

Siemens
EcoTech



SIMATIC S7-1500, digital output module DQ16x24..48VUC/125V DC/0.5A ST; 16 channels in groups of 1; 0.5 A per group; substitute value: observe derating the module supports the safety-oriented shutdown of load groups up to SIL2 according to EN IEC 62061:2021 and Category 3 / PL d according to EN ISO 13849-1:2015. front connector (screw terminals or push-in) to be ordered separately

General information	
Product type designation	DQ 16x24 ... 48 V UC/125 V DC/0.5 A ST
HW functional status	from FS01
Firmware version	from V1.0.0
• 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	V13 SP1 / -
• 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 V1.1.0 or higher
Output voltage	
Rated value (DC)	24 V; 48 V, 125 V
Rated value (AC)	24 V; 48 V (50 - 60 Hz)
Power	
Power consumption from the backplane bus	2 W
Power loss	
Power loss, typ.	3.8 W
Address area	
Address space per module	
• Inputs	0 byte
• Outputs	2 byte
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	16

Current-sinking	Yes
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	No
Limitation of inductive shutdown voltage to	200 V (suppressor diode)
Controlling a digital input	Yes
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.	0.5 A
• on lamp load, max.	40 W; At 125 V DC, 10 W at 48 V UC, 5 W at 24 V UC
Output voltage	
• for signal "1", min.	L+ (-1.0 V)
Output current	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range, max.	0.6 A
Output delay with resistive load	
• "0" to "1", max.	5 ms
• "1" to "0", max.	5 ms
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.	25 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	10 Hz
Total current of the outputs	
• Current per channel, max.	0.5 A
• Current per group, max.	0.5 A
• Current per module, max.	8 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Diagnostics function	No
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	No
• Maintenance interrupt	Yes; maintenance alarm for switching cycle counter
Diagnoses	
• Monitoring the supply voltage	No
• 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)	No
• 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

<ul style="list-style-type: none">• between the channels, in groups of• between the channels and backplane bus	1 Yes																																	
Permissible potential difference																																		
between different circuits	125 V DC/48 V AC																																	
Isolation																																		
Isolation tested with	2 000 V DC																																	
Standards, approvals, certificates																																		
Siemens Eco Profile (SEP)	Siemens EcoTech																																	
Suitable for safety functions	No																																	
Suitable for safety-related tripping of standard modules	Yes; From FS02																																	
Ecological footprint																																		
<ul style="list-style-type: none">• 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																																		
<ul style="list-style-type: none">• Performance level according to ISO 13849-1• Category according to ISO 13849-1• SIL acc. to IEC 62061• remark on safety-oriented shutdown	PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632																																	
Security																																		
signed firmware update	Yes																																	
safely removing data	No																																	
data integrity	No																																	
Ambient conditions																																		
Ambient temperature during operation																																		
<ul style="list-style-type: none">• horizontal installation, min.• horizontal installation, max.• vertical installation, min.• vertical installation, max.	-25 °C; From FS05 60 °C -25 °C; From FS05 40 °C																																	
Altitude during operation relating to sea level																																		
<ul style="list-style-type: none">• Installation altitude above sea level, max.	2 000 m																																	
Absolute humidity																																		
<ul style="list-style-type: none">• dew point, min.	-60 °C; suitable for dry room applications																																	
Dimensions																																		
Width	35 mm																																	
Height	147 mm																																	
Depth	129 mm																																	
Weights																																		
Weight, approx.	230 g																																	
Classifications																																		
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ETIM	7	EC001419
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

[Manufacturer Declaration](#)

[Miscellaneous](#)



General Product Approval

EMV



[Manufacturer Declaration](#)

[China RoHS](#)



For use in hazardous locations

[EM](#)



[EM](#)



Maritime application



[NK / Nippon Kaiji Kyokai](#)



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

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

Environment



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