Data sheet

6ES7522-1BH10-0AA0



SIMATIC S7-1500 Digital output module, DQ16x24 V DC/0.5A BA, 16 channels in groups of 8, 4 A per group; Module can be used for safety related shutdown up to SILCL2 according 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 DQ 16x24VDC/0.5A BA HW functional status FS01 Firmware version FW update possible Yes Product function 1 & M data 1 & Sochronous mode 2 Prioritized startup Yes Engineering with STEP 7 TIA Portal configurable/integrated from version FROFIBUS from GSD version/GSD revision PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision DQ wto PROFINET from GSD version/GSD revision PROFINET from GSD version/GSD revision PROFINET from GSD version/GSD revision PWM Oversampling No PWM Oversampling No Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC)	General information	
Firmware version Fiv update possible Product function It ikM data Isochronous mode Prioritized startup Fingineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version FreoFIBUS from GSD version/GSD revision PROFIBUS from GSD version/GSD revision Dogarting mode DQ Yes DA with energy-saving function PWM Oversampling No Oversampling No WSO 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) permissible range with revision Current consumption, max. Output voltage Rated value (DC) Reverse polarity protection Rated value (DC) Permissible range, upper limit (DC) Permissible range with revision Vas. Versithrough internal protection with 7 A per group input current Current consumption, max. Output voltage Rated value (DC) Power Power available from the backplane bus 1.15 W Power loss Power loss Power loss, typ. Digital outputs Transistor	Product type designation	DQ 16x24VDC/0.5A BA
FW update possible Yes Product function I&M data Yes; I&M0 to I&M3 Isochronous mode No Prioritized startup Yes Engineering with ISTEP 7 TIA Portal configurable/integrated from version FROFIBUS from GSD version/GSD revision PROFIBUS from GSD versio	HW functional status	FS01
Product function • I&M data • Isochronous mode • Prioritized startup Pres Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 configurable/integrated from version • PROFIBUS from GSD version/GSD revision • PQ • DQ with energy-saving function • PWM • Oversampling • MSO • Yes Supply voltage Rated value (DC) • 24 V • permissible range, lower limit (DC) • 28.8 V Reverse polarity protection • Yes; through internal protection with 7 A per group Input current Current consumption, max. Output voltage Rated value (DC) • 24 V • Power Power available from the backplane bus 1.15 W Power loss Power loss Power loss, typ. Digital outputs Transistor	Firmware version	
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Isochronous mode Prioritized startup Engineering with STEP 7 TIA Portal configurable/integrated from 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 PVS.31- POPER INTERPRETATION FROM THE PROFINE FROM TH	Product function	
Prioritized startup Prioritized startup 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 No PROFINET from GSD version/GSD revision No POWER versum from No PROFINET from GSD version/GSD revision V2.3 /- POWER loss from GSD version/GSD revision V2.3 /- Ves POWER loss from The backplane bus Prower loss from the backplane bus Prower loss fyp. Power loss fyp. Power of digital outputs Transistor	■ I&M data	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 PROFIBUS from GSD version/GSD revision PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD version/GSD revision PROFINET from GSD version/GSD revision P	 Isochronous mode 	No
STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD version/GSD revision PROFINET from GSD versi	·	Yes
version STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision PROF	Engineering with	
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 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) Reverse polarity protection Yes; through internal protection with 7 A per group Input current Current consumption, max. Output voltage Rated value (DC) Power Rated value (DC) 24 V Power available from the backplane bus Power loss Power loss, typ. 2.2 W Digital outputs Transistor		V13 / V13
PROFINET from GSD version/GSD revision Operating mode DQ DQ Yes DQ with energy-saving function No PWM Oversampling MSO Supply voitage Rated value (DC) permissible range, lower limit (DC) Reverse polarity protection Input current Current consumption, max. Output voitage Rated value (DC) Rated value (DC) 24 V Power Rated value (DC) 28.8 V Reverse polarity protection Input current Current consumption, max. 30 mA Output voitage Rated value (DC) Power V Power Ioss Power loss, typ. Digital outputs Type of digital output Transistor	 STEP 7 configurable/integrated from version 	V5.5 SP3 / -
Operating mode • DQ • DQ yes • DQ with energy-saving function No • PWM • Oversampling • MSO Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection ryes; through internal protection with 7 A per group Input current Current consumption, max. Output voltage Rated value (DC) 24 V Power Power available from the backplane bus 1.15 W Power loss Power loss, typ. 2.2 W Digital outputs Transistor	 PROFIBUS from GSD version/GSD revision 	V1.0 / V5.1
DQ with energy-saving function 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) Reverse polarity protection Yes; through internal protection with 7 A per group Input current Current consumption, max. Output voltage Rated value (DC) 24 V Power Power available from the backplane bus 1.15 W Power loss Power loss, typ. 2.2 W Digital outputs Transistor		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. Output voltage Rated value (DC) Power Power available from the backplane bus Power loss, typ. Digital outputs Transistor	Operating mode	
PWM Oversampling No 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. Output voltage Rated value (DC) Power Power available from the backplane bus Power loss, typ. Digital outputs Transistor	• DQ	Yes
Oversampling MSO MSO Yes 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 Rated value (DC) Power Power available from the backplane bus Power loss, typ. Digital outputs Type of digital output Transistor	5. 5	No
MSO 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 Rated value (DC) Power Power available from the backplane bus Power loss, typ. Digital outputs Type of digital output Transistor	• PWM	
Rated value (DC) Permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Input current Current consumption, max. Output voltage Rated value (DC) Power Power available from the backplane bus Power loss Power loss, typ. Digital outputs Type of digital output 24 V 24 V 24 V 25 W 26 V 27 Power loss Power loss Transistor		
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Input current Current consumption, max. Output voltage Rated value (DC) Power Power available from the backplane bus Power loss Power loss, typ. Digital outputs Type of digital output 24 V 20.4 V 20.4 V 20.4 V 24 V 24 V 24 V 25 V 26 V 27 V 28.8 V 29.0 MA Transistor		Yes
permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Input current Current consumption, max. Output voltage Rated value (DC) Power Power available from the backplane bus Power loss, typ. Digital outputs Type of digital output 20.4 V 28.8 V 28.8 V 29.8 V 29.9 V 29.9 V 29.9 V 20.4 V 24 V 24 V 24 V 25 V 26 V 27 V 28.8	Supply voltage	
permissible range, upper limit (DC) Reverse polarity protection Input current Current consumption, max. Output voltage Rated value (DC) Power Power available from the backplane bus Power loss, typ. Digital outputs Type of digital output 28.8 V Yes; through internal protection with 7 A per group 1.15 W Yes; through internal protection with 7 A per group 1.15 W 2.2 W Digital outputs Transistor	Rated value (DC)	24 V
Reverse polarity protection Input current Current consumption, max. Output voltage Rated value (DC) Power Power available from the backplane bus Power loss Power loss, typ. Digital outputs Type of digital output Yes; through internal protection with 7 A per group Yes; through internal protection with 7 A per group 1.15 W 1.15 W 2.2 W Digital outputs Transistor	permissible range, lower limit (DC)	20.4 V
Input current Current consumption, max. Output voltage Rated value (DC) Power Power available from the backplane bus Power loss Power loss, typ. Digital outputs Type of digital output 30 mA 30 mA 1.15 W 24 V 22 V Transistor	permissible range, upper limit (DC)	28.8 V
Current consumption, max. Output voltage Rated value (DC) Power Power available from the backplane bus 1.15 W Power loss Power loss, typ. Digital outputs Type of digital output Transistor	Reverse polarity protection	Yes; through internal protection with 7 A per group
Output voltage Rated value (DC) Power Power available from the backplane bus 1.15 W Power loss Power loss, typ. 2.2 W Digital outputs Type of digital output Transistor	Input current	
Rated value (DC) Power Power available from the backplane bus Power loss Power loss, typ. 2.2 W Digital outputs Type of digital output Transistor	Current consumption, max.	30 mA
Power available from the backplane bus 1.15 W Power loss Power loss, typ. 2.2 W Digital outputs Type of digital output Transistor	Output voltage	
Power available from the backplane bus 1.15 W Power loss Power loss, typ. 2.2 W Digital outputs Type of digital output Transistor	Rated value (DC)	24 V
Power loss Power loss, typ. 2.2 W Digital outputs Type of digital output Transistor	Power	
Power loss, typ. 2.2 W Digital outputs Type of digital output Transistor	Power available from the backplane bus	1.15 W
Type of digital output Transistor	Power loss	
Type of digital output Transistor	Power loss, typ.	2.2 W
	Digital outputs	
	Type of digital output	Transistor
		16

	V
Current-sourcing	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	
 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 "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	σσσ μο
• for logic links	Yes
• for uprating	No
for redundant control of a load	
	Yes
Switching frequency	400 H=
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 group, max.Current per module, max.	4 A; see additional description in the manual 8 A; see additional description in the manual
Current per module, max.	
Current per module, max. Cable length	8 A; see additional description in the manual
 Current per module, max. Cable length shielded, max. 	8 A; see additional description in the manual 1 000 m
Cable length shielded, max. unshielded, max. Interrupts/diagnostics/status information	8 A; see additional description in the manual 1 000 m
 Current per module, max. Cable length shielded, max. unshielded, max. 	8 A; see additional description in the manual 1 000 m 600 m
Cable length shielded, max. unshielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable	8 A; see additional description in the manual 1 000 m 600 m
Cable length shielded, max. unshielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms	8 A; see additional description in the manual 1 000 m 600 m No No
Cable length shielded, max. unshielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm	8 A; see additional description in the manual 1 000 m 600 m No No
Cable length shielded, max. unshielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt	8 A; see additional description in the manual 1 000 m 600 m No No
Cable length shielded, max. unshielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses	8 A; see additional description in the manual 1 000 m 600 m No No No
Cable length shielded, max. unshielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage	8 A; see additional description in the manual 1 000 m 600 m No No No No No
Cable length shielded, max. unshielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break	8 A; see additional description in the manual 1 000 m 600 m No No No No No No
Cable length shielded, max. unshielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit	8 A; see additional description in the manual 1 000 m 600 m No No No No No No No No
Cable length shielded, max. unshielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error	8 A; see additional description in the manual 1 000 m 600 m No No No No No No
Cable length shielded, max. unshielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED	8 A; see additional description in the manual 1 000 m 600 m No
Cable length shielded, max. unshielded, max. linterrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED RUN LED	8 A; see additional description in the manual 1 000 m 600 m No
Cable length shielded, max. unshielded, max. linterrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED RUN LED ERROR LED	8 A; see additional description in the manual 1 000 m 600 m No Yes; green LED Yes; red LED
Cable length shielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED RUN LED RROR LED Monitoring of the supply voltage (PWR-LED)	8 A; see additional description in the manual 1 000 m 600 m No No No No Vo Ves; green LED Yes; green LED Yes; green LED Yes; green LED
Cable length shielded, max. unshielded, max. lnterrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED RUN LED ERROR LED Monitoring of the supply voltage (PWR-LED) Channel status display	8 A; see additional description in the manual 1 000 m 600 m No No No No No No Ves; green LED Yes; green LED
Cable length shielded, max. unshielded, max. linterrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED RUN LED RRROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics	8 A; see additional description in the manual 1 000 m 600 m No No No No No Ves; green LED Yes; green LED Yes; green LED Yes; green LED Yes; green LED No
Cable length shielded, max. unshielded, max. linterrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED RUN LED RROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics for module diagnostics	8 A; see additional description in the manual 1 000 m 600 m No No No No No No Ves; green LED Yes; green LED
Cable length shielded, max. unshielded, max. linterrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED RUN LED RRROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics	8 A; see additional description in the manual 1 000 m 600 m No No No No No Ves; green LED Yes; green LED Yes; green LED Yes; green LED Yes; green LED No
Cable length shielded, max. unshielded, max. linterrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED RUN LED RROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics for module diagnostics	8 A; see additional description in the manual 1 000 m 600 m No No No No No No Ves; green LED Yes; green LED Yes; green LED Yes; green LED Yes; green LED No
Cable length shielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED RUN LED RROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics for module diagnostics Potential separation	8 A; see additional description in the manual 1 000 m 600 m No No No No No No Ves; green LED Yes; green LED Yes; green LED Yes; green LED Yes; green LED No
Cable length shielded, max. unshielded, max. Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Maintenance interrupt Diagnoses Monitoring the supply voltage Wire-break Short-circuit Group error Diagnostics indication LED RUN LED RROR LED ROM LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics for module diagnostics Potential separation Potential separation channels	8 A; see additional description in the manual 1 000 m 600 m No No No No No No Ves; green LED Yes; red LED Yes; green LED Yes; green LED Yes; green LED No No No No

 between the channels and backplane bus 	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Suitable for safety functions	No
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	25 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	230 g
Other	
Note:	Supplied incl. 40-pole push-in front connectors
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