


## Data sheet

### CPU 214 (214-1BA03)

#### Technical data

|  |   |
|--|---|
| <b>Order no.</b>   | <b>214-1BA03</b>  |
| Type   | CPU 214   |
| <b>General information</b>                                 |   |
| Note   | -   |
| Features   | 96 kB work memory<br>144 kB load memory   |
| <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                                |  |
| Current consumption (no-load operation)                    | 50 mA   |
| Current consumption (rated value)                          | 1.5 A   |
| Inrush current   | 65 A  |
| I <sup>2</sup> t   | 0.75 A <sup>2</sup> s   |
| Max. current drain at backplane bus                        | 3 A   |
| 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>Command processing times</b>                            |   |
| Bit instructions, min.                                     | 0.18 $\mu$ s  |
| Word instruction, min.                                     | 0.78 $\mu$ s  |
| Double integer arithmetic, min.                            | 1.8 $\mu$ s   |
| Floating-point arithmetic, min.                            | 40 $\mu$ s  |
| <b>Timers/Counters and their retentive characteristics</b> |   |
| 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            |  |
| 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                             | ✓        |
| Global data communication                 | ✓        |
| Number of GD circuits, max.               | 4        |
| Size of GD packets, max.                  | 22 Byte  |
| S7 basic communication                    | ✓        |
| S7 basic communication, user data per job | 76 Byte  |
| S7 communication                          | ✓        |
| S7 communication as server                | ✓        |
| S7 communication as client                | -        |
| S7 communication, user data per job       | 160 Byte |
| Number of connections, max.               | 16       |

### Functionality Sub-D interfaces

|                               |                      |
|-------------------------------|----------------------|
| Type                          | MP <sup>2</sup> I    |
| Type of interface             | RS485                |
| Connector                     | Sub-D, 9-pin, female |
| Electrically isolated         | -                    |
| MPI                           | ✓                    |
| MP <sup>2</sup> I (MPI/RS232) | ✓                    |
| Point-to-point interface      | -                    |

### Functionality MPI

|                             |              |
|-----------------------------|--------------|
| Number of connections, max. | 16           |
| PG/OP channel               | ✓            |
| Routing                     | -            |
| Global data communication   | ✓            |
| S7 basic communication      | ✓            |
| S7 communication            | ✓            |
| S7 communication as server  | ✓            |
| S7 communication as client  | -            |
| Transmission speed, min.    | 19.2 kbit/s  |
| Transmission speed, max.    | 187.5 kbit/s |

### Datasizes

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

### Housing

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

### Mechanical data

|                    |                         |
|--------------------|-------------------------|
| Dimensions (WxHxD) | 25.4 mm x 76 mm x 80 mm |
| Weight             | 100 g                   |

### Environmental conditions

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

### Certifications

|                     |     |
|---------------------|-----|
| UL508 certification | yes |
|---------------------|-----|