



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
<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>	V13 SP1 / -
<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>Cam control (switching at comparison values)</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 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	
<ul style="list-style-type: none"> <li>Inputs</li> </ul>	0 byte
<ul style="list-style-type: none"> <li>Outputs</li> </ul>	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
<b>Digital output functions, parameterizable</b>	
• Switching tripped by comparison values	No
• Freely usable digital output	No
• PWM output	No
• Digital output with oversampling	No
<b>Switching capacity of the outputs</b>	
• 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
<b>Output voltage</b>	
• for signal "1", min.	L+ (-1.0 V)
<b>Output current</b>	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range, max.	0.6 A
<b>Output delay with resistive load</b>	
• "0" to "1", max.	5 ms
• "1" to "0", max.	5 ms
<b>Parallel switching of two outputs</b>	
• for logic links	Yes
• for uprating	No
• for redundant control of a load	Yes
<b>Switching frequency</b>	
• with resistive load, max.	25 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	10 Hz
<b>Total current of the outputs</b>	
• Current per channel, max.	0.5 A
• Current per group, max.	0.5 A
• Current per module, max.	8 A
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	No
Substitute values connectable	Yes
<b>Alarms</b>	
• Diagnostic alarm	No
• Maintenance interrupt	Yes; maintenance alarm for switching cycle counter
<b>Diagnoses</b>	
• Monitoring the supply voltage	No
• Wire break	No
• Short-circuit	No
• Group error	No
<b>Diagnostics indication LED</b>	
• 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
<b>Potential separation</b>	
<b>Potential separation channels</b>	
• between the channels	Yes

<ul style="list-style-type: none"> <li>• between the channels, in groups of</li> <li>• between the channels and backplane bus</li> </ul>	1 Yes	
<b>Permissible potential difference</b>		
between different circuits	125 V DC/48 V AC	
<b>Isolation</b>		
Isolation tested with	2 000 V DC	
<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 FS02	
<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 d Cat. 3 SIL 2 <a href="https://support.industry.siemens.com/cs/de/en/view/39198632">https://support.industry.siemens.com/cs/de/en/view/39198632</a>	
<b>Security</b>		
signed firmware update	Yes	
safely removing data	No	
data integrity	No	
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
<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>	-25 °C; From FS05 60 °C -25 °C; From FS05 40 °C	
<b>Altitude during operation relating to sea level</b>		
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> </ul>	2 000 m	
<b>Absolute humidity</b>		
<ul style="list-style-type: none"> <li>• dew point, min.</li> </ul>	-60 °C; suitable for dry room applications	
<b>Dimensions</b>		
Width	35 mm	
Height	147 mm	
Depth	129 mm	
<b>Weights</b>		
Weight, approx.	230 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**

[Manufacturer Declaration](#)

[Miscellaneous](#)



**General Product Approval**

EMV



[Manufacturer Declaration](#)

[China RoHS](#)



**For use in hazardous locations**

**Maritime application**

[EM](#)



[EM](#)



**Maritime application**



[NK / Nippon Kaiji Kyokai](#)



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

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

**Environment**



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