



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	From FS06
Firmware version	
• 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
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V13 SP1 / -
• STEP 7 configurable/integrated from version	V5.5 / -
• PROFIBUS from GSD version/GSD revision	GSD Revision 5
• PROFINET from GSD version/GSD revision	GSDML V2.3
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
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.	4 byte; 2 channels per submodule + QI information
Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element	Yes
• Type of mechanical coding element	Type A
Selection of BaseUnit for connection variants	

- 1-wire connection
- 2-wire connection
- 3-wire connection
- 4-wire connection

BU type A0
 BU type A0
 BU type A0 with AUX terminals or potential distributor module
 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
Short-circuit protection	Yes
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • with resistive load, max. 	2 A
<ul style="list-style-type: none"> • on lamp load, max. 	10 W
Load resistance range	
<ul style="list-style-type: none"> • lower limit 	12 Ω
<ul style="list-style-type: none"> • upper limit 	3 400 Ω
Output current	
<ul style="list-style-type: none"> • for signal "1" rated value 	2 A
<ul style="list-style-type: none"> • for signal "0" residual current, max. 	0.1 mA
Output delay with resistive load	
<ul style="list-style-type: none"> • "0" to "1", typ. 	50 μs
<ul style="list-style-type: none"> • "1" to "0", typ. 	100 μs
Parallel switching of two outputs	
<ul style="list-style-type: none"> • for uprating 	No
Switching frequency	
<ul style="list-style-type: none"> • with resistive load, max. 	100 Hz
<ul style="list-style-type: none"> • with inductive load, max. 	2 Hz
<ul style="list-style-type: none"> • on lamp load, max. 	10 Hz
Total current of the outputs	
<ul style="list-style-type: none"> • Current per channel, max. 	2 A
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • shielded, max. 	1 000 m
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • Diagnostic alarm 	Yes
Diagnoses	
<ul style="list-style-type: none"> • Monitoring the supply voltage 	Yes
<ul style="list-style-type: none"> • Wire-break 	Yes; channel by channel
<ul style="list-style-type: none"> • Short-circuit 	Yes; channel by channel
<ul style="list-style-type: none"> • 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 	<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
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
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