



Figure similar

SIMOTION Drive-based Control Unit D425-2 DP/PN; programmable motion controller; BASIC performance; interfaces: 12 DI, 16 DI/DO, 4 DRIVE-CLiQ, 2 PROFIBUS, 3 PROFINET ports, 2 ethernet, 2 USB, 1 option slot; incl. dual fan / battery module and battery

|                                                     |                                                                                                                                                                                                                                      |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| product brand name                                  | SIMOTION                                                                                                                                                                                                                             |
| product type designation                            | D425-2 DP/PN                                                                                                                                                                                                                         |
| Performance class for motion control system         | BASIC Performance                                                                                                                                                                                                                    |
| Version of the motion control system                | Multiple-axis system                                                                                                                                                                                                                 |
| PLC and motion control performance                  |                                                                                                                                                                                                                                      |
| number of axes / maximum                            | 16                                                                                                                                                                                                                                   |
| Minimum PROFIBUS cycle clock                        | 1 ms                                                                                                                                                                                                                                 |
| Minimum PROFINET send cycle clock                   | 0.25 ms                                                                                                                                                                                                                              |
| Minimum interpolator cycle clock                    | 0.5 ms                                                                                                                                                                                                                               |
| Minimum servo cycle clock                           | 0.5 ms                                                                                                                                                                                                                               |
| Integrated drive control / header                   |                                                                                                                                                                                                                                      |
| Maximum number of axes for integrated drive control |                                                                                                                                                                                                                                      |
| • servo                                             | 6                                                                                                                                                                                                                                    |
| • vector                                            | 6                                                                                                                                                                                                                                    |
| • V/f                                               | 12                                                                                                                                                                                                                                   |
| • note                                              | Alternative control modes; drive control based on SINAMICS S120 CU320-2, firmware version V4.x/V5.x                                                                                                                                  |
| Memory                                              |                                                                                                                                                                                                                                      |
| RAM (work memory)                                   | 78 Mbyte                                                                                                                                                                                                                             |
| Additional RAM work memory for Java applications    | 20 Mbyte                                                                                                                                                                                                                             |
| RAM disk (load memory)                              | 38 Mbyte                                                                                                                                                                                                                             |
| Retentive memory                                    | 364 kbyte                                                                                                                                                                                                                            |
| Persistent memory (user data on CF)                 | 1.5 Gbyte                                                                                                                                                                                                                            |
| Communication                                       |                                                                                                                                                                                                                                      |
| Interfaces                                          |                                                                                                                                                                                                                                      |
| • DRIVE-CLiQ                                        | 4                                                                                                                                                                                                                                    |
| • USB                                               | 2                                                                                                                                                                                                                                    |
| • Industrial Ethernet                               | 2                                                                                                                                                                                                                                    |
| • PROFIBUS                                          | 2                                                                                                                                                                                                                                    |
| — note                                              | Equidistant and isochronous; Can be configured as master or slave                                                                                                                                                                    |
| • PROFINET                                          | 1                                                                                                                                                                                                                                    |
| — note                                              | 1 interface with 3 ports onboard; 1 interface with 4 ports optional via CBE30-2; functionality: supports PROFINET IO with IRT and RT; configurable as PROFINET IO Controller and/or Device; supports media redundancy (MRP and MRPD) |
| General technical data                              |                                                                                                                                                                                                                                      |
| Fan                                                 | Double fan/battery module included in scope of delivery                                                                                                                                                                              |
| DC supply voltage                                   |                                                                                                                                                                                                                                      |
| • rated value                                       | 24 V                                                                                                                                                                                                                                 |

|                                                                                                                                                                                                        |                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>                                                                                                                         | 20.4 V<br>28.8 V                                                                                                                                                                                                                             |
| consumed current / typical                                                                                                                                                                             | 1 000 mA                                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• note</li> </ul>                                                                                                                                               | with no load on inputs/outputs, no 24 V supply via DRIVE-CLiQ and PROFIBUS interface                                                                                                                                                         |
| Making current, typ.                                                                                                                                                                                   | 5 A                                                                                                                                                                                                                                          |
| Power loss, typ.                                                                                                                                                                                       | 24 W                                                                                                                                                                                                                                         |
| Ambient temperature, during                                                                                                                                                                            |                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>• long-term storage</li> <li>• transport</li> <li>• operation</li> <li>— note</li> </ul>                                                                        | -25 ... +55 °C<br>-40 ... +70 °C<br>0 ... 55 °C<br>Maximum installation altitude 4000 m (13124 ft) above sea level. Above an altitude of 2000 m (6562 ft), the maximum ambient temperature decreases by 7 °C (12.6 °F) per 1000 m (3281 ft). |
| Relative humidity                                                                                                                                                                                      |                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>• during operation</li> <li>• without condensation, tested acc. to IEC 60068-2-38</li> </ul>                                                                    | 5 ... 95 %<br>Wert fehlt                                                                                                                                                                                                                     |
| Product property / Conformal coating                                                                                                                                                                   | No                                                                                                                                                                                                                                           |
| Resistance                                                                                                                                                                                             |                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>• to biologically active substances, / conformity acc. to EN 60721-3-3</li> <li>• to chemically active substances, / conformity acc. to EN 60721-3-3</li> </ul> | No<br>No                                                                                                                                                                                                                                     |
| Air pressure                                                                                                                                                                                           | 620 ... 1 060 hPa                                                                                                                                                                                                                            |
| Degree of protection                                                                                                                                                                                   | IP20 / UL open type                                                                                                                                                                                                                          |
| height                                                                                                                                                                                                 | 380 mm                                                                                                                                                                                                                                       |
| width                                                                                                                                                                                                  | 50 mm                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• depth</li> <li>• Depth / Note</li> </ul>                                                                                                                      | 270 mm<br>When the spacer is removed 230 mm (9.05 in) deep                                                                                                                                                                                   |
| net weight                                                                                                                                                                                             | 3 700 g                                                                                                                                                                                                                                      |
| <b>Digital inputs / header</b>                                                                                                                                                                         |                                                                                                                                                                                                                                              |
| number of digital inputs                                                                                                                                                                               | 12                                                                                                                                                                                                                                           |
| DC input voltage                                                                                                                                                                                       |                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>• rated value</li> <li>• for signal "1"</li> <li>• for signal "0"</li> </ul>                                                                                    | 24 V<br>15 ... 30 V<br>-3 ... +5 V                                                                                                                                                                                                           |
| Electrical isolation                                                                                                                                                                                   | Yes                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>• note</li> </ul>                                                                                                                                               | Yes, in groups of 6                                                                                                                                                                                                                          |
| Current consumption for "1" signal level, typ.                                                                                                                                                         | 9 mA                                                                                                                                                                                                                                         |
| Input delay time for                                                                                                                                                                                   |                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>• signal "0" → "1", typ.</li> <li>• signal "1" → "0", typ.</li> </ul>                                                                                           | 50 µs<br>150 µs                                                                                                                                                                                                                              |
| <b>Digital inputs/outputs / header</b>                                                                                                                                                                 |                                                                                                                                                                                                                                              |
| Number of digital I/Os                                                                                                                                                                                 | 16                                                                                                                                                                                                                                           |
| Parameterization possibility of the digital I/Os                                                                                                                                                       | can be parameterized - as DI - as DO - as probe input (max. 16) - as cam output (max. 8)                                                                                                                                                     |
| <b>If used as an input / header</b>                                                                                                                                                                    |                                                                                                                                                                                                                                              |
| DC input voltage                                                                                                                                                                                       |                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>• rated value</li> <li>• for signal "1"</li> <li>• for signal "0"</li> </ul>                                                                                    | 24 V<br>15 ... 30 V<br>-3 ... +5 V                                                                                                                                                                                                           |
| Electrical isolation                                                                                                                                                                                   | No                                                                                                                                                                                                                                           |
| Current consumption for "1" signal level, typ.                                                                                                                                                         | 9 mA                                                                                                                                                                                                                                         |
| Input delay time for                                                                                                                                                                                   |                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>• signal "0" → "1", typ.</li> <li>• signal "1" → "0", typ.</li> </ul>                                                                                           | 5 µs<br>50 µs                                                                                                                                                                                                                                |
| Measuring input / reproducibility                                                                                                                                                                      | 5 µs                                                                                                                                                                                                                                         |
| Measuring input / resolution                                                                                                                                                                           | 1 µs                                                                                                                                                                                                                                         |
| <b>If used as an output / header</b>                                                                                                                                                                   |                                                                                                                                                                                                                                              |

|                                                 |                                                                                                         |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Load voltage                                    |                                                                                                         |
| • rated value                                   | 24 V                                                                                                    |
| • minimum                                       | 20.4 V                                                                                                  |
| • maximum                                       | 28.8 V                                                                                                  |
| Electrical isolation                            | No                                                                                                      |
| Current carrying capacity for each output, max. | 500 mA                                                                                                  |
| Leakage current, max.                           | 2 mA                                                                                                    |
| Output delay for                                |                                                                                                         |
| • signal "0" → "1", typ.                        | 150 µs                                                                                                  |
| • signal "0" → "1", max.                        | 400 µs                                                                                                  |
| • signal "1" → "0", typ.                        | 75 µs                                                                                                   |
| • signal "1" → "0", max.                        | 150 µs                                                                                                  |
| — note                                          | Data for Vcc = 24 V; load 48 Ohm; "1" = 90 % VOut, "0" = 10 % VOut                                      |
| Cam output                                      |                                                                                                         |
| • reproducibility                               | 10 µs                                                                                                   |
| • resolution                                    | 1 µs                                                                                                    |
| Switching frequency of the outputs for          |                                                                                                         |
| • resistive load, max.                          | 4 kHz                                                                                                   |
| • inductive load, max.                          | 2 Hz                                                                                                    |
| • lamp load, max.                               | 11 Hz                                                                                                   |
| Short-circuit protection                        | Yes                                                                                                     |
| <b>Additional technical data</b>                |                                                                                                         |
| Back-up of non-volatile data                    |                                                                                                         |
| • of retentive data                             | unlimited buffer duration                                                                               |
| • of real-time clock, min.                      | 4 d                                                                                                     |
| • note                                          | longer buffer duration of the real-time clock using a battery inserted in the double fan/battery module |
| Approvals                                       |                                                                                                         |
| • USA                                           | cULus                                                                                                   |
| • Canada                                        | cULus                                                                                                   |
| • Australia                                     | RCM (formerly C-Tick)                                                                                   |
| • Korea                                         | KCC                                                                                                     |
| • Russia, Belarus and Kazakhstan                | EAC                                                                                                     |

