



SIMATIC ET 200SP, digital output module DQ 4x24 V DC/2 A standard, source output (PNP,sourcing output) packing unit: 1 unit, suitable for BU type A0, color code CC02, substitute value output, module diagnostics for: short circuit to L+ and M, wire break, supply voltage

General information	
Product type designation	DQ 4x24VDC/2A ST
HW functional status	01
Firmware version	V1.0
• FW update possible	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC02
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	STEP 7 V19 or higher with HSP0425 / integrated as of TIA Portal V20
• STEP 7 configurable/integrated from version	as of STEP 7 V5.5 SP3 with HSP0230 V11.0 / integrated as of STEP 7 V5.7 SP3
• PROFIBUS from GSD version/GSD revision	One GSD file each, Revision 3 and 5 and higher
• PROFINET from GSD version/GSD revision	GSDML V2.43
Operating mode	
• DQ	Yes
• DQ with energy-saving function	No
• PWM	No
• Oversampling	No
• MSO	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
Input current	
Current consumption, max.	20 mA; without load
output voltage / header	
Rated value (DC)	24 V
Power loss	
Power loss, typ.	1 W
Address area	
Address space per module	
• Address space per module, max.	1 byte; + 1 byte for QI information
Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element	Yes
• Type of mechanical coding element	Type A

<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>	BU type A0 BU type A0 BU type A0 with AUX terminals or potential distributor module
<b>Digital outputs</b>	
Type of digital output	Source output (PNP, current-sourcing)
Number of digital outputs	4
Current-sinking	No
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
output type acc. to IEC 61131, type 2	Yes
Short-circuit protection	Yes; Electronic
<ul style="list-style-type: none"> <li>• Response threshold, typ.</li> </ul>	2.8 to 5.2 A
Open-circuit detection	Yes
Limitation of inductive shutdown voltage to	Typ. L+ (-50 V)
Controlling a digital input	Yes; supports input type 3 according to IEC 61131-2
<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>	2 A 2 A 10 W
<b>Load resistance range</b>	
<ul style="list-style-type: none"> <li>• lower limit</li> <li>• upper limit</li> </ul>	12 Ω 3 400 Ω
<b>Output current</b>	
<ul style="list-style-type: none"> <li>• for signal "1" rated value</li> <li>• for signal "1" permissible range, max.</li> <li>• for signal "0" residual current, max.</li> </ul>	2 A 2 A 0.1 mA
<b>Output delay with resistive load</b>	
<ul style="list-style-type: none"> <li>• "0" to "1", typ.</li> <li>• "1" to "0", typ.</li> </ul>	50 μs 100 μs
<b>Parallel switching of two outputs</b>	
<ul style="list-style-type: none"> <li>• for uprating</li> <li>• for redundant control of a load</li> </ul>	No Yes
<b>Switching frequency</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>	100 Hz 0.1 Hz; higher frequencies are possible, see Equipment Manual "Maximum permitted switching frequency of inductive loads" 10 Hz
<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>	2 A 8 A; see Equipment Manual "Derating curve"
<b>Total current of the outputs (per module)</b>	
<b>horizontal 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> <li>— up to 60 °C, max.</li> </ul>	8 A 8 A 6 A 4 A
<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>	8 A 6 A 4 A
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> <li>• unshielded, max.</li> </ul>	1 000 m 600 m
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Substitute values connectable	Yes
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>	Yes
<b>Diagnoses</b>	
<ul style="list-style-type: none"> <li>• Monitoring the supply voltage</li> </ul>	Yes

— parameterizable	Yes
• Wire-break	Yes; Module-wise
• Short-circuit to M	Yes; Module-wise
• Short-circuit to L+	Yes; Module-wise
• 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	No
• 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 load voltage L+	No

<b>Isolation</b>	
Isolation tested with	707 V DC (type 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.	5 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP system manual

<b>Dimensions</b>	
Width	15 mm
Height	73 mm
Depth	58 mm

<b>Weights</b>	
Weight, approx.	30 g

<b>Classifications</b>		
	<b>Version</b>	<b>Classification</b>
eClass	14	27-24-26-04
eClass	12	27-24-26-04
eClass	9.1	27-24-26-04
eClass	9	27-24-26-04
eClass	8	27-24-26-04
eClass	7.1	27-24-26-04
eClass	6	27-24-26-04
ETIM	9	EC001599
ETIM	8	EC001599
ETIM	7	EC001599

<b>Approvals / Certificates</b>	
<b>General Product Approval</b>	



General Product Approval	EMV	For use in hazardous locations
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[KC](#)



[FM](#)

[CCC-Ex](#)



For use in hazardous locations

Maritime application



IECEX

[Miscellaneous](#)



ABS



BUREAU  
VERITAS



DNV



LRS

Maritime application

Environment

[NK / Nippon Kaiji Ky-  
okai](#)



RINA



RMRS

[CCS \(China Classifica-  
tion Society\)](#)



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EPD

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