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 SIL2 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

Product type designation HW functional status FS03 Firmware version FWU update possible FR03 Froduct function FR03 Froduct function IRM data FS03 Froduct function FR04 FR05 Froduct function FR06 FR07 FR07 FR07 FR07 FR07 FR07 FR07 FR07	General information		
Firmware version Fiv update possible Product function Ref M data Section on smode Prioritized startup Fingineering with STEP 7 TIA Portal configurable/integrated from version FROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision DQ DQ DQ with energy-saving function PWM Cam control (switching at comparison values) Oversampling MSO Integrated operating cycle counter Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Rated value (DC) Reverse polarity protection Current consumption, max. 40 mA; 20 mA per group, no output is activated. Power available from the backplane bus 0.9 W Power available from the backplane bus 0.9 W Power loss	Product type designation	DQ 8x24VDC/2A HF	
FW update possible Product function I&M data Secorronous mode Prioritized startup Yes Engineering with STEP 7 TIA Portal configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFIBUS from GSD version/GSD revision PROFINET from	HW functional status	FS03	
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Engineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision V2.3 /- Operating mode PQ PWM Pes PROFINET from GSD version/GSD revision PROFINET from GSD version/GSD revision V2.3 /- V2.3 /- Ves Pes Pes Pes Pes Power loss PAGE V4 V Power Power loss V5.5 SP3 /- V5.5 SP3 /- V5.6 SP3	 Isochronous mode 	No	
STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision V1.0 / V5.1 V2.3 /- Operating mode DQ Yes DQ with energy-saving function Yes; with an application Yes With an a	Prioritized startup	Yes	
version STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision V1.0 / V5.1 PROFINET from GSD version/GSD revision V2.3 /- Operating mode DQ Perming mode DQ Perming mode PWM Power Ioss PWM PROFINET from GSD version/GSD revision V2.3 /- Ves; with an application Yes; with an application Yes Was Pas Pas Pas Pas Pas Pas Pas Pas Pas P	Engineering with		
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Operating mode • DQ • DQ with energy-saving function • PWM • Cam control (switching at comparison values) • Oversampling • MSO • Integrated operating cycle counter Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Input current Current consumption, max. Current consumption, max. output voltage / header Rated value (DC) Power Power loss	 PROFIBUS from GSD version/GSD revision 	V1.0 / V5.1	
DQ DQ with energy-saving function PWM PWM Cam control (switching at comparison values) Oversampling No MSO Integrated operating cycle counter Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Reverse polarity protection Current consumption, max. 40 mA; 20 mA per group, no output is activated. output voltage / header Rated value (DC) 24 V Power Power loss	PROFINET from GSD version/GSD revision	V2.3 / -	
DQ with energy-saving function PWM Cam control (switching at comparison values) Oversampling MSO Integrated operating cycle counter Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Permits consumption, max. 40 mA; 20 mA per group, no output is activated. Power Power loss Power loss No	Operating mode		
PWM Cam control (switching at comparison values) Oversampling MSO Integrated operating cycle counter Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes; through internal protection with 10 A per group Input current Current consumption, max. Output voltage / header Rated value (DC) Power Power loss Yes 40 mA; 20 mA per group, no output is activated.	• DQ	Yes	
Cam control (switching at comparison values) Oversampling MSO MSO Integrated operating cycle counter Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Per	 DQ with energy-saving function 	Yes; with an application	
Oversampling MO MSO Integrated operating cycle counter Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Input current Current consumption, max. Output voltage / header Rated value (DC) Rated value (DC) 24 V Power Power available from the backplane bus No Yes Yes 24 V Yes Yes 40 mA; 20 mA per group, no output is activated. 0.9 W Power loss	• PWM	Yes	
MSO Integrated operating cycle counter Yes Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) 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) Power Power available from the backplane bus 0.9 W Power loss	 Cam control (switching at comparison values) 	No	
● Integrated operating cycle counter 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	 Oversampling 	No	
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Input current Current consumption, max. Current consumption, max. Output voltage / header Rated value (DC) Power Power available from the backplane bus Output voltage Power loss	• MSO	Yes	
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Input current Current consumption, max. Output voltage / header Rated value (DC) Power Power available from the backplane bus 24 V 24 V Power loss	Integrated operating cycle counter	Yes	
permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Input current Current consumption, max. Output voltage / header Rated value (DC) Power Power available from the backplane bus 19.2 V 28.8 V Yes; through internal protection with 10 A per group 40 mA; 20 mA per group, no output is activated. 24 V Power Power loss	Supply voltage		
permissible range, upper limit (DC) 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) Power Power available from the backplane bus 0.9 W Power loss	Rated value (DC)	24 V	
Reverse polarity protection Input current Current consumption, max. Output voltage / header Rated value (DC) Power Power available from the backplane bus Yes; through internal protection with 10 A per group 40 mA; 20 mA per group, no output is activated. 24 V Power 0.9 W	permissible range, lower limit (DC)	19.2 V	
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	permissible range, upper limit (DC)	28.8 V	
Current consumption, max. output voltage / header Rated value (DC) Power Power available from the backplane bus 0.9 W Power loss	Reverse polarity protection	Yes; through internal protection with 10 A per group	
output voltage / header Rated value (DC) Power Power available from the backplane bus 0.9 W Power loss	Input current		
Rated value (DC) Power Power available from the backplane bus 0.9 W Power loss	Current consumption, max.	40 mA; 20 mA per group, no output is activated.	
Power available from the backplane bus 0.9 W Power loss	output voltage / header		
Power available from the backplane bus O.9 W Power loss	Rated value (DC)	24 V	
Power loss	Power		
	Power available from the backplane bus	0.9 W	
	Power loss		
		5.6 W; 6.8 W for PWM operation	
Digital outputs		·	
Type of digital output Transistor		Transistor	

Number of digital auto-t-	0
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 μs
Switching capacity of the outputs	
on lamp load, max.	10 W
Load resistance range	40.0
• 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 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
- Diagnostic diaim	Yes
Maintenance interrupt	1301
Maintenance interrupt Diagnoses	
Diagnoses	
Diagnoses • Monitoring the supply voltage	Yes
Diagnoses ■ Monitoring the supply voltage ■ Wire-break	Yes No
Diagnoses • Monitoring the supply voltage	Yes

D:		
Diagnostics indication LED	V 150	
• 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	
 SILCL according to IEC 62061 	SILCL 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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