

## Data sheet

### CPU 214 (214-1BA06)

#### Technical data

|                                                |                                                                                                                                                          |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Order no.                                      | 214-1BA06                                                                                                                                                |
| Type                                           | CPU 214                                                                                                                                                  |
| <b>General information</b>                     |                                                                                                                                                          |
| Note                                           | -                                                                                                                                                        |
| Features                                       | Work memory [KB]: 96<br>Interface [RS485]: MPI<br>MMC card slot, up to 32 expansion modules<br>Programmable with WinPLC7, SIMATIC Manager and TIA Portal |
| <b>Technical data power supply</b>             |                                                                                                                                                          |
| 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)        | 50 mA                                                                                                                                                    |
| Current consumption (rated value)              | 1.5 A                                                                                                                                                    |
| Inrush current                                 | 65 A                                                                                                                                                     |
| $I^2t$                                         | 0.75 A²s                                                                                                                                                 |
| Max. current drain at backplane bus            | 3 A                                                                                                                                                      |
| Max. current drain load supply                 | -                                                                                                                                                        |
| Power loss                                     | 3.5 W                                                                                                                                                    |
| <b>Load and working memory</b>                 |                                                                                                                                                          |
| Load memory, integrated                        | 144 KB                                                                                                                                                   |
| Load memory, maximum                           | 144 KB                                                                                                                                                   |
| Work memory, integrated                        | 96 KB                                                                                                                                                    |
| Work memory, maximal                           | 96 KB                                                                                                                                                    |
| Memory divided in 50% program / 50% data       | -                                                                                                                                                        |
| Memory card slot                               | MMC-Card with max. 512 MB                                                                                                                                |
| <b>Hardware configuration</b>                  |                                                                                                                                                          |
| 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             | -                                                                                                                                                        |
| <b>Status information, alarms, diagnostics</b> |                                                                                                                                                          |
| Status display                                 | yes                                                                                                                                                      |
| Interrupts                                     | no                                                                                                                                                       |
| Process alarm                                  | no                                                                                                                                                       |
| Diagnostic interrupt                           | no                                                                                                                                                       |
| Diagnostic functions                           | no                                                                                                                                                       |
| Diagnostics information read-out               | possible                                                                                                                                                 |
| 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                     | MP2I                     |
| Type of interface        | RS485                    |
| Connector                | Sub-D, 9-pin, female     |
| Electrically isolated    | -                        |
| MPI                      | yes                      |
| MP2I (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            |
| <b>Datasizes</b>                |                         |
| Input bytes                     | 0                       |
| Output bytes                    | 0                       |
| Parameter bytes                 | 3                       |
| Diagnostic bytes                | 0                       |
| <b>Housing</b>                  |                         |
| Material                        | PPE / PA 6.6            |
| Mounting                        | Profile rail 35 mm      |
| <b>Mechanical data</b>          |                         |
| Dimensions (WxHxD)              | 25.4 mm x 76 mm x 80 mm |
| Net weight                      | 100 g                   |
| Weight including accessories    | -                       |
| Gross weight                    | -                       |
| <b>Environmental conditions</b> |                         |
| Operating temperature           | 0 °C to 60 °C           |
| Storage temperature             | -25 °C to 70 °C         |
| <b>Certifications</b>           |                         |
| UL certification                | yes                     |
| KC certification                | -                       |