SIMATIC S7-1500, DIGITAL OUTPUT MODULE DQ 8 X 230VAC/5A ST, RELAY; 8 CHANNELS IN GROUPS OF 1, 5A PER GROUP; DIAGNOSIS; SUBSTITUTE VALUE



Figure similar

General information	
Product type designation	DQ 8x230 V AC/5 A ST (relay)
HW functional status	FS01
Firmware version	V2.0.0
 FW update possible 	Yes
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	
• DQ	Yes
 DQ with energy-saving function 	No
• PWM	No

Supply voltage Rated value (DC)	Oversampling	No
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 Input current Current consumption, max. 80 mA Output voltage Rated value (AC) 230 V: 24 V DC to 120 V DC / 24 V AC to 230 V AC Power Power available from the backplane bus 0.8 W Power loss Power loss, typ. 5 W Digital outputs Type of digital output 8 Current-sinking Yes Current-sourcing Yes Short-circuit protection No Controlling a digital input possible Switching capacity of the outputs • on lamp load, max. 1 500 W; 10 000 operating cycles • Fluorescent tubes, conventionally compensated • Fluorescent tubes, conventionally compensated • Fluorescent tubes, uncompensated 1 x 58 W (25 000 operating cycles) Output urrent • for signal "1" rated value 5 A • for signal "1" permissible range, mix. 5 mA; 10 V • for signal "1" permissible range, mix. 6 A • for or gignal "0" residual current, max. 9 A Parallel switching of tood Ves Switching frequency		Yes
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 Input current Current consumption, max. 80 mA Output voltage Rated value (AC) 230 V; 24 V DC to 120 V DC / 24 V AC to 230 V AC Power Power available from the backplane bus 0.8 W Power loss Power loss, typ. 5 W Digital outputs Type of digital output 8 Current-sinking Yes Current-sourcing Yes Short-circuit protection No Controlling a digital input possible Switching capacity of the outputs • on lamp load, max. 1 500 W; 10 000 operating cycles • Fluorescent tubes, conventionally compensated • Fluorescent tubes, uncompensated 10x 58 W (25 000 operating cycles) • for signal "1" rated value 5 A • for signal "1" permissible range, max. 8 A; thermal continuous current • for signal "1" permissible range, max. 9 A; thermal continuous current • for signal "1" permissible range, max. 9 A C Parallel switching of the outputs • for or gignal "0" residual current, max. 9 A Parallel switching of two outputs • for or gignal "0" residual current, max. 9 A Parallel switching of two outputs • for or gurtang 9 No • for or prating 9 No • for or cedundant control of a load Yes		
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• for redundant control of a load Yes Switching frequency		
Switching frequency		
		Yes
with resistive load, max. 2 Hz		
	with resistive load, max.	
• with inductive load, max. 0.5 Hz	• with inductive load, max.	0.5 Hz

Current per channel, max. • Current per channel, max. • Current per group, max. • Current per module, max. • A; see additional description in the manual • A; see additional description in the manual • A; see additional description in the manual • Current per module, max. • Number of relay outputs • No Contact connection for relays (coil current of all relays), typ. • external protection for relay outputs • Contact connection (internal) • Size of motor starters according to NEMA, max. • Number of operating cycles, max. • Relay approved acc. to UL 508 • Switching capacity of contacts — with inductive load, max. — with resistive load, max. — with resistive load, max. • shelded, max. • shelded, max. • shelded, max. • shelded, max. • unshielded, max. • sochronous goration (application synchronized up to terminal) Interrupts/diagnostics/status information Diagnostics function Diagnostics function • Diagnostics function • Diagnostics function • Contact connectable • Wire-break • Short-circuit • No Diagnostics indication LED • Channel status display • for channel status display • for channel status display • for channel diagnostics • for module diagnostics	● on lamp load, max.	2 Hz
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Number of operating cycles, max. Relay approved acc. to UL 508 Yes; 250 V AC/5 A g.p.; 120 V AC TV-4 tungsten; A300, R300 Switching capacity of contacts with inductive load, max. see additional description in the manual Cable length shielded, max. unshielded, max. see additional description in the manual see additional description in the manual I 000 m Sobronous mode Isochronous operation (application synchronized up to terminal) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms Diagnostic alarm Siagnostic messages Monitoring the supply voltage Wire-break Short-circuit No Diagnostics indication LED RUN LED RUN LED RUN LED RUN LED RUN LED Serven LED Serven LED Annel status display Fer Green LED Channel status display Fer Green LED For channel diagnostics	 Contact connection (internal) 	No
Relay approved acc. to UL 508 Wes; 250 V AC/5 A g.p.; 120 V AC TV-4 tungsten; A300, R300 Switching capacity of contacts - with inductive load, max with resistive load, max. with resistive load, max. see additional description in the manual see additional description in the manual 1 000 m shielded, max. 1 000 m 1 000 m 1 000 m 1 000 m 1 000 m 1 000 m 1 000 m 1 000 m 1 000 m 1	• Size of motor starters according to NEMA, max.	5
Switching capacity of contacts with inductive load, max with resistive load, max with resis	 Number of operating cycles, max. 	4 000 000; see additional description in the manual
- with inductive load, max with resistive load, max with resistive load, max. - with resistive load, max. • see additional description in the manual cable length • shielded, max. • unshielded, max. • unshielded, max. • unshielded, max. • loop m Sochronous mode	 Relay approved acc. to UL 508 	Yes; 250 V AC/5 A g.p.; 120 V AC TV-4 tungsten; A300, R300
— with resistive load, max. Cable length • shielded, max. • unshielded, max. • unshielded, max. 1 000 m 600 m Isochronous mode Isochronous operation (application synchronized up to terminal) Interrupts/diagnostics/status information Diagnostics function Diagnostics function Pes Alarms • Diagnostic alarm • Diagnostic messages • Monitoring the supply voltage • Wire-break • Short-circuit No Diagnostics indication LED • RUN LED • ERROR LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics No	Switching capacity of contacts	
Cable length • shielded, max. • unshielded, max. • unshielded, max. • unshielded, max. • unshielded, max. 1 000 m 1	— with inductive load, max.	see additional description in the manual
shielded, max. unshielded, max. loon m Sochronous mode	— with resistive load, max.	see additional description in the manual
unshielded, max. Isochronous mode	Cable length	
Isochronous mode Isochronous operation (application synchronized up to terminal) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Piagnostic messages • Monitoring the supply voltage • Wire-break • Short-circuit No Diagnostics indication LED • RUN LED • ERROR LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics No No No No No No No No No N	• shielded, max.	1 000 m
Interrupts/diagnostics/status information Diagnostics function Yes Substitute values connectable Yes Alarms • Diagnostic alarm Yes Diagnostic messages • Monitoring the supply voltage Yes • Wire-break No • Short-circuit No Diagnostics indication LED • RUN LED • ERROR LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics No	• unshielded, max.	600 m
Interrupts/diagnostics/status information Diagnostics function Yes Substitute values connectable Yes Alarms • Diagnostic alarm Yes Diagnostic messages • Monitoring the supply voltage Yes • Wire-break No • Short-circuit No Diagnostics indication LED • RUN LED • ERROR LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics No	Isochronous mode	
Interrupts/diagnostics/status information Diagnostics function Yes Substitute values connectable Alarms • Diagnostic alarm Pes Diagnostic messages • Monitoring the supply voltage • Wire-break • Short-circuit No Diagnostics indication LED • RUN LED • ERROR LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics Yes Yes Yes Yes Yes Yes Yes Y		No
Diagnostics function Substitute values connectable Alarms Diagnostic alarm Pes Diagnostic messages Monitoring the supply voltage Wire-break Short-circuit No Diagnostics indication LED RUN LED REROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics No	to terminal)	
Diagnostics function Substitute values connectable Alarms Diagnostic alarm Pes Diagnostic messages Monitoring the supply voltage Wire-break Short-circuit No Diagnostics indication LED RUN LED REROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics No	Interrupts/diagnostics/status information	
Alarms • Diagnostic alarm Piagnostic messages • Monitoring the supply voltage • Wire-break • Short-circuit Piagnostics indication LED • RUN LED • ERROR LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics Yes Yes Yes Yes Yes Yes Yes Green LED Yes; Green LED Yes; Green LED Yes; Green LED Yes; Green LED		Yes
 Diagnostic alarm Diagnostic messages Monitoring the supply voltage Wire-break Short-circuit No Diagnostics indication LED RUN LED ERROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics Yes Green LED Yes Green LED Yes Green LED No No 	Substitute values connectable	Yes
Diagnostic messages • Monitoring the supply voltage • Wire-break • Short-circuit Diagnostics indication LED • RUN LED • ERROR LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics Yes Yes No Yes; Green LED	Alarms	
 Monitoring the supply voltage Wire-break Short-circuit No Diagnostics indication LED RUN LED ERROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics Yes Yes Green LED Yes Green LED Yes Green LED Yes Green LED No No	Diagnostic alarm	Yes
Wire-break Short-circuit No Diagnostics indication LED RUN LED Yes; Green LED ERROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics No No No	Diagnostic messages	
 Short-circuit Diagnostics indication LED RUN LED ERROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics No No	Monitoring the supply voltage	Yes
Diagnostics indication LED • RUN LED • ERROR LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics Yes; Green LED Yes; Green LED Yes; Green LED No	Wire-break	No
 RUN LED ERROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics Yes; Green LED Yes; Green LED No	Short-circuit	No
 ERROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics Yes; Red LED Yes; Green LED No 	Diagnostics indication LED	
 Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics Yes; Green LED No 	• RUN LED	Yes; Green LED
 ◆ Channel status display ◆ for channel diagnostics Yes; Green LED No 	• ERROR LED	Yes; Red LED
• for channel diagnostics	 Monitoring of the supply voltage (PWR-LED) 	Yes; Green LED
	Channel status display	Yes; Green LED
• for module diagnostics Yes; Red LED	• for channel diagnostics	No

Potential separation	
Potential separation channels	
between the channels	Yes; Switching of different phases permitted
between the channels, in groups of	1
between the channels and backplane bus	Yes
Between the channels and load voltage L+	Yes
Dottios in the onal mole and load vertage E	
Permissible potential difference	
between different circuits	250 V AC between the channels and the supply voltage L+; 250 V
	AC between the channels and the backplane bus; 500 V AC between the channels
	between the chamiles
Isolation	
Isolation tested with	Between channels: 3 100 V DC; between channels backplane
	bus: 3 100 V DC; between L+ and backplane bus: 707 V DC (type
	test)
Ambient conditions	
Ambient temperature during operation	
horizontal installation, min.	0 °C
 horizontal installation, max. 	60 °C
• vertical installation, min.	0 °C
 vertical installation, max. 	40 °C
Decentralized operation	
Prioritized startup	Yes
Dimensions	25 mm
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	350 g
last modified:	08/29/2017