<ul><li>of which status variables, max.</li></ul>	200; per job
Forcing	— of which control variables, max.	200; per job
Forcing, variables Number of variables, max.  Number of variables, max.  Of which powerfail-proof  Number of configurable Traces  Number of configurable Traces  Nemory size per trace, max.  For Number of configurable Traces  Nemory size per trace, max.  Nessendants in the size per size	Forcing	
Diagnostic buffer  present Number of entries, max. 1000  Traces Number of configurable Number of typically 50 °C, the display is switched off Number of configurable Number of typically 40 °C, the display is switched off Number of configuration Number of typically 40 °C, the display is switched off Number of configuration Number of typically 50 °C, the display is switched off Number of configuration Number of typically 50 °C, the display is switched off Number of configuration Number of typically 50 °C, the display is switched off Number of configuration Number of typically 50 °C, the display is switched off Number of configuration Number of typically 50 °C, the display is switched off Number of configuration Number of typically 50 °C, the display is switched off Number of configuration Number of typically 50 °C, the display is switched off Number of configuration Number of typically 50 °C, the display is switched off Number of configuration Number of typically 50 °C, the display is switched off Number of configuration Number of typically 50	<ul><li>Forcing</li></ul>	Yes
Diagnostic buffer  • present  • Number of entries, max.  — of which powerfall-proof  1 000  Traces  • Number of configurable Traces  • Number of configuration Pleader  configuration / Programming / header  configuration / programming / header  Programming Ianguage  — LAD — FBD — STL   Yes   * St. **  Yes  **  **  **  **  **  **  **  **  **	<ul> <li>Forcing, variables</li> </ul>	Peripheral inputs/outputs
Present     Number of entries, max.     Owhich powerfail-proof     1000  Traces      Number of configurable Traces     Number of configurable Of Number of Configurable Of Number of Configuration (Number of Configura	Number of variables, max.	200
Number of entries, max. — of which powerfall-proof 1000  Traces  Number of configurable Traces 8 8 512 kbyte  Interrupts/Gliagnostics/status information  Diagnostics indication LED  RUN/STOP LED Yes  RAINT LED Yes  MAINT LED Yes  Connection display LINK TX/RX Yes  Supported technology objects  Molion Control  Controller  PID_Compact Yes; Universal PID controller with integrated optimization for valves Yes; PID controller with integrated optimization for temperature Ves; PID controller with integrated optimization for vesters and the Ves; PID controller with integrated optimization for vesters and the Ves; PID controller with integrated optimization for vesters and the Ves; PID controller with integrated optimization for vesters and the	Diagnostic buffer	
Traces  Number of configurable Traces Number of configurable Number of configurable Number of configurable Number of configuration Number of Num	• present	Yes
Number of configurable Traces   8   Memory size per trace, max   512 kbyte	<ul> <li>Number of entries, max.</li> </ul>	3 200
Number of configurable Traces   8   Memory size per trace, max   512 kbyte	<ul><li>— of which powerfail-proof</li></ul>	1 000
Memory size per trace, max.  Interrupts/diagnostics/status information  Diagnostics indication LED  RUN/STOP LED  REROR LED  MAINT LED  Connection display LINK TX/RX  Yes  Supported technology objects  Motion Control  Controller  PID_Compact  PID_Compact  PID_Temp  Counting and measuring  High-speed counter  No  Ambient conditions  Ambient temperature during operation  No  Cortical installation, min.  No  O °C  O °C  Vertical installation, min.  Vertical installation, max.  Authorized installation, max.  Profit installation, max.  Authorized installation, max.  In the presume of typically 40 °C, the display is switched off  Ambient temperature during operation  Installation max.  Authorized installation, max.  O °C  No  Ambient temperature during storage/transportation  In max.  Authorized installation, max.  O °C  Allitude during operation relating to sea level  Installation allitude above sea level, max.  Find D  Programming I header  Programming I header  Programming I anguage  Programming I anguage  Programming I paguage  Pres  STL  Yes  Suphis Statistics in Find Statistics	Traces	
Diagnostics indication LED	Number of configurable Traces	8
Diagnostics indication LED  RUN/STOP LED FROR LED FROR LED MAINT LED Connection display LINK TX/RX Yes  Connection display LINK TX/RX Yes  Supported technology objects  Motion Control Controller PID_Compact PID_Compact PID_Temp For PID_Temp Counting and measuring High-speed counter Ambient conditions  Ambient temperature during operation horizontal installation, min. horizontal installation, min. horizontal installation, min. vertical installation installation, min. Vertical installation installation, min. Vertical installation installation installation, min. Vertical installation installation installation installation, min. Vertical installation installation, min. Vertical installation installation, min. Vertical installation, min. Vertical installation installation, min. Vertical installation installation, min. Vertical installation inst	Memory size per trace, max.	512 kbyte
Diagnostics indication LED  RUN/STOP LED FROR LED FROR LED MAINT LED Connection display LINK TX/RX Yes  Connection display LINK TX/RX Yes  Supported technology objects  Motion Control Controller PID_Compact PID_Compact PID_Temp For PID_Temp Counting and measuring High-speed counter Ambient conditions  Ambient temperature during operation horizontal installation, min. horizontal installation, min. horizontal installation, min. vertical installation installation, min. Vertical installation installation, min. Vertical installation installation installation, min. Vertical installation installation installation installation, min. Vertical installation installation, min. Vertical installation installation, min. Vertical installation, min. Vertical installation installation, min. Vertical installation installation, min. Vertical installation inst	Interrupts/diagnostics/status information	
RUN/STOP LED     ERROR LED     Yes     MAINT LED     Yes     Onnection display LINK TX/RX Yes  Supported technology objects  Motion Control  Controller     PID_Compact     PID_Compact     PID_Step     Yes; PID controller with integrated optimization for valves     PID-Temp     Yes; PID controller with integrated optimization for valves     PID-Temp     Yes; PID controller with integrated optimization for temperature  Counting and measuring     High-speed counter  Ambient conditions  Ambient temperature during operation     • horizontal installation, min.     • horizontal installation, min.     • horizontal installation, max.  • vertical installation, max.  • no "C  • max.  Ad "C; Display: 40 "C, at an operating temperature of typically 40 "C, the display is switched off  • min.  • min.  • max.  70 "C  Altitude during operation relating to sea level  • Installation altitude above sea level, max.  configuration / header  configuration / programming / header  Programming language  — LAD — FBD — STL  Yes  Yes  Yes  Yes		
ERROR LED  MAINT LED  Yes  Yes  Yes  Connection display LINK TX/RX  Yes  Supported technology objects  Motion Control  Ontroller  PID_Compact  PID_Compact  PID_Temp  Yes; PID controller with integrated optimization for valves  PID_Temp  Yes; PID controller with integrated optimization for valves  PID_Temp  Counting and measuring Pigs, PID controller with integrated optimization for temperature  Counting and measuring Pigs, PID controller with integrated optimization for temperature  Counting and measuring Pigs, PID controller with integrated optimization for temperature  No  Ambient conditions  Ambient temperature during operation Phorizontal installation, min. Phorizontal installation, min. Phorizontal installation, min. Proceedings in the stallation, min. Procedure of typically 50 °C, the display is switched off Procedure of typically 40 °C, the display is switched off  Ambient temperature during storage/transportation  The min. Procedure of typically 40 °C, the display is switched off  Ambient temperature during storage/transportation  The min. Procedure of typically 40 °C, the display is switched off  Ambient temperature during storage/transportation  The min. Procedure of typically 40 °C, the display is switched off  Ambient temperature during storage/transportation  The min. Procedure of typically 40 °C, the display is switched off  Ambient temperature during storage/transportation  The min. Procedure of typically 40 °C, the display is switched off  Ambient temperature during storage/transportation  The min of the min	-	Yes
Connection display LINK TX/RX  Supported technology objects  Motion Control  Controller  PID_Compact PID_Step PID_Temp PID_Temp Pigh-speed counter  Ambient conditions  Ambient temperature during operation  Pertical installation, min. Pertical installation, max.  Verical installation, max.  Authorization installation, max.  Authorization installation, max.  Por C Counted installation, max.  Authorization installation, min. Pertical installation, min. Pertical installation, max.  Authorization installation, max. Pertical installation, max.  Authorization installation, max. Pertical in		
Motion Control  Motion Control  PID_Compact PID_Step PID_Temp Yes; PID controller with integrated optimization for valves PID_Temp Yes; PID controller with integrated optimization for valves PID_Temp Yes; PID controller with integrated optimization for temperature  Counting and measuring Pigh-speed counter No  Ambient conditions  Ambient temperature during operation  horizontal installation, min. horizontal installation, max.  vertical installation, max.  vertical installation, max.  vertical installation, max.  40 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off  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.  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  max.  40 °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  configuration / header  configuration / programming / header  Programming language  — LAD — FBD — Yes — STL — Yes		
Motion Control  Controller  PID_Compact  PID_Step  PID_Temp  Counting and measuring High-speed counter  Ambient conditions  Ambient temperature during operation  vertical installation, min.  vertical installation, max.  Pertical installation, max.  Ambient temperature during storage/transportation  vertical installation altitude above sea level, max.  Altitude during operation relating to sea level  Installation / hoader  Configuration / hoader  Configuration / programming / header  Programming language  — LAD — FBD — STL  Yes; PID controller with integrated optimization for valves Yes; PID controll	· ·	100
Controller  PID_Compact PID_Step PID-Temp Yes; PID controller with integrated optimization Yes; PID controller with integrated optimization for valves PID-Temp Yes; PID controller with integrated optimization for valves Yes; PID controller with integrated optimization for temperature Yes PID-Temp Counting and measuring High-speed counter No  Ambient conditions  Ambient temperature during operation  horizontal installation, min.  horizontal installation, max.  0 °C 00 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off  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.  min.  min.  140 °C 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  configuration / header  configuration / programming / header  Programming language  — LAD — FBD — Yes — STL  Yes		No
PID_Compact PID_Sstep PID_Step PID_Temp Pignate PiD_Temp Pignate Pidn this peed counter  Ambient conditions Ambient temperature during operation Portical installation, min. Pertical installation pertical pert		INO
PID_3Step PID-Temp Yes; PID controller with integrated optimization for valves Yes; PID controller with integrated optimization for temperature Yes High-speed counter No  Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. • horizontal installation, min. • vertical installation, min. • vertical installation, max. • vertical installation, max.  • vertical installation, max.  • vertical installation, max.  • vertical installation, max.  • vertical installation, max.  • vertical installation max.  • vertical installation at temperature during storage/transportation • min. • min. • 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off  Ambient temperature during storage/transportation • min. • 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 configuration / header  Programming language  — LAD — FBD — STL  Yes  Yes  Yes  Yes  Yes		Voc. Universal PID controller with integrated entimization
PID-Temp  Yes; PID controller with integrated optimization for temperature  Yes High-speed counter  No  Ambient conditions  Ambient temperature during operation  horizontal installation, min. horizontal installation, max.  o o C  vertical installation, max.  vertical installation, max.  o o C  vertical installation, max.  o o C  vertical installation, max.  do o C; Display: 50 o C, at an operating temperature of typically 50 o C, the display is switched off  vertical installation, max.  do o C; Display: 40 o C, at an operating temperature of typically 40 o C, the display is switched off  Ambient temperature during storage/transportation  min.  max.  do o 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  configuration / programming / header  Programming language  — LAD — FBD — STL  Yes  Yes  Yes  Yes		
Counting and measuring  High-speed counter  Ambient conditions  Ambient temperature during operation  horizontal installation, min. horizontal installation, max.  overtical installation, min. vertical installation, max.  overtical installation overtically 50 °C, at an operating temperature of typically 50 °C, the display is switched off  overtical installation overtically 50 °C, at an operating temperature of typically 50 °C, the display is switched off  overtical installation, min.  overtical installation, min.  overtical installation, min.  overtical installation, min.  overtical installation overtically 50 °C, at an operating temperature of typically 50 °C, the display is switched off  overtical installation, min.  overtical installation, min.		
<ul> <li>High-speed counter</li> <li>Ambient conditions</li> <li>Ambient temperature during operation</li> <li>Installation, min.</li> <li>Installation altitude above sea level.</li> <li>Installation altitude above sea level.</li> <li>Installation / programming language</li> <li>— LAD</li> <li>— FBD</li> <li>— FBD</li> <li>— STL</li> <li>O°C</li> <li>O°C</li> <li>O°C</li> <li>O°C, pisplay: 50 °C, at an operating temperature of typically 50 °C, the display is switched off</li> <li>O°C</li> <li>O°C, pisplay: 40 °C, at an operating temperature of typically 40 °C, the display is switched off</li> <li>Ambient temperature during storage/transportation</li> <li>Installation altitude above sea level</li> <li>Installation altitude above sea level, max.</li> <li>Fess</li> <li>Fess</li></ul>	·	
Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. • horizontal installation, max.  • vertical installation, min. • vertical installation, max.  •		
Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. • horizontal installation, max.  • horizontal installation, max.  • vertical installation, min. • vertical installation, max.  • vertical installation and perature of typically 40 °C, the display is switched off  • vertical installation and perature of typically 40 °C, the display is switched off  • vertical installation, max.  •		INU
<ul> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off</li> <li>vertical installation, min.</li> <li>0 °C</li> <li>vertical installation, max.</li> <li>40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>configuration / header</li> <li>configuration / programming / header</li> <li>Programming language</li> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>		
<ul> <li>horizontal installation, max.</li> <li>60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off</li> <li>vertical installation, min.</li> <li>0 °C</li> <li>vertical installation, max.</li> <li>40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>70 °C</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>configuration / header</li> <li>configuration / programming / header</li> <li>Programming language</li> <li>LAD</li> <li>FBD</li> <li>Yes</li> <li>STL</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>		
<ul> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>70 °C</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>soon m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>configuration / header</li> <li>configuration / programming / header</li> <li>Programming language</li> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>	•	
<ul> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>70 °C</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>configuration / header</li> <li>Programming language</li> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>	<ul> <li>horizontal installation, max.</li> </ul>	
<ul> <li>vertical installation, max.</li> <li>40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>70 °C</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>configuration / header</li> <li>Programming language</li> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>	<ul> <li>vertical installation, min.</li> </ul>	
Ambient temperature during storage/transportation  • min.  • 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  configuration / header  configuration / programming / header  Programming language  — LAD — FBD — FBD — STL  Yes  Yes		
<ul> <li>min.         <ul> <li>max.</li> <li>70 °C</li> </ul> </li> <li>Altitude during operation relating to sea level         <ul> <li>Installation altitude above sea level, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> </ul> </li> <li>configuration / header         <ul> <li>Configuration / programming / header</li> </ul> </li> <li>Programming language         <ul> <li>LAD</li> <li>FBD</li> <li>STL</li> </ul> </li> <li>Yes</li> <li>STL</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>	Ambient temperature during storage france station	display is switched off
<ul> <li>max.</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>configuration / header</li> <li>configuration / programming / header</li> <li>Programming language</li> <li>— LAD</li> <li>— FBD</li> <li>— STL</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>		40.00
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  configuration / header  Configuration / programming / header  Programming language  — LAD — FBD — FBD — STL  Yes  Yes		
● Installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual configuration / header  configuration / programming / header  Programming language  — LAD Yes  — FBD Yes  — STL Yes		70 C
configuration / header  configuration / programming / header  Programming language  — LAD Yes  — FBD Yes  — STL Yes		5 000 ms Doctrictions for installation altitudes a 0 000 ms and make
configuration / programming / header  Programming language  — LAD Yes  — FBD Yes  — STL Yes	·	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Programming language           — LAD         Yes           — FBD         Yes           — STL         Yes		
— LAD       Yes         — FBD       Yes         — STL       Yes		
<ul><li>FBD</li><li>STL</li><li>Yes</li><li>Yes</li></ul>	Programming language	
— STL Yes	— LAD	Yes
	— FBD	
— SCL Yes		Yes
	— SCL	Yes

— CFC	No	
— GRAPH	Yes	
Know-how protection		
<ul> <li>User program protection/password protection</li> </ul>	Yes	
<ul> <li>Copy protection</li> </ul>	No	
Block protection	Yes	
Access protection		
<ul> <li>protection of confidential configuration data</li> </ul>	Yes	
<ul> <li>Password for display</li> </ul>	Yes	
<ul> <li>Protection level: Write protection</li> </ul>	Yes	
<ul> <li>Protection level: Read/write protection</li> </ul>	Yes	
Protection level: Complete protection	Yes	
programming / cycle time monitoring / header		
<ul> <li>lower limit</li> </ul>	adjustable minimum cycle time	
• upper limit	adjustable maximum cycle time	
Dimensions		
Width	210 mm	
Height	147 mm	
Depth	129 mm	
Weights		
Weight, approx.	2 119 g; Interface modules: 2x 18 g	

last modified: 11/3/2021 ☑