SIEMENS

## Data sheet 6ES7142-5AF00-0BL0



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

| | |
|---|---|
| **General information** | |
| Product type designation | IO-Link DQ 8x24VDC/2A |
| HW functional status | FS01 |
| Firmware version | V1.0.x |
| Vendor identification (VendorID) | 42 |
| Device identifier (DeviceID) | 229381 |
| Engineering with | |
| ● IODD file | Yes |
| **Supply voltage** | |
| Load voltage 1L+ | |
| ● Rated value (DC) | 24 V; Supply from 1Us+ of the IO-Link master |
| ● permissible range, lower limit (DC) | 18 V |
| ● permissible range, upper limit (DC) | 30 V |
| ● Reverse polarity protection | Yes; against destruction |
| Load voltage 2L+ | |
| ● Rated value (DC) | 24 V; Supply via M12 connector L-coded |
| ● 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) | 12 mA; without load |
| from load voltage 2L+, max. | 8 A; Maximum value |
| **Power loss** | |
| Power loss, typ. | 3.6 W |
| **Digital outputs** | |
| Number of digital outputs | 8 |
| 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 |
| Load resistance range | |
| ● lower limit | 12 Ω |
| ● upper limit | 4 kΩ |
| Output voltage | |
| ● for signal "1", min. | L+ (-0.8 V) |
| Output current | |


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| | |
|---|---|
| ● for signal "1" rated value | 2 A (45 °C); 1 A (55 °C) |
| ● 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 module, max. | 8 A |
| Cable length | |
| ● unshielded, max. | 30 m |
| **IO-Link** | |
| IO-Link protocol 1.1 | Yes |
| Transmission rate | 38.4 kBd (COM2) |
| Cycle time, min. | 2.1 ms |
| Size of process data, input per module | 0 byte |
| Size of process data, output per module | 1 byte |
| Supported IO-Link profiles | common profile |
| Cable length unshielded, max. | 20 m |
| Connection of IO-Link devices | |
| ● Port type A | Yes |
| **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 | No |
| ● between the channels and the power supply of the electronics | Yes |
| **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=6ES7142-5AF00-0BL0 |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● min. | -30 °C |
| ● max. | 55 °C |
| **Connection method** | |
| Design of electrical connection for the inputs and outputs | M12, 5-pin, A-coded |
| Type of electrical connection for IO-Link | M12, 5-pin, A-coded |
| Design of electrical connection for supply voltage | M12, 4-pin, L-coded |
| **Dimensions** | |
| Width | 45 mm |
| Height | 159 mm |


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| | |
|---|---|
| Depth | 45 mm |

## Weights

| | |
|---|---|
| Weight, approx. | 168 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

Miscellaneous

Manufacturer Declaration

### General Product Approval

China RoHS

### Functional Saftey

TUEV

### Maritime application

ABS

### Maritime application

DNV

LRS

NK / Nippon Kaiji Kyokai

RINA

CCS (China Classification Society)

### Maritime application other

KR (Korean Register of Shipping)

**last modified:** 10/23/2025


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