



Figure similar

SIMATIC DP, electronic module for ET 200SP, F-DI 8x 24 V DC HF, 15 mm width, up to PLe (ISO 13849-1)/ SIL3 (IEC 61508)

| General information                                       |                                                     |
|-----------------------------------------------------------|-----------------------------------------------------|
| Product type designation                                  | F-DI 8x24VDC HF                                     |
| Firmware version                                          |                                                     |
| • FW update possible                                      | Yes                                                 |
| usable BaseUnits                                          | BU type A0                                          |
| Color code for module-specific color identification plate | CC01                                                |
| Product function                                          |                                                     |
| • I&M data                                                | Yes; I&M0 to I&M3                                   |
| Engineering with                                          |                                                     |
| • STEP 7 TIA Portal configurable/integrated from version  | SIMATIC Safety V17 with HSP 0360 or higher          |
| • STEP 7 configurable/integrated from version             | as 6ES7136-6BA00-0CA0                               |
| • PROFINET from GSD version/GSD revision                  | GSDML V2.35                                         |
| CIR - Configuration in RUN                                |                                                     |
| Reparameterization possible in RUN                        | No                                                  |
| Supply voltage                                            |                                                     |
| Rated value (DC)                                          | 24 V                                                |
| permissible range, lower limit (DC)                       | 19.2 V                                              |
| permissible range, upper limit (DC)                       | 28.8 V                                              |
| Reverse polarity protection                               | Yes                                                 |
| power supply according to NEC Class 2 required            | No                                                  |
| Input current                                             |                                                     |
| Current consumption, max.                                 | 40 mA; without load                                 |
| Encoder supply                                            |                                                     |
| Number of outputs                                         | 8                                                   |
| 24 V encoder supply                                       |                                                     |
| • 24 V                                                    | Yes; min. L+ (-1.5 V)                               |
| • Short-circuit protection                                | Yes; Electronic (response threshold 0.7 A to 1.8 A) |
| • Output current per channel, max.                        | 300 mA                                              |
| • Output current per module, max.                         | 800 mA; Total current of all encoders               |
| Power loss                                                |                                                     |
| Power loss, typ.                                          | 2 W                                                 |
| Address area                                              |                                                     |
| Address space per module                                  |                                                     |
| • Inputs                                                  | 7 byte; S7-300/400F CPU, 6 byte                     |
| • Outputs                                                 | 5 byte; S7-300/400F CPU, 4 byte                     |
| Hardware configuration                                    |                                                     |
| Automatic encoding                                        | Yes                                                 |
| • Electronic coding element type F                        | Yes                                                 |
| Digital inputs                                            |                                                     |

|                                                                                           |                                                                                        |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Number of digital inputs                                                                  | 8                                                                                      |
| Source/sink input                                                                         | Yes; P-reading                                                                         |
| Input characteristic curve in accordance with IEC 61131, type 1                           | Yes                                                                                    |
| <b>Input voltage</b>                                                                      |                                                                                        |
| • Rated value (DC)                                                                        | 24 V                                                                                   |
| • for signal "0"                                                                          | -30 to +5 V                                                                            |
| • for signal "1"                                                                          | +15 to +30 V                                                                           |
| <b>Input current</b>                                                                      |                                                                                        |
| • for signal "1", typ.                                                                    | 3.7 mA                                                                                 |
| <b>Input delay (for rated value of input voltage)</b>                                     |                                                                                        |
| for standard inputs                                                                       |                                                                                        |
| — parameterizable                                                                         | Yes                                                                                    |
| — at "0" to "1", min.                                                                     | 0.4 ms                                                                                 |
| — at "0" to "1", max.                                                                     | 20 ms                                                                                  |
| — at "1" to "0", min.                                                                     | 0.4 ms                                                                                 |
| — at "1" to "0", max.                                                                     | 20 ms                                                                                  |
| for technological functions                                                               |                                                                                        |
| — parameterizable                                                                         | No                                                                                     |
| <b>Cable length</b>                                                                       |                                                                                        |
| • shielded, max.                                                                          | 1 000 m                                                                                |
| • unshielded, max.                                                                        | 500 m                                                                                  |
| <b>Interrupts/diagnostics/status information</b>                                          |                                                                                        |
| Diagnostics function                                                                      | Yes                                                                                    |
| <b>Alarms</b>                                                                             |                                                                                        |
| • Diagnostic alarm                                                                        | Yes                                                                                    |
| • Hardware interrupt                                                                      | No                                                                                     |
| <b>Diagnostics indication LED</b>                                                         |                                                                                        |
| • RUN LED                                                                                 | Yes; green LED                                                                         |
| • ERROR LED                                                                               | Yes; red LED                                                                           |
| • Monitoring of the supply voltage (PWR-LED)                                              | Yes; green PWR LED                                                                     |
| • Channel status display                                                                  | Yes; green LED                                                                         |
| • for channel diagnostics                                                                 | Yes; red LED                                                                           |
| • for module diagnostics                                                                  | Yes; green/red DIAG LED                                                                |
| <b>Potential separation</b>                                                               |                                                                                        |
| <b>Potential separation channels</b>                                                      |                                                                                        |
| • between the channels                                                                    | No                                                                                     |
| • between the channels and backplane bus                                                  | Yes                                                                                    |
| • between the channels and the power supply of the electronics                            | No                                                                                     |
| <b>Isolation</b>                                                                          |                                                                                        |
| Isolation tested with                                                                     | 707 V DC (type test)                                                                   |
| <b>Standards, approvals, certificates</b>                                                 |                                                                                        |
| Suitable for safety functions                                                             | Yes                                                                                    |
| <b>Highest safety class achievable in safety mode</b>                                     |                                                                                        |
| • Performance level according to ISO 13849-1                                              | PLe                                                                                    |
| • Category according to ISO 13849-1                                                       | Cat. 4                                                                                 |
| • SIL acc. to IEC 61508                                                                   | SIL 3                                                                                  |
| <b>Probability of failure (for service life of 20 years and repair time of 100 hours)</b> |                                                                                        |
| — Low demand mode: PFDavg in accordance with SIL3                                         | < 2.00E-05                                                                             |
| — High demand/continuous mode: PFH in accordance with SIL3                                | < 1.00E-09 1/h                                                                         |
| <b>Ambient conditions</b>                                                                 |                                                                                        |
| <b>Ambient temperature during operation</b>                                               |                                                                                        |
| • horizontal installation, min.                                                           | 0 °C                                                                                   |
| • horizontal installation, max.                                                           | 60 °C                                                                                  |
| • vertical installation, min.                                                             | 0 °C                                                                                   |
| • vertical installation, max.                                                             | 50 °C                                                                                  |
| <b>Altitude during operation relating to sea level</b>                                    |                                                                                        |
| • Installation altitude above sea level, max.                                             | 4 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP system manual |

| Dimensions      |       |
|-----------------|-------|
| Width           | 15 mm |
| Height          | 73 mm |
| Depth           | 58 mm |
| Weights         |       |
| Weight, approx. | 29 g  |

last modified:

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