



Figure similar

\*\*\* Spare part \*\*\* SIMATIC DP, Electronics module for ET 200S, 1 count 5 V/500 kHz connection of RS422 incremental encoders, operating modes: Measure, Count, 30 mm installation width, 1-channel 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.                       | 45 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.                                                | 2 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                                        |
| Cable length                                                    |                                               |
| • shielded, max.                                                | 50 m                                          |
| Digital outputs                                                 |                                               |
| Number of digital outputs                                       | 2                                             |

|                                                         |                                         |
|---------------------------------------------------------|-----------------------------------------|
| 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.                                    | 10 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" rated value                            | 2 A                                     |
| • for signal "1" permissible range for 0 to 60 °C, min. | 5 mA                                    |
| • for signal "1" permissible range for 0 to 60 °C, max. | 2.4 A                                   |
| • 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 (symmetrical)                     | Yes                                     |
| Encoder signals, incremental encoder (symmetrical)      |                                         |
| • Trace mark signals                                    | A, notA, B, notB, A and B offset by 90° |
| • Zero mark signal                                      | N, notN                                 |
| • Input voltage                                         | to RS-422                               |
| • Differential input voltage, min.                      | 1 V                                     |
| • terminating resistor                                  | 330 Ω                                   |
| • Input frequency, max.                                 | 650 kHz                                 |
| • Cable length, shielded, max.                          | 50 m; > 500 kHz: 30 m                   |
| 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                                     |
| • Synchronization SYN (green)                           | Yes                                     |
| Integrated Functions                                    |                                         |
| Measuring functions                                     |                                         |
| Measuring range                                         |                                         |
| — Frequency measurement, min.                           | 0.1 Hz                                  |
| — Frequency measurement, max.                           | 500 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                               |
| 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                                      | 30 mm                       |
| Height                                     | 81 mm                       |
| Depth                                      | 52 mm                       |
| Weights                                    |                             |
| Weight, approx.                            | 65 g                        |
| Classifications                            |                             |

|        | Version | Classification |
|--------|---------|----------------|
| eClass | 16      | 27-24-26-05    |
| eClass | 14      | 27-24-26-05    |
| eClass | 12      | 27-24-26-05    |
| eClass | 9.1     | 27-24-26-05    |
| eClass | 9       | 27-24-26-05    |
| eClass | 8       | 27-24-26-05    |
| eClass | 7.1     | 27-24-26-05    |
| eClass | 6       | 27-24-26-05    |
| ETIM   | 10      | EC001601       |
| ETIM   | 9       | EC001601       |
| ETIM   | 8       | EC001601       |
| ETIM   | 7       | EC001601       |
| IDEA   | 4       | 3567           |
| UNSPSC | 15      | 32-15-17-05    |

| Approvals / Certificates |
|--------------------------|
| General Product Approval |



[Miscellaneous](#)

[Manufacturer Declaration](#)



|                          |     |                                |
|--------------------------|-----|--------------------------------|
| General Product Approval | EMV | For use in hazardous locations |
|--------------------------|-----|--------------------------------|



[China RoHS](#)



| For use in hazardous locations |
|--------------------------------|
|--------------------------------|

[FM](#)



[Miscellaneous](#)

|                                |                      |
|--------------------------------|----------------------|
| For use in hazardous locations | Maritime application |
|--------------------------------|----------------------|

[CCC-Ex](#)



[NK / Nippon Kaiji Kyokai](#)

#### Maritime application



[CCS \(China Classification Society\)](#)

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