



SIMATIC ET 200SP, digital output module, DQ 16x 24VDC/0.5A Standard, Pack quantity: 10 units, suitable for BU type A0, Color code CC00, Module diagnostics

General information	
Product type designation	DQ 16x24 VDC/0.5 A ST
Firmware version	
• FW update possible	Yes
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	V11 SP2 / V13
• STEP 7 configurable/integrated from version	V5.5 SP3 / -
• 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	No
Redundancy	
• Redundancy capability	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, max.	60 mA; without load
Output voltage	
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

Hardware configuration	
Automatic encoding	
<ul style="list-style-type: none"> • Mechanical coding element 	Yes
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
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	
<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 8 A 6 A 4 A
vertical 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 6 A 4 A 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	
• Monitoring the supply voltage	Yes
• Wire-break	Yes; Module-wise
• 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
Permissible potential difference	
between different circuits	75 V DC/60 V AC (base isolation)
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; From FS03
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.	0 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	0 °C; in all other mounting positions
• vertical installation, max.	50 °C; in all other mounting positions
Altitude during operation relating to sea level	
• Ambient air temperature-barometric pressure-altitude	On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	28 g
last modified:	1/16/2021 