SIEMENS

Data sheet

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

Figure similar

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
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 coursing	Voo
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 µs
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	
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 µs
• "0" to "1", max.	100 μs
• "1" to "0", typ.	300 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 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
• Will inductive load, max.	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	100
	Voc
Diagnostic alarm Maintenance interrupt	Yes
Maintenance interrupt	Yes
Diagnoses	
Monitoring the supply voltage	Yes
Monitoring the supply voltageWire-break	No
Monitoring the supply voltage	No Yes
Monitoring the supply voltageWire-breakShort-circuitGroup error	No
Monitoring the supply voltageWire-breakShort-circuit	No Yes Yes
 Monitoring the supply voltage Wire-break Short-circuit Group error	No Yes

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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last modified: