SIEMENS

Data sheet

6ES7522-1BL01-0AB0

SIMATIC S7-1500, DIGITAL OUTPUT MODULE DQ 32 X 24V DC/0.5A HF; 32 CHANNELS IN GROUPS OF 8, 4 A PER GROUP; SINGLE-CHANNEL DIAGNOSIS; SUBSTITUTE VALUE



General information		
Product type designation	DQ 32x24VDC/0.5A HF	
HW functional status	FS01	
Firmware version	V1.0.0	
Product function		
● I&M data	Yes; I&M0 to I&M3	
Engineering with		
 STEP 7 TIA Portal configurable/integrated as of version 	V13 SP1 / -	
 PROFIBUS as of GSD version/GSD revision 	V1.0 / V5.1	
 PROFINET as of GSD version/GSD revision 	V2.3 / -	
Operating mode		
• DQ	Yes	
 DQ with energy-saving function 	No	
• PWM	No	
Oversampling	No	
• MSO	Yes	
Supply voltage		

Current consumption, max. 60 mA Output voltage 24 V Rated value (DC) 24 V Power 1.1 W	Rated value (DC)	24 V		
Reverse polarity protection Yes: through internal protection with 7 A per group Apple current 60 mA Current consumption, max. 60 mA Output voltage 24 V Rated value (DC) 24 V Power 1.1 W Power loss. 5.0 W Power loss. 5.0 W Power loss. typ. 3.5 W Power loss. typ. 3.5 W Power loss. 9.0 W Type of digital output Transistor Number of digital outputs 32 Current-sourcing Yes: Olocked electronically • Response threshold, typ. 1 A Limitation of inductive shutdown voltage to L+ (-63 V) Controlling a digital input Yes • with resistive load, max. 0.5 A • on lamp load, max. 0.5 A • on lamp load, max. 0.5 A • or signal "1", min. 48 Ω • or signal "1", min. 0.5 A • or signal "1", min. 0.5 A • or signal "1" rated value 0.5 A • or signal "1" rated value	permissible range, lower limit (DC)	20.4 V		
Action Bit Mathematical Stress Current consumption, max. 60 mA Output voltage Rated value (bC) 24 V Power available from the backplane bus 1.1 W Power loss 1.1 W Power loss 90 ref loss (b) Power loss, typ. 3.5 W Olgital outputs 32 Current-sourcing Yes Short-circuit protection Yes, Clocked electronically • Response threshold, typ. 1.4 Limitation of inductive shutdown voltage to 1 + (-53 V) Controlling a digital input Yes Switching capacity of the outputs .05 A • on lamp load, max. 0.5 A • on lamp load, max. 0.5 A • or signal "1", min. L + (-0.8 V) Output voltage	permissible range, upper limit (DC)			
Current consumption, max. 60 mA Output voltage Rated value (DC) 24 V Power 24 V Power available from the backplane bus 1.1 W Power loss 1.1 W Power loss 50 W Power loss 1.1 W Power loss 1.1 W Power loss, typ. 3.5 W Digital outputs Transistor Number of digital outputs 32 Current-sourcing Yes Short-circuit protection Yes (Ockede electronically • Response threshold, typ. 1.4 Limitation of inductive shutdown voltage to L+ (-53 V) Controlling a digital input Yes Switching capacity of the outputs . • In tamp load, max. 0.5 A • on lamp load, max. 5 W Load resistance range . • lower limit 42 k2 • lower limit 5 M Output voltage . • or signal "1", min. L+ (-0.8 V) Output current .	Reverse polarity protection	Yes; through internal protection with 7 A per group		
Acted value (DC) 24 V Rated value (DC) 24 V Power 1.1 W Power loss 1.1 W Power loss 3.5 W Power loss, typ. 3.5 W Digital outputs 7000000000000000000000000000000000000	Input current			
Rated value (DC) 24 V Power Power valiable from the backplane bus 1.1 W Power loss 1.1 W Power loss S5 W Digital outputs 3.5 W Digital outputs 32 Current-sourcing 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 Switching capacity of the outputs 5 W Load resistance range	Current consumption, max.	60 mA		
Rated value (DC) 24 V Power Power valiable from the backplane bus 1.1 W Power loss 1.1 W Power loss S5 W Digital outputs 3.5 W Digital outputs 32 Current-sourcing 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 Switching capacity of the outputs 5 W Load resistance range				
Power state Power available from the backplane bus 1.1 W Power loss . Power loss, typ. 3.5 W Digital outputs 32 Type of digital outputs 32 Current-sourcing Yes. Short-circuit protection Yes. Response threshold, typ. 1 A Limitation of inductive shuddown voltage to L+ (-53 V) Controlling a digital input Yes Switching capacity of the outputs . • with resistive load, max. 0.5 A • on lamp load, max. 5 W Load resistance range . • for signal "1", min. L+ (-0.8 V) Output current . • for signal "1", min. 0.5 A • for signal "1" premissible range, max. 0.5 A • for signal "1" premissible range, max. 0.5 M • for signal "1" premissible range, max. 0.5 A • for signal "1" premissible range, max. 0.5 M • for signal "1" premissible range, max. 0.5 mA Output delay with resistive load .		24 V		
Power valiable from the backplane bus 1.1 W Power loss 3.5 W Power loss, typ. 3.5 W Digital outputs Transistor Type of digital outputs 32 Current-sourcing Yes Short-circuit protection Yes; Clocked electronically Response threshold, typ. 1.4 Limitation of inductive shutdown voltage to L+ (-53 V) Controlling a digital input Yes 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 voltage . • for signal "1" permissible range, max. 0.5 A • for signal "1" permissible range, max. 0.5 M Output delay with resistive load . • for signal "1" permissible range, max. 0.5 mA Output delay with resistive load . • for signal "1" permissible range, max. 0.5 mA				
Power loss Power loss, typ. 3.5 W Digital outputs Transistor Number of digital outputs 32 Current-sourcing 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 Switching capacity of the outputs 5 W • on lamp load, max. 0.5 A • on lamp load, max. 5 W Load resistance range • lower limit 48 Ω • upper limit 0.5 A Output voltage • for signal "1", min. L+ (-0.8 V) Output voltage • for signal "1", min. 0.5 A • for signal "1" rated value 0.5 A • for signal "1" rated value 0.5 A • for signal "1" residual current, max. 0.5 M Output delay with resistive load .5 M Output delay with resistive load .5 M • for signal "1" renx. .5 00	Power			
Power loss, typ. 3.5 W Digital outputs Transistor Type of digital outputs 32 Current-sourcing Yes Short-circuit protection Yes Short-circuit protection Yes Controlling a digital input Yes Controlling a digital input Yes Switching capacity of the outputs L+ (-53 V) Controlling a digital input Yes Switching capacity of the outputs 0.5 A • with resistive load, max. 5 W Load resistance range 0.5 A • lower limit 48 Ω • oupper limit 12 kΩ Output outgae . • for signal "1", min. L+ (-6.8 V) Output current . • for signal "1", min. L+ (-6.8 V) Output dage . • for signal "1", min. L+ (-0.8 V) Output dage . • for signal "1", min. L+ (-0.8 V) Output dage . • for signal "1", max. 0.5 A • for signal "1", max. 0.5 A • for signal "1", max. 0.5 M Output dage with resistive load . • for signal "1", max. 500 μs Parallel switching of two outputs <td>Power available from the backplane bus</td> <td>1.1 W</td>	Power available from the backplane bus	1.1 W		
Digital outputs Type of digital output Transistor Number of digital outputs 32 Current-sourcing 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 Switching capacity of the outputs Ves • 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 "1" permissible range, max. 0.5 A • for signal "0" residual current, max. 0.5 A • for signal "0" residual current, max. 0.5 A • for signal "0" residual current, max. 50 mA Output delay with resistive load - </td <td>Power loss</td> <td></td>	Power loss			
Type of digital output Transistor Number of digital outputs 32 Current-sourcing 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 Switching capacity of the outputs Ves • with resistive load, max. 0.5 A • on lamp load, max. 5 W Load resistance range Ves • lower limit 48 Ω • upper limit 12 kΩ Output voltage 0.5 A • for signal "1", min. L + (-0.8 V) Output current 0.5 A • for signal "1", min. 0.5 A • for signal "1", max. 0.5 mA • for signal "1", max. 0.5 mA • for signal "1", max. 0.5 mA • for signal "0" residual current, max. 0.5 mA • for signal "0" residual current, max. 0.5 mA • for logic links Yes • for logic links Yes • for logic links No • for logic links Yes	Power loss, typ.	3.5 W		
Type of digital output Transistor Number of digital outputs 32 Current-sourcing 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 Switching capacity of the outputs Ves • with resistive load, max. 0.5 A • on lamp load, max. 5 W Load resistance range Ves • lower limit 48 Ω • upper limit 12 kΩ Output voltage 0.5 A • for signal "1", min. L + (-0.8 V) Output current 0.5 A • for signal "1", min. 0.5 A • for signal "1", max. 0.5 mA • for signal "1", max. 0.5 mA • for signal "1", max. 0.5 mA • for signal "0" residual current, max. 0.5 mA • for signal "0" residual current, max. 0.5 mA • for logic links Yes • for logic links Yes • for logic links No • for logic links Yes				
Number of digital outputs32Current-sourcingYesShort-circuit protectionYes; Clocked electronically• Response threshold, typ.1 ALimitation of inductive shutdown voltage toL+ (-53 V)Controlling a digital inputYesSwitching capacity of the outputs-• with resistive load, max.0.5 A• on lamp load, max.0.5 A• lower limit48 Ω• upper limit12 kΩOutput voltage-• for signal "1", min.L+ (-0.8 V)Output voltage-• for signal "1" permissible range, max.0.5 A• for signal "1" permissible range, max.0.5 M• for signal "1" permissible range, max.0.5 M• for signal "1" permissible range, max.0.5 M• for signal "1" rated value0.5 M• for signal "1" permissible range, max.0.5 M• for logic linksYes <t< td=""><td></td><td>Transistor</td></t<>		Transistor		
Current-sourcingYesShort-circuit protectionYes, Clocked electronically• Response threshold, typ.1 ALimitation of inductive shutdown voltage toL+ (-53 V)Controlling a digital inputYesSwitching capacity of the outputs				
Short-circuit potetion Yes; Clocked electronically • Response threshold, typ. 1 A Limitation of inductive shutdown voltage to L+ (-53 V) Controlling a digital input Yes Switching capacity of the outputs Yes • with resistive load, max. 0.5 A • on lamp load, max. 5 W Load resistance range 12 kΩ • lower limit 48 Ω • upper limit 12 kΩ Output voltage • for signal "1", min. L+ (-0.8 V) Output current 0.5 A • for signal "1" rated value 0.5 A • for signal "1" rated value 0.5 A • for signal "1" repersibile range, max. 0.5 A • for signal "1" repersibile range, max. 0.5 mA Output delay with resistive load • "0" to "1", max. 100 µs • "0" to "1", max. 500 µs Parallel switching of two outputs • for logic links Yes • for logic links Yes • for uprating No • for wou				
• Response threshold, typ.1 ALimitation of inductive shutdown voltage toL+ (-53 V)Controlling a digital inputYesSwitching capacity of the outputs0.5 A• on lamp load, max.0.5 A• on lamp load, max.5 WLoad resistance range12 kQ• lower limit48 Ω• upper limit12 kQOutput voltageL+ (-0.8 V)Output current0.5 A• for signal "1" rated value0.5 A• for signal "1" remissible range, max.0.5 M• for signal "1" max.500 μs• for or "1", max.500 μs• for logic linksYes• for logic linksYes• for edundant control of a loadYes				
Limitation of inductive shutdown voltage toL+ (-53 V)Controlling a digital inputYesSwitching capacity of the outputs0.5 A• with resistive load, max.5 WLoad resistance range5 W• lower limit48 Ω• upper limit12 kΩOutput voltageL+ (-0.8 V)• or signal "1", min.L+ (-0.8 V)Output current0.5 A• for signal "1" permissible range, max.0.5 MOutput delay with resistive load0.5 mAOutput delay with resistive load100 μs• "0" to "1", max.500 μsParallel switching of two outputsYes• for logic linksYes• for logic linksYes• for edundant control of a loadYes				
Controlling a digital inputYesSwitching capacity of the outputs0.5 A• with resistive load, max.0.5 A• on lamp load, max.5 WLoad resistance range48 Ω• lower limit12 kΩ• lower limit12 kΩOutput voltage• for signal "1", min.L + (-0.8 V)Output current0.5 A• for signal "1" rated value0.5 A• for signal "1" permissible range, max.0.5 A• for signal "0" residual current, max.0.5 A• for signal "0" residual current, max.0.5 mAOutput delay with resistive load500 μsParallel switching of two outputs500 μsParallel switching of two outputsYes• for logic linksYes• for logic linksYes• for redundant control of a loadYes		L+ (-53 V)		
• with resistive load, max.0.5 A• on lamp load, max.5 WLoad resistance range• lower limit48 Ω• upper limit12 kΩOutput voltage• for signal "1", min.L+ (-0.8 V)Output current• for signal "1" rated value0.5 A• for signal "1" rated value0.5 A• for signal "1" permissible range, max.0.5 A• for signal "0" residual current, max.0.5 mAOutput delay with resistive load500 μs• "0" to "1", max.500 μs• for logic links500 μs• for logic linksYes• for logic linksYes• for redundant control of a loadYes	Controlling a digital input			
Instruction of each matrix• on lamp load, max.5 WLoad resistance range• lower limit48 Ω• upper limit12 kΩOutput voltage• for signal "1", min.L+ (-0.8 V)Output current• for signal "1" rated value0.5 A• for signal "1" permissible range, max.0.5 A• for signal "0" residual current, max.0.5 mAOutput delay with resistive load• "0" to "1", max.100 μs• "1" to "0", max.500 μsParallel switching of two outputs• for logic linksYes• for redundant control of a loadYes	Switching capacity of the outputs			
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 mA • 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 Yes • for logic links Yes • for redundant control of a load Yes	• with resistive load, max.	0.5 A		
• lower limit48 Ω• upper limit12 kΩOutput voltage• for signal "1", min.L+ (-0.8 V)Output current0.5 A• for signal "1" permissible range, max.0.5 A• for signal "0" residual current, max.0.5 M• for signal "0" residual current, max.0.5 mAOutput delay with resistive load100 μs• "1" to "0", max.500 μs• Parallel switching of two outputsYes• for logic linksYes• for upratingNo• for redundant control of a loadYes	 on lamp load, max. 	5 W		
• upper limit12 kΩ• upper limit12 kΩOutput voltagek + (-0.8 V)• for signal "1" nin.k + (-0.8 V)Output current0.5 A• for signal "1" permissible range, max.0.5 A• for signal "0" residual current, max.0.5 mAOutput delay with resistive load0.5 mA• "0" to "1", max.100 µs• "1" to "0", max.500 µsParallel switching of two outputsYes• for logic linksYes• for upratingNo• for upratingYes	Load resistance range			
Output voltage• for signal "1", min.L+ (-0.8 V)Output current0.5 A• for signal "1" rated value0.5 A• for signal "1" permissible range, max.0.5 A• for signal "0" residual current, max.0.5 mAOutput delay with resistive load100 µs• "0" to "1", max.500 µs• "1" to "0", max.500 µsParallel switching of two outputsYes• for logic linksYes• for upratingNo• for redundant control of a loadYes	lower limit	48 Ω		
• for signal "1", min.L+ (-0.8 V)Output current0.5 A• for signal "1" rated value0.5 A• for signal "1" permissible range, max.0.5 A• for signal "0" residual current, max.0.5 mAOutput delay with resistive load100 μs• "0" to "1", max.500 μs• "1" to "0", max.500 μsParallel switching of two outputsYes• for logic linksNo• for upratingNo• for redundant control of a loadYes	• upper limit	12 kΩ		
Output current• for signal "1" rated value0.5 A• for signal "1" permissible range, max.0.5 A• for signal "0" residual current, max.0.5 mAOutput delay with resistive load0.5 mA• "0" to "1", max.100 µs• "0" to "1", max.500 µsParallel switching of two outputsYes• for logic linksNo• for upratingNo• for redundant control of a loadYes	Output voltage			
• for signal "1" rated value0.5 A• for signal "1" permissible range, max.0.5 A• for signal "0" residual current, max.0.5 mAOutput delay with resistive load100 μs• "0" to "1", max.100 μs• "1" to "0", max.500 μsParallel switching of two outputsYes• for logic linksNo• for upratingNo• for redundant control of a loadYes	● for signal "1", min.	L+ (-0.8 V)		
oo• for signal "1" permissible range, max.0.5 A• for signal "0" residual current, max.0.5 mAOutput delay with resistive load100 μs• "0" to "1", max.100 μs• 1" to "0", max.500 μsParallel switching of two outputsYes• for logic linksNo• for upratingNo• for redundant control of a loadYes	Output current			
• for signal "0" residual current, max.0.5 mAOutput delay with resistive load100 μs• "0" to "1", max.100 μs• "1" to "0", max.500 μsParallel switching of two outputsYes• for logic linksYes• for upratingNo• for redundant control of a loadYes	 for signal "1" rated value 	0.5 A		
Output delay with resistive load • "0" to "1", max. • "0" to "0", max. 500 µs Parallel switching of two outputs • for logic links Yes • for uprating No • for redundant control of a load Yes	 for signal "1" permissible range, max. 	0.5 A		
• "0" to "1", max.100 μs• "1" to "0", max.500 μsParallel switching of two outputsYes• for logic linksNo• for upratingYes• for redundant control of a loadYes	 for signal "0" residual current, max. 	0.5 mA		
• "1" to "0", max.500 μsParallel switching of two outputsYes• for logic linksNo• for upratingNo• for redundant control of a loadYes	Output delay with resistive load			
Parallel switching of two outputs • for logic links Yes • for uprating No • for redundant control of a load Yes	• "0" to "1", max.	100 µs		
• for logic linksYes• for upratingNo• for redundant control of a loadYes	• "1" to "0", max.	500 µs		
for uprating for redundant control of a load Yes	Parallel switching of two outputs			
• for redundant control of a load Yes	• for logic links	Yes		
	• for uprating	No		
Switching frequency	 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.	16 A; see additional description in the manual		
Cable length			
• shielded, max.	1 000 m		
• unshielded, max.	600 m		
Isochronous mode			
Isochronous operation (application synchronized up to terminal)	Yes		
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		
Diagnostic messages			
 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		
 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)		
Decentralized operation			

Prioritized startup	Yes	
Dimensions		
Width	35 mm	
Height	147 mm	
Depth	129 mm	
Weights		
Weight	280 g	

last modified:

11/21/2017