



Figure similar

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

General information	
Product type designation	CPU 1514SP-2 PN
HW functional status	FS04
Firmware version	V4.0
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> <li>Module swapping during operation (hot swapping)</li> </ul>	Yes; Multi-hot swapping
<ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>	Yes; only with PROFINET; with minimum OB 6x cycle of 375 µs
<ul style="list-style-type: none"> <li>SysLog</li> </ul>	Yes
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	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 style="list-style-type: none"> <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
$I^2t$	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	
<ul style="list-style-type: none"> <li>integrated (for program)</li> </ul>	600 kbyte
<ul style="list-style-type: none"> <li>integrated (for data)</li> </ul>	3.5 Mbyte
Load memory	

• Plug-in (SIMATIC Memory Card), max.	32 Gbyte
<b>Backup</b>	
• maintenance-free	Yes
<b>CPU processing times</b>	
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
<b>CPU-blocks</b>	
Number of elements (total)	8 000; Blocks (OB, FB, FC, DB) and UDTs
<b>DB</b>	
• Number range	1 ... 60 999; subdivided into: number range that can be used by the user: 1 ... 59 999, and number range of DBs created via SFC 86: 60 000 ... 60 999
• Size, max.	3.5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
<b>FB</b>	
• Number range	0 ... 65 535
• Size, max.	600 kbyte
<b>FC</b>	
• Number range	0 ... 65 535
• Size, max.	600 kbyte
<b>OB</b>	
• Size, max.	600 kbyte
• Number of free cycle OBs	100
• Number of time alarm OBs	20
• Number of delay alarm OBs	20
• Number of cyclic interrupt OBs	20; With minimum OB 3x cycle of 250 µs
• Number of process alarm OBs	50
• Number of DPV1 alarm 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
<b>Nesting depth</b>	
• per priority class	24
<b>Counters, timers and their retentivity</b>	
<b>S7 counter</b>	
• Number	2 048
Retentivity	
— adjustable	Yes
<b>IEC counter</b>	
• Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
<b>S7 times</b>	
• Number	2 048
Retentivity	
— adjustable	Yes
<b>IEC timer</b>	
• Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
<b>Data areas and their retentivity</b>	
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
<b>Flag</b>	
• Size, max.	16 kbyte
• Number of clock memories	8; 8 clock memory bit, grouped into one clock memory byte
<b>Data blocks</b>	
• Retentivity adjustable	Yes

• Retentivity preset	No
<b>Local data</b>	
• per priority class, max.	64 kbyte; max. 16 KB per block
<b>Address area</b>	
Number of IO modules	8 192; max. number of modules / submodules
<b>I/O address area</b>	
• Inputs	32 kbyte; All inputs are in the process image
• Outputs	32 kbyte; All outputs are in the process image
per integrated IO subsystem	
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
per CM/CP	
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
<b>Subprocess images</b>	
• Number of subprocess images, max.	32
<b>Address space per module</b>	
• Address space per module, max.	288 byte; For input and output data respectively
<b>Address space per station</b>	
• 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
<b>Hardware configuration</b>	
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)
<b>Number of DP masters</b>	
• Via CM	1
<b>Number of IO Controllers</b>	
• integrated	2
• Via CM	0
<b>Rack</b>	
• Modules per rack, max.	82; CPU + 64 modules + server module (mounting width max. 1 m) + 16 ET 200AL modules
• Quantity of operable ET 200SP modules, max.	64
• Quantity of operable ET 200AL modules, max.	16
• Number of lines, max.	1
<b>PtP CM</b>	
• Number of PtP CMs	the number of connectable PtP CMs is only limited by the number of available slots
<b>Time of day</b>	
<b>Clock</b>	
• Type	Hardware clock
• Backup time	6 wk; At 40 °C ambient temperature, typically
• Deviation per day, max.	10 s; Typ.: 2 s
<b>Operating hours counter</b>	
• Number	16
<b>Clock synchronization</b>	
• supported	Yes
• to DP, master	Yes; Via CM DP module
• on DP, device	Yes; Via CM DP module
• in AS, master	Yes
• in AS, device	Yes
• on Ethernet via NTP	Yes
<b>Interfaces</b>	
Number of PROFINET interfaces	2
Number of PROFIBUS interfaces	1; Via CM DP module
Optical interface	Yes; Via SIMATIC BusAdapter
<b>1. Interface</b>	
<b>Interface types</b>	
• 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
- PROFINET IO Controller Yes
- PROFINET IO Device Yes
- SIMATIC communication Yes
- Open IE communication Yes; Optionally also encrypted
- Web server Yes
- Media redundancy Yes

### PROFINET IO Controller

#### Services

- Isochronous mode Yes
- Direct data exchange Yes; Requirement: IRT and isochronous mode (MRPD optional)
- IRT Yes
- PROFINergy Yes; per user program
- Prioritized startup 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
- Of which IO devices with IRT, max. 64
- Number of connectable IO Devices for RT, max. 256
- of which in line, max. 256
- Number of IO Devices that can be simultaneously activated/deactivated, max. 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  $\mu$ s 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  $\mu$ s 500  $\mu$ s 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
- With IRT and parameterization of "odd" send cycles 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  $\mu$ s 250  $\mu$ s to 128 ms
- for send cycle of 500  $\mu$ s 500  $\mu$ s 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
- PROFINergy Yes; per user program
- Shared device Yes
- Number of IO Controllers with shared device, max. 4
- activation/deactivation of I-devices 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

- IP protocol Yes; IPv4
- PROFINET IO Controller Yes
- PROFINET IO Device Yes

• SIMATIC communication	Yes
• Open IE communication	Yes; Optionally also encrypted
• Web server	Yes
• Media redundancy	No
<b>PROFINET IO Controller</b>	
<b>Services</b>	
— Isochronous mode	No
— Direct data exchange	No
— IRT	No
— PROFINergy	Yes; per user program
— Prioritized startup	No
— Number of connectable IO Devices, max.	32; in total, up to 1024 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
— Number of connectable IO Devices for RT, max.	32
— of which in line, max.	32
— Number of IO Devices that can be simultaneously activated/deactivated, max.	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
<b>Update time for RT</b>	
— for send cycle of 1 ms	1 ms to 512 ms
<b>PROFINET IO Device</b>	
<b>Services</b>	
— Isochronous mode	No
— IRT	No
— PROFINergy	Yes; per user program
— Prioritized startup	No
— Shared device	Yes
— Number of IO Controllers with shared device, max.	4
— activation/deactivation of I-devices	Yes; per user program
— Asset management record	Yes; per user program
— PROFINET Security Class	SNMP Configuration and DCP Read Only
<b>3. Interface</b>	
<b>Interface types</b>	
• RS 485	Yes; Via CM DP module
• Number of ports	1
<b>Protocols</b>	
• PROFIBUS DP master	Yes
• PROFIBUS DP device	Yes
• SIMATIC communication	Yes
<b>PROFIBUS DP master</b>	
• Number of connections, max.	48; Of which 4 each reserved for ES and HMI
• max. number of DP devices	125; in total, up to 1024 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
<b>Services</b>	
— Equidistance	No
— Isochronous mode	No
— activation/deactivation of DP devices	Yes
<b>Interface types</b>	
<b>RJ 45 (Ethernet)</b>	
• 100 Mbps	Yes
• Autonegotiation	Yes
• Autocrossing	Yes
• Industrial Ethernet status LED	Yes
<b>RS 485</b>	
• Transmission rate, max.	12 Mbit/s
<b>Protocols</b>	
PROFIsafe	No
<b>Number of connections</b>	

<ul style="list-style-type: none"> <li>• Number of connections, max.</li> </ul>	192; via integrated interfaces of the CPU and connected CPs / CMs
<ul style="list-style-type: none"> <li>• Number of connections reserved for ES/HMI/web</li> </ul>	10
<ul style="list-style-type: none"> <li>• Number of connections via integrated interfaces</li> </ul>	128
<ul style="list-style-type: none"> <li>• Number of connections per CP/CM</li> </ul>	32
<ul style="list-style-type: none"> <li>• Number of S7 routing paths</li> </ul>	16
<b>Redundancy mode</b>	
<ul style="list-style-type: none"> <li>• H-Sync forwarding</li> </ul>	Yes
<b>Media redundancy</b>	
<ul style="list-style-type: none"> <li>— Media redundancy</li> </ul>	Yes; only via BusAdapter
<ul style="list-style-type: none"> <li>— MRP</li> </ul>	Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP Manager; MRP Client
<ul style="list-style-type: none"> <li>— MRP interconnection, supported</li> </ul>	Yes; as MRP ring node according to IEC 62439-2 Edition 3.0
<ul style="list-style-type: none"> <li>— MRPD</li> </ul>	Yes; Requirement: IRT
<ul style="list-style-type: none"> <li>— Switchover time on line break, typ.</li> </ul>	200 ms; For MRP, bumpless for MRPD
<ul style="list-style-type: none"> <li>— Number of stations in the ring, max.</li> </ul>	50
<b>SIMATIC communication</b>	
<ul style="list-style-type: none"> <li>• PG/OP communication</li> </ul>	Yes; encryption with TLS V1.3 pre-selected
<ul style="list-style-type: none"> <li>• S7 routing</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Data record routing</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• S7 communication, as server</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• S7 communication, as client</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• User data per job, max.</li> </ul>	See online help (S7 communication, user data size)
<b>Open IE communication</b>	
<ul style="list-style-type: none"> <li>• TCP/IP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— Data length, max.</li> </ul>	64 kbyte
<ul style="list-style-type: none"> <li>— several passive connections per port, supported</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• ISO-on-TCP (RFC1006)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— Data length, max.</li> </ul>	64 kbyte
<ul style="list-style-type: none"> <li>• UDP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— Data length, max.</li> </ul>	2 kbyte; 1 472 bytes for UDP broadcast
<ul style="list-style-type: none"> <li>— UDP multicast</li> </ul>	Yes; max. 118 multicast circuits
<ul style="list-style-type: none"> <li>• DHCP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• DNS</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• SNMP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• DCP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• LLDP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Encryption</li> </ul>	Yes; Optional
<b>Web server</b>	
<ul style="list-style-type: none"> <li>• HTTP</li> </ul>	Yes; Standard and user pages
<ul style="list-style-type: none"> <li>• HTTPS</li> </ul>	Yes; Standard and user pages
<b>OPC UA</b>	
<ul style="list-style-type: none"> <li>• Runtime license required</li> </ul>	Yes; "Medium" license required
<ul style="list-style-type: none"> <li>• OPC UA Client</li> </ul>	Yes; Data Access (registered Read/Write), Method Call
<ul style="list-style-type: none"> <li>— Application authentication</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— Security policies</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
<ul style="list-style-type: none"> <li>— User authentication</li> </ul>	"anonymous" or by user name & password
<ul style="list-style-type: none"> <li>— Number of connections, max.</li> </ul>	10
<ul style="list-style-type: none"> <li>— Number of nodes of the client interfaces, recommended max.</li> </ul>	2 000
<ul style="list-style-type: none"> <li>— Number of elements for one call of OPC-UA_NodeGetHandleList/OPC-UA_ReadList/OPC-UA_WriteList, max.</li> </ul>	300
<ul style="list-style-type: none"> <li>— Number of elements for one call of OPC-UA_NameSpaceGetIndexList, max.</li> </ul>	20
<ul style="list-style-type: none"> <li>— Number of elements for one call of OPC-UA_MethodGetHandleList, max.</li> </ul>	100
<ul style="list-style-type: none"> <li>— Number of simultaneous calls of the client instructions for session management, per connection, max.</li> </ul>	1
<ul style="list-style-type: none"> <li>— Number of simultaneous calls of the client instructions for data access, per connection, max.</li> </ul>	5
<ul style="list-style-type: none"> <li>— Number of registerable nodes, max.</li> </ul>	5 000
<ul style="list-style-type: none"> <li>— Number of registerable method calls of</li> </ul>	100

OPC-UA_MethodCall, max. — Number of inputs/outputs when calling OPC-UA_MethodCall, max.	20
<ul style="list-style-type: none"> <li>OPC UA Server <ul style="list-style-type: none"> <li>— Application authentication</li> <li>— Security policies</li> <li>— User authentication</li> <li>— GDS support (certificate management)</li> <li>— Number of sessions, max.</li> <li>— Number of accessible variables, max.</li> <li>— Number of registerable nodes, max.</li> <li>— Number of subscriptions per session, max.</li> <li>— Sampling interval, min.</li> <li>— Publishing interval, min.</li> <li>— Number of server methods, max.</li> <li>— Number of inputs/outputs per server method, max.</li> <li>— Number of monitored items, recommended max.</li> <li>— Number of server interfaces, max.</li> <li>— Number of nodes for user-defined server interfaces, max.</li> </ul> </li> <li>Alarms and Conditions <ul style="list-style-type: none"> <li>— Number of program alarms</li> <li>— Number of alarms for system diagnostics</li> </ul> </li> </ul>	<p>Yes; data access (read, write, subscribe), method call, alarms &amp; condition (A&amp;C), custom address space, role-based access control</p> <p>Yes</p> <p>available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256, Aes128Sha256RsaOaep, Aes256Sha256RsaPss</p> <p>"anonymous" or by user name &amp; password</p> <p>Yes</p> <p>48</p> <p>100 000</p> <p>20 000</p> <p>50</p> <p>100 ms</p> <p>100 ms</p> <p>50; max. 20 concurrently running jobs each for asynchronous instructions OPC-UA_ServerMethodPre and OPC-UA_ServerMethodPost</p> <p>20</p> <p>4 000; for 1 s sampling interval and 1 s send interval</p> <p>10 of each "Server interfaces" / "Companion specification" type and 20 of the type "Reference namespace"</p> <p>30 000</p> <p>Yes</p> <p>200</p> <p>100</p>
<b>Further protocols</b>	
<ul style="list-style-type: none"> <li>MODBUS</li> </ul>	Yes; MODBUS TCP
<b>S7 message functions</b>	
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
<b>Test commissioning functions</b>	
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)
Single step	Yes
Number of breakpoints	8
Profiling	Yes
<b>Status/control</b>	
<ul style="list-style-type: none"> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max. <ul style="list-style-type: none"> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> </ul> </li> </ul>	<p>Yes</p> <p>Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters</p> <p>200; per job</p> <p>200; per job</p>
<b>Forcing</b>	
<ul style="list-style-type: none"> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul>	<p>Yes</p> <p>Peripheral inputs/outputs</p> <p>200</p>
<b>Diagnostic buffer</b>	
<ul style="list-style-type: none"> <li>present</li> <li>Number of entries, max. <ul style="list-style-type: none"> <li>— of which powerfail-proof</li> </ul> </li> </ul>	<p>Yes</p> <p>3 200</p> <p>500</p>
<b>Traces</b>	
<ul style="list-style-type: none"> <li>Number of configurable Traces</li> <li>Memory size per trace, max.</li> </ul>	<p>4</p> <p>512 kbyte</p>
<b>Interrupts/diagnostics/status information</b>	
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>RUN/STOP LED</li> </ul>	Yes

• ERROR LED	Yes
• MAINT LED	Yes
• Monitoring of the supply voltage (PWR-LED)	Yes
• Connection display LINK TX/RX	Yes
<b>Supported technology objects</b>	
Motion Control	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool
• Number of available Motion Control resources for technology objects	2 400
• Required Motion Control resources	
— per speed-controlled axis	40
— per positioning axis	80
— per synchronous axis	160
— per external encoder	80
— per output cam	20
— per cam track	160
— per probe	40
• Positioning axis	
— Number of positioning axes at motion control cycle of 4 ms (typical value)	11
— Number of positioning axes at motion control cycle of 8 ms (typical value)	20
Controller	
• PID_Compact	Yes; Universal PID controller with integrated optimization
• PID_3Step	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
<b>Standards, approvals, certificates</b>	
Ecological footprint	
• environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	83.2 kg
— global warming potential, (during production) [CO2 eq]	22.3 kg
— global warming potential, (during operation) [CO2 eq]	61.8 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.949 kg
<b>product functions / security / header</b>	
PROFINET Security Class	1
signed firmware update	Yes
Secure Boot	Yes
safely removing data	Yes
<b>Ambient conditions</b>	
Ambient temperature during operation	
• horizontal installation, min.	-30 °C; No condensation
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C; No condensation
• 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
<b>configuration / header</b>	
configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
Know-how protection	



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

**last modified:**

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