

Siemens  
EcoTech



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

Figure similar

General information	
Product type designation	DQ 8x230 V AC/5 A ST (relay)
HW functional status	From FS02
Firmware version	V2.1.0
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>	No
<ul style="list-style-type: none"> <li>Prioritized startup</li> </ul>	Yes
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V12 / V12
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP3 / -
<ul style="list-style-type: none"> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	V1.0 / V5.1
<ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>	V2.3 / -
Operating mode	
<ul style="list-style-type: none"> <li>DQ</li> </ul>	Yes
<ul style="list-style-type: none"> <li>DQ with energy-saving function</li> </ul>	No
<ul style="list-style-type: none"> <li>PWM</li> </ul>	No
<ul style="list-style-type: none"> <li>Oversampling</li> </ul>	No
<ul style="list-style-type: none"> <li>MSO</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Integrated operating cycle counter</li> </ul>	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 consumption 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
<b>Switching capacity of the outputs</b>	
<ul style="list-style-type: none"> <li>on lamp load, max.</li> </ul>	1 500 W; 10 000 operating cycles
<ul style="list-style-type: none"> <li>Low energy/fluorescent lamps with electronic control gear</li> </ul>	10x 58 W (25 000 operating cycles)
<ul style="list-style-type: none"> <li>Fluorescent tubes, conventionally compensated</li> </ul>	1x 58 W (25 000 operating cycles)
<ul style="list-style-type: none"> <li>Fluorescent tubes, uncompensated</li> </ul>	10x 58 W (25 000 operating cycles)
<b>Output current</b>	
<ul style="list-style-type: none"> <li>for signal "1" rated value</li> </ul>	5 A
<ul style="list-style-type: none"> <li>for signal "1" permissible range, min.</li> </ul>	5 mA; 10 V
<ul style="list-style-type: none"> <li>for signal "1" permissible range, max.</li> </ul>	8 A; thermal continuous current
<ul style="list-style-type: none"> <li>for signal "0" residual current, max.</li> </ul>	0 A
<b>Parallel switching of two outputs</b>	
<ul style="list-style-type: none"> <li>for logic links</li> </ul>	Yes
<ul style="list-style-type: none"> <li>for uprating</li> </ul>	No
<ul style="list-style-type: none"> <li>for redundant control of a load</li> </ul>	Yes
<b>Switching frequency</b>	
<ul style="list-style-type: none"> <li>with resistive load, max.</li> </ul>	2 Hz
<ul style="list-style-type: none"> <li>with inductive load, max.</li> </ul>	0.5 Hz
<ul style="list-style-type: none"> <li>on lamp load, max.</li> </ul>	2 Hz
<b>Total current of the outputs</b>	
<ul style="list-style-type: none"> <li>Current per channel, max.</li> </ul>	8 A; see additional description in the manual
<ul style="list-style-type: none"> <li>Current per group, max.</li> </ul>	8 A; see additional description in the manual
<ul style="list-style-type: none"> <li>Current per module, max.</li> </ul>	64 A; see additional description in the manual
<b>Relay outputs</b>	
<ul style="list-style-type: none"> <li>Number of relay outputs</li> </ul>	8
<ul style="list-style-type: none"> <li>Rated supply voltage of relay coil L+ (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>Current consumption of relays (coil current of all relays), typ.</li> </ul>	80 mA
<ul style="list-style-type: none"> <li>external protection for relay outputs</li> </ul>	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
<ul style="list-style-type: none"> <li>Contact connection (internal)</li> </ul>	No
<ul style="list-style-type: none"> <li>Number of operating cycles, max.</li> </ul>	4 000 000; see additional description in the manual
<ul style="list-style-type: none"> <li>Relay approved acc. to UL 508</li> </ul>	Yes; 250 V AC/5 A g.p.; 120 V AC TV-4 tungsten; A300, R300
<b>Switching capacity of contacts</b>	
<ul style="list-style-type: none"> <li>with inductive load, max.</li> </ul>	see additional description in the manual
<ul style="list-style-type: none"> <li>with resistive load, max.</li> </ul>	see additional description in the manual
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>shielded, max.</li> </ul>	1 000 m
<ul style="list-style-type: none"> <li>unshielded, max.</li> </ul>	600 m
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Substitute values connectable	Yes
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>Diagnostic alarm</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Maintenance interrupt</li> </ul>	Yes
<b>Diagnoses</b>	
<ul style="list-style-type: none"> <li>Monitoring the supply voltage</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Wire-break</li> </ul>	No
<ul style="list-style-type: none"> <li>Short-circuit</li> </ul>	No
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>RUN LED</li> </ul>	Yes; green LED
<ul style="list-style-type: none"> <li>ERROR LED</li> </ul>	Yes; red LED
<ul style="list-style-type: none"> <li>MAINT LED</li> </ul>	Yes; Yellow LED
<ul style="list-style-type: none"> <li>Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes; green LED
<ul style="list-style-type: none"> <li>Channel status display</li> </ul>	Yes; green LED

<ul style="list-style-type: none"> <li>• for channel diagnostics</li> <li>• for module diagnostics</li> </ul>	No Yes; red LED	
<b>Potential separation</b>		
Potential separation channels		
<ul style="list-style-type: none"> <li>• between the channels</li> <li>• between the channels, in groups of</li> <li>• between the channels and backplane bus</li> <li>• Between the channels and load voltage L+</li> </ul>	Yes; Switching of different phases permitted 1 Yes Yes	
<b>Permissible potential difference</b>		
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)	
<b>Isolation</b>		
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)	
<b>Standards, approvals, certificates</b>		
Siemens Eco Profile (SEP)	Siemens EcoTech	
Suitable for safety functions	No	
Suitable for safety-related tripping of standard modules	Yes; From FS03	
<b>Ecological footprint</b>		
<ul style="list-style-type: none"> <li>• environmental product declaration</li> </ul>	Yes	
<b>Global warming potential</b>		
— 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	
<b>Highest safety class achievable for safety-related tripping of standard modules</b>		
<ul style="list-style-type: none"> <li>• Performance level according to ISO 13849-1</li> <li>• Category according to ISO 13849-1</li> <li>• SIL acc. to IEC 62061</li> <li>• remark on safety-oriented shutdown</li> </ul>	PL c Cat. 2 SIL 1 <a href="https://support.industry.siemens.com/cs/de/en/view/39198632">https://support.industry.siemens.com/cs/de/en/view/39198632</a>	
<b>product functions / security / header</b>		
signed firmware update	No	
data integrity	No	
<b>Ambient conditions</b>		
Ambient temperature during operation		
<ul style="list-style-type: none"> <li>• horizontal installation, min.</li> <li>• horizontal installation, max.</li> <li>• vertical installation, min.</li> <li>• vertical installation, max.</li> </ul>	-30 °C; From FS03 60 °C -30 °C; From FS03 40 °C	
<b>Dimensions</b>		
Width	35 mm	
Height	147 mm	
Depth	129 mm	
<b>Weights</b>		
Weight, approx.	350 g	
<b>Classifications</b>		
	<b>Version</b>	<b>Classification</b>
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



[Confirmation](#)



[Miscellaneous](#)

General Product Approval	Test Certificates	Maritime application	other
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[Type Test Certificates/Test Report](#)



[Confirmation](#)



Environment

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