

Siemens 6ES7522-1BF00-0AB0 Manual

Brand	Siemens
Product Series	Siemens
Product Type	designation DQ 8x24VDC/2A HF

Description

6ES7522-1BF00-0AB0

SIMATIC S7-1500, digital output module DQ 8x24 V DC/2A HF; 8 channels in groups of 8; 8 A per group; diagnostics; substitute value: 2 channels can be used for pulse width modulation(PWM) . 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 8x24VDC/2A HF

HW functional status FS03

Firmware version V2.2.0

- FW update possible Yes

Product function

- I&M data Yes; I&M0 to I&M3
- Isochronous mode No
- 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 Yes; with an application
- PWM Yes; FS02 and FW V2.1.0 or higher; two outputs can be operated with max.

500 Hz PWM

- 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 10 A per group

Input current

Current consumption, max. 40 mA; 20 mA per group, no output is activated.

output voltage / header

Rated value (DC) 24 V

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Power

Power available from the backplane bus 0.9 W

Power loss

Power loss, typ. 5.6 W; 6.8 W for PWM operation

Digital outputs

Type of digital output Transistor

Number of digital outputs 8

Current-sourcing Yes

Digital outputs, parameterizable Yes

Short-circuit protection Yes

- Response threshold, typ. 3 A

Limitation of inductive shutdown voltage to -17 V

Controlling a digital input Yes

Digital output functions, parameterizable

- Freely usable digital output Yes
- PWM output Yes; FS02 and FW V2.1.0 or higher

— Number, max. 2

— Cycle duration, parameterizable Yes; 2 ... 100 ms continuous

— ON period, min. 0 %

— ON period, max. 100 %

— Resolution of the duty cycle 0.1 %

— Minimum pulse duration 300 μ s

Switching capacity of the outputs www.AutoDCSTech.com

- on lamp load, max. 10 W

Load resistance range

- lower limit 12 Ω
- upper limit 4 k Ω

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. 2.4 A; note derating specification for PWM operation
- for signal "0" residual current, max. 0.5 mA

Output delay with resistive load

- "0" to "1", typ. 80 μ s
- "0" to "1", max. 100 μ s
- "1" to "0", typ. 300 μ s
- "1" to "0", max. 500 μ s

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 PWM operation: 500 Hz
- with inductive load, max. 0.5 Hz; According to IEC 60947-5-1, DC-13; max. 500 Hz with PWM operation only with external circuit; see additional description in the manual
- on lamp load, max. 10 Hz

Total current of the outputs

- Current per channel, max. 2 A; see additional description in the manual

- Current per group, max. 8 A; see additional description in the manual
- Current per module, max. 16 A; see additional description in the manual

Cable length

- shielded, max. 1 000 m
- unshielded, max. 600 m

Interrupts/diagnostics/status information

Diagnostics function Yes

Substitute values connectable Yes

Alarms

- Diagnostic alarm Yes
- Maintenance interrupt Yes

Diagnoses

- Monitoring the supply voltage Yes
- Wire-break No
- 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 4
- between the channels and backplane bus Yes

Isolation

Isolation tested with 707 V DC (type test)

Standards, approvals, certificates

Suitable for safety functions No

Suitable for safety-related tripping of standard modules Yes; From FS03

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

Ambient conditions

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

Dimensions

Width 35 mm

Height 147 mm

Depth 129 mm

Weights

Weight, approx. 240 g

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