



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
• 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 / header	
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	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
Switching capacity of the outputs	
• on lamp load, max.	1 500 W; 10 000 operating cycles
• Low energy/fluorescent lamps with electronic control gear	10x 58 W (25 000 operating cycles)
• Fluorescent tubes, conventionally compensated	1x 58 W (25 000 operating cycles)
• Fluorescent tubes, uncompensated	10x 58 W (25 000 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
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire-break	No
• Short-circuit	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 • between the channels, in groups of • between the channels and backplane bus • Between the channels and load voltage L+	Yes; Switching of different phases permitted 1 Yes 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	
Suitable for safety functions	No
Suitable for safety-related tripping of standard modules	Yes; From FS03
Highest safety class achievable for safety-related tripping of standard modules	
• Performance level according to ISO 13849-1 • Category according to ISO 13849-1 • SIL acc. to IEC 62061 • remark on safety-oriented shutdown	PL c Cat. 2 SIL 1 https://support.industry.siemens.com/cs/de/de/view/39198632
product functions / security / header	
data integrity	No
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max.	-30 °C; From FS03 60 °C -30 °C; From FS03 40 °C
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	350 g
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