## **SIEMENS**

## **Data sheet**



SIMATIC DP, CPU 1516PRO F-2 PN for ET 200pro, Central processing unit with work memory 1.5 MB for program and 5 MB for data, 1st interface: PROFINET IRT with 3-port switch, 2nd interface: PROFINET RT, 10 ns bit performance, degree of protection: IP65/67, SIMATIC Memory Card required, Connection module required

General information	
Product type designation	CPU 1516pro F-2 PN
HW functional status	FS02
Firmware version	V2.9
Product function	
● I&M data	Yes; I&M0 to I&M3
<ul> <li>Isochronous mode</li> </ul>	Yes; Via X1, with minimum OB 6x cycle of 500 µs
Engineering with	
<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V17 (FW V2.9) / V14 (FW V2.0) or higher
Configuration control	
via dataset	No
Control elements	
Mode selector switch	1
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 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)	0.31 A
Current consumption, max.	0.4 A
Inrush current, max.	0.4 A; Rated value
l²t	0.001 A <sup>2</sup> ·s
Power	
Infeed power to the backplane bus	2.275 W
Power loss	
Power loss, typ.	5.3 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
• integrated (for program)	1.5 Mbyte
• integrated (for data)	5 Mbyte
Load memory	
Plug-in (SIMATIC Memory Card), max.	32 Gbyte
Backup	

CPU processing times for lid parations, by. for fixed point arithmetic, by. for fixed point arithmetic, by. for fixed point arithmetic, by. CPU-blocks  Number of elements (total)  • Number of elements (total)  • Number range  • Size, max.  • Number range  • Size, max.  • Number range  • Size, max.  • Number of time between the control of the control	maintenance-free	Yes
for its parations, by. for word operations, by. for word operations, by. for fixed point arithmetic, typ.  Both Conting point arithmet		
12 ns   12 ns   15 n		10 ns
To find point arithmetic, typ.   16 ns		
For floating point arithmetic, typ.   64 ns		
Number of elements (total)   8 000. Blocks (OB, FB, FC, DB) and UDTs		
Number of elements (total)  8 000: Blocks (OB, FB, FC, DB) and UDTS  8 1 80 999: subdivided into: number range that can be used by the user: 1 99 999, and number range of DBs created via SFC 86: 80 000 60 5995  8 Size, max.  5 Mbyte, For DBs with absolute addressing, the max. size is 64 KB  8 1		04 113
Number range		9 000: Plocks (OP EP EC DP) and UDTs
user: 1 59 999, and number range of DBs created via SFC 86: 60 000 60 999  Size, max. 5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB  FB  Number range 0 65 535  Size, max. 1 Mbyte  Number range 0 65 535  Size, max. 1 Mbyte  B  Size, max. 1 Mbyte  OB  Size, max. 1 Mbyte  Number of free cycle OBs 100  Number of fitne alarm OBs 20  Number of felesy alarm OBs 20  Number of process alarm OBs 20  Number of process alarm OBs 20  Number of PDY1 alarm OBs 30  Number of DPY1 alarm OBs 30  Number of stochnoous mode OBs 30  Number of stochnoous mode OBs 30  Number of startup OBs 100  Number of diagnostic alarm OBs 1  Number (Startup OBs) 100  Number (S	·	6 000, Blocks (OB, FB, FC, DB) allu OD 15
Number range	Number range	user: 1 59 999, and number range of DBs created via SFC 86: 60 000
• Number range • Size, max. 1 Mbyte  FC  • Number range • Size, max. 1 Mbyte  Size, max. 1 Mbyte  Size, max. 1 Mbyte  • Number of free cycle OBs • Number of free cycle OBs • Number of delay alarm OBs • Number of cyclic interrupt OBs • Number of cyclic interrupt OBs • Number of process alarm OBs • Number of process alarm OBs • Number of port of DPV alarm OBs • Number of schronous mode OBs • Number of startup OBs • Number of asynchronous alarm OBs • Number of asynchronous error OBs • Number of asynchronous error OBs • Number of and synchronous error OBs • Number of synchronous error OBs • Number of and synchronous error OBs • Number of synchronous error OBs • Number of synchronous error OBs • Number of asynchronous error OBs • Number of and synchronous error OBs • Number of and synchronous error OBs • Number of synchronous error OBs • Number of and synchronous error OBs • Number of startup OBs • Number of synchronous error OBs • Number of synchronous error OBs • Number of startup OBs • Number of startup		5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
Size, max.  Number range Size, max.  Number of free cycle OBs Size, max.  Number of time alarm OBs Number of dealy alarm OBs Number of cycle interrupt OBs Number of cycle interrupt OBs Number of fise cycle OBs Number of synchronous alarm OBs Number of startup OBs Number of synchronous error OBs Number of synchronous error OBs Number of diagnostic alarm OBs Number of diagnostic alarm OBs Number of alarmostic alarm OBs Number of synchronous error OBs Number of diagnostic alarm OBs Number of diagnostic alarm OBs Nesting depth Per priority class Counters, timers and their retentivity  Size counter Number Numbe		
FC  Number range Size, max.  1 Mbyte  8 Size, max.  1 Mbyte  8 Size, max.  1 Mbyte  1 Mbyte  8 Size, max.  1 Mbyte  1 Mithinity  1 Mbyte  1 Mbyte  1 Mbyte  1 Mbyte  1 Mbyte  1 Mbyte	•	
Number range Size, max.  OB  Size, max.  Number of free cycle OBs Number of free cycle OBs Number of free cycle OBs Number of time alarm OBs Number of cyclic interrupt OBs Number of process alarm OBs Number of schorloous mode OBs Number of schorloous mode OBs Number of schorloous mode OBs Number of saynchronous error OBs Number of asynchronous error OBs Number of asynchronous error OBs Number of diagnostic alarm OBs Number of sold diagnostic alarm OBs Number of support of olar of diagnostic alarm OBs Number of support of olar of olar olar olar olar olar olar olar olar		1 Mbyte
Size, max.  Size, max.  Size, max.  Number of time cycle OBs Number of delay alarm OBs Number of process alarm OBs Number of process alarm OBs Number of sex of the cycle of 500 µs Number of sex of process alarm OBs Number of sex of the cycle of 500 µs Number of sex of process alarm OBs Number of sex of the cycle of 500 µs Number of sex of the cycle of 500 µs Number of sex of process alarm OBs Number of sex of the cycle of 500 µs Number of sex of t		
Size, max.  Number of free cycle OBs  Number of free alarm OBs  Number of delay alarm OBs  Number of cyclic interrupt OBs  Number of DPV1 alarm OBs  Number of Increase alarm OBs  Number of DPV1 alarm OBs  Number of Increase alarm OBs  Number of Size, max.  Number of clock memories		
• Size, max.  • Number of free cycle OBs • Number of time alarm OBs • Number of delay alarm OBs • Number of delay alarm OBs • Number of opecies alarm OBs • Number of process alarm OBs • Number of process alarm OBs • Number of sections on the section of the sect		1 Mbyte
Number of fee cycle OBs Number of time alarm OBs Number of delay alarm OBs Number of delay alarm OBs Number of of delay alarm OBs Number of process alarm OBs Number of process alarm OBs Number of pPV1 alarm OBs Number of selvic interrupt OBs Number of technology synchronous alarm OBs Number of sarchology synchronous alarm OBs Number of asynchronous error OBs Number of synchronous error OBs Number of alagnostic alarm OBs Number of diagnostic alarm OBs Nesting depth Per priority class Counters, timers and their retentivity Sz counter Number Any (only limited by the main memory) Retentivity Any (only limited by the main memory) Retentive data area (incl. timers, counters, flags), max. Stack memory bit, grouped into one clock memory byte		438.1
Number of time alarm OBs Number of delay alarm OBs Number of process alarm OBs Number of sochronous mode OBs Number of sochronous mode OBs Number of startup OBs Number of startup OBs Number of sartup OBs Number of synchronous error OBs Number Numb	·	
Number of delay alarm OBs Number of cyclic interrupt OBs Number of process alarm OBs Number of DPV1 alarm OBs Number of DPV1 alarm OBs Number of incorronaus mode OBs Number of incorronaus mode OBs Number of startup OBs Number of startup OBs Number of synchronous error OBs Number of synchronous error OBs Number of diagnostic alarm OBs Number of diagnostic alarm OBs Nesting depth per priority class Counters, timers and their retentivity  Tounter Number Number Number Number Retentivity Any (only limited by the main memory) Retentive data area (incl. timers, counters, flags), max. Summer of clock memories, timers, counters, DBs, and technology data (axes): 472 KB  Flag  Size, max. Number of clock memories  Data blocks	-	
Number of cyclic interrupt OBs Number of process alarm OBs Number of DPV1 alarm OBs Number of isochronous mode OBs Number of stochnology synchronous alarm OBs Number of startup OBs Number of startup OBs Number of asynchronous error OBs Number of asynchronous error OBs Number of asynchronous error OBs Number of diagnostic alarm OBs Number of diagnostic alarm OBs Nesting depth per priority class Counters, timers and their retentivity  Solution Number Num		
Number of process alarm OBs Number of DPV1 alarm OBs Number of isochronous mode OBs Number of technology synchronous alarm OBs Number of startup OBs Number of startup OBs Number of synchronous error OBs Number of synchronous error OBs Number of diagnostic alarm OBs Number of diagnostic alarm OBs Nesting depth Per priority class Ounters, timors and their retontivity  To counter Number	-	
Number of DPV1 alarm OBs  Number of iscochronous mode OBs Number of stochronous alarm OBs Number of stochronous alarm OBs Number of synchronous error OBs Number of synchronous error OBs Number of synchronous error OBs Number of diagnostic alarm OBs Nesting depth Per priority class Counters, timers and their retentivity  Number N		
Number of isochronous mode OBs Number of stechnology synchronous alarm OBs Number of startup OBs Number of saynchronous error OBs Number of synchronous error OBs Number of diagnostic alarm OBs Number of diagnostic alarm OBs Nesting depth per priority class  Counters, timers and their retentivity  To counter Number Number Any (only limited by the main memory) Retentivity Adjustable Yes  S7 times Number Number Any (only limited by the main memory) Retentivity Adjustable Yes  IEC counter Number Any (only limited by the main memory) Retentivity Adjustable Yes  S7 times Number Number Any (only limited by the main memory) Retentivity Adjustable Yes  S6 times Number Number Number S7 times S8 times Number Number S9 times Number Number S9 times Number Number Number Number S9 times S9	•	
Number of technology synchronous alarm OBs Number of sarrup OBs Number of synchronous error OBs Number of diagnostic alarm OBs Nesting depth per priority class Counters, timers and their retentivity  Tocunter Number Nu	<ul> <li>Number of DPV1 alarm OBs</li> </ul>	3
Number of startup OBs Number of asynchronous error OBs Number of synchronous error OBs Number of diagnostic alarm OBs Nesting depth per priority class  Counters, timers and their retentivity  Sounter Number Number Petantivity Any (only limited by the main memory)  Retentivity Any (only limited by the main memory)  Retentive data area (incl. timers, counters, flags), max.  Size, max.  Size, max.  Number of clock memories  8; 8 clock memory bit, grouped into one clock memory byte	<ul> <li>Number of isochronous mode OBs</li> </ul>	1
Number of asynchronous error OBs Number of synchronous error OBs Number of diagnostic alarm OBs Nesting depth per priority class  Counters, timers and their retentivity  So counter Number Number Any (only limited by the main memory)  Retentivity Any (only limited by the main memory)  Retentive data area (incl. timers, counters, flags), max.  Size, max.  Size, max.  Number of clock memories  8; 8 clock memory bit, grouped into one clock memory byte	<ul> <li>Number of technology synchronous alarm OBs</li> </ul>	2
Number of diagnostic alarm OBs Nesting depth per priority class  Counters, timers and their retentivity  S7 counter Number Numb	<ul> <li>Number of startup OBs</li> </ul>	100
Number of diagnostic alarm OBs     Nesting depth	<ul> <li>Number of asynchronous error OBs</li> </ul>	4
Nesting depth  • per priority class  24  Counters, timers and their retentivity  S7 counter  • Number  Retentivity  — adjustable  Pes  IEC counter  • Number  Any (only limited by the main memory)  Retentivity  — adjustable  Yes  S7 times  • Number  • Number  adjustable  Yes  S7 times  • Number  • Number  Retentivity  — adjustable  Yes  IEC timer  • Number  • Number  Any (only limited by the main memory)  Retentivity  — adjustable  Yes  IEC timer  • Number  • Number  • Number  • Number  Any (only limited by the main memory)  Retentivity  — adjustable  Yes  IEC timer  • Number  • Number  • Number  • Number  Stize, max.  512 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB  Flag  • Size, max.  • Number of clock memories  16 kbyte  Number of clock memory byte	<ul> <li>Number of synchronous error OBs</li> </ul>	2
per priority class  Counters, timers and their retentivity  S7 counter      Number     Retentivity     — adjustable     Pes  IEC counter      Number     Any (only limited by the main memory)  Retentivity     — adjustable     Yes  S7 times      Number     Number     Retentivity     — adjustable     Yes  IEC timer      Number     Any (only limited by the main memory)  Retentivity     — adjustable     Yes  IEC timer     Number     Any (only limited by the main memory)  Retentivity     — adjustable     Yes  IEC timer     Any (only limited by the main memory)  Retentivity     — 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     Size, max.     16 kbyte     Number of clock memories     8; 8 clock memory bit, grouped into one clock memory byte	_	1
Counters, timers and their retentivity  S7 counter  Number Retentivity  adjustable  IEC counter  Number Any (only limited by the main memory)  Retentivity  adjustable Yes  S7 times  Number Retentivity  adjustable Yes  S7 times  Number Retentivity  adjustable Yes  IEC timer  Number Any (only limited by the main memory)  Retentivity  adjustable Yes  IEC timer  Number Any (only limited by the main memory)  Retentivity  adjustable Yes  Data areas and their retentivity  Retentive data area (incl. timers, counters, flags), max.  S12 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB  Flag Size, max. Number of clock memories  St kbyte	Nesting depth	
S7 counter  • Number Retentivity  — adjustable Pes  IEC counter  • Number Any (only limited by the main memory) Retentivity — adjustable Pes  • Number Retentivity — adjustable Pes  • Number Retentivity — adjustable Pes  IEC timer • Number Any (only limited by the main memory) Retentivity — adjustable Pes  IEC timer • Number Any (only limited by the main memory) Retentivity — adjustable Pes  Data areas and their retentivity  Retentive data area (incl. timers, counters, flags), max.  S12 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB  Flag • Size, max. • Number of clock memories  Bata blocks		24
Number Petentivity Any (only limited by the main memory)  Retentivity Any (only limited by the main memory)  Retentive data area (incl. timers, counters, flags), max.  Size, max.  Size, max.  Number of clock memories  Size, max.  Number of clock memories  Size one clock memory byte  Data blocks	Counters, timers and their retentivity	
Retentivity — adjustable Yes  IEC counter  • Number Any (only limited by the main memory)  Retentivity — adjustable Yes  S7 times  • Number 2 048  Retentivity — adjustable Yes  IEC timer • Number Any (only limited by the main memory)  Retentivity — adjustable Yes  IEC timer • Number Any (only limited by the main memory)  Retentivity — adjustable Yes  Data areas and their retentivity  Retentive data area (incl. timers, counters, flags), max. counters, DBs, and technology data (axes): 472 KB  Flag • Size, max. 16 kbyte • Number of clock memories  Data blocks	S7 counter	
— adjustable Yes  IEC counter  ● Number Any (only limited by the main memory)  Retentivity — adjustable Yes  S7 times  ● Number 2 048  Retentivity — adjustable Yes  IEC timer  ● Number Any (only limited by the main memory)  Retentivity — adjustable Yes  IEC timer  ● Number Any (only limited by the main memory)  Retentivity — 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  ● Size, max. 16 kbyte ● Number of clock memories 8; 8 clock memory bit, grouped into one clock memory byte  Data blocks	Number	2 048
IEC counter  Number Any (only limited by the main memory)  Retentivity — adjustable  Number Number Any (only limited by the main memory)  Yes  2 048  Retentivity — adjustable  Yes  IEC timer Number Any (only limited by the main memory)  Retentivity — 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 Size, max. Number of clock memories  8; 8 clock memory bit, grouped into one clock memory byte  Data blocks	Retentivity	
Number Retentivity — adjustable  S7 times  Number Retentivity — adjustable  Number  Retentivity — adjustable  Yes  IEC timer  Number Any (only limited by the main memory)  Retentivity — adjustable  Yes  IEC timer  Number Any (only limited by the main memory)  Retentivity — adjustable  Yes  Data areas and their retentivity  Retentive data area (incl. timers, counters, flags), max.  S12 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB  Flag Size, max. Number of clock memories  Stephane  Retentive data area (incl. timers, counters, flags), max.  S12 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB  Flag Size, max. Number of clock memories  Stephane Stephan	— adjustable	Yes
Retentivity — adjustable  S7 times  Number 2 048 Retentivity — adjustable  Yes  IEC timer Number Number Any (only limited by the main memory) Retentivity — 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 Size, max. Number of clock memories  16 kbyte 8; 8 clock memory bit, grouped into one clock memory byte	IEC counter	
- adjustable Yes  S7 times  Number 2 048  Retentivity - adjustable Yes  IEC timer Number Any (only limited by the main memory)  Retentivity - 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 Size, max. Number of clock memories  Stephane Size, max. Number of clock memories  Stephane Size, max. S	Number	Any (only limited by the main memory)
S7 times  ● Number Retentivity  — adjustable  IEC timer  ● Number Retentivity  — adjustable  Yes  Any (only limited by the main memory)  Retentivity  — 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  ● Size, max.  ● Number of clock memories  16 kbyte  8; 8 clock memory bit, grouped into one clock memory byte	Retentivity	
<ul> <li>Number</li> <li>Retentivity</li> <li>— adjustable</li> <li>Yes</li> <li>IEC timer</li> <li>Number</li> <li>Any (only limited by the main memory)</li> <li>Retentivity</li> <li>— adjustable</li> <li>Yes</li> <li>Data areas and their retentivity</li> <li>Retentive data area (incl. timers, counters, flags), max.</li> <li>512 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB</li> <li>Flag</li> <li>Size, max.</li> <li>Number of clock memories</li> <li>8; 8 clock memory bit, grouped into one clock memory byte</li> <li>Data blocks</li> </ul>	— adjustable	Yes
Retentivity — adjustable  IEC timer  Number Any (only limited by the main memory)  Retentivity — adjustable  Pes  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  Size, max.  Size, max.  Number of clock memories  8; 8 clock memory bit, grouped into one clock memory byte  Data blocks	S7 times	
— adjustable  IEC timer  ● Number  Any (only limited by the main memory)  Retentivity  — 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  ● Size, max.  ● Number of clock memories  8; 8 clock memory bit, grouped into one clock memory byte  Data blocks	Number	2 048
IEC timer	Retentivity	
<ul> <li>Number         Retentivity         — adjustable         Yes         </li> <li>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         </li> <li>Flag</li> <li>Size, max.</li> <li>Number of clock memories</li> <li>8; 8 clock memory bit, grouped into one clock memory byte</li> </ul> <li>Data blocks</li>	— adjustable	Yes
Retentivity — adjustable  Pata 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  Size, max.  Number of clock memories  8; 8 clock memory bit, grouped into one clock memory byte  Data blocks	IEC timer	
— adjustable  Pata 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  Size, max.  Number of clock memories  8; 8 clock memory bit, grouped into one clock memory byte  Data blocks	Number	Any (only limited by the main memory)
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  • Size, max.  • Number of clock memories  8; 8 clock memory bit, grouped into one clock memory byte  Data blocks	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  Size, max.  Number of clock memories  8; 8 clock memory bit, grouped into one clock memory byte  Data blocks	— adjustable	Yes
counters, DBs, and technology data (axes): 472 KB  Flag  Size, max.  Number of clock memories  Bata blocks  counters, DBs, and technology data (axes): 472 KB  16 kbyte  8; 8 clock memory bit, grouped into one clock memory byte	Data areas and their retentivity	
counters, DBs, and technology data (axes): 472 KB  Flag  Size, max.  Number of clock memories  Bata blocks  counters, DBs, and technology data (axes): 472 KB  16 kbyte  8; 8 clock memory bit, grouped into one clock memory byte	Retentive data area (incl. timers, counters, flags), max.	512 kbyte; In total; available retentive memory for bit memories, timers,
<ul> <li>Size, max.</li> <li>Number of clock memories</li> <li>Data blocks</li> <li>16 kbyte</li> <li>8; 8 clock memory bit, grouped into one clock memory byte</li> </ul>		
<ul> <li>Number of clock memories</li> <li>Data blocks</li> <li>8; 8 clock memory bit, grouped into one clock memory byte</li> </ul>		
Data blocks	·	
		8; 8 clock memory bit, grouped into one clock memory byte
Retentivity adjustable     Yes		
	Retentivity adjustable	Yes

Retentivity preset	No
Local data	
per priority class, max.	64 kbyte; max. 16 KB per block
Address area	
Number of IO modules	8 192; max. number of modules / submodules
I/O address area	
• Inputs	32 kbyte; All inputs are in the process image
<ul><li>Outputs</li></ul>	32 kbyte; All outputs are in the process image
per integrated IO subsystem	
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
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 IO Controllers	
<ul><li>integrated</li></ul>	2
• Via CM	0
Rack	
<ul> <li>Modules per rack, max.</li> </ul>	16; Expansion width max. 1.2 m
Number of lines, max.	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	N/
• supported	Yes
• in AS, master	Yes
<ul><li>in AS, slave</li><li>on Ethernet via NTP</li></ul>	Yes Yes
	165
Interfaces	2
Number of PROFINET interfaces	2
Number of PROFIBUS interfaces	0
1. Interface	
Interface types	Voc. V1 D2
<ul><li>RJ 45 (Ethernet)</li><li>Number of ports</li></ul>	Yes; X1 P3 3; 2x M12 + 1x RJ45
<ul><li>integrated switch</li></ul>	3, 2x M12 + 1x RJ45 Yes
Protocols	100
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; MRP Automanager according to IEC 62439-2 Edition 2.0
PROFINET IO Controller	
Services	
<ul><li>— PG/OP communication</li></ul>	Yes
<ul> <li>Isochronous mode</li> </ul>	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
<ul> <li>Number of connectable IO Devices, max.</li> </ul>	256; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET

Of which IO devices with IDT	
— Of which IO devices with IRT, max.	64
<ul> <li>Number of connectable IO Devices for RT, max.</li> </ul>	256
<ul><li>of which in line, max.</li></ul>	256
<ul> <li>Number of IO Devices that can be</li> </ul>	8; in total across all interfaces
simultaneously activated/deactivated, max.	
<ul> <li>Number of IO Devices per tool, max.</li> </ul>	8
<ul> <li>Updating times</li> </ul>	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
Update time for IRT	
<ul><li>— for send cycle of 250 μs</li></ul>	250 µs to 4 ms; Note: In the case of IRT with isochronous mode, the
	minimum update time of 500 µs 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</li> </ul>	Update time = set "odd" send clock (any multiple of 125 µs: 375 µs, 625
cycles	μs 3 875 μs)
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	
— PG/OP communication	Yes
— Isochronous mode	No
— IRT	Yes
— PROFlenergy	Yes; per user program
Prioritized startup	No
— Shared device	Yes
<ul> <li>Number of IO Controllers with shared device, max.</li> </ul>	4
	Yes; per user program
— activation/deactivation of L-devices	res, per user program
activation/deactivation of I-devices  Asset management record	Voe: ner user program
Asset management record	Yes; per user program
Asset management record  2. Interface	Yes; per user program
Asset management record  2. Interface Interface types	
Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)	No
Asset management record  2. Interface Interface types	
Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch	No
Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols	No 1; 1x M12 No
Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch	No 1; 1x M12
Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols	No 1; 1x M12 No
Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol	No 1; 1x M12 No Yes; IPv4
Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller	No 1; 1x M12 No Yes; IPv4 Yes
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device	No 1; 1x M12 No  Yes; IPv4 Yes Yes
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication  • Web server	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes Yes Yes Yes; Optionally also encrypted
Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes Yes Yes; Optionally also encrypted Yes
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication  • Web server  • Media redundancy	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes Yes Yes; Optionally also encrypted Yes
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication  • Web server  • Media redundancy  PROFINET IO Controller	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes Yes Yes; Optionally also encrypted Yes
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication  • Web server  • Media redundancy  PROFINET IO Controller  Services  - PG/OP communication	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes Yes No  Yes
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication  • Web server  • Media redundancy  PROFINET IO Controller  Services  - PG/OP communication  — Isochronous mode	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes Yes No  Yes No
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication  • Web server  • Media redundancy  PROFINET IO Controller  Services  - PG/OP communication  — Isochronous mode  — Direct data exchange	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes Yos; Optionally also encrypted Yes No  Yes No
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet) • Number of ports • integrated switch  Protocols  • IP protocol • PROFINET IO Controller • PROFINET IO Device • SIMATIC communication • Open IE communication • Web server • Media redundancy  PROFINET IO Controller  Services  - PG/OP communication - Isochronous mode - Direct data exchange - IRT	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes No  Yes No  Yes No No No
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication  • Web server  • Media redundancy  PROFINET IO Controller  Services  - PG/OP communication  — Isochronous mode  — Direct data exchange  — IRT  — PROFIenergy	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes No  Yes No  Yes No  Yes No No No No No No Yes; per user program
Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication  • Web server  • Media redundancy  PROFINET IO Controller  Services  PG/OP communication  Isochronous mode  Direct data exchange  IRT  PROFIenergy  Prioritized startup	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes No  Yes No  Yes No  Yes No No No No No No No No No Yes; per user program No
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication  • Web server  • Media redundancy  PROFINET IO Controller  Services  - PG/OP communication  — Isochronous mode  — Direct data exchange  — IRT  — PROFIenergy	No  1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes; Optionally also encrypted Yes No  No  Yes No No No No No Ser, per user program No 32; In total, up to 1 000 distributed I/O devices can be connected via
- Asset management record  2. Interface Interface types  • RJ 45 (Ethernet) • Number of ports • integrated switch  Protocols  • IP protocol • PROFINET IO Controller • PROFINET IO Device • SIMATIC communication • Open IE communication • Web server • Media redundancy  PROFINET IO Controller  Services  - PG/OP communication - Isochronous mode - Direct data exchange - IRT - PROFIenergy - Prioritized startup - Number of connectable IO Devices, max.	No 1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes; Optionally also encrypted Yes No  Yes No  Yes No  Yes; per user program No 32; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
Asset management record  2. Interface Interface types  • RJ 45 (Ethernet)  • Number of ports  • integrated switch  Protocols  • IP protocol  • PROFINET IO Controller  • PROFINET IO Device  • SIMATIC communication  • Open IE communication  • Web server  • Media redundancy  PROFINET IO Controller  Services  PG/OP communication  Isochronous mode  Direct data exchange  IRT  PROFIenergy  Prioritized startup	No  1; 1x M12 No  Yes; IPv4 Yes Yes Yes Yes Yes; Optionally also encrypted Yes No  No  Yes No No No No No Ser, per user program No 32; In total, up to 1 000 distributed I/O devices can be connected via

— of which in line, max.	32
Number of IO Devices that can be	8; in total across all interfaces
simultaneously activated/deactivated, max.	0
Number of IO Devices per tool, max.	8
<ul><li>Updating times</li></ul>	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
Update time for RT	,
— for send cycle of 1 ms	1 ms to 512 ms
PROFINET IO Device	
Services	
— PG/OP communication	Yes
— Isochronous mode	No
— IRT	No
— PROFlenergy	Yes; per user program
Prioritized startup	No
— Shared device	Yes
Number of IO Controllers with shared device,	4
max.	
<ul> <li>activation/deactivation of I-devices</li> </ul>	Yes; per user program
<ul> <li>Asset management record</li> </ul>	Yes; per user program
Interface types	
RJ 45 (Ethernet)	
• 100 Mbps	Yes
Autonegotiation	Yes
Autocrossing	Yes
Industrial Ethernet status LED	Yes
Protocols	
PROFIsafe	Yes; V2.4 / V2.6
Number of connections	165, V2.47 V2.0
Number of connections, max.	128; Via integrated interfaces of the CPU
Number of connections reserved for ES/HMI/web	10
Number of connections via integrated interfaces	128
Number of S7 routing paths	16
Redundancy mode	10
H-Sync forwarding	Yes
Media redundancy	163
Media redundancy	Vae: only via 1et interface (V1)
	Yes; only via 1st interface (X1)
— 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
Switchover time on line break, typ.	200 ms; For MRP, bumpless for MRPD
•	
— Number of Stations in the find, max.	50
Number of stations in the ring, max.  SIMATIC communication	50
Number of stations in the ring, max.  SIMATIC communication  • PG/OP communication	
SIMATIC communication  • PG/OP communication	Yes; encryption with TLS V1.3 pre-selected Yes
SIMATIC communication  • PG/OP communication  • S7 routing	Yes; encryption with TLS V1.3 pre-selected
SIMATIC communication  • PG/OP communication  • S7 routing  • S7 communication, as server	Yes; encryption with TLS V1.3 pre-selected Yes Yes
SIMATIC communication  PG/OP communication  S7 routing  S7 communication, as server  S7 communication, as client	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes
SIMATIC communication  PG/OP communication  S7 routing  S7 communication, as server  S7 communication, as client  User data per job, max.	Yes; encryption with TLS V1.3 pre-selected Yes Yes
SIMATIC communication  PG/OP communication  S7 routing  S7 communication, as server  S7 communication, as client  User data per job, max.  Open IE communication	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes Yes See online help (S7 communication, user data size)
SIMATIC communication  PG/OP communication S7 routing S7 communication, as server S7 communication, as client User data per job, max.  Open IE communication TCP/IP	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes See online help (S7 communication, user data size) Yes
SIMATIC communication  PG/OP communication  S7 routing  S7 communication, as server  S7 communication, as client  User data per job, max.  Open IE communication  TCP/IP  Data length, max.	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes Yes See online help (S7 communication, user data size)  Yes 64 kbyte
SIMATIC communication  PG/OP communication  S7 routing  S7 communication, as server  S7 communication, as client  User data per job, max.  Open IE communication  TCP/IP  Data length, max.  several passive connections per port,	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes See online help (S7 communication, user data size) Yes
SIMATIC communication  PG/OP communication  S7 routing  S7 communication, as server  S7 communication, as client  User data per job, max.  Open IE communication  TCP/IP  Data length, max.  several passive connections per port, supported	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes Yes See online help (S7 communication, user data size)  Yes 64 kbyte Yes
SIMATIC communication  PG/OP communication S7 routing S7 communication, as server S7 communication, as client User data per job, max.  Open IE communication TCP/IP Data length, max. — several passive connections per port, supported ISO-on-TCP (RFC1006)	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes Yes See online help (S7 communication, user data size)  Yes 64 kbyte Yes Yes
SIMATIC communication  PG/OP communication S7 routing S7 communication, as server S7 communication, as client User data per job, max.  Open IE communication TCP/IP Data length, max. — several passive connections per port, supported ISO-on-TCP (RFC1006) — Data length, max.	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes Yes See online help (S7 communication, user data size)  Yes 64 kbyte Yes Yes 64 kbyte
SIMATIC communication  PG/OP communication S7 routing S7 communication, as server S7 communication, as client User data per job, max.  Open IE communication TCP/IP — Data length, max. — several passive connections per port, supported ISO-on-TCP (RFC1006) — Data length, max.  UDP	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes See online help (S7 communication, user data size)  Yes 64 kbyte Yes Yes 64 kbyte Yes
SIMATIC communication  PG/OP communication S7 routing S7 communication, as server S7 communication, as client User data per job, max.  Open IE communication TCP/IP Data length, max. — several passive connections per port, supported ISO-on-TCP (RFC1006) — Data length, max.  UDP — Data length, max.	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes See online help (S7 communication, user data size)  Yes 64 kbyte Yes Yes 64 kbyte Yes 64 kbyte Yes 2 kbyte; 1 472 bytes for UDP broadcast
SIMATIC communication  PG/OP communication S7 routing S7 communication, as server S7 communication, as client User data per job, max.  Open IE communication TCP/IP Data length, max. — several passive connections per port, supported ISO-on-TCP (RFC1006) — Data length, max.  UDP	Yes; encryption with TLS V1.3 pre-selected Yes Yes Yes See online help (S7 communication, user data size)  Yes 64 kbyte Yes Yes 64 kbyte Yes

• DNS	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Encryption	Yes; Optional
Web server	
• 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
<ul> <li>Application authentication</li> </ul>	Yes
— Security policies	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
<ul> <li>User authentication</li> </ul>	"anonymous" or by user name & password
<ul> <li>Number of connections, max.</li> </ul>	10
<ul> <li>Number of nodes of the client interfaces, max.</li> </ul>	2 000
<ul> <li>Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/C max.</li> </ul>	300
<ul> <li>Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max.</li> </ul>	20
Number of elements for one call of OPC_UA_MethodGetHandleList, max.	100
<ul> <li>Number of simultaneous calls of the client instructions per connection (except OPC_UA_ReadList,OPC_UA_WriteList,OPC_UA_M max.</li> </ul>	1
<ul> <li>Number of simultaneous calls of the client instructions</li> <li>OPC_UA_ReadList,OPC_UA_WriteList and OPC_UA_MethodCall, max.</li> </ul>	5
<ul> <li>Number of registerable nodes, max.</li> </ul>	5 000
<ul> <li>Number of registerable method calls of OPC_UA_MethodCall, max.</li> </ul>	100
<ul><li>— Number of inputs/outputs when calling OPC_UA_MethodCall, max.</li></ul>	20
OPC UA Server	Yes; Data access (read, write, subscribe), method call, custom address space
Application authentication	Yes
— Security policies	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
User authentication	"anonymous" or by user name & password
GDS support (certificate management)	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>	20
— Sampling interval, min.	100 ms
— Publishing interval, min.	200 ms
<ul> <li>Number of server methods, max.</li> </ul>	50
<ul> <li>Number of inputs/outputs per server method, max.</li> </ul>	20
<ul> <li>Number of monitored items, max.</li> </ul>	2 000; 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>	5 000
Alarms and Conditions	Yes
<ul> <li>Number of program alarms</li> </ul>	200
<ul> <li>Number of alarms for system diagnostics</li> </ul>	100
Further protocols	
MODBUS	Yes; MODBUS TCP

Ministra of Lanta state of the Control of the Contr	00
Number of login stations for message functions, max.	32
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.	5 000
Number of simultaneously active program alarms	
<ul> <li>Number of program alarms</li> </ul>	1 000
Number of alarms for system diagnostics	200
Number of alarms for motion technology objects	160
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)
Single step	No
Number of breakpoints	8
Status/control	
Status/control variable	Yes; Standard
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Number of variables, max.	F
— of which status variables, max.	200; per job
of which control variables, max.	200; per job
Forcing	, por jou
• Forcing	Yes; Standard
Forcing     Forcing, variables	Peripheral inputs/outputs
Number of variables, max.	200
Diagnostic buffer	200
	Yes
• present	3 200
Number of entries, max.      A subject powerful proof.	
— of which powerfail-proof	500
Traces	4. Up to 540 VD of data was trace and mark the
Number of configurable Traces	4; Up to 512 KB of data per trace are possible
nterrupts/diagnostics/status information	
Diagnostics indication LED	
RUN/STOP LED	Yes
• ERROR LED	Yes
MAINT LED	Yes
<ul> <li>Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes; green "24 V DC" LED
<ul><li>Monitoring of the supply voltage (PWR-LED)</li><li>Connection display LINK TX/RX</li></ul>	Yes; green "24 V DC" LED Yes
Connection display LINK TX/RX	Yes; Note: The number of technology objects affects the cycle time of
Connection display LINK TX/RX  Supported technology objects	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool
Connection display LINK TX/RX  Supported technology objects	Yes; Note: The number of technology objects affects the cycle time of
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects      Required Motion Control resources     — per speed-controlled axis     — per positioning axis	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects      Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects      Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — per output cam	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — per output cam     — per cam track	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20 160
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — per output cam     — per cam track     — per probe	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — per output cam     — per cam track     — per probe     Positioning axis	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20 160 40
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — per output cam     — per cam track     — per probe	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20 160
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — per output cam     — per cam track     — per probe     Positioning axis     — Number of positioning axes at motion control	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20 160 40
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — 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	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20 160 40
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — 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)	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20 160 40
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — 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)  Controller	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20 160 40 5
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — 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)  Controller     PID_Compact	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20 160 40  5 10  Yes; Universal PID controller with integrated optimization
Connection display LINK TX/RX  Supported technology objects  Motion Control      Number of available Motion Control resources for technology objects     Required Motion Control resources     — per speed-controlled axis     — per positioning axis     — per synchronous axis     — per external encoder     — 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)  Controller     PID_Compact     PID_Astep	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 800  40 80 160 80 20 160 40  5 10  Yes; Universal PID controller with integrated optimization Yes; PID controller with integrated optimization for valves

Standards, approvals, certificates	
Highest safety class achievable in safety mode	
Probability of failure (for service life of 20 years and repa	ir time of 100 hours)
<ul> <li>Low demand mode: PFDavg in accordance</li> </ul>	< 2.00E-05
with SIL3	
High demand/continuous mode: PFH in accordance with SIL3	< 1.00E-09
Ambient conditions	
Ambient temperature during operation	
<ul> <li>horizontal installation, min.</li> </ul>	-25 °C
<ul> <li>horizontal installation, max.</li> </ul>	55 °C
<ul> <li>vertical installation, min.</li> </ul>	-25 °C
<ul> <li>vertical installation, max.</li> </ul>	55 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
<ul> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
configuration / header	
configuration / programming / header	
Programming language	
— LAD	Yes; incl. failsafe
— FBD	Yes; incl. failsafe
— STL	Yes
— SCL	Yes
— GRAPH	Yes
Know-how protection	
User program protection/password protection	Yes
Copy protection	Yes
Block protection	Yes
Access protection	
protection of confidential configuration data	Yes
Protection level: Write protection	Yes
Protection level: Read/write protection	Yes
Protection level: Complete protection	Yes
programming / cycle time monitoring / header	
• lower limit	adjustable minimum cycle time
• upper limit	adjustable maximum cycle time
Dimensions	
Width	135 mm
Height	130 mm
Depth	65 mm
Weights	
Weight, approx.	614 g
ννοιχιτι, αργιολ.	UIT Y

last modified:

11/3/2021