## **SIEMENS**

## **Data sheet**

6ES7514-2DN03-0AB0



SIMATIC DP, CPU 1514SP-2 PN for ET 200SP, central processing unit with work memory 600 KB for program and 3.5 MB for data, 1st interface: PROFINET IRT with 2-port switch, 2nd interface: PROFINET RT, 6 ns bit performance, SIMATIC Memory Card required, BusAdapter required for 1st interface

Figure similar

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General information	
Product type designation	CPU 1514SP-2 PN
HW functional status	FS04
Firmware version	V4.0
FW update possible	Yes
Product function	
● I&M data	Yes; I&M0 to I&M3
<ul> <li>Module swapping during operation (hot swapping)</li> </ul>	Yes; Multi-hot swapping
<ul> <li>Isochronous mode</li> </ul>	Yes; only with PROFINET; with minimum OB $6x$ cycle of $375~\mu s$
SysLog	Yes
Engineering with	
STEP 7 TIA Portal configurable/integrated from version	V20 (FW V4.0) / V18 (FW V3.0) or higher
Configuration control	
via dataset	Yes
Control elements	
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>	10 ms
Input current	
Current consumption (rated value)	0.48 A
Current consumption, max.	0.7 A
Inrush current, max.	1.34 A; Rated value
l²t	0.3 A <sup>2</sup> ·s
Power	
Infeed power to the backplane bus	8.05 W
Power loss	
Power loss, typ.	3.5 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
• integrated (for program)	600 kbyte
• integrated (for data)	3.5 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.	6 ns
for word operations, typ.	7 ns
for fixed point arithmetic, typ.	9 ns
for floating point arithmetic, typ.	37 ns
CPU-blocks	
Number of elements (total)	8 000; 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
0:	59 999, and number range of DBs created via SFC 86: 60 000 60 999
• Size, max.	3.5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	0 05 505
Number range     Size may	0 65 535
• Size, max.	600 kbyte
Number range	0 65 535
• Size, max.	600 kbyte
OB	ood hayte
• Size, max.	600 kbyte
Number of free cycle OBs	100
Number of time alarm OBs	20
Number of delay alarm OBs	20
Number of delay alarm obs     Number of cyclic interrupt OBs	
	20; With minimum OB 3x cycle of 250 μs
Number of process alarm OBs  Number of DRV4 plant OBs	50
Number of DPV1 alarm OBs  A Number of isophyspania made OBs	3
Number of isochronous mode OBs	1
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	0.040
• Number	2 048
Retentivity	· ·
— adjustable	Yes
IEC counter	And for the Break and the About and
Number  Potenti it.	Any (only limited by the main memory)
Retentivity	Voc
— adjustable	Yes
S7 times	0.040
Number	2 048
Retentivity	V
— adjustable	Yes
IEC timer	Any (and displication by the main areas )
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.	512 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB
Flag	Stantors, DDs, and toomology data (axos). TIZ ND
• Size, max.	16 kbyte
Number of clock memories	8; 8 clock memory bit, grouped into one clock memory byte
Data blocks	o, a slock memory bit, grouped into one clock memory byte
Retentivity adjustable	Yes
■ Netentivity aujustable	169

Retentivity preset	No
Retentivity preset  Local data	INU
per priority class, max.	64 kbyte; max. 16 KB per block
Address area	04 kByte, max. 10 kB per block
Number of IO modules	8 192; max. number of modules / submodules
I/O address area	0 132, max. number of modules / submodules
• Inputs	32 kbyte; All inputs are in the process image
• Outputs	32 kbyte; All outputs are in the process image
per integrated IO subsystem	32 kbyte, All outputs are in the process image
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
per CM/CP	o najio
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
Subprocess images	
Number of subprocess images, max.	32
Address space per module	
Address space per module, max.	288 byte; For input and output data respectively
Address space per station	
Address space per station, max.	2 560 byte; for central inputs and outputs; depending on configuration; 2 048
	bytes for ET 200SP modules + 512 bytes for ET 200AL modules
Hardware configuration	
Number of distributed IO systems	64; 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	1
Number of IO Controllers	
• integrated	2
• Via CM	0
Rack	
Modules per rack, max.	82; CPU + 64 modules + server module (mounting width max. 1 m) + 16 ET 200AL modules
<ul> <li>Quantity of operable ET 200SP modules, max.</li> </ul>	64
<ul> <li>Quantity of operable ET 200AL modules, max.</li> </ul>	16
Number of lines, max.	1
PtP CM	
Number of PtP CMs	the number of connectable PtP CMs is only limited by the number of available slots
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	40
Number     Clock synchronization	16
supported	Yes
to DP, master	Yes; Via CM DP module
• on DP, device	Yes; Via CM DP module  Yes; Via CM DP module
• in AS, master	Yes
• in AS, device	Yes
on Ethernet via NTP	Yes
Interfaces	
Number of PROFINET interfaces	2
Number of PROFIBUS interfaces	1; Via CM DP module
Optical interface	Yes; Via SIMATIC BusAdapter
1. Interface	
Interface types	
• RJ 45 (Ethernet)	Yes; X1 P1 and X1 P2 via BusAdapter BA 2x RJ45
Number of ports	2; via BusAdapter
integrated switch	Yes

BusAdapter (PROFINET)	Yes; compatible BusAdapters: BA 2x RJ45, BA 2x M12, BA 2x FC, BA 2x LC, BA LC/RJ45, BA LC/FC, BA 2x SCRJ, BA SCRJ/RJ45, BA SCRJ/FC
Protocols	
IP protocol	Yes; IPv4
<ul> <li>PROFINET IO Controller</li> </ul>	Yes
PROFINET IO Device	Yes
<ul> <li>SIMATIC communication</li> </ul>	Yes
Open IE communication	Yes; Optionally also encrypted
Web server	Yes
Media redundancy	Yes
PROFINET IO Controller	
Services	
— Isochronous mode	Yes
<ul> <li>Direct data exchange</li> </ul>	Yes; Requirement: IRT and isochronous mode (MRPD optional)
— IRT	Yes
— PROFlenergy	Yes; per user program
<ul> <li>Prioritized startup</li> </ul>	Yes; Max. 32 PROFINET devices
— Number of connectable IO Devices, max.	256; in total, up to 1024 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
<ul><li>Of which IO devices with IRT, max.</li></ul>	64
<ul> <li>Number of connectable IO Devices for RT, max.</li> </ul>	256
— of which in line, max.	256
<ul> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> </ul>	8; in total across all interfaces
— Number of IO Devices per tool, max.	8
— Updating times	The minimum value of the update time also depends on communication share set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data
— PROFINET Security Class	1
Update time for IRT	
— for send cycle of 250 μs	$250~\mu s$ to 4 ms; Note: In the case of IRT with isochronous mode, the minimum update time of 375 $\mu s$ of the isochronous OB is decisive
— for send cycle of 500 μs	500 μs to 8 ms
— for send cycle of 1 ms	1 ms to 16 ms
— for send cycle of 2 ms	2 ms to 32 ms
— for send cycle of 4 ms	4 ms to 64 ms
<ul> <li>With IRT and parameterization of "odd" send cycles</li> </ul>	Update time = set "odd" send clock (any multiple of 125 $\mu s;$ 375 $\mu s,$ 625 $\mu s$ 3 875 $\mu s)$
Update time for RT	
— for send cycle of 250 μs	250 μs to 128 ms
— for send cycle of 500 μs	500 μs to 256 ms
— for send cycle of 1 ms	1 ms to 512 ms
— for send cycle of 2 ms	2 ms to 512 ms
— for send cycle of 4 ms	4 ms to 512 ms
PROFINET IO Device	
Services	
— Isochronous mode	No
— IRT	Yes
— PROFlenergy	Yes; per user program
— Shared device	Yes
<ul> <li>Number of IO Controllers with shared device, max.</li> </ul>	4
<ul> <li>activation/deactivation of I-devices</li> </ul>	Yes; per user program
Asset management record	Yes; per user program
PROFINET Security Class	SNMP Configuration and DCP Read Only
2. Interface	
Interface types	
RJ 45 (Ethernet)	Yes; X2
Number of ports	1
integrated switch	No
Protocols	
	Voca IDud
IP protocol	Yes; IPv4
<ul><li>IP protocol</li><li>PROFINET IO Controller</li></ul>	Yes

SIMATIC communication     Yes	
Open IE communication     Yes; Optionally also e	ncrynted
Web server  Yes	norypicu
Media redundancy     No	
PROFINET IO Controller	
Services	
— Isochronous mode No	
— Direct data exchange No	
— Direct data exchange No	
— PROFlenergy Yes; per user program	
— Prioritized startup No	distributed 1/0 devices and be assured to the AO i
PROFIBUS or PROFI	distributed I/O devices can be connected via AS-i, NET
<ul><li>— Number of connectable IO Devices for RT, max.</li><li>32</li></ul>	
— of which in line, max.	
<ul> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>8; in total across all interest activated across all interest across acros</li></ul>	terfaces
— Number of IO Devices per tool, max.	
	f the update time also depends on communication share on the number of IO devices, and on the quantity of
— PROFINET Security Class 1	
Update time for RT	
— for send cycle of 1 ms 1 ms to 512 ms	
PROFINET IO Device	
Services	
— Isochronous mode No	
— IRT No	
— PROFlenergy Yes; per user program	1
<ul><li>— Prioritized startup</li><li>No</li></ul>	
— Shared device Yes	
<ul> <li>Number of IO Controllers with shared device, max.</li> </ul>	
<ul> <li>activation/deactivation of I-devices</li> <li>Yes; per user program</li> </ul>	1
Asset management record  Yes; per user program	
— PROFINET Security Class SNMP Configuration a	
3. Interface	,
Interface types	
• RS 485 Yes; Via CM DP modu	IIe
Number of ports	and the same of th
Protocols	
PROFIBUS DP master  Yes	
PROFIBUS DP device     Yes     SIMATIC communication	
SIMATIC communication  Yes  PROSIDUS DR recetor	
PROFIBUS DP master	seemed for EC and LIM
	eserved for ES and HMI
<ul> <li>max. number of DP devices</li> <li>125; in total, up to 102</li> <li>PROFIBUS or PROFI</li> </ul>	24 distributed I/O devices can be connected via AS-i, NET
Services	
— Equidistance No	
— Isochronous mode No	
— activation/deactivation of DP devices Yes	
Interface types	
RJ 45 (Ethernet)	
• 100 Mbps Yes	
Autonegotiation     Yes	
Autoriegotiation     Autocrossing     Yes	
Autocrossing     Industrial Ethernet status LED     Yes	
RS 485	
• Transmission rate, max. 12 Mbit/s	
Protocols	
PROFIsafe No	
Number of connections	

<ul> <li>Number of connections, max.</li> </ul>	192; via integrated interfaces of the CPU and connected CPs / CMs
<ul> <li>Number of connections reserved for ES/HMI/web</li> </ul>	10
<ul> <li>Number of connections via integrated interfaces</li> </ul>	128
<ul> <li>Number of connections per CP/CM</li> </ul>	32
Number of S7 routing paths	16
Redundancy mode	
H-Sync forwarding	Yes
Media redundancy	
— Media redundancy	Yes; only via BusAdapter
— MRP	Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP Manager; MRP Client
<ul> <li>MRP interconnection, supported</li> </ul>	Yes; as MRP ring node according to IEC 62439-2 Edition 3.0
— MRPD	Yes; Requirement: IRT
<ul> <li>Switchover time on line break, typ.</li> </ul>	200 ms; For MRP, bumpless for MRPD
<ul> <li>Number of stations in the ring, max.</li> </ul>	50
SIMATIC communication	
<ul> <li>PG/OP communication</li> </ul>	Yes; encryption with TLS V1.3 pre-selected
• S7 routing	Yes
Data record routing	Yes
• S7 communication, as server	Yes
<ul> <li>S7 communication, as client</li> </ul>	Yes
User data per job, max.	See online help (S7 communication, user data size)
Open IE communication	
• TCP/IP	Yes
— Data length, max.	64 kbyte
several passive connections per port, supported	Yes
• 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; max. 118 multicast circuits
DHCP	Yes
• DNS	Yes
• SNMP	Yes
• DCP	
	Yes
• LLDP	Yes
• Encryption	Yes; Optional
Web server	V 0 1 1 1
• HTTP	Yes; Standard and user pages
• HTTPS	Yes; Standard and user pages
OPC UA	
Runtime license required	Yes; "Medium" license required
OPC UA Client	Yes; Data Access (registered Read/Write), Method Call
<ul> <li>Application authentication</li> </ul>	Yes
— Security policies	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
— User authentication	"anonymous" or by user name & password
<ul> <li>Number of connections, max.</li> </ul>	10
<ul> <li>Number of nodes of the client interfaces, recommended max.</li> </ul>	2 000
<ul> <li>Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_I max.</li> </ul>	300
<ul> <li>Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max.</li> </ul>	20
<ul><li>— Number of elements for one call of OPC_UA_MethodGetHandleList, max.</li></ul>	100
<ul> <li>Number of simultaneous calls of the client instructions for session management, per connection, max.</li> </ul>	1
<ul> <li>Number of simultaneous calls of the client instructions for data access, per connection, max.</li> </ul>	5
<ul> <li>Number of registerable nodes, max.</li> </ul>	5 000
<ul> <li>Number of registerable method calls of</li> </ul>	100

ODO HA Mathadoll	
OPC_UA_MethodCall, max.	
<ul> <li>— Number of inputs/outputs when calling</li> <li>OPC UA MethodCall, max.</li> </ul>	20
OPC UA Server	Yes; data access (read, write, subscribe), method call, alarms & condition (A&C), custom address space, role-based access control
<ul> <li>Application authentication</li> </ul>	Yes
— Security policies	available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256, Aes128Sha256RsaOaep, Aes256Sha256RsaPss
— User authentication	"anonymous" or by user name & password
<ul> <li>— GDS support (certificate management)</li> </ul>	Yes
— Number of sessions, max.	48
<ul> <li>Number of accessible variables, max.</li> </ul>	100 000
<ul> <li>Number of registerable nodes, max.</li> </ul>	20 000
<ul> <li>Number of subscriptions per session, max.</li> </ul>	50
— Sampling interval, min.	100 ms
— Publishing interval, min.	100 ms
— Number of server methods, max.	50; max. 20 concurrently running jobs each for asynchronous instructions OPC_UA_ServerMethodPre and OPC_UA_ServerMethodPost
<ul> <li>Number of inputs/outputs per server method, max.</li> </ul>	20
<ul> <li>Number of monitored items, recommended max.</li> </ul>	4 000; for 1 s sampling interval and 1 s send interval
— Number of server interfaces, max.	10 of each "Server interfaces" / "Companion specification" type and 20 of the type "Reference namespace"
<ul> <li>Number of nodes for user-defined server interfaces, max.</li> </ul>	30 000
Alarms and Conditions	Yes
<ul> <li>Number of program alarms</li> </ul>	200
Number of alarms for system diagnostics	100
Further protocols	
• MODBUS	Yes; MODBUS TCP
S7 message functions	
Number of login stations for message functions, max.	64
number of subscriptions, max.	500
number of tags/attributes for subscriptions, max.	8 000
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 RUN, max.	10 000
Test commissioning functions	
Joint commission (Team Engineering)	Yes; Parallel online access possible for up to 8 engineering systems
Status block	Yes; Up to 8 simultaneously (in total across all ES clients)
0: 1 1	res, op to o simultaneously (in total across all Lo clients)
Single step	Yes
Number of breakpoints	
Number of breakpoints Profiling	Yes
Number of breakpoints Profiling Status/control	Yes 8 Yes
Number of breakpoints  Profiling  Status/control  • Status/control variable	Yes 8 Yes Yes
Number of breakpoints  Profiling  Status/control  • Status/control variable  • Variables	Yes 8 Yes
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.	Yes 8 Yes  Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  — of which status variables, max.	Yes  8  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.	Yes 8 Yes  Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing	Yes 8 Yes Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 200; per job 200; per job
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing	Yes  8  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job 200; per job
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing  Forcing, variables	Yes  8  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job  200; per job  Yes  Peripheral inputs/outputs
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing  Number of variables, max.	Yes  8  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job 200; per job
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing  Number of variables, max.  Diagnostic buffer	Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job  200; per job  Yes  Peripheral inputs/outputs  200
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present	Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job  200; per job  Yes  Peripheral inputs/outputs  200  Yes
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.	Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job  200; per job  Yes  Peripheral inputs/outputs  200  Yes  3 200
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  of which powerfail-proof	Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job  200; per job  Yes  Peripheral inputs/outputs  200  Yes
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing  Number of variables, max.  Diagnostic buffer  Number of entries, max.  of which powerfail-proof  Traces	Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job  200; per job  Yes  Peripheral inputs/outputs  200  Yes  3 200  500
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  of which powerfail-proof  Traces  Number of configurable Traces	Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job  200; per job  Yes  Peripheral inputs/outputs 200  Yes 3 200 500
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  of which powerfail-proof  Traces  Number of configurable Traces  Memory size per trace, max.	Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job  200; per job  Yes  Peripheral inputs/outputs  200  Yes  3 200  500
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  of which powerfail-proof  Traces  Number of configurable Traces  Memory size per trace, max.  Interrupts/diagnostics/status information	Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job  200; per job  Yes  Peripheral inputs/outputs 200  Yes 3 200 500
Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  of which status variables, max.  of which control variables, max.  Forcing  Forcing  Forcing, variables  Number of variables, max.  Diagnostic buffer  present  Number of entries, max.  of which powerfail-proof  Traces  Number of configurable Traces  Memory size per trace, max.	Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job  200; per job  Yes  Peripheral inputs/outputs 200  Yes 3 200 500

REROR LED  NAME TED  NAME		
Monitoring of the supply voltage (PWR-LED)     Connection diplay LIMS TYDRX     Yes  Supported redundary (2004)  Motion Cortrol     Number of available Motion Control resources for technology objects     Required Motion Control resources for technology objects     Required Motion Control resources     — per synthronous axis     — per synthronous axis     — per synthronous axis     — per option axis     — Number of positioning axis at motion control cycle of 4 ms typical value)  Controller     *PID. Safep     *PID. Compact     *PID. Safep     *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  Countring and measuring     *Injih speed counter     *PID. Safep     — global warming potential, (during production) (CO2 eq. global warming potential, (after end of tifs cycle) (CO2 eq. global warming potential, (after end of tifs cycle)     *POFINET Semination, min.     *Order Controllions  **Ministrate Conditions**  **Ambient Cemperature during operation     *Notional Installation, min.     *Order Controllions**  **Ambient Cemperature during operation     *Notional Installation, min.     *Order Controllions**  **Ambient Cemperature during operation     *Notional Installation, min.     *Order Controllions**  **Ambient Cemperature during operation     *Notional Installation, min.     *Order Controllions*	• ERROR LED	Yes
*Connection displays LINE TYPEX  *Motion Control  *Number of available Motion Control resources for technology objects affects the cycle time of the PLC programs, selection guide via the TIA Selection Tool  *Number of available Motion Control resources for technology objects affects the cycle time of the PLC programs, selection guide via the TIA Selection Tool  *Perspect controlled axis  - per positioning axis  - per positioning axis  - per original time axis and the TIA Selection Tool  - per conjunt cam  - per conjunt cam  - per conjunt cam  - per probe  - Pastioning axis  - Number of positioning axes at motion control cycle  of a mistylicial value)  - Number of positioning axes at motion control cycle  of a mistylicial value)  - PID, Compact  - PID, Compact  - PID, Compact  - PID, Temp  - Yes, Universal PID controller with integrated optimization for valves  - PID Temp  - Yes, PID controller with integrated optimization for temperature  - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - PID, Temp - Yes, PID controller with integrated optimization for temperature  - PID, Temp - PID		
Vest Note: The number of sechnology objects   Vest Note: The number of sechnology objects affects the cycle time of the PLC programs, selection guide via the TIA Selection Tool 2 400		Yes
Motion Control  Number of available Motion Control resources for technology objects  Required Motion Control resources for technology objects  Required Motion Control resources for technology objects  Required Motion Control resources for technology objects  Per speed controlled axis  Per pricthonous axis  Propositioning axes at motion control cycle of 4 ms (typical value)  Number of positioning axes at motion control cycle of 4 ms (typical value)  Number of positioning axes at motion control cycle of 8 ms (typical value)  Propositioning axes at motion control cycle of 8 ms (typical value)  Propositioning axes at motion control cycle of 8 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Propositioning axes at motion control cycle of 9 ms (typical value)  Proposit		Yes
Number of available Motion Control resources for technology objects Paquiade Motion Control resources  - Per speed controlled axis - Per speed controlled axis - Per speed controlled axis - Per spinching axis - Number of positioning axis at motion control cycle of 4 ms (typical value) - Number of positioning axis at motion control cycle of 8 ms (typical value) - Number of positioning axis at motion control cycle of 8 ms (typical value) - Number of positioning axis at motion control cycle of 8 ms (typical value) - Number of positioning axis at motion control cycle of 8 ms (typical value) - Number of positioning axis at motion control cycle of 8 ms (typical value) - Number of positioning axis at motion control cycle of 8 ms (typical value) - Number of positioning axis at motion control cycle of 8 ms (typical value) - Yes; Universal PID controller with integrated optimization for valves - PID-Temp - Yes; PID controller with integrated optimization for temperature - PROFINE Security Class - Number of the typical value of the value of the typical value of typical value of the value of		
technology objects  - Required Motin Control resources  - per speed-controlled axis  - per speed-controlled axis  - per speed-controlled axis  - per synchronous axis  - per redemal encoder  - per output carn  - per carn track  - per cuptu carn  -	Motion Control	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool
per speed-controlled axis per positioning axis per synchronous axis per synchronous axis per synchronous axis per external encoder 20 per coupt clarm 20 per coupt clarm 20 per can track per probe 40 Per probe Positioning axis Number of positioning axes at motion control cycle of 4 ms (typical value) Number of positioning axes at motion control cycle of 4 ms (typical value) Number of positioning axes at motion control cycle of 4 ms (typical value) Number of positioning axes at motion control cycle of 4 ms (typical value) Number of positioning axes at motion control cycle of 4 ms (typical value) Number of positioning axes at motion control cycle of 4 ms (typical value) Number of positioning axes at motion control cycle of 4 ms (typical value) Number of positioning axes at motion control cycle of 11 controller with integrated optimization or 120 controller with integrated optimizatio		2 400
- per positioning axis - per synchronous axis - per synchronous axis - per cottenal encoder - per output cam - per probe - per output cam - per probe - Positioning axis - Per probe - Positioning axis - Number of positioning axes at motion control cycle of 4 ms (typical value) - Number of positioning axes at motion control cycle of 4 ms (typical value) - Number of positioning axes at motion control cycle of 8 ms (typical value) - Number of positioning axes at motion control cycle of 9 ms (typical value) - Number of positioning axes at motion control cycle of 9 ms (typical value) - Number of positioning axes at motion control cycle of 9 ms (typical value) - Number of positioning axes at motion control cycle of 9 ms (typical value) - Number of positioning axes at motion control cycle of 9 ms (typical value) - PID_Compact - PiD_Compa	<ul> <li>Required Motion Control resources</li> </ul>	
- per synchronous axis - per external encoder - per count rack - per count rack - per probe - Positioning axis - Number of positioning axes at motion control cycle of 4 mis (typical value) - Number of positioning axes at motion control cycle of 4 mis (typical value) - Number of positioning axes at motion control cycle of 4 mis (typical value) - Number of positioning axes at motion control cycle of 8 mis (typical value) - Number of positioning axes at motion control cycle of 8 mis (typical value) - PID_Compact - PID_Compact - PID_Compact - PID_Sistep - PID-Temp - Yes, PID controller with integrated optimization - Pips PID controller with integrated optimization for valves - PID_Controller with integrated optimization for temperature  Counting and measuring - High-speed counter - Yes - PID controller with integrated optimization for temperature  Counting and measuring - High-speed counter - Yes - PID controller with integrated optimization for temperature  Counting and measuring - High-speed counter - Yes - PID controller with integrated optimization - Yes - PID controller with integrated optimi	<ul><li>per speed-controlled axis</li></ul>	40
- per external encoder	<ul><li>per positioning axis</li></ul>	80
per output cam per cam track per probe Positioning axis Number of positioning axes at motion control cycle of 4 ms (typical value) Number of positioning axes at motion control cycle of 8 ms (typical value) Number of positioning axes at motion control cycle of 8 ms (typical value) Number of positioning axes at motion control cycle of 8 ms (typical value) Number of positioning axes at motion control cycle of 8 ms (typical value) Number of positioning axes at motion control cycle of 8 ms (typical value) PiD_Compact PiD_Compact PiD_Sisep PiD_Sisep PiD_Sisep Yes; PID controller with integrated optimization for valves PiD_Temp Yes; PID controller with integrated optimization for temperature  Counting and measuring High-speed counter  Standards, approvals, certificates  Ecological footprint environmental product declaration environmental product declaration environmental product declaration environmental product declaration global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] global warming potential, (after end of life cycle) global warming pot	— per synchronous axis	160
per cam track per probe Positioning axis Positioning axis Number of positioning axes at motion control cycle of after (Mypical Value) Number of positioning axes at motion control cycle of a ms (Mypical Value) Number of positioning axes at motion control cycle of a ms (Mypical Value) Number of positioning axes at motion control cycle of a ms (Mypical Value) Number of positioning axes at motion control cycle of a ms (Mypical Value) Number of positioning axes at motion control cycle of a ms (Mypical Value) Number of positioning axes at motion control cycle of a ms (Mypical Value) Number of Positioning axes at motion control cycle of Pip. Step Pip. Temp Yes; PID controller with integrated optimization for valves PID. Temp Yes; PID controller with integrated optimization for temperature Pip. Step Pip. Pip. Pip. Pip. Step Pip. Pip. Pip. Pip. Pip. Pip. Pip. Pip.	— per external encoder	80
Per probe Positioning axis  - Number of positioning axes at motion control cycle of 4 ms (typical value) - Number of positioning axes at motion control cycle of 8 ms (typical value)  - Number of positioning axes at motion control cycle of 8 ms (typical value)  Controller  • PID_Compact • PID_Compact • PID_Sitsp • PID_Cottroller with integrated optimization • PID_Sitsp • 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 valves • PID_Temp Yes, PID controller with integrated optimization for valves • PID_Cottrolling and measuring • High-speed counter  Standards, approvals, certificates  **Ecological footprint** • environmental product declaration • environmental product (during production) [CO2 eq] • global warming potential, (during production) [CO2 eq] • global warming potential, (during operation) [CO2 eq] • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global warming potential, (after end of life cycle) • global wa	— per output cam	20
Positioning axis  Number of positioning axes at motion control cycle of 4 ms (typical value)  Number of positioning axes at motion control cycle of 8 ms (typical value)  Positioning axes at motion control cycle of 8 ms (typical value)  Controller  PID_Compact  PID_Compact  PID_Step  PID_Temp  PID_Temp  PiD_Temp  PiD_Temp  PiD_Temp  Pig_Step  PiD_Temp  Pig_Step  PiD_Temp  Pes_PID controller with integrated optimization for valves  PiD_Temp  Pes_PID controller with integrated optimization for temperature  Counting and measuring  Pig_Step PiD_Temp  Pes_PID_Temp  Pes_PID_T	— per cam track	160
- Number of positioning axes at motion control cycle of 4 ms (typical value) - Number of positioning axes at motion control cycle of 8 ms (typical value)  Controller  • PID_Compact • PID_Compact • PID_Sistep • 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 • High-speed counter  Yes  Standards, approvals, certificates  Secological footprint • environmental product declaration • environmental product declaration • environmental product declaration  Global warming potential, (total) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq]  product functions / security / header  PROFINET Security Class  1 signed firmware update  Secure Boot  safely removing data  Arbient temperature during operation • horizontal installation, min. • horizontal installation, min. • horizontal installation, min. • horizontal installation, min. • vertical installation, min. • vertical installation, min. • horizontal installation, min. • horizontal installation, min. • vertical installation, min. • vertical installation, min. • vertical installation, min. • vertical installation, min. • horizontal installation bear evel • Installation altitude above sea level, max.  50 °C No condensation  FROP  Programming Inequage  — LAD — FBD — STL — SCL — CFC — GRAPH  Yes	— per probe	40
of 4 ms (typical value)  Number of positioning axes at motion control cycle of 8 ms (typical value)  Controller  PID_Compact  PID_Sistep  PID_Temp  Counting and measuring  High-speed counter  Counting and measuring  High-speed counter  Counting and measuring  High-speed counter  Ves. PID controller with integrated optimization for temperature  Counting and measuring  High-speed counter  Ves. PID controller with integrated optimization for temperature  Counting and measuring  High-speed counter  Ves. PID controller with integrated optimization for temperature  Ves. PID controller with integrated optimization for temperature  Counting and measuring  High-speed counter  Ves. Ves. Ves. Ves. Ves. Ves. Ves. Ves.	<ul> <li>Positioning axis</li> </ul>	
of 8 ms (typical value)  Controller  PID_Compact  PID_Compact  PID_Sistep  PID_Temp  Counting and measuring  High-speed counter  Endogical footprint  environmental product declaration  Global warming potential  — global warming potential  — global warming potential  — global warming potential, (during production) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq]  product functions / security / header  PROFINET Security (Class signed firmware update		11
PID_Compact PID_Sistep PID_Temp Counting and measuring PIgh-speed counter PID_High-speed counter PID_High-speed counter PID_Standards_approvals_certificates  Ecological footprint Pervironmental product declaration Pidbal warming potential Pidbal warming potential, (during operation) [CO2 eq] Pidbal warming potential, (during operation) [CO2 eq] Pidbal warming potential, (during operation) [CO2 eq] Product functions / security / header PROFINET Security Class Signed firmware update PROFINET Security Class Signed firmware update PROFINET Security Class Signed intraval product for the product functions of the product function of the product func		20
PID_3Step 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  Standards, approvals, certificates Ecological footprint environmental product declaration Yes Global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] groduct functions / Security / header  PROFINET Security Class 1 signed firmware update Yes Secure Boot Yes Secure Boot Yes Secure Boot Yes Ambient conditions Ambient conditions Ambient temperature during operation horizontal installation, min. horizontal installation, min. vertical installation, max. 60 °C  vertical installation, max. 50 °C  Altitude during operation relating to sea level  installation altitude above sea level, max.  So °C: No condensation  Frogramming language  LAD FBD Yes SCL FBD Yes SCL CFC GRAPH Yes	Controller	
PID-Temp  Counting and measuring  Injin-speed counter  Standards, approvals, certificates  Ecological footprint  Injin-speed counter  Standards, approvals, certificates  Ecological footprint  Injin-speed counter  Injin-speed counter  Injin-speed counter  Injin-speed counter  Injin-speed counter  Yes  Standards, approvals, certificates  Ecological footprint  Injin-speed counter  Injin-speed counter  Injin-speed counter  Yes  Standards, approvals, certificates  Ecological footprint  Injin-speed counter  Injin-speed counter  Yes  Standards, approvals, certificates  Ecological footprint  Injin-speed counter  Yes  Standards, approvals, certificates  Ecological footprint  Injin-speed counter  Yes  Standards, approvals, certificates  Injin-speed counter  Yes  Injin-speed Injin-spe	PID_Compact	Yes; Universal PID controller with integrated optimization
Counting and measuring  Injury Standards, speed counter  Foliopis Standards, portificates  Ecological footprint  Online of environmental product declaration  Global warming potential, (total) [CO2 eq]  — global warming potential, (during production) [CO2 eq]  — global warming potential, (during operation) [CO2 eq]  — global warming potential, (after end of life cycle)  [CO2 eq]  product functions / security / header  PROFINET Security Class  1 signed firmware update  Yes  Secure Boot  Ambient conditions  Ambient temperature during operation  Onorical installation, min.  Onoricantal installation,	PID_3Step	Yes; PID controller with integrated optimization for valves
• High-speed counter  Standards, approvals, certificates  Ecological footprint  • environmental product declaration  • environmental product declaration  • environmental product declaration  • environmental product declaration  — global warming potential, (total) [CO2 eq]  — global warming potential, (during production) [CO2 eq]  — global warming potential, (during operation) [CO2 eq]  — global warming potential, (during operation) [CO2 eq]  — global warming potential, (after end of life cycle)  [CO2 eq]  product functions / security / header  PROFINET Security Class  1  signed firmware update  Yes  Secure Boot  Ambient conditions  Ambient conditions  Ambient conditions  Ambient conditions  • horizontal installation, min. • horizontal installation, min. • vertical installation, max. 60 °C  • vertical installation, max. 50 °C  Altitude during operation relating to sea level • Installation altitude above sea level, max.  configuration / programming / header  Programming language  — LAD — FBD — STL — SCL — CFC — GRAPH  Yes  - GRAPH  Yes	PID-Temp	Yes; PID controller with integrated optimization for temperature
Standards, approvals, certificates	Counting and measuring	
Ecological footprint	High-speed counter	Yes
environmental product declaration     Global warming potential	Standards, approvals, certificates	
Global warming potential  - global warming potential, (total) [CO2 eq] - global warming potential, (during production) [CO2 eq] - global warming potential, (during operation) [CO2 eq] - global warming potential, (after end of life cycle) eq] - global warming potential, (after end of life cycle) eq] - global warming potential, (after end of life cycle) eq] - global warming potential, (after end of life cycle) eq] - global warming potential, (after end of life cycle) eq] - global warming potential, (after end of life cycle) eq] - global warming potential, (after end of life cycle) eq] - global warming potential, (after end of life cycle) eq] - global warming potential, (after end of life cycle) eq] - global warming potential, (after end of life cycle) eq] - global warming potential, (during potention) - 0.949 kg	Ecological footprint	
- global warming potential, (total) [CO2 eq] - global warming potential, (during production) [CO2 eq] - global warming potential, (during operation) [CO2 eq] - global warming potential, (during operation) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming language [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming language	environmental product declaration	Yes
- global warming potential, (during production) [CO2 eq] - global warming potential, (during operation) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq]  product functions / security / header  PROFINET Security Class 1 signed firmware update Yes Secure Boot Yes Safely removing data Yes  Ambient conditions  Ambient temperature during operation  • horizontal installation, min30 °C; No condensation • horizontal installation, max. 60 °C  • vertical installation, max. 50 °C  Altitude during operation relating to sea level • Installation altitude above sea level, max. 5000 m; Restrictions for installation altitudes > 2000 m, see manual configuration / header  configuration / header  Configuration / programming / header  Programming language  — LAD Yes — STL — SCL — CFC — GRAPH  Yes  Yes	Global warming potential	
eq] - global warming potential, (during operation) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq] - global warming potential, (after end of life cycle) [CO2 eq]  product functions / security / header  PROFINET Security Class 1 signed firmware update Yes Secure Boot Yes Secure Boot Yes safely removing data Yes  Ambient conditions  Ambient temperature during operation  • horizontal installation, min30 °C; No condensation • horizontal installation, min30 °C; No condensation • horizontal installation, max. 50 °C  • vertical installation, max. 50 °C  Altitude during operation relating to sea level • Installation altitude above sea level, max. 500°C  Altitude during operation relating to sea level • Installation / header  configuration / header  Programming language  - LAD Yes - STL - SCL - SCL - CFC - GRAPH  Yes	<ul><li>— global warming potential, (total) [CO2 eq]</li></ul>	83.2 kg
eq] — global warming potential, (after end of life cycle) [CO2 eq]  product functions / security / header  PROFINET Security Class  signed firmware update Secure Boot Safely removing data Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max.  • vertical installation, max.  • vertical installation attitude above sea level, max.  for °C  Altitude during operation relating to sea level • Installation altitude above sea level, max.  configuration / header  configuration / programming / header  Programming language  — LAD — FBD — STL — STL — SCL — CFC — GRAPH  Yes  GRAPH  Yes  - GRAPH  - Ves	eq]	22.3 kg
[CO2 eq]  product functions / security / header  PROFINET Security Class 1 signed firmware update Yes Secure Boot Yes safely removing data Yes  Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. 60 °C • vertical installation, max. 60 °C  • vertical installation, max. 50 °C  Altitude during operation relating to sea level • Installation altitude above sea level, max.  configuration / header  Programming language  — LAD — FBD — STL — SCL — CFC — GRAPH  Yes  — GRAPH  1 Ses	eq]	
PROFINET Security Class  signed firmware update  Secure Boot  Secure Boot  Ambient conditions  Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, min. • vertical installation, max. • vertical installation, max. • vertical installation, max.  • vertical installation, max.  • vertical installation, max.  • vertical installation and the sea level  • Installation altitude above sea level, max.  • onfiguration / header  configuration / programming / header  Programming language  — LAD — FBD — STL — SCL — STL — SCL — CFC — GRAPH  Yes — GRAPH	[CO2 eq]	-0.949 kg
signed firmware update Yes  Secure Boot Yes  safely removing data Yes  Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, min. • horizontal installation, min. • vertical installation, min. • vertical installation, max. 50 °C  Altitude during operation relating to sea level • Installation altitude above sea level, max.  configuration / header  configuration / programming / header  Programming language  — LAD — FBD — STL — SCL — SCL — CFC — GRAPH  Yes  — GRAPH  Yes		
Secure Boot safely removing data  Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, min. • horizontal installation, min. • vertical installation, min. • vertical installation, max.  • vertical installation relating to sea level • Installation altitude above sea level, max.  configuration / header  configuration / programming / header  Programming language  — LAD — FBD — STL — SCL — SCL — CFC — GRAPH  Yes  - GRAPH		
safely removing data  Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. • horizontal installation, max. • vertical installation, min. • vertical installation, max.  • vertical	signed firmware update	
Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. • vertical installation, max. • vertical installation, max.  • vertical installation, max.  50 °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 — SCL — CFC — GRAPH  Yes	Secure Boot	Yes
Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, min. • vertical installation, max.  50 °C  Altitude during operation relating to sea level • Installation altitude above sea level, max.  50 °C  Some of the destruction of the des		Yes
<ul> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>vertical installation, max.</li> <li>vertical installation, max.</li> <li>50 °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> </ul> configuration / header configuration / programming / header Programming language <ul> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>SCL</li> <li>Yes</li> <li>SCL</li> <li>Yes</li> <li>GRAPH</li> </ul> Yes Yes Yes Yes GRAPH <ul> <li>Yes</li> <li>Yes</li> </ul> Yes <ul> <li>GRAPH</li> </ul> Yes <ul> <li>Yes</li> <li>Yes</li> </ul> Yes <ul> <li>Yes</li> <li>Yes</li> </ul> Yes <ul> <li>Yes</li> <li>Yes</li> </ul> Yes <ul> <li>Yes</li> </ul> Yes <ul> <li>Yes</li> </ul> Yes <ul> <li>Yes</li> </ul> Yes <ul> <li>Yes <ul> <li>Yes</li> </ul> Yes <ul> <li>Yes <ul> <li>Yes</li> </ul> Yes <ul> <li>Yes<td></td><td></td></li></ul></li></ul></li></ul>		
<ul> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>vertical installation, max.</li> <li>50 °C</li> </ul> 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> configuration / header configuration / programming / header Programming language <ul> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>SCL</li> <li>Yes</li> <li>SCL</li> <li>CFC</li> <li>GRAPH</li> </ul> Yes	· • • ·	
<ul> <li>● vertical installation, min.</li> <li>-30 °C; No condensation</li> <li>50 °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>— STL</li> <li>— SCL</li> <li>— SCL</li> <li>— CFC</li> <li>— GRAPH</li> </ul>		
◆ vertical installation, max.  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		
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 — Yes — FBD — Yes — STL — SCL — SCL — CFC — GRAPH  Yes  — GRAPH  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		50 °C
configuration / header  Configuration / programming / header  Programming language  — LAD Yes  — FBD Yes  — STL Yes  — SCL Yes  — CFC Yes  — GRAPH Yes		
configuration / programming / header           Programming language           — LAD         Yes           — FBD         Yes           — STL         Yes           — SCL         Yes           — CFC         Yes           — GRAPH         Yes		5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Programming language           — LAD         Yes           — FBD         Yes           — STL         Yes           — SCL         Yes           — CFC         Yes           — GRAPH         Yes		
— LAD       Yes         — FBD       Yes         — STL       Yes         — SCL       Yes         — CFC       Yes         — GRAPH       Yes		
— FBD       Yes         — STL       Yes         — SCL       Yes         — CFC       Yes         — GRAPH       Yes	· · · · · · ·	
— STL       Yes         — SCL       Yes         — CFC       Yes         — GRAPH       Yes		
— SCL       Yes         — CFC       Yes         — GRAPH       Yes		Yes
— CFC Yes — GRAPH Yes		Yes
— GRAPH Yes		Yes
	— CFC	Yes
Know-how protection	— GRAPH	Yes
	Know-how protection	

<ul> <li>User program protection/password protection</li> </ul>	Yes
<ul> <li>Copy protection</li> </ul>	Yes
<ul> <li>Block protection</li> </ul>	Yes
Access protection	
<ul> <li>protection of confidential configuration data</li> </ul>	Yes
<ul> <li>Protection level: Write protection</li> </ul>	Yes
<ul> <li>Protection level: Read/write protection</li> </ul>	Yes
<ul> <li>Protection level: Write protection for Failsafe</li> </ul>	No
<ul> <li>Protection level: Complete protection</li> </ul>	Yes
User administration	Yes; device-wide and centralized
<ul> <li>Number of users</li> </ul>	100
<ul> <li>Number of groups</li> </ul>	100
Number of roles	50
programming / cycle time monitoring / header	
<ul> <li>lower limit</li> </ul>	adjustable minimum cycle time
• upper limit	adjustable maximum cycle time
Dimensions	
Width	100 mm
Height	117 mm
Depth	75 mm
Weights	
Weight, approx.	265 g

last modified: 12/19/2024 🖸