



SIMATIC ET 200SP, digital output module, DQ 4x 24VDC/2A High Feature, suitable for BU type A0, Color code CC02, channel diagnostics

General information	
Product type designation	DQ 4x DC 24 V/2 A HF
HW functional status	FS20 or higher
Firmware version	V2.0.3
<ul style="list-style-type: none"> FW update possible 	Yes
usable BaseUnits	BU type A0
Color code for module-specific color-coded label	CC02
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> Isochronous mode 	Yes; 250 µs
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	V13 SP1 / -
<ul style="list-style-type: none"> STEP 7 configurable/integrated from version 	V5.5 / -
<ul style="list-style-type: none"> PROFIBUS from GSD version/GSD revision 	GSD Revision 5
<ul style="list-style-type: none"> PROFINET from GSD version/GSD revision 	GSDML V2.3
Operating mode	
<ul style="list-style-type: none"> DQ 	Yes
<ul style="list-style-type: none"> DQ with energy-saving function 	No
<ul style="list-style-type: none"> PWM 	No
<ul style="list-style-type: none"> Oversampling 	No
<ul style="list-style-type: none"> 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 (rated value)	28 mA
Current consumption, max.	28 mA
Output voltage	
Rated value (DC)	24 V
Power loss	
Power loss, typ.	1 W
Address area	
Address space per module	
<ul style="list-style-type: none"> Address space per module, max. 	4 byte; 2 channels per submodule + QI information
Hardware configuration	
Automatic encoding	Yes
<ul style="list-style-type: none"> Mechanical coding element 	Yes

• Type of mechanical coding element	Type A
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
• 4-wire connection	BU type A0 + Potential distributor module
Digital outputs	
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
• Response threshold, typ.	2.8 to 5.2 A
Limitation of inductive shutdown voltage to	L+ -(37 to 41V)
Controlling a digital input	Yes; Minimum current consumption 7 mA
Switching capacity of the outputs	
• with resistive load, max.	2 A
• on lamp load, max.	10 W
Load resistance range	
• lower limit	12 Ω
• upper limit	3 400 Ω
Output current	
• for signal "1" rated value	2 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
Switching frequency	
• with resistive load, max.	100 Hz
• with inductive load, max.	2 Hz
• on lamp load, max.	10 Hz
Total current of the outputs	
• Current per channel, max.	2 A
• Current per module, max.	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	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Isochronous mode	
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	

<ul style="list-style-type: none"> Monitoring the supply voltage Wire break Short-circuit to ground Short-circuit to L+ Group error 	<p>Yes</p> <p>Yes; channel by channel</p> <p>Yes; channel by channel</p> <p>Yes; channel by channel</p> <p>Yes</p>	
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 	<p>Yes; green PWR LED</p> <p>Yes; green LED</p> <p>Yes; red LED</p> <p>Yes; green/red DIAG LED</p>	
Potential separation		
Potential separation channels		
<ul style="list-style-type: none"> between the channels between the channels and backplane bus 	<p>No</p> <p>Yes</p>	
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; type II acc. to ISO 14021	
Global warming potential		
— global warming potential, (total) [CO2 eq]	29.3 kg	
— global warming potential, (during production) [CO2 eq]	4 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		
<ul style="list-style-type: none"> Performance level according to ISO 13849-1 SIL acc. to IEC 61508 	<p>PL d</p> <p>SIL 2</p>	
Ambient conditions		
Ambient temperature during operation		
<ul style="list-style-type: none"> horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. 	<p>-30 °C; < 0 °C as of FS06</p> <p>60 °C</p> <p>-30 °C; < 0 °C as of FS06</p> <p>50 °C</p>	
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 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
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval



General Product Approval	EMV	Test Certificates	Maritime application
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Maritime application



other	Railway
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[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)



[Miscellaneous](#)

[Special Test Certificate](#)

Dangerous goods	Environment
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[Transport Information](#)

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