



SIMATIC ET 200SP, digital output module DQ 4x 24...230V AC/2A HF  
 packaging unit: 1 piece, two alternative modes: DQ and power control, fits  
 to BU-Type U0, color code CC20, channel diagnosis

General information	
Product type designation	DQ 4x24 ... 230 V AC/2 A HF
HW functional status	From FS03
Firmware version	
• FW update possible	Yes
usable BaseUnits	BU type U0
Color code for module-specific color identification plate	CC20
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V14
• STEP 7 configurable/integrated from version	STEP 7 V5.5 or higher
• PROFIBUS from GSD version/GSD revision	GSD as of Revision 5
• PROFINET from GSD version/GSD revision	GSDML V2.3
Operating mode	
• DQ	Yes
• DQ with energy-saving function	Yes
• PWM	No
• Oversampling	No
• MSO	No
• Phase control	Yes; Control area: 8.5 ... 100% of the phase angle
• Trailing-edge phase	No
• Half-wave	Yes
• Full-wave	Yes
Supply voltage	
Rated value (AC)	230 V; 47 ... 63 Hz, max. rate of change of frequency 1 mHz/s
permissible range, lower limit (AC)	20.4 V
permissible range, upper limit (AC)	264 V
Input current	
Current consumption (rated value)	8 mA; without load
output voltage / header	
Rated value (AC)	230 V; 24V AC to 230V AC
Power loss	
Power loss, typ.	9 W; Active power, load voltage 230 V, all outputs loaded with 2 A, 50 Hz
Address area	
Address space per module	

<ul style="list-style-type: none"> <li>• Inputs</li> <li>• Outputs</li> </ul>	<p>+ 1 byte for QI information</p> <p>8 byte</p>
<b>Hardware configuration</b>	
Automatic encoding	Yes
<ul style="list-style-type: none"> <li>• Mechanical coding element</li> <li>• Type of mechanical coding element</li> </ul>	<p>Yes</p> <p>type C</p>
<b>Selection of BaseUnit for connection variants</b>	
<ul style="list-style-type: none"> <li>• 1-wire connection</li> <li>• 2-wire connection</li> <li>• 3-wire connection</li> </ul>	<p>BU type U0</p> <p>BU type U0</p> <p>BU type U0 + Potential distributor module</p>
<b>Digital outputs</b>	
Type of digital output	Triac
Number of digital outputs	4
Current-sinking	No
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	No; external fusing necessary
Open-circuit detection	Yes; channel by channel
<ul style="list-style-type: none"> <li>• Response threshold, typ.</li> </ul>	1 mA; 40 V AC or more
Overload protection	No; A miniature fuse with 10 tripping current and tripping characteristic "quick response" must be provided in the module supply
Controlling a digital input	Yes
<b>Switching capacity of the outputs</b>	
<ul style="list-style-type: none"> <li>• with resistive load, max.</li> <li>• with inductive load, max.</li> <li>• on lamp load, max.</li> </ul>	<p>2 A; Max. 4 A, see additional description in manual</p> <p>2 A</p> <p>100 W; Tungsten rating in accordance with UL; for thermistors with higher power ratings, see the notes in the manual</p>
<b>Output voltage</b>	
<ul style="list-style-type: none"> <li>• for signal "1", min.</li> </ul>	20.4 V
<b>Output current</b>	
<ul style="list-style-type: none"> <li>• for signal "1" rated value</li> <li>• for signal "1" permissible range, min.</li> <li>• for signal "1" permissible range, max.</li> <li>• for signal "0" residual current, max.</li> </ul>	<p>2 A</p> <p>10 mA</p> <p>4 A; note derating data in the manual</p> <p>3 mA</p>
<b>Output delay with resistive load</b>	
<ul style="list-style-type: none"> <li>• "0" to "1", max.</li> <li>• "1" to "0", max.</li> </ul>	<p>40 ms; 2 AC cycles</p> <p>20 ms; 1 AC cycle</p>
<b>Parallel switching of two outputs</b>	
<ul style="list-style-type: none"> <li>• for logic links</li> <li>• for uprating</li> <li>• for redundant control of a load</li> </ul>	<p>No</p> <p>No</p> <p>Yes</p>
<b>Switching frequency</b>	
<ul style="list-style-type: none"> <li>• with resistive load, max.</li> <li>• with inductive load (acc. to IEC 60947-5-1, AC15), max.</li> <li>• on lamp load, max.</li> </ul>	<p>10 Hz; Applies to DQ mode; limited by line frequency in PC mode</p> <p>10 Hz; Applies to DQ mode; limited by line frequency in PC mode</p> <p>1 Hz; Applies to DQ mode; limited by line frequency in PC mode</p>
<b>Total current of the outputs</b>	
<ul style="list-style-type: none"> <li>• Current per channel, max.</li> <li>• Current per module, max.</li> </ul>	<p>2 A; Max. 4 A, see additional description in manual</p> <p>8 A</p>
<b>Total current of the outputs (per module)</b>	
<b>horizontal installation</b>	
<ul style="list-style-type: none"> <li>— up to 40 °C, max.</li> <li>— up to 50 °C, max.</li> <li>— up to 60 °C, max.</li> </ul>	<p>8 A</p> <p>6 A</p> <p>4 A</p>
<b>vertical installation</b>	
<ul style="list-style-type: none"> <li>— up to 30 °C, max.</li> <li>— up to 40 °C, max.</li> <li>— up to 50 °C, max.</li> </ul>	<p>8 A</p> <p>6 A</p> <p>4 A</p>
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	1 000 m

• unshielded, max.	600 m
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Substitute values connectable	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnoses</b>	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes
• Wire-break	Yes; channel by channel
• Short-circuit	No
• Group error	Yes
<b>Diagnostics indication LED</b>	
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
• Channel status display	Yes; green LED
• for channel diagnostics	Yes; red Fn LED
• for module diagnostics	Yes; green/red DIAG LED
<b>Potential separation</b>	
<b>Potential separation channels</b>	
• between the channels	No
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	No
<b>Isolation</b>	
Isolation tested with	2 545 V DC/2 s (routine test)
<b>Standards, approvals, certificates</b>	
Suitable for safety functions	No
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• horizontal installation, min.	-30 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C
• vertical installation, max.	50 °C
<b>Altitude during operation relating to sea level</b>	
• Installation altitude above sea level, max.	2 000 m; On request: Installation altitudes greater than 2 000 m
<b>Dimensions</b>	
Width	20 mm
Height	73 mm
Depth	58 mm
<b>Weights</b>	
Weight, approx.	50 g
<b>last modified:</b>	12/28/2021 