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Figure similar

SIMATIC S7-1500, digital output module DQ 8xAC 230V/5A ST; relay; 8 channels in groups of 1; 5 A per group; diagnostics; substitute value: switching cycle counter for integrated relay, the module supports the safety-oriented shutdown of load groups up to SIL1 according to EN IEC 62061:2021 and Category 2 / PL c according to EN ISO 13849-1:2015. front connector (screw terminals or push-in) to be ordered separately

General information	
Product type designation	DQ 8x230 V AC/5 A ST (relay)
HW functional status	From FS02
Firmware version	V2.1.0
• FW update possible	Yes
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	V12 / V12
• STEP 7 configurable/integrated from version	V5.5 SP3 / -
• PROFIBUS from GSD version/GSD revision	V1.0 / V5.1
• PROFINET from GSD version/GSD revision	V2.3 / -
Operating mode	
• DQ	Yes
• DQ with energy-saving function	No
• PWM	No
• Cam control (switching at comparison values)	No
• Oversampling	No
• MSO	Yes
• Integrated operating cycle counter	Yes; FW V2.1.0 or higher
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
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 consumption from the backplane bus	0.8 W
Power loss	
Power loss, typ.	5 W

Address area	
Address space per module	
• Inputs	0 byte
• Outputs	1 byte
Digital outputs	
Type of digital output	Relays
Number of digital outputs	8
Current-sinking	Yes
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	No
Controlling a digital input	Yes; possible
Size of motor starters according to NEMA, max.	5
Digital output functions, parameterizable	
• Switching tripped by comparison values	No
• Freely usable digital output	No
• PWM output	No
• Digital output with oversampling	No
Switching capacity of the outputs	
• with resistive load, max.	5 A
• on lamp load, max.	1 500 W; 10 000 operating cycles
Output current	
• for signal "1" rated value	5 A
• for signal "1" permissible range, min.	5 mA; 10 V
• for signal "1" permissible range, max.	8 A; thermal continuous current
• for signal "0" residual current, max.	0 A
Parallel switching of two outputs	
• for logic links	Yes
• for uprating	No
• for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	2 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	2 Hz
Total current of the outputs	
• Current per channel, max.	8 A; see additional description in the manual
• Current per group, max.	8 A; see additional description in the manual
• Current per module, max.	64 A; see additional description in the manual
Relay outputs	
• Number of relay outputs	8
• Rated supply voltage of relay coil L+ (DC)	24 V
• Current consumption of relays (coil current of all relays), typ.	80 mA
• external protection for relay outputs	With miniature circuit breaker with characteristic B for: $\cos \varphi$ 1.0: 600 A $\cos \varphi$ 0.5 ... 0.7: 900 A with 8 A Diazed fuse: 1 000 A
• Contact connection (internal)	No
• Number of operating cycles, max.	4 000 000; see additional description in the manual
• 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
— with resistive load, max.	see additional description in the manual
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes

• Maintenance interrupt	Yes; maintenance alarm for switching cycle counter
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire break	No
• Short-circuit	No
• Group error	No
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• MAINT LED	Yes; Yellow LED
• Monitoring of the supply voltage (PWR-LED)	Yes; green LED
• Channel status display	Yes; green LED
• for channel diagnostics	No
• for module diagnostics	Yes; red LED
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
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; 250 V AC between the channels (500 V AC when connecting different phases; basic insulation)
Isolation	
Isolation tested with	between the channels: 3 100 V DC; between the channels and the backplane bus: 3 100 V DC; between the channels and the supply voltage L+: 3 100 V DC; between the L+ and the backplane bus: 707 V DC (type test)
Standards, approvals, certificates	
Siemens Eco Profile (SEP)	Siemens EcoTech
Suitable for safety functions	No
Suitable for safety-related tripping of standard modules	Yes; From FS03
Ecological footprint	
• environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	43.8 kg
— global warming potential, (during production) [CO2 eq]	9.5 kg
— global warming potential, (during operation) [CO2 eq]	34.5 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.231 kg
Highest safety class achievable for safety-related tripping of standard modules	
• Performance level according to ISO 13849-1	PL c
• Category according to ISO 13849-1	Cat. 2
• SIL acc. to IEC 62061	SIL 1
• remark on safety-oriented shutdown	https://support.industry.siemens.com/cs/de/en/view/39198632
Security	
signed firmware update	No
safely removing data	No
data integrity	No
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-30 °C; From FS03
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C; From FS03
• vertical installation, max.	40 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	2 000 m
Dimensions	
Width	35 mm

Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	350 g
Classifications	

	Version	Classification
eClass	16	27-24-22-04
eClass	14	27-24-22-04
eClass	12	27-24-22-04
eClass	9.1	27-24-22-04
eClass	9	27-24-22-04
eClass	8	27-24-22-04
eClass	7.1	27-24-22-04
eClass	6	27-24-22-04
ETIM	10	EC001419
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

[Miscellaneous](#)

[Manufacturer Declaration](#)



General Product Approval

For use in hazardous locations



[China RoHS](#)

[Manufacturer Declaration](#)

[FM](#)



For use in hazardous locations

Maritime application

[FM](#)



[NK / Nippon Kaiji Kyokai](#)

Maritime application

Environment



[CCS \(China Classification Society\)](#)

[KR \(Korean Register of Shipping\)](#)



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