

SIMATIC ET 200SP, digital output module DQ 4x 24..230V AC/2A HF packaging unit: 1 piece, two alternative modes: DQ and power control, fits to BU-Type U0, color code CC20, channel diagnosis



General information	
Product type designation	DQ 4x24 ... 230 V AC/2 A HF, PU 1
HW functional status	From FS03
Firmware version	
<ul style="list-style-type: none"> FW update possible 	Yes
usable BaseUnits	BU type U0
Color code for module-specific color identification plate	CC20
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 	No
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated as of version 	V14
<ul style="list-style-type: none"> STEP 7 configurable/integrated as of version 	STEP 7 V5.5 or higher
<ul style="list-style-type: none"> PROFIBUS as of GSD version/GSD revision 	GSD as of Revision 5
<ul style="list-style-type: none"> PROFINET as of GSD version/GSD revision 	GSDML V2.3
Operating mode	
<ul style="list-style-type: none"> DQ 	Yes

• DQ with energy-saving function	Yes
• PWM	No
• Oversampling	No
• MSO	No
• Phase control	Yes; Control area: 8.5 ... 100% of the phase angle
• Trailing-edge phase	No
• Half-wave	Yes
• Full-wave	Yes

Supply voltage

Rated value (AC)	230 V; 47 ... 63 Hz, max. rate of change of frequency 1 mHz/s
permissible range, lower limit (AC)	20.4 V
permissible range, upper limit (AC)	264 V

Input current

Current consumption (rated value)	8 mA; without load
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Output voltage

Rated value (AC)	230 V; 24V AC to 230V AC
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Power loss

Power loss, typ.	9 W; Active power, load voltage 230 V, all outputs loaded with 2 A, 50 Hz
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Address area

Address space per module	
• Inputs	+ 1 byte for QI information
• Outputs	8 byte

Hardware configuration

Automatic encoding	Yes
• Mechanical coding element	Yes
Selection of BaseUnit for connection variants	
• 1-wire connection	BU type U0
• 2-wire connection	BU type U0
• 3-wire connection	BU type U0 + Potential isolation module

Digital outputs

Number of digital outputs	4
Current-sinking	No
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	No; external fusing necessary
Open-circuit detection	Yes; channel by channel
• Response threshold, typ.	1 mA; 40 V AC or more

Overload protection	No; A miniature fuse with 10 tripping current and tripping characteristic "quick response" must be provided in the module supply
Controlling a digital input	Yes
Switching capacity of the outputs	
<ul style="list-style-type: none"> • with resistive load, max. • with inductive load, max. • on lamp load, max. 	2 A; Max. 4 A, see additional description in manual 2 A 100 W; Tungsten rating in accordance with UL; for thermistors with higher power ratings, see the notes in the manual
Output voltage	
<ul style="list-style-type: none"> • for signal "1", min. 	20.4 V
Output current	
<ul style="list-style-type: none"> • for signal "1" rated value • for signal "1" permissible range, min. • for signal "1" permissible range, max. • for signal "0" residual current, max. 	2 A 10 mA 4 A; note derating data in the manual 3 mA
Output delay with resistive load	
<ul style="list-style-type: none"> • "0" to "1", max. • "1" to "0", max. 	40 ms; 2 AC cycles 20 ms; 1 AC cycle
Parallel switching of two outputs	
<ul style="list-style-type: none"> • for logic links • for uprating • for redundant control of a load 	No No Yes
Switching frequency	
<ul style="list-style-type: none"> • with resistive load, max. • with inductive load (acc. to IEC 60947-5-1, AC15), max. • on lamp load, max. 	10 Hz; Applies to DQ mode; limited by line frequency in PC mode 10 Hz; Applies to DQ mode; limited by line frequency in PC mode 1 Hz; Applies to DQ mode; limited by line frequency in PC mode
Total current of the outputs	
<ul style="list-style-type: none"> • Current per channel, max. • Current per module, max. 	2 A; Max. 4 A, see additional description in manual 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

- unshielded, max. 600 m

Interrupts/diagnostics/status information

Diagnostics function	Yes
Substitute values connectable	Yes

Alarms

- Diagnostic alarm Yes

Diagnostic messages

- Diagnostic information readable Yes
- Monitoring the supply voltage Yes
- Wire-break Yes; channel by channel
- Short-circuit No
- Group error Yes

Diagnostics indication LED

- Monitoring of the supply voltage (PWR-LED) Yes; green PWR LED
- Channel status display Yes; green LED
- for channel diagnostics Yes; red Fn LED
- for module diagnostics Yes; green/red DIAG LED

Potential separation

Potential separation channels

- between the channels No
- between the channels and backplane bus Yes
- between the channels and the power supply of the electronics No

Isolation

Isolation tested with	2 545 V DC/2 s (routine test)
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Standards, approvals, certificates

Suitable for safety functions	No
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Ambient conditions

Ambient temperature during operation

- horizontal installation, min. -30 °C
- horizontal installation, max. 60 °C
- vertical installation, min. -30 °C
- vertical installation, max. 50 °C

Altitude during operation relating to sea level

- Installation altitude above sea level, max. 2 000 m; On request: Installation altitudes greater than 2 000 m

Dimensions

Width	20 mm
Height	73 mm
Depth	58 mm

Weights

Weight, approx.

50 g

last modified:

05/09/2020