



SIMATIC ET 200SP, digital output module, DQ 8x 24VDC/0,5A High Feature, Source output PNP, P-switching, packaging unit: 10 pieces, suitable for BU type A0, color code CC02, channel diagnosis for: short circuit and wire break, power supply, channel failure LED

General information	
Product type designation	DQ 8x24 V DC/0.5 A HF
HW functional status	From FS07
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	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
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"> PCS 7 configurable/integrated from version 	V8.1 SP1
<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 V2.3
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
output voltage / header	
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. 	8 byte; 2 channels per submodule + QI information
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 	BU type A0

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

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	8
Current-sinking	No
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
<ul style="list-style-type: none"> • Response threshold, typ. 	1 A; 0.7 to 1.3 A
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. 	0.5 A
<ul style="list-style-type: none"> • on lamp load, max. 	5 W
Load resistance range	
<ul style="list-style-type: none"> • lower limit 	48 Ω
<ul style="list-style-type: none"> • upper limit 	12 kΩ
Output current	
<ul style="list-style-type: none"> • for signal "1" rated value 	0.5 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
<ul style="list-style-type: none"> • for redundant control of a load 	Yes
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. 	0.5 A
<ul style="list-style-type: none"> • Current per module, max. 	4 A
Total current of the outputs (per module)	
horizontal installation	
— up to 60 °C, max.	4 A
vertical installation	
— 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	
Execution and activation time (TCO), min.	48 μs
Bus cycle time (TDP), min.	500 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) 	Yes; green PWR LED
<ul style="list-style-type: none"> • Channel status display 	Yes; green LED
<ul style="list-style-type: none"> • for channel diagnostics 	Yes; red LED
<ul style="list-style-type: none"> • for module diagnostics 	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	

- between the channels
- between the channels and backplane bus
- between the channels and the power supply of the electronics

No
Yes
No

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; see FAQ Entry ID: 39198632

Highest safety class achievable in safety mode

- Performance level according to ISO 13849-1 PL d
- SIL acc. to IEC 61508 Up to SIL 2

Ambient conditions

Ambient temperature during operation

- horizontal installation, min. -30 °C; < 0 °C as of FS07
- horizontal installation, max. 60 °C
- vertical installation, min. -30 °C; < 0 °C as of FS07
- 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. 30 g

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