

Data sheet
 VIPA CPU 215NET PG (215-2BT13)

Technical data

| | |
|------------------|--------------------|
| Order no. | 215-2BT13 |
| Type | VIPA CPU 215NET PG |

General information

| | |
|----------|---|
| Note | - |
| Features | Work memory [KB]: 128 Integrated Ethernet CP243 Interface [RJ45]: active Ethernet CP343 & PG/OP communication Interface [RS485]: MPI MMC card slot, up to 32 expansion modules, programmable with SPEED7 Studio, SIMATIC Manager and NetPro |

Technical data power supply

| | |
|---|------------------|
| Power supply (rated value) | DC 24 V |
| Power supply (permitted range) | DC 20.4...28.8 V |
| Reverse polarity protection | yes |
| Current consumption (no-load operation) | 140 mA |
| Current consumption (rated value) | 1.5 A |
| Inrush current | 65 A |
| $I_{\Delta t}$ | 0.75 A²s |
| Max. current drain at backplane bus | 3 A |
| Max. current drain load supply | - |
| Power loss | 6 W |

Load and working memory

| | |
|--|---------------------------|
| Load memory, integrated | 192 KB |
| Load memory, maximum | 192 KB |
| Work memory, integrated | 128 KB |
| Work memory, maximal | 128 KB |
| Memory divided in 50% program / 50% data | - |
| Memory card slot | MMC-Card with max. 512 MB |

Hardware configuration

| | |
|------------------------------------|---------------|
| Racks, max. | 4 |
| Modules per rack, max. | total max. 32 |
| Number of integrated DP master | - |
| Number of DP master via CP | 8 |
| Operable function modules | 32 |
| Operable communication modules PtP | 32 |
| Operable communication modules LAN | - |

Status information, alarms, diagnostics

| | |
|----------------------------------|----------|
| Status display | yes |
| Interrupts | no |
| Process alarm | no |
| Diagnostic interrupt | no |
| Diagnostic functions | no |
| Diagnostics information read-out | possible |

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|------------------------|------------|
| Supply voltage display | green LED |
| Group error display | red SF LED |
| Channel error display | none |

Command processing times

| | |
|---------------------------------|---------|
| Bit instructions, min. | 0.18 µs |
| Word instruction, min. | 0.78 µs |
| Double integer arithmetic, min. | 1.8 µs |
| Floating-point arithmetic, min. | 40 µs |

Timers/Counters and their retentive characteristics

| | |
|---------------------------------|------------------------|
| Number of S7 counters | 256 |
| S7 counter remanence | adjustable 0 up to 64 |
| S7 counter remanence adjustable | C0 .. C7 |
| Number of S7 times | 256 |
| S7 times remanence | adjustable 0 up to 128 |
| S7 times remanence adjustable | not retentive |

Data range and retentive characteristic

| | |
|--|------------------------|
| Number of flags | 8192 Bit |
| Bit memories retentive characteristic adjustable | adjustable 0 up to 256 |
| Bit memories retentive characteristic preset | MB0 .. MB15 |
| Number of data blocks | 2047 |
| Max. data blocks size | 16 KB |
| Number range DBs | 1 ... 2047 |
| Max. local data size per execution level | 1024 Byte |
| Max. local data size per block | 1024 Byte |

Blocks

| | |
|---|------------|
| Number of OBs | 14 |
| Maximum OB size | 16 KB |
| Total number DBs, FBs, FCs | - |
| Number of FBs | 1024 |
| Maximum FB size | 16 KB |
| Number range FBs | 0 ... 1023 |
| Number of FCs | 1024 |
| Maximum FC size | 16 KB |
| Number range FCs | 0 ... 1023 |
| Maximum nesting depth per priority class | 8 |
| Maximum nesting depth additional within an error OB | 1 |

Time

| | |
|-------------------------------------|---------------------------------------|
| Real-time clock buffered | yes |
| Clock buffered period (min.) | 30 d |
| Type of buffering | Vanadium Rechargeable Lithium Battery |
| Load time for 50% buffering period | 20 h |
| Load time for 100% buffering period | 48 h |
| Accuracy (max. deviation per day) | 10 s |
| Number of operating hours counter | 8 |
| Clock synchronization | - |
| Synchronization via MPI | - |

| | |
|---|--------------------------|
| Synchronization via Ethernet (NTP) | - |
| Address areas (I/O) | |
| Input I/O address area | 1024 Byte |
| Output I/O address area | 1024 Byte |
| Process image adjustable | - |
| Input process image preset | 128 Byte |
| Output process image preset | 128 Byte |
| Input process image maximal | 128 Byte |
| Output process image maximal | 128 Byte |
| Digital inputs | 8192 |
| Digital outputs | 8192 |
| Digital inputs central | 512 |
| Digital outputs central | 512 |
| Integrated digital inputs | - |
| Integrated digital outputs | - |
| Analog inputs | 512 |
| Analog outputs | 512 |
| Analog inputs, central | 128 |
| Analog outputs, central | 128 |
| Integrated analog inputs | - |
| Integrated analog outputs | - |
| Communication functions | |
| PG/OP channel | yes |
| Global data communication | yes |
| Number of GD circuits, max. | 4 |
| Size of GD packets, max. | 22 Byte |
| S7 basic communication | yes |
| S7 basic communication, user data per job | 76 Byte |
| S7 communication | yes |
| S7 communication as server | yes |
| S7 communication as client | - |
| S7 communication, user data per job | 160 Byte |
| Number of connections, max. | 16 |
| Functionality Sub-D interfaces | |
| Type | MP ² I |
| Type of interface | RS485 |
| Connector | Sub-D, 9-pin, female |
| Electrically isolated | - |
| MPI | yes |
| MP ² I (MPI/RS232) | yes |
| Point-to-point interface | - |
| 5V DC Power supply | max. 90mA, non-isolated |
| 24V DC Power supply | max. 100mA, non-isolated |
| Functionality MPI | |
| Number of connections, max. | 16 |
| PG/OP channel | yes |
| Routing | - |
| Global data communication | yes |

| | |
|----------------------------|--------------|
| S7 basic communication | yes |
| S7 communication | yes |
| S7 communication as server | yes |
| S7 communication as client | - |
| Transmission speed, min. | 19.2 kbit/s |
| Transmission speed, max. | 187.5 kbit/s |

Functionality RJ45 interfaces

| | |
|-----------------------------|----------------------|
| Type | TP |
| Type of interface | Ethernet 10/100 MBit |
| Connector | RJ45 |
| Electrically isolated | yes |
| PG/OP channel | yes |
| Number of connections, max. | 8 |
| Productive connections | yes |

Ethernet communication CP

| | |
|--|--|
| Number of configurable connections, max. | 16 |
| Number of productive connections by Siemens NetPro, max. | 16 |
| S7 connections | - |
| User data per S7 connection, max. | - |
| TCP-connections | SEND, RECEIVE, FETCH PASSIV, WRITE PASSIV, Connection of active and passive data handling |
| User data per TCP connection, max. | 64 KB |
| ISO-connections | SEND and RECEIVE |
| User data per ISO connection, max. | 8 KB |
| ISO on TCP connections (RFC 1006) | SEND, RECEIVE, FETCH PASSIV, WRITE PASSIV, Connection of active and passive data handling |
| User data per ISO on TCP connection, max. | 32 KB |
| UDP-connections | SEND and RECEIVE |
| User data per UDP connection, max. | 2 KB |
| UDP-multicast-connections | SEND and RECEIVE (max. 16 Multicast groups) |
| UDP-broadcast-connections | SEND |

Datasizes

| | |
|------------------|---|
| Input bytes | 0 |
| Output bytes | 0 |
| Parameter bytes | 3 |
| Diagnostic bytes | 0 |

Housing

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|----------|--------------------|
| Material | PPE / PA 6.6 |
| Mounting | Profile rail 35 mm |

Mechanical data

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|------------------------------|-------------------------|
| Dimensions (WxHxD) | 50.8 mm x 76 mm x 80 mm |
| Net weight | 150 g |
| Weight including accessories | - |
| Gross weight | - |

Environmental conditions

| | |
|-----------------------|-----------------|
| Operating temperature | 0 °C to 60 °C |
| Storage temperature | -25 °C to 70 °C |

Certifications

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|------------------|-----|
| UL certification | yes |
| KC certification | - |
