

SIMATIC ET 200SP, digital output module, DQ 8x24 V DC/0.5 A high feature, source output (PNP,sourcing output) packing unit: 10 units, suitable for BU type A0, color code CC02, channel diagnostics for: short-circuit and wire break, supply voltage, channel fault LED

General information	
Product type designation	DQ 8x24VDC/0.5A HF
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	Yes; 250 µs
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	as of TIA Portal V19 with HSP0428 / 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	Yes
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	
Rated value (DC)	24 V
Power loss	
Power loss, typ.	1 W
Address area	
Address space per module	
• Address space per module, max.	8 byte; 2 channels per submodule + QI information
Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element	Yes
• Type of mechanical coding element	Type A
Submodules	
• Number of configurable submodules, max.	4
Selection of BaseUnit for connection variants	
• 1-wire connection	BU type A0
• 2-wire connection	BU type A0
• 3-wire connection	BU type A0 with AUX terminals or potential distributor module
Digital outputs	
Type of digital output	Source output (PNP, current-sourcing)

Number of digital outputs	8
Current-sinking	No
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
output type acc. to IEC 61131, type 0.5	Yes
Short-circuit protection	Yes; Electronic
• Response threshold, typ.	0.7 to 1.3 A
Limitation of inductive shutdown voltage to	Typ. L+ (-50 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• with resistive load, max.	0.5 A
• with inductive load, max.	0.5 A
• on lamp load, max.	5 W
Load resistance range	
• lower limit	48 Ω
• upper limit	12 kΩ
Output current	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range, max.	0.5 A
• for signal "0" residual current, max.	0.1 mA
Output delay with resistive load	
• "0" to "1", typ.	50 μs
• "1" to "0", typ.	100 μs
Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	100 Hz
• with inductive load, max.	0.1 Hz; higher frequencies are possible, see Equipment Manual "Maximum permitted switching frequency of inductive loads"
• on lamp load, max.	10 Hz
Total current of the outputs	
• Current per channel, max.	0.5 A
• Current per module, max.	4 A
Total current of the outputs (per module)	
horizontal installation	
— up to 60 °C, max.	4 A
vertical installation	
— up to 50 °C, max.	4 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Isochronous mode	
Execution and activation time (TCO), min.	48 μs
Bus cycle time (TDP), min.	500 μs
Jitter, max.	8 μs
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
— parameterizable	Yes
• Wire-break	Yes; channel by channel
• Short-circuit to M	Yes; channel by channel
• Short-circuit to L+	Yes; channel by channel
• Group error	Yes
Diagnostics indication LED	

<ul style="list-style-type: none">• Monitoring of the supply voltage (PWR-LED)• Channel status display• for channel diagnostics• for module diagnostics	Yes; green PWR LED Yes; green LED Yes; red LED Yes; green/red DIAG LED		
Potential separation			
Potential separation channels			
<ul style="list-style-type: none">• between the channels	No		
<ul style="list-style-type: none">• between the channels and backplane bus	Yes		
<ul style="list-style-type: none">• Between the channels and load voltage L+	No		
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; see FAQ Entry ID: 39198632		
Ecological footprint			
<ul style="list-style-type: none">• environmental product declaration	Yes		
Global warming potential			
<ul style="list-style-type: none">— global warming potential, (total) [CO2 eq]	20.4 kg		
<ul style="list-style-type: none">— global warming potential, (during production) [CO2 eq]	3.16 kg		
<ul style="list-style-type: none">— global warming potential, (during operation) [CO2 eq]	17.5 kg		
<ul style="list-style-type: none">— global warming potential, (after end of life cycle) [CO2 eq]	-0.221 kg		
Highest safety class achievable for safety-related tripping of standard modules			
<ul style="list-style-type: none">• Performance level according to ISO 13849-1	PL d		
<ul style="list-style-type: none">• Category according to ISO 13849-1	Cat. 3		
<ul style="list-style-type: none">• SIL acc. to IEC 62061	SIL 2		
<ul style="list-style-type: none">• remark on safety-oriented shutdown	https://support.industry.siemens.com/cs/de/en/view/39198632		
Ambient conditions			
Ambient temperature during operation			
<ul style="list-style-type: none">• horizontal installation, min.	-30 °C		
<ul style="list-style-type: none">• horizontal installation, max.	60 °C		
<ul style="list-style-type: none">• vertical installation, min.	-30 °C		
<ul style="list-style-type: none">• vertical installation, max.	50 °C		
Altitude during operation relating to sea level			
<ul style="list-style-type: none">• Installation altitude above sea level, max.	5 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP system manual		
Dimensions			
Width	15 mm		
Height	73 mm		
Depth	58 mm		
Weights			
Weight, approx.	30 g		
Classifications			
		Version	Classification
	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	10	EC001599
	ETIM	9	EC001599
	ETIM	8	EC001599
	ETIM	7	EC001599
Approvals / Certificates			

General Product Approval



[Manufacturer Declaration](#)

[Miscellaneous](#)

[China RoHS](#)



Maritime application

Environment



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