6ES7522-1BL10-0AA0

## **Data sheet**



SIMATIC S7-1500, digital output module, DQ32x24 V DC/0.5A BA, 32 channels in groups of 8, 4 A per group; the module supports the safety-oriented shutdown of load groups up to SILCL2 acc. to EN 62061:2005 + A2:2015, and Category 3 / PL d according to EN ISO 13849-1:2015. delivery incl. front connector push-in

Product type designation DG 32x24VDC/0.5A BA HW functional status From FS01	General information		
Firmware version  • FW update possible  Product function  • ISM data  • Isochronous mode  • Prioritized startup  • STEP 7 TIA Portal configurable/integrated from version  • STEP 7 Tonfigurable/integrated from version  • PROFIBUS from GSD version/GSD revision  • PROFIBUS from GSD version/GSD revision  • DQ  • POQ Wes  • DQ Wes  • DQ With energy-saving function  • PVMM  • Oversampling  • No  • NSO  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, lower limit (DC)  permissible range, upper lim	Product type designation	DQ 32x24VDC/0.5A BA	
FW update possible  Product function  I & M data Seschronous mode Frioritized startup  Engineering with STEP 7 TIA Portal configurable/integrated from version FROFIBUS from GSD version/GSD revision FROFIBUS from GSD version/GSD revision DQ FROFINET from GSD version/GSD revision FROFINET from GSD version/GSD revision FROFINET from GSD version/GSD revision FROFIBUS from GSD version/GSD revision FROFIBUS from GSD version/GSD revision FROFIBUS from GSD version/GSD revision FROFINET from GSD version/GSD revision FROFINET from GSD version/GSD revision FROFINET from GSD version/GSD revision FROFIBUS fr	HW functional status	From FS01	
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 / V13     STEP 7 TiA Portal configurable/integrated from version   V5.5 SP3 / -     PROFIBUS from GSD version/GSD revision   V2.3 / -     PROFIBUS from GSD version/GSD revision   V2.3 / -     Operating mode   PWM   No     DQ   Yes   Ye	Firmware version	V1.0.0	
I I I I I I I I I I I I I I I I I I I	FW update possible	Yes	
● Isochronous mode ● Prioritized startup  Engineering with ● STEP 7 TIA Portal configurable/integrated from version ● STEP 7 Tonfigurable/integrated from version ● PROFIBUS from GSD version/GSD revision ● PROFIBUS from GSD version/GSD revision ● PROFINET from GSD version/GSD revision ● DQ ● DQ ● DQ ● DQ Yes ● DQ with energy-saving function ● PWM No ● Oversampling ● MSO ● Yes  Supply voltage  Rated value (DC) Permissible range, upper limit (DC) Reverse polarity protection  Input current Current consumption, max.  output voltage / header Rated value (DC) Power  Rated value (DC) Power  Power available from the backplane bus Power loss, typ. Power loss, typ.  Power loss, typ.  Transistor Number of digital outputs Type of digital outputs Type of digital outputs Type of digital outputs STATEP 7 TIA Portal configurable/integrated from version V13 / V13 / V13 / V13 / V13 / V13 / V14 / V15	Product function		
Prioritized startup  Prioritized startup  Prioritized startup  STEP 7 TIA Portal configurable/integrated from version  STEP 7 Ton figurable/integrated from version  STEP 7 configurable/integrated from version  PROFIBUS from GSD version/GSD revision  PROFINET from GSD version/GSD revision  PV3.3/-  Operating mode  PV4  PV8  PV8  PV8  PV8  PV8  PV8  PV9  NO  PV9  NO  PV9  NO  PV9  NO  PV9  PV9  PVM  NO  PV9  PV9  PV9  PV9  PV9  PV9  PV9  PV	<ul> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3	
Engineering with  STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version STEP 7 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 DQ Yes DQ Yes DQ With energy-saving function No PWM No Oversampling MSO Yes  Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) Permissible range	<ul> <li>Isochronous mode</li> </ul>	No	
STEP 7 TIA Portal configurable/integrated from version  STEP 7 configurable/integrated from version  STEP 7 configurable/integrated from version  PROFIBUS from GSD version/GSD revision  PROFINET from GSD version/GSD revision  No  PROFINET from GSD version/GSD revision  V2.3 /-  PROFINET from GSD version/GSD revision  V2.3 /-  Ves  Supply voltage  Rated value (DC)  PROFINET from GSD version/GSD revision  Ves through internal protection with 7 A per group input current  Current consumption, max.  60 mA  Output voltage / header  Rated value (DC)  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss  Power loss, typ.  3.8 W  Digital outputs  Type of digital output  Type of digital outputs  32  Current-sourcing  Yes	Prioritized startup	Yes	
version  STEP 7 configurable/integrated from version  PROFIBUS from GSD version/GSD revision  PROFIBUS from GSD version/GSD revision  PROFINET from GSD version/GSD revision  PROFINET from GSD version/GSD revision  V2.3 /-  Operating mode  DQ Yes  DQ with energy-saving function  No  PWM No  Oversampling No  MSO Yes  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Ves; through internal protection with 7 A per group  Input current  Current consumption, max.  Output voltage / header  Rated value (DC)  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  Jigital outputs  Transistor  Number of digital output  Number of digital outputs  Transistor  Number of digital outputs  Transistor  Number of digital outputs  Transistor	Engineering with		
PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision  PROFINET from GSD version/GSD revision  PROFINET from GSD version/GSD revision  PROFINET from GSD version/GSD revision  PROFINET from GSD version/GSD revision  PROFINET from GSD version/GSD revision  PROFINET from GSD version/GSD revision  PROFINET from GSD version/GSD revision  No PROFINET from GSD version/GSD revision/GSD revis		V13 / V13	
PROFINET from GSD version/GSD revision  Operating mode  DQ Yes DQ with energy-saving function No Oversampling No MSO Yes  Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Public voltage  Current consumption, max. Output voltage / header  Rated value (DC) Power  Power loss Power loss Power loss, typ. Digital outputs Type of digital output Number of digital outputs Supply voltage Pyes Yes Operating protection No Operating protection with 7 A per group Operating protection operating protection with 7 A per group Operating protection op	<ul> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP3 / -	
Operating mode  • DQ • DQ vith energy-saving function • PWM • Oversampling • MSO  Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) 28.8 V Reverse polarity protection ves; through internal protection with 7 A per group Input current Current consumption, max. 60 mA output voltage / header Rated value (DC) 24 V  Power Power loss Power loss, typ. Digital outputs Transistor Number of digital outputs 22 Current-sourcing Yes	<ul> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	V1.0 / V5.1	
DQ     Yes     DQ with energy-saving function     PWM     No     Oversampling    No     MSO     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 7 A per group Input current Current consumption, max.    60 mA output voltage / header Rated value (DC)     24 V  Power Power	PROFINET from GSD version/GSD revision	V2.3 / -	
DQ with energy-saving function PWM No Oversampling No MSO 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 7 A per group Input current Current consumption, max. 60 mA  output voltage / header Rated value (DC)  Power Power loss Power loss, typ. Digital outputs Type of digital output Transistor Number of digital outputs Current-sourcing Yes  Type Current-sourcing Yes	Operating mode		
PWM Oversampling Oversampling No MSO Yes  Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper li	• DQ	Yes	
Oversampling  MSO  MSO  Yes  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Yes; through internal protection with 7 A per group  Input current  Current consumption, max.  60 mA  output voltage / header  Rated value (DC)  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  3.8 W  Digital outputs  Type of digital output  No  No  Yes  Yes	<ul> <li>DQ with energy-saving function</li> </ul>	No	
● MSO 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 7 A per group Input current Current consumption, max. 60 mA output voltage / header Rated value (DC) 24 V  Power Power available from the backplane bus 1.15 W  Power loss Power loss, typ. 3.8 W  Digital outputs Type of digital output Number of digital outputs 32 Current-sourcing Yes	• PWM	No	
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  Power loss, typ.  Digital outputs  Type of digital output  Number of digital outputs  Current-sourcing  24 V  Poss  Types  Types  Types  Current-sourcing  24 V  Tansistor  Transistor  Yes	<ul> <li>Oversampling</li> </ul>	No	
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  Power loss, typ.  Digital outputs  Type of digital output  Number of digital outputs  Current-sourcing  24 V  Power  32 V  19.2 V  28.8 V  80 mA  60 mA  60 mA  1.15 W  Power loss  1.15 W  Power loss, typ.  3.8 W  Digital outputs  Transistor  Number of digital outputs  Yes	• MSO	Yes	
permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Permissible range, upper limit (DC) Reverse polarity protection Permissible range, upper limit (DC) Reverse polarity protection Permissible range, upper limit (DC) Permissible range, upper limit (DC) Permissible range, lower group Permissible range, upper limit (DC) Permissible range, uppe	Supply voltage		
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  Power loss  Power loss, typ.  Digital outputs  Type of digital output  Number of digital outputs  Current-sourcing  28.8 V  Yes; through internal protection with 7 A per group  Yes; through internal protection with 7 A per group  1.15 W  Yes; through internal protection with 7 A per group  Yes; through internal protection with 7 A per group  Yes; through internal protection with 7 A per group  Yes; through internal protection with 7 A per group  Yes; through internal protection with 7 A per group  Yes; through internal protection with 7 A per group  Yes; through internal protection with 7 A per group  Yes	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  Power loss  Power loss, typ.  Digital outputs  Type of digital outputs  Number of digital outputs  Current-sourcing  Yes; through internal protection with 7 A per group  Yes; through internal protection with 7 A per group  Input voltage / header  24 V  24 V  Power  3.8 W  Transistor  Number of digital outputs  Yes	permissible range, lower limit (DC)	19.2 V	
Input current Current consumption, max. 60 mA  output voltage / header Rated value (DC) 24 V  Power Power available from the backplane bus 1.15 W  Power loss Power loss, typ. 3.8 W  Digital outputs  Type of digital output Number of digital outputs 32  Current-sourcing Yes	permissible range, upper limit (DC)	28.8 V	
Current consumption, max.  Current consumption, max.  60 mA  output voltage / header  Rated value (DC)  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  3.8 W  Digital outputs  Type of digital output  Number of digital outputs  24 V  Transistor  Number of digital outputs  Yes	Reverse polarity protection	Yes; through internal protection with 7 A per group	
output voltage / header  Rated value (DC) 24 V  Power  Power available from the backplane bus 1.15 W  Power loss Power loss, typ. 3.8 W  Digital outputs  Type of digital output  Number of digital outputs 32  Current-sourcing Yes	Input current		
Rated value (DC)  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  3.8 W  Digital outputs  Type of digital output  Number of digital outputs  24 V  Transistor  Yes	Current consumption, max.	60 mA	
Power available from the backplane bus  Power loss  Power loss, typ.  Power loss, typ.  3.8 W  Digital outputs  Type of digital output  Number of digital outputs  22  Current-sourcing  Yes	output voltage / header		
Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  Digital outputs  Type of digital output  Number of digital outputs  22  Current-sourcing  Yes	Rated value (DC)	24 V	
Power loss Power loss, typ. 3.8 W  Digital outputs  Type of digital output Transistor  Number of digital outputs 32  Current-sourcing Yes	Power		
Power loss, typ. 3.8 W  Digital outputs  Type of digital output Transistor  Number of digital outputs 32  Current-sourcing Yes	Power available from the backplane bus	1.15 W	
Type of digital output Transistor Number of digital outputs 32 Current-sourcing Yes	Power loss		
Type of digital output  Number of digital outputs  Current-sourcing  Transistor  32  Yes	Power loss, typ.	3.8 W	
Type of digital output  Number of digital outputs  Current-sourcing  Transistor  Yes	Digital outputs		
Number of digital outputs     32       Current-sourcing     Yes		Transistor	
Current-sourcing Yes		32	
Digital outputs, parameterizable No		Yes	
	Digital outputs, parameterizable	No	

Short-circuit protection	Yes
Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	L+ (-53 V)
Controlling a digital input	Yes
Switching capacity of the outputs	100
with resistive load, max.	0.5 A
• on lamp load, max.	5 W
Load resistance range	3 W
lower limit	48 Ω
upper limit	40 Ω 12 kΩ
	15 VZI
Output voltage	1. (0.0.1/)
for signal "1", min.  Output current	L+ (-0.8 V)
·	0.5.4
• 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 two outputs	
• for logic links	Yes
<ul><li>for uprating</li></ul>	No
for redundant control of a load	Yes
Switching frequency	
<ul><li>with resistive load, max.</li></ul>	100 Hz
<ul><li>with inductive load, max.</li></ul>	0.5 Hz; According to IEC 60947-5-1, DC-13
on lamp load, max.	10 Hz
Total current of the outputs	
<ul> <li>Current per channel, max.</li> </ul>	0.5 A; see additional description in the manual
<ul> <li>Current per group, max.</li> </ul>	4 A; see additional description in the manual
Current per module, max.	16 A; see additional description in the manual
Cable length	
<ul><li>shielded, max.</li></ul>	1 000 m
<ul><li>unshielded, max.</li></ul>	600 m
nterrupts/diagnostics/status information	
Diagnostics function	No
Substitute values connectable	No
Alarms	
Diagnostic alarm	No
Maintenance interrupt	No
Diagnoses	
Monitoring the supply voltage	No
Wire-break	No
Short-circuit	No
Group error	No
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	No
	No
• for module diagnostics	INU
Potential separation	
Potential separation channels	
<ul> <li>between the channels</li> </ul>	No
<ul> <li>between the channels, in groups of</li> </ul>	8
<ul> <li>between the channels and backplane bus</li> </ul>	Yes
Detween the channels and backplane bus	

Standards, approvals, certificates	Standards, approvals, certificates		
Suitable for safety functions	No		
Suitable for safety-related tripping of standard modules	Yes; From FS02		
Highest safety class achievable for safety-related tripping of s	standard modules		
<ul> <li>Performance level according to ISO 13849-1</li> </ul>	PL d		
<ul> <li>Category according to ISO 13849-1</li> </ul>	Cat. 3		
<ul> <li>SILCL according to IEC 62061</li> </ul>	SILCL 2		
Ambient conditions			
Ambient temperature during operation			
<ul> <li>horizontal installation, min.</li> </ul>	-30 °C; from FS04		
<ul> <li>horizontal installation, max.</li> </ul>	60 °C		
<ul> <li>vertical installation, min.</li> </ul>	-30 °C; from FS04		
vertical installation, max.	40 °C		
Altitude during operation relating to sea level			
<ul> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual		
Dimensions			
Width	25 mm		
Height	147 mm		
Depth	129 mm		
Weights			
Weight, approx.	280 g		
Other			
Note:	Supplied incl. 40-pole push-in front connectors		

last modified:

8/6/2021