



Figure similar

\*\*\* Spare part \*\*\* SIMATIC DP, Electronics module for ET 200S, 1 count 24 V/100 kHz 15 mm installation width, operating modes: Count, Measure, (cycle duration measurement, high-resolution) with clock synchronization

| Supply voltage                                                  |                                                                 |
|-----------------------------------------------------------------|-----------------------------------------------------------------|
| Load voltage L+                                                 |                                                                 |
| • Rated value (DC)                                              | 24 V                                                            |
| • permissible range, lower limit (DC)                           | 20.4 V                                                          |
| • permissible range, upper limit (DC)                           | 28.8 V                                                          |
| • Reverse polarity protection                                   | Yes                                                             |
| Input current                                                   |                                                                 |
| from load voltage L+ (without load), max.                       | 42 mA                                                           |
| from backplane bus 3.3 V DC, max.                               | 10 mA                                                           |
| Encoder supply                                                  |                                                                 |
| 24 V encoder supply                                             |                                                                 |
| • 24 V                                                          | Yes; L+ (-0.8 V)                                                |
| • Short-circuit protection                                      | Yes                                                             |
| • Output current, max.                                          | 500 mA                                                          |
| Power loss                                                      |                                                                 |
| Power loss, typ.                                                | 1 W                                                             |
| Hardware configuration                                          |                                                                 |
| Module exchange                                                 |                                                                 |
| • Module exchange during operation of the IM-DP                 | Yes                                                             |
| • Module exchange under process voltage                         | Yes                                                             |
| Digital inputs                                                  |                                                                 |
| Number of digital inputs                                        | 1                                                               |
| Functions                                                       | Gate control, synchronization, latch function                   |
| Input characteristic curve in accordance with IEC 61131, type 2 | Yes                                                             |
| Input voltage                                                   |                                                                 |
| • Rated value (DC)                                              | 24 V                                                            |
| • for signal "0"                                                | -30 to +5 V                                                     |
| • for signal "1"                                                | +11 to +30V                                                     |
| Input current                                                   |                                                                 |
| • for signal "0", max. (permissible quiescent current)          | 2 mA                                                            |
| • for signal "1", typ.                                          | 9 mA                                                            |
| Input delay (for rated value of input voltage)                  |                                                                 |
| for standard inputs                                             |                                                                 |
| — at "0" to "1", max.                                           | 2.5 µs; Filter off: 2.5 µs (200 kHz), filter on: 25 µs (20 kHz) |
| Cable length                                                    |                                                                 |
| • shielded, max.                                                | 100 m; Filter 20 kHz: 100 m, filter 200 kHz: 50 m               |
| Digital outputs                                                 |                                                                 |
| Number of digital outputs                                       | 1                                                               |
| Short-circuit protection                                        | Yes                                                             |

|                                                         |                                                                 |
|---------------------------------------------------------|-----------------------------------------------------------------|
| • Response threshold, typ.                              | 2.6 A to 4 A                                                    |
| Limitation of inductive shutdown voltage to             | L+ (-50 to -60 V)                                               |
| Controlling a digital input                             | Yes                                                             |
| Switching capacity of the outputs                       |                                                                 |
| • on lamp load, max.                                    | 5 W                                                             |
| Output voltage                                          |                                                                 |
| • Rated value (DC)                                      | 24 V                                                            |
| • for signal "0", max.                                  | 3 V                                                             |
| • for signal "1", min.                                  | L+ (-1 V)                                                       |
| Output current                                          |                                                                 |
| • for signal "1" permissible range for 0 to 40 °C, min. | 5 mA                                                            |
| • for signal "1" permissible range for 0 to 40 °C, max. | 2 000 mA                                                        |
| • for signal "1" permissible range for 0 to 60 °C, min. | 5 mA                                                            |
| • for signal "1" permissible range for 0 to 60 °C, max. | 500 mA; 1 000 mA at 50 °C                                       |
| • for signal "0" residual current, max.                 | 0.5 mA                                                          |
| Output delay with resistive load                        |                                                                 |
| • "0" to "1", max.                                      | 100 µs                                                          |
| Switching frequency                                     |                                                                 |
| • with resistive load, max.                             | 100 Hz                                                          |
| • with inductive load, max.                             | 2 Hz                                                            |
| • on lamp load, max.                                    | 10 Hz                                                           |
| Cable length                                            |                                                                 |
| • shielded, max.                                        | 1 000 m                                                         |
| • unshielded, max.                                      | 600 m                                                           |
| Encoder                                                 |                                                                 |
| Number of connectable encoders, max.                    | 1                                                               |
| Connectable encoders                                    |                                                                 |
| • Incremental encoder (asymmetrical)                    | Yes                                                             |
| • 24 V initiator                                        | Yes                                                             |
| • 2-wire sensor                                         | Yes                                                             |
| Interrupts/diagnostics/status information               |                                                                 |
| Diagnostics function                                    | Yes                                                             |
| Diagnostics indication LED                              |                                                                 |
| • Group error SF (red)                                  | Yes                                                             |
| • Status indicator digital input (green)                | Yes                                                             |
| • Status indicator digital output (green)               | Yes                                                             |
| • Status indicator forward counting (green)             | Yes                                                             |
| • Status indicator backward counting (green)            | Yes                                                             |
| Integrated Functions                                    |                                                                 |
| Measuring functions                                     |                                                                 |
| Measuring range                                         |                                                                 |
| — Frequency measurement, min.                           | 0.1 Hz                                                          |
| — Frequency measurement, max.                           | 100 kHz                                                         |
| — Cycle duration measurement, min.                      | 10 µs                                                           |
| — Cycle duration measurement, max.                      | 120 s                                                           |
| — Speed measurement, min.                               | 1 1/min                                                         |
| — Speed measurement, max.                               | 25 000 1/min                                                    |
| Counter                                                 |                                                                 |
| Number of counter inputs                                | 1; 32 bit                                                       |
| Counter input 24 V                                      |                                                                 |
| • Minimum pulse width                                   | 2.5 µs; Filter off: 2.5 µs (200 kHz), filter on: 25 µs (20 kHz) |
| Parameter                                               |                                                                 |
| Remark                                                  | 16 byte                                                         |
| Potential separation                                    |                                                                 |
| Potential separation digital inputs                     |                                                                 |
| • Potential separation digital inputs                   | No; only opposite shielding                                     |
| Potential separation counter                            |                                                                 |
| • between the channels and backplane bus                | Yes                                                             |
| • Between the channels and load voltage L+              | No                                                              |
| Dimensions                                              |                                                                 |

|                 |       |
|-----------------|-------|
| Width           | 15 mm |
| Height          | 81 mm |
| Depth           | 52 mm |
| Weights         |       |
| Weight, approx. | 40 g  |

last modified: 5/22/2024 