



SIMATIC ET 200SP, digital output module, DQ 4x 24 V DC/2A High Speed, Pack quantity: 1 unit suitable for BU type A0, Color code CC00, 3 alternative operating modes: DQ, Oversampling, PWM Module diagnostics

General information	
Product type designation	DQ 4x24 V DC/2 A HS
HW functional status	From FS05
Firmware version	Yes
<ul style="list-style-type: none"> FW update possible 	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC00
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; Operating modes DQ and OVS only
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	STEP 7 V15.1 or higher
<ul style="list-style-type: none"> STEP 7 configurable/integrated from version 	via GSD as of V5.6 HF4
<ul style="list-style-type: none"> PROFIBUS from GSD version/GSD revision 	One GSD file each, Revision 3 and 5 and higher
<ul style="list-style-type: none"> PROFINET from GSD version/GSD revision 	GSDML V2.33
Operating mode	
<ul style="list-style-type: none"> DQ 	Yes
<ul style="list-style-type: none"> DQ with energy-saving function 	Yes; Valve control
<ul style="list-style-type: none"> PWM 	Yes
<ul style="list-style-type: none"> Cam control (switching at comparison values) 	Yes; Via MtM (module-to-module communication)
<ul style="list-style-type: none"> Oversampling 	Yes
<ul style="list-style-type: none"> 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.	50 mA; without load
output voltage / header	
Rated value (DC)	24 V
Power loss	
Power loss, typ.	2.5 W; at 24 V, 25 °C, DQ mode, 2 A per channel
Address area	
Address space per module	
<ul style="list-style-type: none"> Inputs 	1 byte; Max. 14 bytes in the cam control operating mode
<ul style="list-style-type: none"> Outputs 	1 byte; Max. 16 bytes in the oversampling operating mode
Hardware configuration	
Automatic encoding	Yes

<ul style="list-style-type: none"> • Mechanical coding element 	Yes
<ul style="list-style-type: none"> • 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 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; Push-pull output
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
<ul style="list-style-type: none"> • Response threshold, typ. 	6 A
Limitation of inductive shutdown voltage to	M (-1 V)
Controlling a digital input	No
Digital output functions, parameterizable	
<ul style="list-style-type: none"> • Switching tripped by comparison values <ul style="list-style-type: none"> — Number of cam tracks, max. — Number of cams per module, max. — Number of cams per track, max. — Supported axis types — Hysteresis — Pulsed cam output — Range of values for comparison values, max. • Freely usable digital output • PWM output <ul style="list-style-type: none"> — Number, max. — Cycle duration, parameterizable — Resolution of the duty cycle • Digital output with oversampling <ul style="list-style-type: none"> — Number, max. — Values per cycle, max. — Resolution, min. 	Yes 4 16 16 Linear axes and rotary axes with modulo function Yes Yes -2,147,483,648 to 2,147,483,647 (user-specific within this range) Yes Yes 4 Yes; 0 ms, 0.2 ms, 0.4 ms, 0.93 ms, 1.33 ms, 4.27 ms, 10.67 ms, 21.33 ms, 34.13 ms, 59.73 ms 0.1 % Yes 4 32 100 µs
Switching capacity of the outputs	
<ul style="list-style-type: none"> • with resistive load, max. • on lamp load, max. 	2 A 10 W
Load resistance range	
<ul style="list-style-type: none"> • lower limit • upper limit 	12 Ω 3 400 Ω
Output current	
<ul style="list-style-type: none"> • for signal "1" rated value • for signal "0" residual current, max. 	2 A 0.1 mA
Output delay with resistive load	
<ul style="list-style-type: none"> • "0" to "1", max. • "1" to "0", max. 	1 µs 1 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. • with inductive load, max. • on lamp load, max. 	5 kHz 5 kHz 5 kHz
Total current of the outputs	
<ul style="list-style-type: none"> • Current per channel, max. • Current per module, max. 	2 A 8 A
Total current of the outputs (per module)	
horizontal installation	
<ul style="list-style-type: none"> — up to 30 °C, max. — up to 40 °C, max. — up to 50 °C, max. — up to 60 °C, max. 	8 A; DQ mode 6.9 A; DQ mode 4.7 A; DQ mode 2.5 A; DQ mode
vertical installation	

— up to 30 °C, max.	7.2 A; DQ mode
— up to 40 °C, max.	5.6 A; DQ mode
— up to 50 °C, max.	4 A; DQ mode
Cable length	
• shielded, max.	50 m
• unshielded, max.	50 m
Isochronous mode	
Execution and activation time (TCO), min.	40 µs
Bus cycle time (TDP), min.	125 µs
Jitter, max.	1 µs
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes
• Wire-break	No
• Short-circuit	Yes; Module-wise
• 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	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	No
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.	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.	31 g

last modified:

12/28/2021 