SIEMENS

## Data sheet 6ES7142-5AF00-0BA0



SIMATIC ET 200AL, DQ 8x 24 V DC/2 A, 8x M12, Degree of protection IP67

| | |
|---|---|
| **General information** | |
| Product type designation | DQ 8x24VDC/2A |
| HW functional status | FS06 |
| Firmware version | V2.0.x |
| Product function | |
| ● I&M data | Yes; I&M0 to I&M3 |
| Engineering with | |
| ● STEP 7 TIA Portal configurable/integrated from version | STEP 7 V13 SP1 or higher |
| ● STEP 7 configurable/integrated from version | V5.5 SP4 Hotfix 7 or higher |
| ● PROFIBUS from GSD version/GSD revision | GSD as of Revision 5 |
| ● PROFINET from GSD version/GSD revision | GSDML V2.3.1 |
| **Supply voltage** | |
| power supply according to NEC Class 2 required | No |
| Load voltage 1L+ | |
| ● 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; against destruction; load increasing |
| Load voltage 2L+ | |
| ● 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; against destruction; load increasing |
| **Input current** | |
| Current consumption (rated value) | 40 mA; 40 mA (1L+) / 35 mA (2L+); without load |
| from load voltage 1L+ (unswitched voltage) | 4 A; Maximum value |
| from load voltage 2L+, max. | 4 A; Maximum value |
| **Power loss** | |
| Power loss, typ. | 4 W |
| **Digital outputs** | |
| Number of digital outputs | 8 |
| ● in groups of | 4; 2 load groups for 4 outputs each |
| Current-sourcing | Yes |
| output type acc. to IEC 61131, type 2 | Yes |
| Short-circuit protection | Yes; per channel, electronic |
| ● Response threshold, typ. | 2.8 A |
| Limitation of inductive shutdown voltage to | 2L+ (-47 V) |
| Switching capacity of the outputs | |
| ● on lamp load, max. | 10 W |


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| | |
|---|---|
| Load resistance range | |
| ● lower limit | 12 Ω |
| ● upper limit | 4 kΩ |
| Output voltage | |
| ● for signal "1", min. | L+ (-0.8 V) |
| Output current | |
| ● for signal "1" rated value | 2 A |
| ● for signal "1" permissible range, max. | 2 A; with inductive load to IEC 60947-5-1, DC-13 / AC-15 |
| ● for signal "0" residual current, max. | 0.5 mA |
| Switching frequency | |
| ● with resistive load, max. | 100 Hz |
| ● with inductive load, max. | 0.1 Hz; 0.25 Hz at 25 °C |
| ● on lamp load, max. | 1 Hz |
| Total current of the outputs | |
| ● Current per group, max. | 4 A; For inductive load max. 2 channels per group |
| Cable length | |
| ● unshielded, max. | 30 m |
| **Interrupts/diagnostics/status information** | |
| Substitute values connectable | Yes; channel by channel, parameterizable |
| Alarms | |
| ● Diagnostic alarm | Yes; Parameterizable |
| Diagnoses | |
| ● Short-circuit | Yes; Outputs to ground; module by module |
| Diagnostics indication LED | |
| ● Channel status display | Yes; green LED |
| ● for module diagnostics | Yes; green/red LED |
| ● For load voltage monitoring | Yes; green LED |
| **Potential separation** | |
| between the load voltages | Yes |
| Potential separation channels | |
| ● between the channels, in groups of | 4 |
| ● between the channels and backplane bus | Yes |
| ● between the channels and the power supply of the electronics | No; 4 channels are non-isolated and 4 channels are isolated from supply voltage 1L+ |
| **Isolation** | |
| Isolation tested with | 707 V DC (type test) |
| **Degree and class of protection** | |
| IP degree of protection | IP65/67 |
| **Standards, approvals, certificates** | |
| Suitable for safety-related tripping of standard modules | Yes; from FS01 |
| Highest safety class achievable for safety-related tripping of standard modules | |
| ● Performance level according to ISO 13849-1 | PL d |
| ● Category according to ISO 13849-1 | Cat. 3 |
| ● SIL acc. to IEC 62061 | SIL 2 |
| ● remark on safety-oriented shutdown | https://www.plcally.com/?s=6ES7142-5AF00-0BA0 |
| **Security** | |
| signed firmware update | Yes |
| data integrity | Yes |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● min. | -30 °C |
| ● max. | 55 °C |
| Altitude during operation relating to sea level | |
| ● Ambient air temperature-barometric pressure-altitude | Up to max. 5 000 m, at installation height > 2 000 m additional restrictions |
| **Connection method** | |
| Design of electrical connection for the inputs and outputs | M12, 5-pole |
| Design of electrical connection for supply voltage | M8, 4-pole |
| ET-Connection | |
| ● ET-Connection | M8, 4-pin, shielded |


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| Dimensions | |
|---|---|
| Width | 45 mm |
| Height | 159 mm |
| Depth | 40 mm |

| Weights | |
|---|---|
| Weight, approx. | 192 g |

**Classifications**

| | Version | Classification |
|---|---|---|
| eClass | 16 | 27-24-26-04 |
| eClass | 14 | 27-24-26-04 |
| eClass | 12 | 27-24-26-04 |
| eClass | 9.1 | 27-24-26-04 |
| eClass | 9 | 27-24-26-04 |
| eClass | 8 | 27-24-26-04 |
| eClass | 7.1 | 27-24-26-04 |
| eClass | 6 | 27-24-26-04 |
| ETIM | 10 | EC001599 |
| ETIM | 9 | EC001599 |
| ETIM | 8 | EC001599 |
| ETIM | 7 | EC001599 |
| IDEA | 4 | 3566 |
| UNSPSC | 15 | 32-15-17-05 |

**Approvals / Certificates**

| General Product Approval | Test Certificates | other |
|---|---|---|
| EAC, CE EG-Konf., UKCA | Type Test Certificates/Test Report | Confirmation, 产品合格 QC PASS |

| Dangerous goods | Environment |
|---|---|
| Transport Information | Environmental Confirmations |

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