## **SIEMENS**

Product data sheet 6ES7522-1BH00-0AB0



SIMATIC S7-1500, DIGITAL OUTPUT MODULE DQ 16 X 24VDC/0.5A; 16 CHANNELS IN GROUPS OF 8, 4 A PER GROUP; DIAGNOSIS; SUBSTITUTE VALUE

General information		
Hardware product version	E01	
Firmware version	V2.0.0	
Product function		
I&M data	Yes ; I&M0 to I&M3	
Engineering with		
STEP 7 TIA Portal configurable/integrated as of version	V12 / V12	
STEP 7 configurable/integrated as of version	V5.5 SP3 / -	
PROFIBUS as of GSD version/GSD revision	V1.0 / V5.1	
PROFINET as of GSD version/GSD revision	V2.3 / -	
Operating mode		
MSO	Yes	
Supply voltage		
Rated value (DC)	24 V	
permissible range, lower limit (DC)	20.4 V	
permissible range, upper limit (DC)	28.8 V	
Reverse polarity protection	Yes ; through internal protection with 7 A per group	
Input current		
Current consumption, max.	30 mA	

Output voltage	
Rated value (DC)	24 V
Power	
Power available from the backplane bus	1.1 W
Power loss	
Power loss, typ.	2 W
Digital outputs	
Number of digital outputs	16
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	
with resistive load, max.	0.5 A
on lamp load, max.	5 W
Load resistance range	<u> </u>
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 "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 2 outputs	
for logic links	Yes
for uprating	No
for redundant control of a load	Yes
Switching frequency	
with resistive load, max.	100 Hz
with inductive load, max.	0.5 Hz ; to IEC 947-5-1, DC-13
on lamp load, max.	10 Hz
Total current of the outputs	
Max. current per channel	0.5 A; see additional description in the manual

Max. current per module 8 A : see additional description in the manual  Cable length, shielded, max. 1000 m  Cable length, shielded, max. 600 m  Isochronous mode  Isochronous mode (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  Substitute value connectable Yes  Alarms  Diagnostic alarm Yes  Diagnostic messages  Diagnostic messages  Diagnostic messages  Diagnostic messages  Wire-break No  Short-circuit Yes  Fuse blown No  Diagnostics indication LED  RUN LED Yes : Green LED  ERROR LED Yes : Green LED  Monitoring the supply voltage (PWR-LED) Yes : Green LED  Channel status display for hannel diagnostics  No  Galvanic isolation  Galvanic isolation channels  between the channels, in groups of 8  between the channels, in groups of 8  between the channels, in groups of 8  between the channels, in groups of 1  between the channels, in groups of 1  between the channels, in groups of 8  between the channels in groups of 8  between the channels, in groups of 8  between the channels difference  between different circuits 75 V DC60 V AC (base isolation)  Isolation tested with 707 V DC (type test)  Dimensions	Max. current per group	4 A; see additional description in the manual
Cable length, shielded, max. 1000 m Cable length unshielded, max. 600 m    Socioranous mode   Socioranous mo	-	8 A; see additional description in the manual
Cable length, shielded, max. 600 m    Cable length unshielded, max. 600 m    Isochronous mode     Isochronous mode	Cable length	
Scochronous mode   Scochronous mode   Scochronous mode   Scochronous mode (application synchronized up to terminat)   Yes		1000 m
isochronous mode (application synchronized up to terminal)  Execution and activation time (TCO), min.  Bus cycle time (TDP), min.  250 µs  Interrupts/diagnostics/status information  Substitute values connectable  Yes  Alarms  Diagnostic alarm  Diagnostic alarm  Diagnostic messages  Diagnostics  Monitoring the supply voltage  Wire-break  No  Short-circuit  Yes  Fuse blown  No  Diagnostics indication LED  RUN LED  RUN LED  Yes; Green LED  FROR LED  Monitoring the supply voltage (PWR-LED)  Yes; Red LED  Channel status display  for channel diagnostics  Yes; Green LED  Galvanic isolation  Galvanic isolation channels  between the channels and the backplane bue  Permissible potential difference  between different circuits  75 V DC/60 V AC (base isolation)  Isolation tested with  70 7V DC (type test)  Prontitized startup  Press  Permissible potential difference  Decembralized operation  Prontitized startup  Prontitized startup  Press  Permissible potential contention  Prontitized startup  Prontitized startup		600 m
Execution and activation time (TCO), min.  Bus cycle time (TDP), min.  250 µs  Interrupts/diagnostics/status information  Substitute values connectable  Yes  Alams  Diagnostic alarm  Diagnostic messages  Diagnostics  Monitoring the supply voltage  Wire-break  No  Short-circuit  Yes  Fuse blown  No  Diagnostics indication LED  RUN LED  EROR LED  Wes, Red LED  Channel status display  for channel diagnostics  No  Calvanic isolation  Galvanic isolation channels  between the channels and the backplane bus  between the channels and the backplane bus  Permissible potential difference  between different circuits  70 µs  70 µs	Isochronous mode	
Interrupts/diagnostics/status information  Substitute values connectable Yes  Alarms  Diagnostic messages  Diagnostics messages  Diagnostics wessages  Mire-break No Short-circuit Yes Fuse blown No  Diagnostics indication LED  RUN LED Yes; Green LED  ERROR LED Yes; Green LED  Monitoring the supply voltage (PWR-LED) Yes; Green LED  Channel status display Yes; Green LED  Channel diagnostics for module diagnostics  Galvanic isolation  Galvanic isolation  Galvanic isolation bus in groups of 8 between the channels between the channels and the backplane bus Yes  Permissible potential difference  between different circuits 75 V DC/60 V AC (base isolation)  Isolation tested with 707 V DC (type test)  Picoritized startup  Yes indication (LED)  80  80  80  80  80  80  80  80  80  8	Isochronous mode (application synchronized up to terminal)	Yes
Interrupts/diagnostics/status information  Substitute values connectable Yes  Alarms  Diagnostic alarm Yes  Diagnostic messages  Diagnostics Yes  Monitoring the supply voltage Yes  Wire-break No Short-diroult Yes Fuse blown No  Diagnostics indication LED  RUN LED Yes; Green LED  ERROR LED Yes; Green LED  Monitoring the supply voltage (PWR-LED) Yes; Green LED  Channel status display Yes; Green LED  Channel status display Yes; Green LED  Galvanic isolation  Galvanic isolation  Galvanic isolation channels  between the channels In groups of 8 between the channels and the backplane bus Yes  Permissible potential difference  between different circuits 75 V DC/60 V AC (base isolation)  Isolation tested with 707 V DC (type test)  Prorittized startup  Prorittized startup  Yes	Execution and activation time (TCO), min.	70 μs
Substitute values connectable  Alarms  Diagnostic alarm  Pes  Diagnostics  Diagnostics  Ves  Monitoring the supply voltage  Wire-break  No  Short-circuit  Fuse blown  No  Diagnostics indication LED  RUN LED  FUSE  FUSE  Monitoring the supply voltage  Yes; Green LED  FUSE  FUSE  Monitoring the supply voltage  Yes; Green LED  FUN LED  Yes; Green LED  Channel status display  Yes; Green LED  Channel status display  For channel diagnostics  For module diagnostics  Galvanic isolation  Galvanic isolation  Galvanic isolation channels  between the channels, in groups of  between the channels and the backplane bus  Permissible potential difference  between different circuits  To VDC (type test)  Decentralized operation  Prioritized startup  Yes	Bus cycle time (TDP), min.	250 μs
Diagnostic alarm  Plagnostic messages  Diagnostics  Monitoring the supply voltage  Wire-break  No Short-circuit  Yes  Fuse blown  No  Diagnostics indication LED  RUN LED  ERROR LED  Yes; Green LED  ERROR LED  Monitoring the supply voltage (PWR-LED)  Channel status display  for channel diagnostics  for module diagnostics  Galvanic isolation  Galvanic isolation channels  between the channels in groups of 8 between the channels and the backplane bus  Permissible potential difference  between different circuits  75 V DC/60 V AC (base isolation)  Isolation  Isolation  Isolation  Isolation  Isolation  Prioritized starup  Yes	Interrupts/diagnostics/status information	
Diagnostic messages  Diagnostics Yes  Monitoring the supply voltage Yes  Wire-break No Short-circuit Yes Fuse blown No  Diagnostics indication LED  RUN LED Yes; Green LED  ERROR LED Yes; Green LED  Monitoring the supply voltage (PWR-LED) Yes; Green LED  Channel status display Yes; Green LED  for channel diagnostics No for module diagnostics  Galvanic isolation  Galvanic isolation channels between the channels No between the channels and the backplane bus Yes  Permissible potential difference between different circuits 75 V DC/60 V AC (base isolation)  Isolation  Isolation  Prioritized startup Yes  To SAME AND	Substitute values connectable	Yes
Diagnostic messages  Diagnostics Yes  Monitoring the supply voltage Yes  Wire-break No Short-circuit Yes Fuse blown No  Diagnostics indication LED  RUN LED Yes; Green LED  ERROR LED Yes; Green LED  Monitoring the supply voltage (PWR-LED) Yes; Green LED  Channel status display Yes; Green LED  Channel status display Yes; Green LED  for channel diagnostics No  Galvanic isolation  Galvanic isolation channels  between the channels No between the channels and the backplane bus Yes  Permissible potential difference  between different circuits 75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with 707 V DC (type test)  Decentralized operation  Prioritized startup Yes	Alarms	
Diagnostics Yes  Monitoring the supply voltage Yes  Wire-break No Short-circuit Yes Fuse blown No  Diagnostics indication LED  RUN LED Yes; Green LED  ERROR LED Yes; Red LED  Monitoring the supply voltage (PWR-LED) Yes; Green LED  Channel status display Yes; Green LED  for channel diagnostics No for module diagnostics Yes; Red LED  Galvanic isolation  Galvanic isolation channels  between the channels No between the channels and the backplane bus Yes  Permissible potential difference  between different circuits 75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with 707 V DC (type test)  Prioritized startup Yes	Diagnostic alarm	Yes
Monitoring the supply voltage Wire-break No Short-circuit Yes Fuse blown No Diagnostics indication LED RUN LED Yes; Green LED ERROR LED Yes; Red LED Monitoring the supply voltage (PWR-LED) Yes; Green LED Channel status display Yes; Green LED for channel diagnostics No for module diagnostics Yes; Red LED  Galvanic isolation  Galvanic isolation  Galvanic isolation channels between the channels No between the channels and the backplane bus Yes Permissible potential difference between different circuits Isolation  Isolation Isolation  For IV DC (type test) Pecentralized operation Prioritized startup Yes	Diagnostic messages	
Wire-break Short-circuit Yes Fuse blown No Diagnostics indication LED  RUN LED Yes; Green LED ERROR LED Yes; Green LED Monitoring the supply voltage (PWR-LED) Yes; Green LED Channel status display Yes; Green LED for channel diagnostics No for module diagnostics Yes; Red LED  Galvanic isolation  Galvanic isolation channels  between the channels No between the channels and the backplane bus Yes  Permissible potential difference between different circuits Isolation tested with 707 V DC (type test)  Decentralized operation Prioritized startup Yes	Diagnostics	Yes
Fuse blown No  Diagnostics indication LED  RUN LED Yes ; Green LED  ERROR LED Yes ; Red LED  Monitoring the supply voltage (PWR-LED) Yes ; Green LED  Channel status display Yes ; Green LED  for channel diagnostics No  for module diagnostics Yes ; Red LED  Calvanic isolation  Galvanic isolation channels  between the channels No  between the channels, in groups of 8  between the channels and the backplane bus Yes  Permissible potential difference  between different circuits 75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with 707 V DC (type test)  Decentralized operation  Prioritized startup Yes	Monitoring the supply voltage	Yes
Fuse blown  Diagnostics indication LED  RUN LED  RUN LED  Yes ; Green LED  Yes ; Red LED  Monitoring the supply voltage (PWR-LED)  Channel status display  Yes ; Green LED  for channel diagnostics  No  for module diagnostics  Yes ; Red LED  Calvanic isolation  Galvanic isolation channels  between the channels  between the channels, in groups of  between the channels and the backplane bus  Permissible potential difference  between different circuits  75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with  707 V DC (type test)  Decentralized operation  Prioritized startup  Yes	Wire-break	No
RUN LED RUN LED Yes; Green LED Yes; Red LED Monitoring the supply voltage (PWR-LED) Yes; Green LED Channel status display Yes; Green LED for channel diagnostics No for module diagnostics Yes; Red LED  Galvanic isolation  Galvanic isolation channels between the channels No between the channels, in groups of 8 between the channels and the backplane bus Permissible potential difference between different circuits 75 V DC/60 V AC (base isolation)  Isolation Isolation tested with 707 V DC (type test) Pecentralized operation Prioritized startup Yes	Short-circuit	Yes
RUN LED PROR LED Yes; Green LED Yes; Red LED Monitoring the supply voltage (PWR-LED) Yes; Green LED Channel status display Yes; Green LED for channel diagnostics No for module diagnostics Yes; Red LED  Galvanic isolation  Galvanic isolation  Between the channels Detween the channels, in groups of Between the channels and the backplane bus Permissible potential difference  between different circuits 75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with 707 V DC (type test)  Decentralized operation  Prioritized startup Yes	Fuse blown	No
ERROR LED  Monitoring the supply voltage (PWR-LED)  Channel status display  Yes ; Green LED  for channel diagnostics  No  for module diagnostics  Yes ; Red LED  Galvanic isolation  Galvanic isolation channels  between the channels  between the channels No  between the channels yes  between the channels and the backplane bus  Permissible potential difference  between different circuits  75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with  707 V DC (type test)  Decentralized operation  Prioritized startup  Yes	Diagnostics indication LED	
Monitoring the supply voltage (PWR-LED) Channel status display Yes ; Green LED for channel diagnostics No for module diagnostics Yes ; Red LED  Galvanic isolation  Galvanic isolation channels between the channels between the channels No between the channels Yes Permissible potential difference between different circuits 75 V DC/60 V AC (base isolation)  Isolation  Isolation  Prioritized startup Yes	RUN LED	Yes ; Green LED
Channel status display for channel diagnostics No for module diagnostics Yes ; Red LED  Galvanic isolation  Galvanic isolation channels  between the channels No between the channels, in groups of 8 between the channels and the backplane bus Yes  Permissible potential difference between different circuits 75 V DC/60 V AC (base isolation)  Isolation  Isolation  Prioritized startup Yes	ERROR LED	Yes ; Red LED
for channel diagnostics  for module diagnostics  Yes; Red LED  Galvanic isolation  Galvanic isolation channels  between the channels  between the channels, in groups of  between the channels and the backplane bus  Permissible potential difference  between different circuits  75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with  707 V DC (type test)  Prioritized startup  Yes	Monitoring the supply voltage (PWR-LED)	Yes ; Green LED
for module diagnostics  Galvanic isolation  Galvanic isolation channels  between the channels  between the channels, in groups of  between the channels and the backplane bus  Permissible potential difference  between different circuits  75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with  707 V DC (type test)  Prioritized startup  Yes	Channel status display	Yes ; Green LED
Galvanic isolation  Galvanic isolation channels  between the channels  between the channels, in groups of  between the channels and the backplane bus  Permissible potential difference  between different circuits  75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with  707 V DC (type test)  Prioritized startup  Yes	for channel diagnostics	No
Between the channels between the channels, in groups of between the channels, in groups of between the channels and the backplane bus  Permissible potential difference between different circuits 75 V DC/60 V AC (base isolation)  Isolation Isolation tested with 707 V DC (type test)  Decentralized operation  Prioritized startup Yes	for module diagnostics	Yes ; Red LED
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between the channels and the backplane bus  Permissible potential difference  between different circuits  75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with  707 V DC (type test)  Decentralized operation  Prioritized startup  Yes	between the channels	No
Permissible potential difference  between different circuits 75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with 707 V DC (type test)  Decentralized operation  Prioritized startup Yes	between the channels, in groups of	8
between different circuits 75 V DC/60 V AC (base isolation)  Isolation  Isolation tested with 707 V DC (type test)  Decentralized operation  Prioritized startup Yes	between the channels and the backplane bus	Yes
Isolation Isolation tested with 707 V DC (type test)  Decentralized operation Prioritized startup Yes	Permissible potential difference	_
Isolation tested with 707 V DC (type test)  Decentralized operation  Prioritized startup Yes	between different circuits	75 V DC/60 V AC (base isolation)
Decentralized operation Prioritized startup Yes	Isolation	
Prioritized startup Yes	Isolation tested with	707 V DC (type test)
	Decentralized operation	
Dimensions	Prioritized startup	Yes
	Dimensions	

Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	230 g
Status	Aug 20, 2014