



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	FS02
Firmware version	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	No
output voltage / header	
Rated value (DC)	24 V; 48 V, 125 V
Rated value (AC)	24 V; 48 V (50 - 60 Hz)
Power	
Power available from the backplane bus	2 W
Power loss	
Power loss, typ.	3.8 W
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	16
Current-sinking	Yes
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Limitation of inductive shutdown voltage to	200 V (suppressor diode)
Controlling a digital input	Yes
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	No
Diagnoses	
• Monitoring the supply voltage	No
• Wire-break	No
• Short-circuit	No
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red 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
• between the channels, in groups of	1
• between the channels and backplane bus	Yes
Permissible potential difference	
between different circuits	125 V DC/48 V AC
Isolation	
Isolation tested with	2 000 V DC
Standards, approvals, certificates	
Suitable for safety functions	No
Suitable for safety-related tripping of standard modules	Yes; From FS02
Highest safety class achievable for safety-related tripping of standard modules	
• Performance level according to ISO 13849-1	PL d
• Category according to ISO 13849-1	Cat. 3
• SIL acc. to IEC 62061	SIL 2
Ambient conditions	

Ambient temperature during operation	
• horizontal installation, min.	0 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	0 °C
• vertical installation, max.	40 °C
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	230 g
last modified:	3/3/2022 