



SIMATIC ET 200SP, Digital output module, DQ 16x 24V DC/0.5A STANDARD, Source output (PNP,P-switching) Packing unit: 10 pieces, fits to BU-type A0, Colour Code CC00, substitute value output, module diagnostics for: short-circuit to L+ and ground, wire break, supply voltage

General information	
Product type designation	DQ 16x24 VDC/0.5 A ST
HW functional status	From FS03
Firmware version	V0.0
• FW update possible	No
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC00
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	V5.5 SP3
• PCS 7 configurable/integrated from version	V8.1 SP1
• PROFIBUS from GSD version/GSD revision	One GSD file each, Revision 3 and 5 and higher
• PROFINET from GSD version/GSD revision	GSDML V2.3
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.	60 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.	2 byte; + 2 bytes for QI information
Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element	Yes
• Type of mechanical coding element	Type A

Selection of BaseUnit for connection variants	
<ul style="list-style-type: none"> • 1-wire connection • 2-wire connection • 3-wire connection • 4-wire connection 	BU type A0 BU type A0 + Potential distributor module BU type A0 + Potential distributor module BU type A0 + Potential distributor module
Digital outputs	
Type of digital output	Source output (PNP, current-sourcing)
Number of digital outputs	16
Current-sinking	No
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
<ul style="list-style-type: none"> • Response threshold, typ. 	1 A; 0.7 to 1.3 A
Open-circuit detection	Yes
Limitation of inductive shutdown voltage to	Typ. L+ (-50 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
<ul style="list-style-type: none"> • with resistive load, max. • on lamp load, max. 	0.5 A 5 W
Load resistance range	
<ul style="list-style-type: none"> • lower limit • upper limit 	48 Ω 12 kΩ
Output current	
<ul style="list-style-type: none"> • for signal "1" rated value • for signal "0" residual current, max. 	0.5 A 0.1 mA
Output delay with resistive load	
<ul style="list-style-type: none"> • "0" to "1", typ. • "1" to "0", typ. 	50 μs 100 μs
Parallel switching of two outputs	
<ul style="list-style-type: none"> • for uprating • for redundant control of a load 	No Yes
Switching frequency	
<ul style="list-style-type: none"> • with resistive load, max. • with inductive load, max. • on lamp load, max. 	100 Hz 2 Hz 10 Hz
Total current of the outputs	
<ul style="list-style-type: none"> • Current per channel, max. • Current per module, max. 	0.5 A 8 A
Total current of the outputs (per module)	
horizontal installation	
— up to 40 °C, max.	8 A
— up to 50 °C, max.	6 A
— up to 60 °C, max.	4 A
vertical installation	
— up to 30 °C, max.	8 A
— up to 40 °C, max.	6 A
— up to 50 °C, max.	4 A
Cable length	
<ul style="list-style-type: none"> • shielded, max. • unshielded, max. 	1 000 m 600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm 	Yes
Diagnoses	
<ul style="list-style-type: none"> • Monitoring the supply voltage • Wire-break • Short-circuit to M • Short-circuit to L+ • Group error 	Yes Yes; Module-wise Yes; Module-wise Yes; Module-wise Yes

Diagnostics indication LED			
• 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		
Potential separation			
Potential separation channels			
• between the channels	No		
• between the channels and backplane bus	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; see FAQ Entry ID: 39198632		
Ecological footprint			
• environmental product declaration	Yes		
Global warming potential			
— global warming potential, (total) [CO2 eq]	29.3 kg		
— global warming potential, (during production) [CO2 eq]	3.98 kg		
— global warming potential, (during operation) [CO2 eq]	25.6 kg		
— global warming potential, (after end of life cycle) [CO2 eq]	-0.245 kg		
Highest safety class achievable in safety mode			
• Performance level according to ISO 13849-1	PL d		
• SIL acc. to IEC 61508	SIL 2		
Ambient conditions			
Ambient temperature during operation			
• horizontal installation, min.	-30 °C; < 0 °C as of FS03		
• horizontal installation, max.	60 °C		
• vertical installation, min.	-30 °C; < 0 °C as of FS03		
• vertical installation, max.	50 °C		
Altitude during operation relating to sea level			
• Installation altitude above sea level, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see 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	9	EC001599
	ETIM	8	EC001599
	ETIM	7	EC001599
	IDEA	4	3566
	UNSPSC	15	32-15-17-05
Approvals / Certificates			
General Product Approval		Marine / Shipping	



[Manufacturer Declaration](#)



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