SIEMENS

Data sheet

6ES7517-3TP00-0AB0



SIMATIC S7-1500T, CPU 1517T-3 PN/DP, Central processing unit with work memory 3 MB for program and 8 MB for data, 1st interface: PROFINET IRT with 2-port switch, 2nd interface, Ethernet, 3rd interface, PROFIBUS, 2 ns bit performance, SIMATIC Memory Card required

| Product type designation HW functional status FS11 Firmware version V3.0 Product function • I&M data • Isochronous mode Figure in the product function • I&M data • Isochronous mode Figure in the product function • I&M data • Isochronous mode Figure in the product function • I&M data • Isochronous mode Figure in the product function with minimum OB 6x cycle of 250 µs (distributed) and 1 ms (central) Engineering with • STEP 7 TIA Portal configurable/integrated from version Configuration control via dataset Ves Display Screen diagonal [cm] Control elements Number of keys Mode selector switch 1 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) 19.2 V permissible range, upper limit (DC) permissible range, upper limit (DC) 19.3 National production • Mainshortleger failure stored energy time • Mainshortleger failure stored energy | General information | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------|
| Firmware version Product function • (8M data • Isochronous mode Figure 7 TIA Portal configurable/integrated from version V18 (FW V3.0) / V14 (FW V2.0) or higher version Configuration control via dataset Pes Display Screen diagonal [cm] Control elements Number of keys Mode selector switch 1 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Wains buffering • Mains-Voltage failure stored energy time • Repeat rate, min. Injub current Current consumption (rated value) Current consumption, max. In Ja A; Rated value Power consumption from the backplane bus Power consumption from the backplane bus (balanced) Power loss, typ. Power loss, typ. Vas (Mistributed) and central; with minimum OB 6x cycle of 250 µs (distributed) and central; with minimum OB 6x cycle of 250 µs (distributed) and 1 ms (central) Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher Vas (FW V3.0) / V14 (FW V2.0) or higher V | Product type designation | CPU 1517T-3 PN/DP |
| Product function • i&M data • lschronous mode Yes; l&M0 to l&M3 Yes; Distributed and central; with minimum OB 6x cycle of 250 µs (distributed) and 1 ms (central) | HW functional status | FS11 |
| • I&M data • Isochronous mode (Ves; Ibistibuted and central; with minimum OB 6x cycle of 250 µs (distributed) and 1 ms (central) Engineering with • STEP 7 TIA Portal configurable/integrated from version Configuration control via dataset Yes Display Screen diagonal [cm] Control elements Number of keys Mode selector switch 1 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Mains buffering • Mains/voltage failure stored energy time • Repeat rate, min. Input current Current consumption (rated value) Current consumption, max. In y A Inrush current, max. Pt Power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss, typ. Power loss, typ. Mumber of slots for SIMATIC memory card SIMATIC memory card required Yes | Firmware version | V3.0 |
| • Isochronous mode Yes; Distributed and central; with minimum OB &x cycle of 250 µs (distributed) and 1 ms (central) • STEP 7 TIA Portal configurable/integrated from version V18 (FW V3.0) / V14 (FW V2.0) or higher version Configuration control via dataset Yes Display Screen diagonal [cm] 6.1 cm Control elements Number of keys 6 Mode selector switch 1 Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Mains buffering • Mains/voltage failure stored energy time • Repeat rate, min. 1/s Input current Current consumption (rated value) 1.55 A Current consumption, max. 1.9 A; Rated value Irt 0.4 A²-s Power Infeed power to the backplane bus (balanced) 30 W Power consumption from the backplane bus (balanced) 1 SIMATIC memory card required Yes | Product function | |
| Engineering with STEP 7 TIA Portal configurable/integrated from version V18 (FW V3.0) / V14 (FW V2.0) or higher version Configuration control via dataset Ves Display Screen diagonal [cm] Control elements Number of keys Ande selector switch 1 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range apper limit (DC) permis | I&M data | Yes; I&M0 to I&M3 |
| e STEP 7 TIA Portal configurable/integrated from version V18 (FW V3.0) / V14 (FW V2.0) or higher version Volume of the variable of the variable of the version versi | • Isochronous mode | |
| Version Configuration control via dataset Pes Display Screen diagonal [cm] Screen diagonal [cm] Control elements Number of keys Mode selector switch 1 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range, lower limit (DC) | Engineering with | |
| Via dataset Yes Display Screen diagonal [cm] 6.1 cm Control elements Number of keys 6 Mode selector switch 1 Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes Mains buffering • Mains/voltage failure stored energy time • Repeat rate, min. 1/s Input current Current consumption (rated value) 1.55 A Current consumption, max. 1.9 A; Rated value Pt 0.4 A²-s Power Infeed power to the backplane bus Power loss, typ. 24 W Memory Number of slots for SIMATIC memory card SIMATIC memory card required Yes | | V18 (FW V3.0) / V14 (FW V2.0) or higher |
| Screen diagonal [cm] 6.1 cm Control elements Number of keys 6 Mode selector switch 1 Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Mains buffering • Mains/voltage failure stored energy time 5 ms • Repeat rate, min. 1/s Input current Current consumption (rated value) 1.55 A Current consumption, max. 1.9 A Inrush current, max. 1.9 A; Rated value I*t 0.4 A2*s Power Infeed power to the backplane bus (balanced) 30 W Power loss Power loss, typ. 24 W Memory Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes | Configuration control | |
| Screen diagonal [cm] 6.1 cm Control elements Number of keys 6 Mode selector switch 1 Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Mains/voltage failure stored energy time 5 ms Repeat rate, min. 1/s Input current Current consumption (rated value) 1.55 A Current consumption, max. 1.9 A Inrush current, max. 1.9 A; Rated value Power Infeed power to the backplane bus power loss typ. 24 W Memory Number of slots for SIMATIC memory card SIMATIC memory card required For the demonstration of the survey and survey card simple survey card simple survey card simple survey card simple survey card survey card simple survey card survey card simple survey card simple survey card simple survey card survey card simple survey card surve | via dataset | Yes |
| Number of keys Number of keys Mode selector switch Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Mains buffering Mains/voltage failure stored energy time Repeat rate, min. Input current Current consumption (rated value) Current consumption, max. 1.9 A Inrush current, max. 1.9 A Inrush current, max. 1.9 A Inrush current, max. 1.9 A Inged power to the backplane bus Power Infeed power to the backplane bus (balanced) Power loss Power loss Power slots for SIMATIC memory card SIMATIC memory card required 1 Supplied to the su | Display | |
| Number of keys Mode selector switch 1 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limi | Screen diagonal [cm] | 6.1 cm |
| Mode selector switch Supply voltage Rated value (DC) | Control elements | |
| Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Mains buffering Mains/voltage failure stored energy time Repeat rate, min. Input current Current consumption (rated value) Current consumption, max. 1.9 A Inrush current, max. Power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss Power loss typ. Memory Number of slots for SIMATIC memory card SIMATIC memory card required 19.2 V 19.2 V 24 V 19.2 V 24 V 24 V 25 V 26 V 26 V 27 S 28.8 V 29.8 S 24 V 29.8 S 24 V 29.8 S 20.8 S 2 | Number of keys | 6 |
| Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Mains buffering Mains/voltage failure stored energy time Repeat rate, min. Input current Current consumption (rated value) Current consumption, max. 1.9 A Inrush current, max. Pt 1.9 A Inrush current, max. Pt 0.4 A²-s Power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. Memory Number of slots for SIMATIC memory card SIMATIC memory card required Yes | Mode selector switch | 1 |
| permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Mains buffering Mains/voltage failure stored energy time Repeat rate, min. Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Inush current, max. In 9 A Inrush current, max. In 9 A; Rated value I* Power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. Memory Number of slots for SIMATIC memory card SIMATIC memory card required 19.2 V 28.8 V 29.8 1.9 A 1.9 A 1.9 A 1.9 A 1.9 A 2.5 2.5 2.6 2.7 2.8 2.9 2.9 2.9 2.9 2.9 2.9 3.0 3.0 3.0 3.0 4.0 4.0 4.0 4.0 | Supply voltage | |
| permissible range, upper limit (DC) Reverse polarity protection Mains buffering Mains/voltage failure stored energy time Repeat rate, min. Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Inush current, max. In 4, 8, Rated value In 6, Rated value Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. Memory Number of slots for SIMATIC memory card SIMATIC memory card required Yes | Rated value (DC) | 24 V |
| Reverse polarity protection Mains buffering Mains/voltage failure stored energy time Repeat rate, min. Input current Current consumption (rated value) Current consumption, max. Inrush current, max. In 4, Rated value I*t O.4 A*2.s Power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss Power loss, typ. Memory Number of slots for SIMATIC memory card SIMATIC memory card required **Yes** **S ms **S m | permissible range, lower limit (DC) | 19.2 V |
| Mains buffering ■ Mains/voltage failure stored energy time ■ Repeat rate, min. Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Inrush current, max. In 9 A Inrush current, max. In 9 A; Rated value I*t O.4 A*2.s Power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. Augustian | permissible range, upper limit (DC) | 28.8 V |
| Mains/voltage failure stored energy time Repeat rate, min. Input current Current consumption (rated value) Current consumption, max. Inrush current, max. If 0.4 A²·s Power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. Memory Number of slots for SIMATIC memory card SIMATIC memory card required 5 ms 1/s 1/s 1/s 1 U 1.55 A 1.9 A 1.9 A; Rated value 1.9 A; Rated value 1.9 A; Rated value 1.9 A; Bated val | Reverse polarity protection | Yes |
| • Repeat rate, min. Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Interest power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. A W Memory Number of slots for SIMATIC memory card SIMATIC memory card required 1.55 A 1.9 A 1 | Mains buffering | |
| Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Interest power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. 24 W Memory Number of slots for SIMATIC memory card SIMATIC memory card required 1.55 A 1.9 A 1.9 A 1.9 A; Rated value 1.9 A; Rated value 3.0 W 9.4 A ² ·s Power 1.2 W 2.4 W Memory 1.55 A 1.9 A | Mains/voltage failure stored energy time | 5 ms |
| Current consumption (rated value) Current consumption, max. Inrush current, max. Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. Memory Number of slots for SIMATIC memory card SIMATIC memory card required 1.55 A 1.9 A 1.9 A; Rated value 0.4 A²-s Power 12 W 90 W 12 W 24 W Memory 14 W Memory Number of slots for SIMATIC memory card SIMATIC memory card required Yes | Repeat rate, min. | 1/s |
| Current consumption, max. Inrush current, max. Insufficient of slots for SIMATIC memory card slows current consumption, max. 1.9 A 1.9 A; Rated value 1.9 A; Rated | Input current | |
| Inrush current, max. In 9 A; Rated value Out A ² ·s Power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. A W Memory Number of slots for SIMATIC memory card SIMATIC memory card required Yes | Current consumption (rated value) | 1.55 A |
| Power Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. Power loss, typ. Memory Number of slots for SIMATIC memory card SIMATIC memory card required Yes | Current consumption, max. | 1.9 A |
| Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. 24 W Memory Number of slots for SIMATIC memory card SIMATIC memory card required Yes | Inrush current, max. | 1.9 A; Rated value |
| Infeed power to the backplane bus Power consumption from the backplane bus (balanced) Power loss Power loss, typ. 24 W Memory Number of slots for SIMATIC memory card SIMATIC memory card required Yes | l²t | 0.4 A ² ·s |
| Power consumption from the backplane bus (balanced) 30 W Power loss Power loss, typ. 24 W Memory Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes | Power | |
| Power loss Power loss, typ. 24 W Memory Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes | Infeed power to the backplane bus | 12 W |
| Power loss, typ. 24 W Memory Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes | Power consumption from the backplane bus (balanced) | 30 W |
| Memory Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes | Power loss | |
| Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes | Power loss, typ. | 24 W |
| SIMATIC memory card required Yes | Memory | |
| | Number of slots for SIMATIC memory card | 1 |
| Work memory | SIMATIC memory card required | Yes |
| | Work memory | |

| a integrated (for account) | 2 Mbuto |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| • integrated (for program) | 3 Mbyte |
| • integrated (for data) | 8 Mbyte |
| Load memory | 22 Chuta |
| Plug-in (SIMATIC Memory Card), max. Packup | 32 Gbyte |
| Backup • maintenance-free | Yes |
| | Tes |
| CPU processing times | |
| for bit operations, typ. | 2 ns |
| for word operations, typ. | 3 ns |
| for fixed point arithmetic, typ. | 3 ns |
| for floating point arithmetic, typ. | 12 ns |
| CPU-blocks | |
| Number of elements (total) | 12 000; Blocks (OB, FB, FC, DB) and UDTs |
| DB | |
| Number range | 1 60 999; subdivided into: number range that can be used by the user: 1 59 999, and number range of DBs created via SFC 86: 60 000 60 999 |
| • Size, max. | 8 Mbyte; For DBs with absolute addressing, the max. size is 64 KB |
| FB | |
| Number range | 0 65 535 |
| • Size, max. | 1 Mbyte |
| FC | |
| Number range | 0 65 535 |
| • Size, max. | 1 Mbyte |
| ОВ | |
| • Size, max. | 1 Mbyte |
| 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 100 μs |
| Number of process alarm OBs | 50 |
| Number of DPV1 alarm OBs | 3 |
| Number of isochronous mode OBs | 3 |
| Number of technology synchronous alarm OBs | 2 |
| Number of startup OBs | 100 |
| Number of asynchronous error OBs | 4 |
| Number of synchronous error OBs | 2 |
| Number of diagnostic alarm OBs | 1 |
| Nesting depth | |
| per priority class | 24 |
| Counters, timers and their retentivity | |
| S7 counter | |
| Number | 2 048 |
| Retentivity | |
| — adjustable | Yes |
| IEC counter | |
| Number | Any (only limited by the main memory) |
| Retentivity | , , , , , , , , , , , , , , , , , , , , |
| — adjustable | Yes |
| S7 times | |
| Number | 2 048 |
| Retentivity | |
| — adjustable | Yes |
| IEC timer | |
| Number | Any (only limited by the main memory) |
| Retentivity | , , , |
| — adjustable | Yes |
| Data areas and their retentivity | |
| Retentive data area (incl. timers, counters, flags), max. | 768 kbyte; In total; available retentive memory for bit memories, timers, |
| recontive data area (inci. timers, counters, hays), max. | counters, DBs, and technology data (axes): 700 KB |
| Extended retentive data area (incl. timers, counters, flags), | 8 Mbyte; When using PS 6 0W 24/48/60 V DC HF |
| max. | 5 |
| Flag | |
| • Size, max. | 16 kbyte |
| | |

| Number of clock memories | 8; 8 clock memory bit, grouped into one clock memory byte |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data blocks | e, a clock memory bit, grouped into one clock memory byte |
| 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 | 16 384; max. number of modules / submodules |
| I/O address area | |
| • 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) | 32 kbyte; Max. 32 KB via X1; max. 8 KB via X2 or X3 |
| — Outputs (volume) | 32 kbyte; Max. 32 KB via X1; max. 8 KB via X2 or X3 |
| per CM/CP | |
| — Inputs (volume) | 8 kbyte |
| — Outputs (volume) | 8 kbyte |
| Subprocess images • Number of subprocess images, max. | 32 |
| | OL . |
| Hardware configuration | C4: A distributed I/O system is abarratarized and sub-level to interest |
| 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 | |
| integratedVia CM | 1 8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total |
| Number of IO Controllers | |
| • integrated | 2 |
| • Via CM | 8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total |
| Rack Modulos per rack may | 32; CPU + 31 modules |
| Modules per rack, max.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 | |
| Number | 16 |
| Clock synchronization | Von |
| supportedto DP, master | Yes Yes |
| • in AS, master | Yes |
| • in AS, slave | Yes |
| on Ethernet via NTP | Yes |
| Interfaces | |
| Number of PROFINET interfaces | 2 |
| Number of PROFIBUS interfaces | 1 |
| 1. Interface | |
| Interface types | |
| • RJ 45 (Ethernet) | Yes; X1 |
| Number of ports | 2 |
| • integrated switch | Yes |
| Protocols | |
| IP protocol | Yes; IPv4 |
| PROFINET IO Controller | Yes |
| PROFINET IO Device | Yes |
| SIMATIC communication | Yes |

| Open IE communication | Yes; Optionally also encrypted |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Web server | Yes |
| Media redundancy | Yes |
| PROFINET IO Controller | |
| Services | |
| — PG/OP communication | Yes |
| Isochronous mode | Yes |
| Direct data exchange | Yes; Requirement: IRT and isochronous mode (MRPD optional) |
| — IRT | Yes |
| — PROFlenergy | Yes; per user program |
| Prioritized startup | Yes; Max. 32 PROFINET devices |
| Number of connectable IO Devices, max. | 512; In total, up to 1 000 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. | 512 |
| — of which in line, max. | 512 |
| Number of IO Devices that can be simultaneously activated deactivated may. | 8; in total across all interfaces |
| simultaneously activated/deactivated, max. | 8 |
| — Number of IO Devices per tool, max.— Updating times | The minimum value of the update time also depends on communication |
| — opuating times | share set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data |
| Update time for IRT | |
| — for send cycle of 250 μs | 250 μs to 4 ms |
| — 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 |
| With IRT and parameterization of "odd" send | Update time = set "odd" send clock (any multiple of 125 μs: 375 μs, 625 |
| cycles | μs 3 875 μs) |
| Update time for RT | 250 via to 420 mg |
| — 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 Vos |
| — IRT | Yes |
| PROFlenergy Shared device | Yes; per user program |
| — Snared device — Number of IO Controllers with shared device. | Yes 4 |
| 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 |
| 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 |
| PROFINET IO Controller | |
| Services | |
| — PG/OP communication | Yes |
| — Isochronous mode | No |
| | |

| Direct data exchange | No |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| — IRT | No |
| — PROFlenergy | Yes; per user program |
| Prioritized startup | No |
| Number of connectable IO Devices, max. | 128; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET |
| Number of connectable IO Devices for RT, max. | 128 |
| — of which in line, max. | 128 |
| Number of IO Devices that can be | 8; in total across all interfaces |
| simultaneously activated/deactivated, max. | o, in total across an interfaces |
| Number of IO Devices per tool, max. | 8 |
| Updating times | The minimum value of the update time also depends on communication |
| cpassing invol | 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 |
| — Prioritized startup — 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 |
| 3. Interface | |
| Interface types | |
| • RS 485 | Yes; X3 |
| Number of ports | 1 |
| Protocols | · |
| PROFIBUS DP master | Yes |
| PROFIBUS DP slave | |
| | No V |
| SIMATIC communication | Yes |
| Web server | Yes |
| PROFIBUS DP master | |
| Number of connections, max. | 48; for the integrated PROFIBUS DP interface |
| Number of DP slaves, max. | 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET |
| Services | |
| — PG/OP communication | Yes |
| — Equidistance | Yes |
| — Isochronous mode | Yes |
| Activation/deactivation of DP slaves | Yes |
| | |
| Interface types | |
| RJ 45 (Ethernet) | V |
| • 100 Mbps | Yes |
| Autonegotiation | |
| Autocrossing | Yes |
| Industrial Ethernet status LED | Yes |
| | |
| RS 485 | Yes |
| | Yes |
| RS 485 | Yes Yes |
| RS 485 • Transmission rate, max. | Yes Yes |
| RS 485 • Transmission rate, max. Protocols | Yes Yes 12 Mbit/s |
| RS 485 • Transmission rate, max. Protocols PROFIsafe Number of connections | Yes Yes 12 Mbit/s No |
| RS 485 • Transmission rate, max. Protocols PROFIsafe Number of connections • Number of connections, max. | Yes Yes 12 Mbit/s No 320; via integrated interfaces of the CPU and connected CPs / CMs |
| RS 485 • Transmission rate, max. Protocols PROFIsafe Number of connections • Number of connections, max. • Number of connections reserved for ES/HMI/web | Yes Yes 12 Mbit/s No 320; via integrated interfaces of the CPU and connected CPs / CMs 10 |
| RS 485 • Transmission rate, max. Protocols PROFIsafe Number of connections • Number of connections, max. | Yes Yes 12 Mbit/s No 320; via integrated interfaces of the CPU and connected CPs / CMs 10 288 64; in total, only 16 S7-Routing connections are supported via |
| RS 485 • Transmission rate, max. Protocols PROFIsafe Number of connections • Number of connections, max. • Number of connections reserved for ES/HMI/web • Number of connections via integrated interfaces • Number of S7 routing paths | Yes Yes 12 Mbit/s No 320; via integrated interfaces of the CPU and connected CPs / CMs 10 288 |
| RS 485 • Transmission rate, max. Protocols PROFIsafe Number of connections • Number of connections, max. • Number of connections reserved for ES/HMI/web • Number of connections via integrated interfaces | Yes Yes 12 Mbit/s No 320; via integrated interfaces of the CPU and connected CPs / CMs 10 288 64; in total, only 16 S7-Routing connections are supported via |

| Media redundancy | |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Media redundancy | only via 1st interface (X1) |
| — MRP | Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP Manager; MRP Client |
| MRP interconnection, supported | 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 ring, max. | 50 |
| SIMATIC communication | |
| PG/OP communication | Yes; encryption with TLS V1.3 pre-selected |
| S7 routing | Yes |
| Data record routing | Yes |
| S7 communication, as server | Yes |
| S7 communication, as client | 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; 128 multicast circuits (of which max. 5 via X1) |
| • DHCP | 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; "Large" license required |
| OPC UA Client | Yes; Data Access (registered Read/Write), Method Call |
| Application authentication | Yes |
| — Security policies | Available security policies: None, Basic128Rsa15, Basic256Rsa15, |
| | Basic256Sha256 |
| — User authentication | "anonymous" or by user name & password |
| — Number of connections, max. | 40 |
| Number of nodes of the client interfaces, recommended max. | 5 000 |
| Number of elements for one call of | 300 |
| OPC_UA_NodeGetHandleList/OPC_UA_ReadList/C max. | |
| Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. | 20 |
| Number of elements for one call of OPC_UA_MethodGetHandleList, max. | 100 |
| Number of simultaneous calls of the client instructions for session management, per connection, max. | 1 |
| Number of simultaneous calls of the client instructions for data access, per connection, max. | 5 |
| Number of registerable nodes, max. | 5 000 |
| Number of registerable method calls of OPC_UA_MethodCall, max. | 100 |
| Number of inputs/outputs when calling OPC_UA_MethodCall, max. | 20 |
| OPC UA Server | Yes; Data Access (Read, Write, Subscribe), Method Call, Alarms & Condition (A&C), Custom Address Space |
| Application authentication | Yes |
| — Security policies | available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256, Aes128Sha256RsaOaep, Aes256Sha256RsaPss |
| User authentication | "anonymous" or by user name & password |

| — GDS support (certificate management) | Yes |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of sessions, max. | 64 |
| Number of accessible variables, max. | 200 000 |
| Number of registerable nodes, max. | 50 000 |
| Number of subscriptions per session, max. | 50 |
| — Sampling interval, min. | 10 ms |
| — Publishing interval, min. | 10 ms |
| Number of server methods, max. | 100 |
| Number of inputs/outputs per server method, | 20 |
| Max. | 40,000 for 4 a compling interval and 4 a condinterval |
| Number of monitored items, recommended max. | 10 000; 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 |
| — Number of Server interfaces, max. | of the type "Reference namespace" |
| Number of nodes for user-defined server | 30 000 |
| interfaces, max. | |
| Alarms and Conditions | Yes |
| Number of program alarms | 400 |
| Number of alarms for system diagnostics | 200 |
| Further protocols | |
| MODBUS | Yes; MODBUS TCP |
| Isochronous mode | |
| Equidistance | Yes |
| S7 message functions | |
| Number of login stations for message functions, max. | 64 |
| Program alarms | Yes |
| Number of configurable program messages, max. | 10 000; Program messages are generated by the "Program_Alarm" |
| Number of configurable program messages, max. | block, ProDiag or GRAPH |
| Number of loadable program messages in RUN, max. | 5 000 |
| Number of simultaneously active program alarms | |
| Number of program alarms | 2 000 |
| Number of alarms for system diagnostics | 1 000 |
| Number of alarms for motion technology objects | 480 |
| • NOTICE OF MENTIS TO THOUGH ICCHROLOGY ODICAS | |
| | 400 |
| Test commissioning functions | |
| Test commissioning functions Joint commission (Team Engineering) | Yes; Parallel online access possible for up to 10 engineering systems |
| Test commissioning functions Joint commission (Team Engineering) Status block | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control Status/control variable Variables Number of variables, max. — of which status variables, max. | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 200; per job |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max. | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 200; per job 200; per job |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing • Forcing | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 200; per job 200; per job |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing • Forcing • Forcing, variables | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 200; per job 200; per job Yes Peripheral inputs/outputs |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints 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. | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 200; per job 200; per job |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints 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 | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 200; per job 200; per job Yes Peripheral inputs/outputs 200 |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints 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; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 200; per job 200; per job Yes Peripheral inputs/outputs 200 Yes |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints 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; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints 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; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 200; per job 200; per job Yes Peripheral inputs/outputs 200 Yes |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints 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; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 1 000 |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. forcing 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; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control 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 Interrupts/diagnostics/status information | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 1 000 |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control 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 Interrupts/diagnostics/status information Diagnostics indication LED | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 1 000 8; Up to 512 KB of data per trace are possible |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control Status/control variable Variables Number of variables, max. of which status variables, max. forcing Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 1 000 8; Up to 512 KB of data per trace are possible |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control Status/control variable Variables Number of variables, max. of which status variables, max. forcing Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 1 000 8; Up to 512 KB of data per trace are possible Yes Yes |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints 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 Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 1 000 8; Up to 512 KB of data per trace are possible Yes Yes Yes Yes |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control 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 Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED Connection display LINK TX/RX | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 1 000 8; Up to 512 KB of data per trace are possible Yes Yes |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control 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 Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED Connection display LINK TX/RX Supported technology objects | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 1 000 8; Up to 512 KB of data per trace are possible Yes Yes Yes Yes Yes |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control 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 Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED Connection display LINK TX/RX | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 1 000 8; Up to 512 KB of data per trace are possible Yes Yes Yes Yes Yes Yes Yes Yes |
| Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control 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 Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED Connection display LINK TX/RX Supported technology objects | Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 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 1 000 8; Up to 512 KB of data per trace are possible Yes Yes Yes Yes Yes |

| technology cayects - per speed-controlled axis - per synchronous axis - per synchronous axis - per synchronous axis - per cynchronous axis - per cynchronous axis - per cynchronous axis - per cam track - per controck - per culput cam - per cam track - per cam track - per com track - per com track - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points and 50 segments) - per cam (1 000 points an | | |
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| — per speed-controlled axis 40 — per synchronous axis 160 — per output cam 20 — per cam (1 000 points and 50 segments) 20 — per cam (1 000 points and 50 segments) 20 — per cam (1 000 points and 50 segments) 20 — for each set of kinematics 30 — Per leading axis proxy 3 | technology objects | |
| — per positioning axis — per external encoder — per couptur carm — per probe • Number of available Extended Motion Control resources for technology objects • Required Extended Motion Control resources — per carm (100 points and 50 segments) — per leading axis proxy • kinematics with up to 4 interpolating axes — kinematics with 5 or more interpolating axes — kinematics with 5 or more interpolating axes — super-defined kinematics — verifical positioning axes at motion control cycle of 4 ms (typical value) • PIDI_Compact • PID_Compact • PID_Step • PIDI_Compact • PIDI_Step • PIDI_Compact • PIDI_Step | | |
| — per synchronous axis — per output cam — per output cam — per output cam — per grothe # Number of available Extended Motion Control resources — per cam (1 000 points and 50 segments) — per cam (1 000 points and 50 segments) — per cam (1 000 points and 50 segments) — per cam (1 000 points and 50 segments) — per cam (1 000 points and 50 segments) — per cam (1 000 points and 50 segments) — per cam (1 000 points and 50 segments) — per cam (1 000 points and 50 segments) — Per leading axis provy # Nimematics functions — kinematics with put of interpolating axes — kinematics with 5 or more interpolating axes — kinematics with 5 or more interpolating axes — kinematics with 5 or more interpolating axes — shaft C Safe Kinematics — SIMATIC Safe Kinematics — SIMATIC Safe Kinematics — 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) — PIPL_Compact # PIPL_Compact # PIPL_Compact # PIPL_Compact # PIPL_Stemp # Yes, PIPL controller with integrated optimization for valves # PIPL_Compact # PIPL_C | | |
| — per external encoder — per courtur cam — per comt track — per probe | | 80 |
| per contrack per probe Number of available Extended Molion Control resources for technology objects Required Extended Molion Control resources per cam (1 000 points and 50 segments) | | |
| per com track per prothe • Number of available Extended Motion Control resources for behanding objects • Required Extended Motion Control resources per cam (1 000 points and 50 segments) | • | |
| - per probe Number of available Extended Motion Control resources or technology objects Required Extended Motion Control resources - per cam (1 0 000 points and 50 segments) - per cam (1 0 000 points and 50 segments) - per cam (1 0 000 points and 50 segments) - per cam (1 0 000 points and 50 segments) - for each set of kinematics - kinematics dust proxy - kinematics functions - kinematics with up to 4 interpolating axes - kinematics with up to 4 interpolating axes - kinematics with 5 or more interpolating axes - vertical installation, min vertical installation, min vertical installation, min vertical installation, max vertical installation, max vertical installation, max vertical installation, max vertical installation, min vertical install | — per output cam | |
| Number of available Extended Motion Control resources to Technology objects Required Extended Motion Control resources — per cam (1000 points and 50 segments) — per cam (1000 points and 50 segments) — for each set of kinematics — Per leading axis proxy Internatics with up to Interpolating axes — kinematics with 5 or more interpolating axes — kinematics with 5 or more interpolating axes — simmatics with 5 or more interpolating axes — user-defined kinematics — SIMATIC Safe Kinematics — SiMATIC Safe Kinematics — 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) — PID_Gompact — PID_Sitep — PID_Compact — PID_Sitep — PID_Temp — Yes, PID controller with integrated optimization for valves — PID_Sitep — PID_Temp — Yes, PID controller with integrated optimization for temperature Counting and measuring — High-speed counter Ambient conditions Ambient temperature during operation — Norticortal installation, min. — Norticortal installation, min. — Norticortal installation, min. — Vertical installation, min. — Norticortal installation, min. — Vertical installation, min. — Vertical installation, min. — Vertical installation, min. — Vertical installation, min. — Norticortal installation, min. — Vertical insta | — per cam track | 160 |
| resources for fechnology objects - Required Extended Motion Control resources - per cam (1 000 points and 50 segments) - per cam (1 0000 points and 50 segments) - per cam (1 0000 points and 50 segments) - per leading axis proxy - kinematics functions - kinematics with up to 4 interpolating axes - kinematics with up to 7 more interpolating axes - kinematics with up to 7 more interpolating axes - kinematics with 10 more interpolating axes - kinematics with 50 more interpolating axes - kinematics with 50 more interpolating axes - substitution of the second of | — per probe | 40 |
| Required Extended Motion Control resources — per cam (100 points and 50 segments) — for each set of kinematics — Per leading axis proxy Informatics functions — kinematics with to of interpolating axes — kinematics with 5 or more interpolating axes — kinematics with 5 or more interpolating axes — kinematics with 5 or more interpolating axes — kinematics — SIMATIC Safe Kinematics — SIMATIC Safe Kinematics — Per licenting axis — Number of positioning axes at motion control cycle of 4 ms (typical vialue) — Number of positioning axes at motion control cycle of 4 ms (typical vialue) — Number of positioning axes at motion control cycle of 8 ms (typical vialue) — Number of positioning axes at motion control cycle of 8 ms (typical vialue) Controller IPID_Compact IPI | | 256 |
| — per cam (1 000 points and 50 segments) — per cam (1 000 points and 50 segments) — for each set of kinematics — for each set of kinematics — kinematics with up to 4 interpolating axes — kinematics with up to 7 more interpolating axes — kinematics with up to 7 more interpolating axes — kinematics with up to 7 more interpolating axes — suser-defined kinematics — SiMATIC Sate kinematics • 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) • PID_Compact • PID_Compact • PID_Compact • PID_Compact • PID_Compact • PID_Temp Counting and measuring • High-speed counter Ambient conditions Ambient conditions Ambient conditions Ambient installation, min. • horizontal installation, min. • horizontal installation, min. • vertical installation, max. 60 °C; Display; 50 °C, at an operating temperature of typically 50 °C, the display is switched off • wertical installation, max. 60 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off • min. • vertical installation attitude above seal level, max. 70 °C Altitude during operation relating to sea level • Installation attitude above seal level, max. configuration / header Programming language — LAD — FBD — Yes — STL — SCL — Yes — SCL — Yes — GRAPH Know-how protection • Yes Now-how protection • Yes Protection level. Read-write protection • Yes Protection level. Read-write protection • Yes • Protection level. Read-write protection • Yes • Protection level. Read-write protection • Protection level. Read-write protection • Yes • Protection level. Read-write protection • Protection level. Read-write protection • Protection level. Read-write protection • Yes • Protection level. Read-write protection • Yes | | |
| — per cam (10 000 points and 50 segments) — for each set of kinematics — Per leading axis proxy • kinematics functions — kinematics with to to 4 interpolating axes — kinematics with 5 or more interpolating axes — suser-defined kinematics — SIMATIC Safe Kinematics — SIMATIC Safe Kinematics — 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 6 ms (typical value) — PID_Compact — PID_Compact — PID_Compact — PID_Stiep — Yes: PID controller with integrated optimization for valves — Yes; PID controller with integrated optimization for valves — Yes; PID controller with integrated optimization for temperature Ounting and measuring — High-speed counter — Yes Ambient temperature during operation — Norizontal installation, min. — Vertical installation, min. — Vertical installation, max. — So "C; Display: 50 "C, at an operating temperature of typically 50 "C, the display is switched off Ambient temperature during storage-transportation — Init. — Ambient temperature during storage-transportation — Init. — Yes — Vertical installation altitude above sea level, max. — TaD — FBD — F | | 2 |
| For each set of kinematics Per leading axis proxy • kinematics with up to 4 interpolating axes kinematics with up to 4 interpolating axes kinematics with 5 or more interpolating axes kinematics | | 20 |
| kinematics functions | | 30 |
| • kinematics with up to 4 interpolating axes Kinematics with to 7 or more interpolating axes Kinematics with 5 or more interpolating axes Vest max. 3D + orientation No Yes | Per leading axis proxy | 3 |
| - kinematics with 5 or more interpolating axes or user-defined kinematics yes or subser-defined kinematics yes or SIMATIC Safe Kinematics yes or Positioning axis — Number of positioning axes at motion control cycle of 4 ms (typical value) yes of 4 ms (typical value) yes of 5 ms (typical value) yes of 8 ms (typical value) yes of 9 ms (ty | 3 , , | |
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| - user-defined kinematics - SIMATIC Safe Kinematics - 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_Temp - PID_Temp - Yes; Universal PID controller with integrated optimization for valves - PID Temp - Yes; PID controller with integrated optimization for valves - Yes; PID controller with integrated optimization for temperature Counting and measuring - High-speed counter - Ambient conditions Ambient temperature during operation - horizontal installation, min horizontal installation, max vertical installation, min vertical installation operation of temperature of typically 50 °C, the display is switched off Ambient temperature during storage/transportation - min max 70 °C Altitude during operation relating to sea level - Installation altitude above sea level, max. configuration / header Programming language - LAD - FBD - STL - SCL - GRAPH - Yes - STL - SCL - GRAPH - Yes - STL - SCL - GRAPH - Yes - SCL - GRAPH - Yes - SCL - GRAPH - Yes - SCO - Copy protection - User program protection/password protection - Protection fevel: Confidential configuration data - Password for display - Protection level: Write protection - Protection level: Write protection - Protection level: Read/write protection - Protection level: Configuration of the position of temperature of typically of Configuration of temperature of typically of C on Configuration of temperature of typically of C on Configurati | · · · · · · · · · · · · · · · · · · · | |
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| ► High-speed counter Ambient temperature during operation • horizontal installation, min. • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, min. • vertical installation, min. • vertical installation, max. 40 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off Ambient temperature during storage/transportation • min. • max. • Max. • Max. • A0 °C • 70 °C Altitude during operation relating to sea level • Installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual configuration / programming / header Programming language — LAD • FBD • STL • SCL • GRAPH Yes • SCL • GRAPH Know-how protection • User program protection/password protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Write protection • Protection level: Read/write protection • Protection level: Read/write protection • Protection level: Read/write protection • Protection level: Complete protection | • | Yes; PID controller with integrated optimization for temperature |
| Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, min. • vertical installation, min. • vertical installation, max. • Vertical installation, min. • Vertical installation, max. • Vertical installation altitude devection of tipilay is switched off • Vertical installation altitude during switched off • Vertical installation, max. • Vertical installation altitude during switched off • Vertical installation altitude during switched off • Vertical installation altitude during | | · · |
| Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • horizontal installation, max. • vertical installation, min. • vertical installation, min. • vertical installation, max. • o °C • 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off Ambient temperature during storage/transportation • min. • au. • 70 °C Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Yes Know-how protection • User program protection/password protection • Copy protection • Slock protection • Block protection • Protection fevel: Write protection • Prosection level: Write protection • Protection level: Write protection • Protection level: Complete protection | | Yes |
| horizontal installation, min. horizontal installation, max. 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off vertical installation, min. vertical installation, max. 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off Ambient temperature during storage/transportation min. -40 °C 70 °C Altitude during operation relating to sea level Installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual configuration / header configuration / programming / header Programming language LAD Yes SCL Yes SCL GRAPH Know-how protection User program protection/password protection Block protection Block protection Protection of confidential configuration data Password for display Protection level: Write protection Yes Protection level: Read/write protection Yes Protection level: Read/write protection Yes | Ambient conditions | |
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| configuration / header configuration / programming / header Programming language — LAD Yes — FBD Yes — STL Yes — SCL Yes — GRAPH Yes Know-how protection • User program protection/password protection • Block protection • Block protection • protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Read/write protection • Protection level: Complete protection Yes | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C |
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| STL Yes SCL Yes GRAPH Yes Know-how protection • User program protection/password protection Yes • Copy protection Yes • Block protection Yes • Block protection Yes Access protection • protection of confidential configuration data Yes • Password for display Yes • Protection level: Write protection Yes • Protection level: Read/write protection Yes • Protection level: Complete protection Yes • Protection level: Complete protection Yes | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual |
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| Copy protection Block protection Yes Access protection protection of confidential configuration data Password for display Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Yes | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes |
| Block protection Access protection protection of confidential configuration data Password for display Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Yes | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes Yes |
| Access protection • protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Read/write protection • Protection level: Complete protection • Yes | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes Yes |
| protection of confidential configuration data Password for display Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Yes | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes Yes Yes Yes |
| Password for display Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Yes | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes Yes Yes Yes |
| Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Yes Yes | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection Access protection | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |
| Protection level: Read/write protection Protection level: Complete protection Yes Yes | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Block protection • protection of confidential configuration data | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |
| Protection level: Complete protection Yes | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Block protection • protection of confidential configuration data • Password for display | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |
| <u> </u> | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection Access protection protection of confidential configuration data • Password for display • Protection level: Write protection | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |
| programming / Gycle time monitoring / neader | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection Access protection protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Read/write protection | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |
| | Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Block protection Access protection • protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Read/write protection • Protection level: Complete protection | 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |

| lower limitupper limit | adjustable minimum cycle time adjustable maximum cycle time |
|---------------------------------------------------|-------------------------------------------------------------|
| Dimensions | |
| Width | 175 mm |
| Height | 147 mm |
| Depth | 129 mm |
| Weights | |
| Weight, approx. | 1 929 g |
| | |

last modified: 11/24/2022 🖸