



SIMATIC S7-1500, digital output module, DQ 64xDC 24V/0.3A BA, 64 channels in groups of 16, 2 A per group at 60 °C, sinking output, 35 mm wide, 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. cables and terminal blocks to be ordered separately as accessories

General information	
Product type designation	DQ 64x24VDC/0.3A BA
HW functional status	From FS01
Firmware version	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>	No
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V16 with HSP 0319 / V17
<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>	V2.35 / -
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>	No
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; through internal protection with 7 A per group
external protection for power supply lines (recommendation)	24 V DC/6 A miniature circuit breaker with type B tripping characteristic
Input current	
Current consumption, max.	90 mA; without load
output voltage / header	
Rated value (DC)	24 V
Power	
Power available from the backplane bus	0.6 W
Power loss	
Power loss, typ.	3.5 W
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	64
Current-sinking	No

Current-sourcing	Yes
Digital outputs, parameterizable	No
Short-circuit protection	Yes
Limitation of inductive shutdown voltage to	L+ (-53 V)
Controlling a digital input	Yes
<b>Switching capacity of the outputs</b>	
• with resistive load, max.	0.3 A
• on lamp load, max.	5 W
<b>Load resistance range</b>	
• lower limit	80 Ω
• upper limit	10 kΩ
<b>Output voltage</b>	
• for signal "1", min.	L+ (-0.8 V)
<b>Output current</b>	
• for signal "1" rated value	0.3 A
• for signal "1" permissible range, max.	0.3 A
• for signal "0" residual current, max.	0.5 mA
<b>Output delay with resistive load</b>	
• "0" to "1", max.	100 μs
• "1" to "0", max.	500 μs
<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.	100 Hz
• with inductive load, max.	0.5 Hz; According to IEC 60947-5-1, DC-13
• on lamp load, max.	10 Hz
<b>Total current of the outputs</b>	
• Current per channel, max.	0.3 A
• Current per group, max.	2 A
• Current per module, max.	8 A
<b>Total current of the outputs (per module)</b>	
horizontal installation	
— up to 60 °C, max.	8 A
vertical installation	
— up to 40 °C, 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	No
<b>Alarms</b>	
• Diagnostic alarm	No
• Maintenance interrupt	No
<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	No
• Monitoring of the supply voltage (PWR-LED)	Yes; via SIMATIC TOP connect connection module
• Channel status display	Yes; via SIMATIC TOP connect connection module
• for channel diagnostics	No
• for module diagnostics	No
<b>Potential separation</b>	
Potential separation channels	

- between the channels
- between the channels, in groups of
- between the channels and backplane bus

No  
 16; 32 when using SIMATIC TOP connect connection module  
 Yes

#### Isolation

Isolation tested with 707 V DC (type test)

#### Standards, approvals, certificates

Suitable for safety functions No

Suitable for safety-related tripping of standard modules Yes; From FS01

#### 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. -30 °C
- horizontal installation, max. 60 °C
- vertical installation, min. -30 °C
- vertical installation, max. 40 °C

##### Altitude during operation relating to sea level

- Installation altitude above sea level, max. 5 000 m

#### Dimensions

Width 35 mm

Height 147 mm

Depth 129 mm

#### Weights

Weight, approx. 270 g

#### Other

Note: Please order cable and connection modules separately

last modified: 3/3/2022 