

Overview

- 8, 16 and 32-channel digital output modules
- For flexible adaptation of the controller to the corresponding task
- For subsequent expansion of the system with additional outputs
- 35 mm wide modules with parameters and diagnostic functions
- 25 mm wide modules for use in tight spaces: particularly economical, without parameters or diagnostic functions

Technical specifications

Article number	6ES7522-1BH01-0AB0 S7-1500, DQ 16x24V DC/ 0.5A HF	6ES7522-1BL01-0AB0 S7-1500, DQ 32x24VDC/ 0.5A HF	6ES7522-1BF00-0AB0 S7-1500, DQ 8x24VDC/2A HF	6ES7522-5EH00-0AB0 S7-1500, DQ 16x24...48VUC/125VDC/ 0.5A ST
General information				
Product type designation	DQ 16x24VDC/0.5A HF	DQ 32x24VDC/0.5A HF	DQ 8x24VDC/2A HF	DQ 16x24 ... 48VUC/ 125VDC/0.5A ST
Product function				
• I&M data	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3
Engineering with				
• STEP 7 TIA Portal configurable/ integrated as of version	V13 SP1 / -	V13 SP1 / -	V13 SP1 / -	V13 SP1 / -
• STEP 7 configurable/integrated as of version			V5.5 SP3 / -	V5.5 SP3 / -
• PROFIBUS as of GSD version/ GSD revision	V1.0 / V5.1	V1.0 / V5.1	V1.0 / V5.1	V1.0 / V5.1
• PROFINET as of GSD version/ GSD revision	V2.3 / -	V2.3 / -	V2.3 / -	V2.3 / -
Operating mode				
• DQ	Yes	Yes	Yes	Yes
• DQ with energy-saving function	No	No	Yes; with an application	No
• PWM	No	No	Yes	No
• Oversampling	No	No	No	No
• MSO	Yes	Yes	Yes	Yes
Supply voltage				
Type of supply voltage	DC	DC	DC	
Rated value (DC)	24 V	24 V	24 V	
Reverse polarity protection	Yes; through internal protection with 7 A per group	Yes; through internal protection with 7 A per group	Yes; through internal protection with 10 A per group	
Digital outputs				
Type of digital output	Transistor	Transistor	Transistor	Transistor
Number of digital outputs	16	32	8	16
Current-sinking				Yes
Current-sourcing	Yes	Yes	Yes	Yes
Digital outputs, parameterizable	Yes	Yes	Yes	Yes
Short-circuit protection	Yes; Clocked electronically	Yes; Clocked electronically	Yes	
Limitation of inductive shutdown voltage to	L+ (-53 V)	L+ (-53 V)	-17 V	200 V (suppressor diode)
Controlling a digital input	Yes	Yes	Yes	Yes
Digital output functions, parameterizable				
• Freely usable digital output			Yes	
• PWM output			Yes	
- Number, max.			2	
- Cycle duration, parameterizable			Yes; 2 ... 100 ms continuous	

SIMATIC S7-1500 Advanced Controllers

I/O modules

Digital modules

SM 522 digital output modules

Technical specifications (continued)

Article number	6ES7522-5HF00-0AB0 S7-1500, DQ 8X230VAC/5A ST (RELAY)	6ES7522-5HH00-0AB0 S7-1500, DQ 16X230VAC/2A ST (RELAY)	6ES7522-5FF00-0AB0 S7-1500, DQ 8X230VAC/2A ST (TRIAC)	6ES7522-5FH00-0AB0 S7-1500, DQ 16X230VAC/1A ST (TRIAC)
Decentralized operation				
Prioritized startup	Yes	Yes	Yes	Yes
Dimensions				
Width	35 mm	35 mm	35 mm	35 mm
Height	147 mm	147 mm	147 mm	147 mm
Depth	129 mm	129 mm	129 mm	129 mm
Weights				
Weight, approx.	350 g	350 g	290 g	310 g

Article number	6ES7522-1BH10-0AA0 S7-1500, DQ 16X24VDC/0.5A BA	6ES7522-1BL10-0AA0 S7-1500, DQ 32X24VDC/0.5A BA
General information		
Product type designation	DQ 16x24VDC/0.5A BA	DQ 32x24VDC/0.5A BA
Product function		
• I&M data	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3
Engineering with		
• STEP 7 TIA Portal configurable/ integrated as of version	V13 / V13	V13 / V13
• STEP 7 configurable/integrated as of version	V5.5 SP3 / -	V5.5 SP3 / -
• PROFIBUS as of GSD version/ GSD revision	V1.0 / V5.1	V1.0 / V5.1
• PROFINET as of GSD version/ GSD revision	V2.3 / -	V2.3 / -
Operating mode		
• DQ	Yes	Yes
• DQ with energy-saving function	No	No
• PWM	No	No
• Oversampling	No	No
• MSO	Yes	Yes
Supply voltage		
Type of supply voltage	DC	DC
Rated value (DC)	24 V	24 V
Reverse polarity protection	Yes; through internal protection with 7 A per group	Yes; through internal protection with 7 A per group
Digital outputs		
Type of digital output	Transistor	Transistor
Number of digital outputs	16	32
Current-sourcing	Yes	Yes
Digital outputs, parameterizable	No	No
Short-circuit protection	Yes	Yes
Limitation of inductive shutdown voltage to	L+ (-53 V)	L+ (-53 V)
Controlling a digital input	Yes	Yes
Switching capacity of the outputs		
• with resistive load, max.	0.5 A	0.5 A
• on lamp load, max.	5 W	5 W
Load resistance range		
• lower limit	48 Ω	48 Ω
• upper limit	12 kΩ	12 kΩ
Output voltage		
• Type of output voltage	DC	DC
• for signal "1", min.	L+ (-0.8 V)	L+ (-0.8 V)

Technical specifications (continued)

Article number	6ES7522-1BH10-0AA0 S7-1500, DQ 16X24VDC/0.5A BA	6ES7522-1BL10-0AA0 S7-1500, DQ 32X24VDC/0.5A BA
Output current		
• for signal "1" rated value	0.5 A	0.5 A
• for signal "0" residual current, max.	0.5 mA	0.5 mA
Output delay with resistive load		
• "0" to "1", max.	100 µs	100 µs
• "1" to "0", max.	500 µs	500 µs
Parallel switching of two outputs		
• for logic links	Yes	Yes
• for uprating	No	No
• for redundant control of a load	Yes	Yes
Switching frequency		
• with resistive load, max.	100 Hz	100 Hz
• with inductive load, max.	0.5 Hz; According to IEC 60947-5-1, DC-13	0.5 Hz; According to IEC 60947-5-1, DC-13
• on lamp load, max.	10 Hz	10 Hz
Total current of the outputs		
• Current per channel, max.	0.5 A; see additional description in the manual	0.5 A; see additional description in the manual
• Current per group, max.	4 A; see additional description in the manual	4 A; see additional description in the manual
• Current per module, max.	8 A; see additional description in the manual	16 A; see additional description in the manual
Cable length		
• shielded, max.	1 000 m	1 000 m
• unshielded, max.	600 m	600 m
Isochronous mode		
Isochronous operation (application synchronized up to terminal)	No	No
Interrupts/diagnostics/ status information		
Diagnostics function	No	No
Substitute values connectable	No	No
Alarms		
• Diagnostic alarm	No	No
Diagnostic messages		
• Monitoring the supply voltage	No	No
• Wire-break	No	No
• Short-circuit	No	No
• Group error	No	No
Diagnostics indication LED		
• RUN LED	Yes; Green LED	Yes; Green LED
• ERROR LED	Yes; Red LED	Yes; Red LED
• Monitoring of the supply voltage (PWR-LED)	Yes; Green LED	Yes; Green LED
• Channel status display	Yes; Green LED	Yes; Green LED
• for channel diagnostics	No	No
• for module diagnostics	No	No
Potential separation		
Potential separation channels		
• between the channels and backplane bus	Yes	Yes
Isolation		
Isolation tested with	707 V DC (type test)	707 V DC (type test)
Standards, approvals, certificates		
Suitable for safety functions	No	No
Decentralized operation		
Prioritized startup	Yes	Yes

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I/O modules

Digital modules

SM 522 digital output modules

Technical specifications (continued)

Article number	6ES7522-1BH10-0AA0 S7-1500, DQ 16X24VDC/0.5A BA	6ES7522-1BL10-0AA0 S7-1500, DQ 32X24VDC/0.5A BA
Dimensions		
Width	25 mm	25 mm
Height	147 mm	147 mm
Depth	129 mm	129 mm
Weights		
Weight, approx.	230 g	280 g
Other		
Note:	Supplied incl. 40-pole push-in front connectors	Supplied incl. 40-pole push-in front connectors

Ordering data

SM 522 digital output modules

Module width 35 mm

8 outputs, 24 V DC;
2 A, isolated**6ES7522-1BF00-0AB0**16 outputs, 24 V DC;
0.5 A, isolated**6ES7522-1BH01-0AB0**32 outputs, 24 V DC;
0.5 A, isolated**6ES7522-1BL01-0AB0**

8 relay outputs, 230 V AC, 5 A

6ES7522-5HF00-0AB0

16 relay outputs, 230 V AC, 2 A

6ES7522-5HH00-0AB0

8 outputs (triac), 230 V AC, 2 A

6ES7522-5FF00-0AB0

16 outputs (triac), 230 V AC, 1 A

6ES7522-5FH00-0AB016 outputs, 24 ... 48 V UC,
125 V DC, 0.5 A, isolated**6ES7522-5EH00-0AB0**

Module width 25 mm; front connector (push-in) included in delivery package

16 outputs, 24 V DC;
0.5 A, isolated**6ES7522-1BH10-0AA0**32 outputs, 24 V DC;
0.5 A, isolated**6ES7522-1BL10-0AA0**

Accessories

Front connectors

For 35 mm modules;
including four potential bridges,
cable ties and individual labeling
strips, 40-pin

- Screw terminals
- Push-in

6ES7592-1AM00-0XB0**6ES7592-1BM00-0XB0****6ES7592-1BM00-0XA0**For 25 mm modules;
including cable ties and individual
labeling strips; push-in terminal
40-pin;
spare part

Potential bridges for front connectors

6ES7592-3AA00-0AA0For 35 mm modules;
20 pieces; spare part

Article No.

DIN A4 labeling sheets

For 35 mm modules;
10 sheets with 10 labeling strips
each for I/O modules; perforated,
Al gray**6ES7592-2AX00-0AA0**For 25 mm modules;
10 sheets with 20 labeling strips
each for I/O modules; perforated,
Al gray**6ES7592-1AX00-0AA0**

U connector

5 units; spare part

6ES7590-0AA00-0AA0

Universal front door for I/O modules

For 35 mm modules;
5 front doors; with 5 labeling
strips (front) and 5 cabling
diagrams per front door; spare part**6ES7528-0AA00-7AA0**For 25 mm modules;
5 front doors; with 5 labeling
strips (front) and 5 cabling
diagrams per front door; spare part**6ES7528-0AA00-0AA0**

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