SIEMENS

## Data sheet 6ES7522-1BH01-0AB0



Figure similar

SIMATIC S7-1500, digital output module DQ16x24 V DC/0.5A HF; 16 channels in groups of 8; 4 A per group; single-channel diagnostics; substitute value: switching cycle counter for connected actuators. the module supports the safety-oriented shutdown of load groups up to SIL2 according to EN IEC 62061:2021 and Category 3 / PL d according to EN ISO 13849-1:2015. front connector (screw terminals or push-in) to be ordered separately

| | |
|---|---|
| **General information** | |
| Product type designation | DQ 16x24VDC/0.5A HF |
| HW functional status | From FS02 |
| Firmware version | V1.1.0 |
| ● FW update possible | Yes |
| Product function | |
| ● I&M data | Yes; I&M0 to I&M3 |
| ● Isochronous mode | Yes |
| ● Prioritized startup | Yes |
| Engineering with | |
| ● STEP 7 TIA Portal configurable/integrated from version | V13 SP1 / - |
| ● STEP 7 configurable/integrated from version | V5.5 SP3 / - |
| ● PROFIBUS from GSD version/GSD revision | V1.0 / V5.1 |
| ● PROFINET from GSD version/GSD revision | V2.3 / - |
| Operating mode | |
| ● DQ | Yes |
| ● DQ with energy-saving function | No |
| ● PWM | No |
| ● Cam control (switching at comparison values) | No |
| ● Oversampling | No |
| ● MSO | Yes |
| ● Integrated operating cycle counter | Yes |
| **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; through internal protection with 7 A per group |
| **Input current** | |
| Current consumption, max. | 30 mA |
| **Output voltage** | |
| Rated value (DC) | 24 V |
| **Power** | |
| Power consumption from the backplane bus | 1.1 W |
| **Power loss** | |
| Power loss, typ. | 2 W |


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|---|---|
| **Address area** | |
| Address space per module | |
| ● Inputs | 0 byte; typical, maximum 14 bytes, see manual for details |
| ● Outputs | 2 byte |
| **Digital outputs** | |
| Type of digital output | Transistor |
| Number of digital outputs | 16 |
| Current-sinking | No |
| Current-sourcing | Yes |
| Digital outputs, parameterizable | Yes |
| output type acc. to IEC 61131, type 0.5 | Yes |
| Short-circuit protection | Yes; Clocked electronically |
| ● Response threshold, typ. | 1 A |
| Limitation of inductive shutdown voltage to | L+ (-53 V) |
| Controlling a digital input | Yes |
| Digital output functions, parameterizable | |
| ● Switching tripped by comparison values | No |
| ● Freely usable digital output | No |
| ● PWM output | No |
| ● Digital output with oversampling | No |
| Switching capacity of the outputs | |
| ● with resistive load, max. | 0.5 A |
| ● on lamp load, max. | 5 W |
| Load resistance range | |
| ● lower limit | 48 Ω |
| ● upper limit | 12 kΩ |
| Output voltage | |
| ● for signal "1", min. | L+ (-0.8 V) |
| Output current | |
| ● for signal "1" rated value | 0.5 A |
| ● for signal "1" permissible range, max. | 0.5 A |
| ● for signal "0" residual current, max. | 0.5 mA |
| Output delay with resistive load | |
| ● "0" to "1", max. | 100 µs |
| ● "1" to "0", max. | 500 µs |
| Parallel switching of two outputs | |
| ● for logic links | Yes |
| ● for uprating | No |
| ● for redundant control of a load | Yes |
| Switching frequency | |
| ● with resistive load, max. | 100 Hz |
| ● with inductive load, max. | 0.5 Hz; According to IEC 60947-5-1, DC-13 |
| ● on lamp load, max. | 10 Hz |
| Total current of the outputs | |
| ● Current per channel, max. | 0.5 A; see additional description in the manual |
| ● Current per group, max. | 4 A; see additional description in the manual |
| ● Current per module, max. | 8 A; see additional description in the manual |
| Cable length | |
| ● shielded, max. | 1 000 m |
| ● unshielded, max. | 600 m |
| **Isochronous mode** | |
| Execution and activation time (TCO), min. | 70 µs |
| Bus cycle time (TDP), min. | 250 µs |
| **Interrupts/diagnostics/status information** | |
| Diagnostics function | Yes |
| Substitute values connectable | Yes |
| Alarms | |
| ● Diagnostic alarm | Yes |
| ● Maintenance interrupt | maintenance alarm for switching cycle counter |


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|---|---|
| Diagnoses | |
| ● Monitoring the supply voltage | Yes |
| ● Wire break | Yes |
| ● Short-circuit | Yes |
| ● Group error | Yes |
| Diagnostics indication LED | |
| ● RUN LED | Yes; green LED |
| ● ERROR LED | Yes; red LED |
| ● MAINT LED | Yes; Yellow LED |
| ● Monitoring of the supply voltage (PWR-LED) | Yes; green LED |
| ● Channel status display | Yes; green LED |
| ● for channel diagnostics | Yes; red LED |
| ● for module diagnostics | Yes; red LED |
| **Potential separation** | |
| Potential separation channels | |
| ● between the channels | No |
| ● between the channels, in groups of | 8 |
| ● between the channels and backplane bus | Yes |
| **Isolation** | |
| Isolation tested with | 707 V DC (type test) |
| **Standards, approvals, certificates** | |
| Siemens Eco Profile (SEP) | Siemens EcoTech |
| Suitable for safety functions | No |
| Suitable for safety-related tripping of standard modules | Yes; From FS02 |
| Ecological footprint | |
| ● environmental product declaration | Yes |
| Global warming potential | |
| — global warming potential, (total) [CO2 eq] | 43.8 kg |
| — global warming potential, (during production) [CO2 eq] | 9.5 kg |
| — global warming potential, (during operation) [CO2 eq] | 34.5 kg |
| — global warming potential, (after end of life cycle) [CO2 eq] | -0.231 kg |
| 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://support.industry.siemens.com/cs/de/en/view/39198632 |
| **Security** | |
| signed firmware update | No |
| securely removing data | No |
| data integrity | No |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● horizontal installation, min. | -30 °C; From FS03 |
| ● horizontal installation, max. | 60 °C |
| ● vertical installation, min. | -30 °C; From FS03 |
| ● vertical installation, max. | 40 °C |
| Altitude during operation relating to sea level | |
| ● Installation altitude above sea level, max. | 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual |
| Absolute humidity | |
| ● dew point, min. | -60 °C; suitable for dry room applications |
| **Dimensions** | |
| Width | 35 mm |
| Height | 147 mm |
| Depth | 129 mm |
| **Weights** | |
| Weight, approx. | 230 g |


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## Classifications

| | Version | Classification |
|---|---|---|
| eClass | 16 | 27-24-22-04 |
| eClass | 14 | 27-24-22-04 |
| eClass | 12 | 27-24-22-04 |
| eClass | 9.1 | 27-24-22-04 |
| eClass | 9 | 27-24-22-04 |
| eClass | 8 | 27-24-22-04 |
| eClass | 7.1 | 27-24-22-04 |
| eClass | 6 | 27-24-22-04 |
| ETIM | 10 | EC001419 |
| ETIM | 9 | EC001419 |
| ETIM | 8 | EC001419 |
| ETIM | 7 | EC001419 |
| IDEA | 4 | 3566 |
| UNSPSC | 15 | 32-15-17-05 |

## Approvals / Certificates

### General Product Approval

Miscellaneous

### General Product Approval

China RoHS

Manufacturer Declaration

### For use in hazardous locations

FM

FM

### For use in hazardous locations

CCC-Ex

IECEx

ATEX

Type Examination Certificate

Miscellaneous

CCC-Ex

### Maritime application

ABS

BUREAU VERITAS

DNV

LRS

NK / Nippon Kaiji Kyokai

RINA

### Maritime application

RMRS

CCS (China Classification Society)

KR (Korean Register of Shipping)

### Environment

EPD

Siemens EcoTech

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